REMEDIAL INVESTIGATION REPORT

PACIFIC CITY PARK
600 THIRD AVENUE SOUTHEAST
PACIFIC, WASHINGTON

King County

River and Floodplain Management Section
Water and Land Resources Division

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PACIFIC CITY PARK
600 THIRD AVENUE SOUTHEAST
PACIFIC, WASHINGTON

Prepared for

King County

River and Floodplain Management Section
King County Water and Land Resources Division
201 South Jackson Street, Suite 600
Seattle, Washington 98104

Prepared by
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2200 Sixth Avenue, Suite 1100
Seattle, Washington 98121
Telephone: 206-441-9080

In Conjunction with
Aspect Consulting, LLC

January 4, 2019

Prepared for:

King County River and Floodplain Management Section
King County Water and Land Resources Division

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Alternate Formats Available.

Call 206-477-4812 **or TTY 711**

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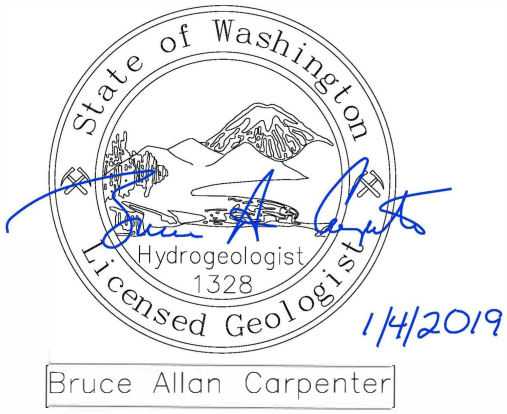
ABBREVIATIONS

Aspect	Aspect Consulting, LLC
ASTM	American Society for Testing and Materials
Bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
bTOC	below the top of the monitoring well casing
COC	contaminant of concern
COPC	contaminant of potential concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CUL	Cleanup level
Ecology	Washington Department of Ecology
EPA	Environmental Protection Agency
GEM	Gas Analyzer & Extraction Monitor
Herrera	Herrera Environmental Consultants, Inc.
HCID	hydrocarbon identification
mg/kg	milligrams/kilograms
mg/L	milligrams per liter
ml/min	milliliters per minute
µg/L	micrograms per liter
MCL	maximum contaminant level
MTCA	Model Toxics Control Act
NWTPH-Dx	Northwest total petroleum hydrocarbons, diesel-extended

PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
RI	Remedial Investigation
SSL	site screening level
SVOCs	semi-volatile organic compounds
S&W	Shannon & Wilson, Inc.
TEQ	toxic equivalency
TPH	total petroleum hydrocarbons
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code

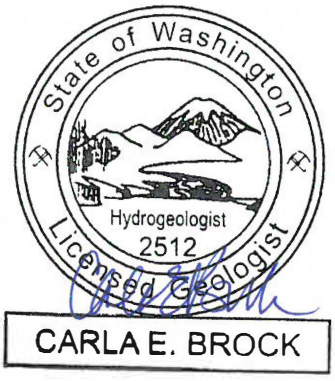
CERTIFICATE OF LICENSED HYDROGEOLOGIST

This document has been prepared under the supervision of a licensed hydrogeologist.



Bruce Carpenter, LHG
Name

January 4, 2019
Date



Carla Brock, LHG
Name

January 4, 2019
Date

EXECUTIVE SUMMARY

This Remedial Investigation (RI) report has been prepared to meet the requirements of the Model Toxics Control Act (MTCA) and regulations implementing it, Washington Administrative Code (WAC) 173-340, and to provide the results of investigations completed to characterize the nature and extent of contamination at the Site. The RI Report has been prepared in general accordance with the Remedial Investigation Checklist Guidance (Ecology 2016).

The Site is located on the existing right bank of the White River in the City of Pacific, Washington, on property that was historically part of the river channel before the construction of a levee and concrete revetment in 1919. The portions of the property located landward of the levee were filled as a King County refuse dump, which was active between approximately 1921 and 1965. The results of investigation activities indicate that portions of the Site were filled with soil and portions of the Site were filled with a combination of soil and refuse. The presence of fill soil alone, in the absence of contaminants of potential concern (COPCs), does not fall under the definition of MTCA as a hazardous substance, and therefore, is not part of the MTCA Site. The Site is defined by any location where refuse is present or where COPCs are present in soil, groundwater, surface water or soil vapor at concentrations exceeding the site screening levels (SSLs). The current Site use includes a seasonal city park and undeveloped natural areas along the White River.

Because of the unknown nature of the fill soil and refuse, initial investigations conducted on the Site included a full analytical suite of COPCs, including total petroleum hydrocarbons (TPH), metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), herbicides and pesticides. Subsequent phases of investigation focused on characterizing the nature and extent of the primary COPCs, which consist of TPH, metals, PCBs, and total carcinogenic polycyclic aromatic hydrocarbons (cPAHs). The results of investigation work indicate that the fill soil contains ubiquitous concentrations of lead and total cPAHs[1]. In areas where refuse was known to have been dumped and/or was observed to be present in subsurface explorations, the results of soil characterization samples identify higher concentrations of total cPAHs and lead, as well as the frequent detection of TPH and PCBs and rare detections of chlorinated VOCs, other SVOCs and pesticides. Laterally, the extent of COPCs in soil are generally defined by the extent of fill. Vertically, the COPCs are present throughout the fill and extend up to 10 feet into the underlying native, alluvial deposits.

The COPCs detected in groundwater include arsenic, lead, total cPAHs and benzene. Arsenic has been detected in groundwater samples collected from across the Site, is naturally occurring in soil and groundwater in Washington state and is likely not present in Site groundwater at concentrations that warrant remedial action. Lead, total cPAHs and benzene have been detected

[1] Total cPAH toxic equivalency (TEQ) concentration calculated in accordance with WAC 173-340-708(8).

above the SSLs in groundwater samples collected to the south-southwest of the refuse, which is hydraulically downgradient based on water level elevations in monitoring wells on the Site. The groundwater data suggest that there may be a low concentration, seasonal and/or diffuse groundwater plume emanating from the refuse or there may be localized groundwater impacts attributable to variations in the fill soil quality. Although groundwater is assumed to discharge to surface water in some areas of the Site, the results of surface water sampling do not indicate the migration of COPCs in groundwater to surface water.

Sufficient information regarding the extent and quality of the fill and refuse, and the associated groundwater impacts, has been collected to allow for the development and evaluation of remedial alternatives, with one exception. Additional investigation is warranted to further evaluate the extent of fill soil and the presence of COPCs in soil and groundwater to the south-southwest of the property boundary. Additional groundwater monitoring wells and soil probes are planned to be installed along the parcel boundary by the apartments immediately west of the Park. A supplemental report to the RI summarizing the results of the additional investigation will be submitted to the Washington State Department of Ecology (Ecology).

Regulatory Process

The County is seeking an opinion from Ecology through the Voluntary Cleanup Program (VCP) regarding the sufficiency of the RI to meet MTCA requirements. The RI and Ecology's opinion letter will inform the Feasibility Study (FS) which will develop and evaluate cleanup options that will be part of the Pacific Right Bank Flood Protection Project (Project) alternatives to be evaluated in the Draft EIS for the Project.

1. INTRODUCTION

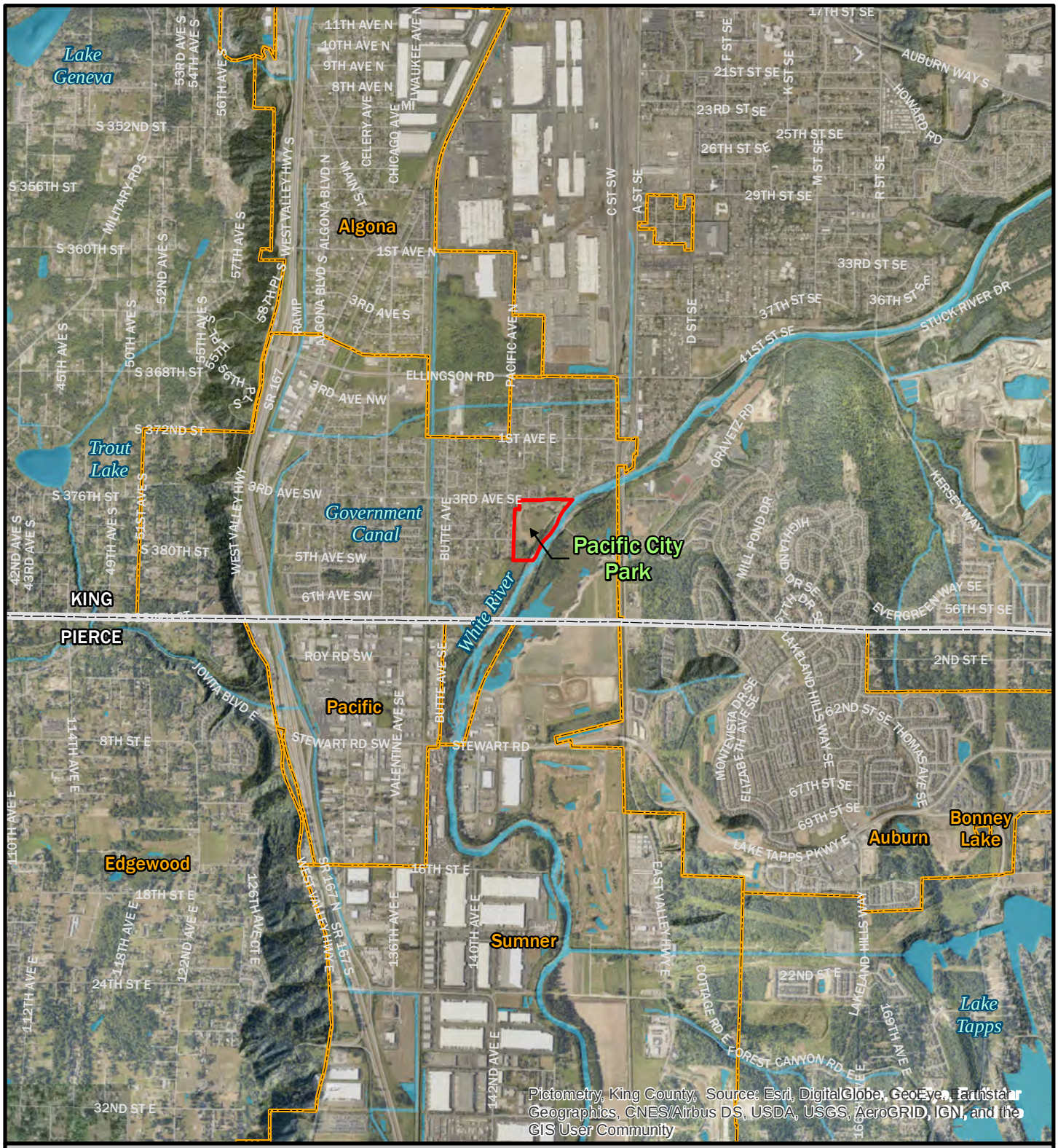
This report presents the results of the RI conducted at the Pacific City Park (Park) located at 600 Third Avenue Southeast in the City of Pacific, Washington (Figure 1). The Park is located on a portion of a 43-acre parcel of land on the right (west) bank of the White River, which is herein referred to as the *Subject Property*, and is currently developed and used as a city park (Figure 2).

The existing right bank of the White River, which forms the eastern extent of Pacific City Park, consists of a levee and concrete revetment that was constructed in 1919 (S&W 2016). Following construction of the levee, the former river channel located landward of the levee was filled with municipal waste and dredge spoils as an informal dumpsite and city dump until it was closed in 1965. The *study area* for the RI roughly matches the existing Park boundary but extends slightly beyond the Park at the northeast corner. The *Site* depicted on Figure 2 is based on the extent of locations where hazardous substances associated with filling on the landward side of the 1919 levee have been deposited, disposed of, placed, or otherwise come to be located.

The Site was vacant until 1969 when King County issued a permit to the City of Pacific to use a 21-acre portion of the Subject Property for a park, which opened in 1972 (S&W 2016). In 1990, the City entered into a 30-year lease agreement with King County for continued use of the Subject Property as a park. King County is in the process of evaluating options for increasing flood capacity and reducing flood risk along this section of the river, including consideration of removal of the existing levee and concrete revetment and the construction of a new setback levee.

The RI report has been prepared to meet the requirements of MTCA and regulations implementing it: Chapter 173-340 of WAC 173-340. The RI Report has been prepared in general accordance with the Remedial Investigation Checklist Guidance (Ecology 2016).

The purpose of this RI is to collect and evaluate sufficient information to characterize the nature and extent of contamination at the Site to enable the development and selection of a remedial alternative. King County entered the Voluntary Cleanup Program (VCP) in July 2018 and is requesting an opinion from Ecology on the RI report as it moves forward with developing project alternatives that will be analyzed in an Environmental Impact Statement (EIS).



Legend

- Study area
- County boundary
- City limits
- Waterbody
- Stream (King County)
- Roads

Figure 1.
Vicinity Map, Pacific City Park, Pacific, Washington

0 1,500 3,000 6,000 Feet

King County

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Aerial: King County (2017)
Prepared for King County by Herrera

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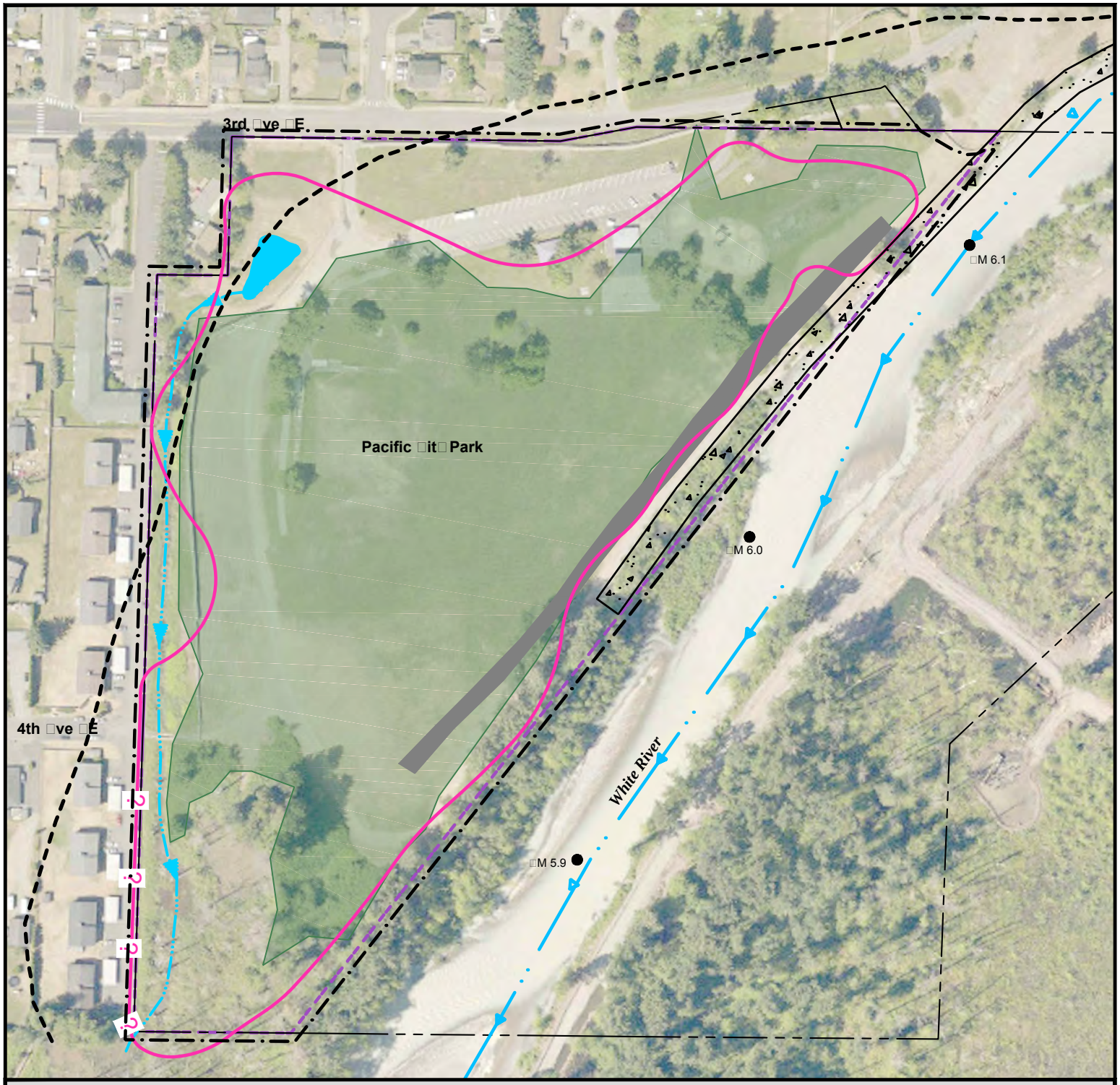

Legend

- Parcel boundary
- Study area
- Par□boundary
- Site boundary
- Historical e□tent of river floodplain based on 1936 aerial photograph (source□□ing □ounty)
- Appro□imate e□tent of historic fill/dumping
- E□isting stormwater pond
- E□isting concrete revetment
- E□isting stormwater ditch
- Linear feature identified during 2018 geophysical survey in vicinity of historic levee
- □M 6.0 □iver mile (10th)

Figure 2.
Site Map, Pacific City Park, Pacific, Washington.

0 100 200 □00 Feet

King County

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Aerial source: □ ing County □2017□

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1.1. General Site Information

Site Name	Pacific City Park
Site Address	600 Third Avenue Southeast
Facility Site Identification number (FSID)	2160
King County Assessor's Parcel No.	3621049040
Cleanup Site ID	21
VCP Project Number	TBD
Ecology Site Manager	TBD

The project consultant is Mark Ewbank with Herrera Environmental Consultants, Inc. located at 2200 Sixth Avenue, Suite 1100, Seattle, Washington 98121. Telephone: 206-787-8217, and email: MEwbank@herrerainc.com.

The Subject Property is owned by King County, with a portion leased to the City of Pacific for use as a city park. Chris Brummer, Supervising Engineer with the River and Floodplain Management Section of the King County Water and Land Resources Division, is the Site contact. His office is located at 201 South Jackson Street, Suite 600, Seattle, Washington, 98104. Telephone: 206-477-4655, and email: Chris.Brummer@kingcounty.gov.

1.2. Report Organization

This RI report has been organized in accordance with Ecology's RI Checklist (Publications No. 16-09-006) dated May 2016 and includes the following:

- Section 2 provides a definition of the Site and property and presents a summary of the background information including the environmental setting, historical use of the property/vicinity, and regulatory involvement.
- Section 3 provides the scope of work and results of the RI, including a summary of the historical environmental studies/actions and screening/cleanup levels used to evaluate the soil, groundwater and soil vapor data collected for the RI to facilitate site characterization.
- Section 4 presents the Conceptual Site Model (CSM) for the Site, including the sources and nature and extent of concentrations of hazardous substances in soil and groundwater at the Site, and a preliminary assessment of potential receptors and exposure pathways.
- Section 5 presents the proposed cleanup standards for future cleanup at the Site, including cleanup levels and points of compliance for soil and groundwater.
- Section 6 presents the summary, conclusions and recommendations.

2. SITE DESCRIPTION AND BACKGROUND

The Site is located approximately 2,000 feet north of the King/Pierce county boundary line (Figure 1). The property is relatively flat, with ground surface elevations ranging from 80 to 87 feet (NAVD88).

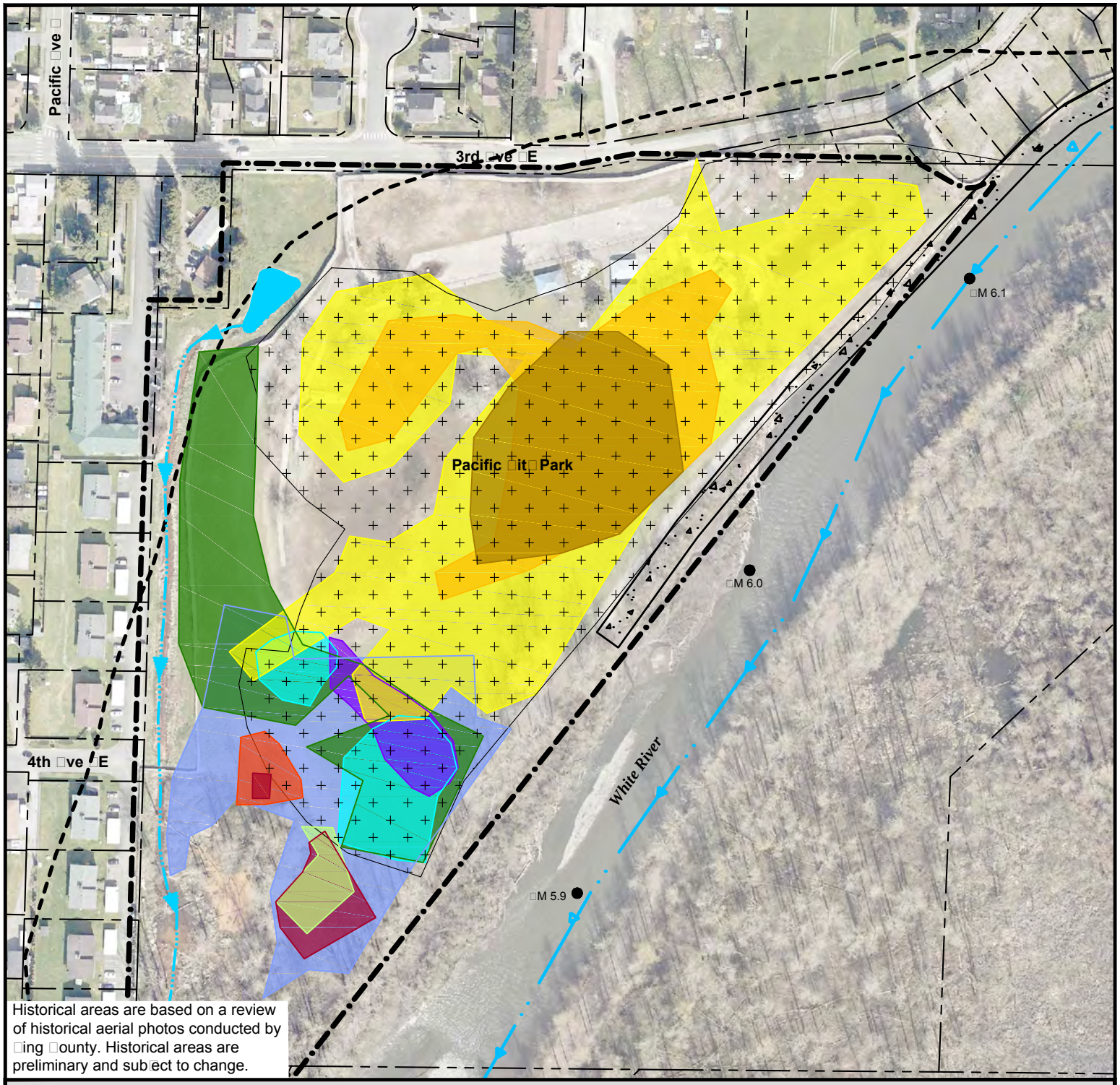
Access to the Site is restricted from October through March by a 4- to 8-foot-high temporary flood barrier system (HESCOs) installed in 2009 and extended in 2013. The continuous barrier extends along the northern and western property boundaries, except for sections of the barrier that are removed from April to September to allow public access at two locations on the northern portion of the property, along 3rd Avenue SE.

2.1. SITE HISTORY

The Site is located in an area that historically had been occupied by the White River prior to construction of levees in the 1910s and filling of the site from the 1920s through the 1960s. The Site is located in an area that has historically been agricultural and is prone to flooding by the White River. According to historical photos and maps, flood-control measures were taken that included construction of a concrete revetment in 1919 as part of the channelization of the White River along the alignment of the former Stuck River (S&W 2016). The extent of the concrete revetment to the southwest is uncertain; therefore, Figure 2 shows only the portion of the revetment within the project area that is known.

Figures 2 and 3 depict the approximate extent of historical dumping and filling at the Site. Aerial photographs from 1936 and 1944 indicate an orchard occupied the area west of the Site. The Site was closed for use as a City dump in 1965 and was abandoned until 1969 when King County issued a permit to the City of Pacific for a city park that subsequently opened in 1972. Fill soil containing refuse placed in the 1950s and 1960s was covered with additional fill soil as the Park was developed but dumping continued in the southwest portion of the site through the 2000s. In the 1980s, development of the area surrounding the park included placement of fill within the area underlying the four apartments south of 4th Avenue SE and the southeastern half of the area underlying the four apartments north of 4th Avenue SE (S&W 2016). The exact lateral extent of dumping and fill in the southwest corner of the Site is unknown.

In 2009, after significant flooding, the County installed temporary HESCO flood barriers along the right bank of the White River and around the north and west sides of the Park. Additional HESCO barriers were installed in 2013, which extended the barrier upstream of the park (to the BNSF Railway) and added a second tier of HESCOs on the north and west sides of the park.



Historical areas are based on a review of historical aerial photos conducted by □ing □ounty. Historical areas are preliminary and sub□ect to change.

Legend

- Parcel boundary
- Study area
- Historical e□tent of river floodplain based on 1936 aerial photograph (source□□ing □ounty)
- E□isting stormwater ditch
- E□isting concrete revetment
- E□isting stormwater pond
- □M 6.0 □iver mile (10th)

Historical areas

- 1955 dumping
- 1959 dumping
- 1965 dumping
- 1970 clearing
- 1985 dumping
- 1989 dumping
- 1990 fill
- 1995 fill
- 2000 dumping
- 2002 dumping
- 2007 dumping

Figure 3.
Approximate Extent of Historical Dumping and Filling, Pacific City Park, Pacific, Washington.

0 100 200 □00 Feet

King County

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Aerial source: □ ing County □2017□

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2.2. Site Use

The Subject Property is currently used as a public park operated by the City of Pacific under a 30-year lease agreement from King County. Since 2013, the park is accessible April through October, and restricted for use during the winter months when HESCO barriers are fully continuous. The park is relatively flat and includes paved parking, a restroom, picnic shelter, ball field, basketball court, children's play area, and open space along the river. The site is used primarily for passive recreation (including walking, dog walking, visiting the river bank), picnicking, grilling, children's activities in the play area, and an annual city festival (Pacific Days).

2.3. Site Setting

The Site is located in the White River valley in south King County and north Pierce County (Figure 1). The White River travels 68 miles from the western foothills of the Cascade Mountains in a general westward flow direction before turning south in the City of Auburn and draining into the Puyallup River near the City of Sumner. A 1914 survey of the Site and adjacent areas shows the former river channel flowing through the approximate central portion of the Site now occupied by the Park (Roberts, W.J. 1920) (Figure 3). The United States Geological Survey (USGS) operates two surface water monitoring stations on the White River in the vicinity of the Site: one located upstream of the Site near A Street (White River near Auburn, WA), and one located approximately 0.2-miles downstream of the Site (White River at Pacific, WA). A review of water level data recorded by the USGS in the White River between October 2012 and the present indicates that surface water elevations are typically highest in the spring and lowest in the late summer and early fall (USGS, 2018). The mean monthly river gage heights in the White River range from 81 to 84 feet NGVD 29 at the A Street gage and from 72 to 74 feet NGVD 29 at the Pacific gage (USGS, 2018).

The White River is classified as a R2UBH wetland (Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded) by the US Fish & Wildlife Service. This classification includes all wetlands and deepwater habitats contained within a river channel, characterized by a low gradient, no tidal influence and water flow all year, at least 25% of the river bottom is covered with particles smaller than stones and a vegetative cover of less than 30%. The White River is also a Class 1 wetland per the 1990 King County Wetlands Inventory (King County, 1991).

Land use surrounding the site includes residential developments adjacent to the north and west, and open space owned by King County to the south and east (KCGIS 2018). Portions of the levee on the left bank of the White River, across the river from the site, were removed as part of the Countyline Levee Setback Project completed by the King County Flood Control District in 2017.

Herrera wetland biologists visited the study area in May, June, July, and October 2018 to conduct wetland delineation work. This delineation work identified six wetlands (Wetlands A through F) located on the Site (see Figure 4), and a seventh wetland (Wetland G) located further

to the southwest in an area not covered by this RI. Wetland A and B are riverine wetlands; Wetlands C, D, and E are depressional wetlands within the active area of Pacific City Park; and Wetland F is a depressional wetland south of the onsite stormwater pond.

A stormwater ditch along the western edge of the site drains south for approximately 2,000 feet before discharging into Wetland A, which drains into the river. The ditch receives stormwater via a series of catch basins located along 3rd Avenue SE, the parking lot in the Park, and the apartments west of the ditch. The water level in the ditch roughly corresponds to groundwater levels in adjacent wells, so the ditch presumably intercepts groundwater that intermingles with surface stormwater conveyed by the ditch.

2.4. Geology and Hydrogeology

2.4.1. Geologic Setting

Geological mapping in the project area identifies a thick sequence of post-Fraser-glaciation alluvium deposited over Fraser glacial and pre-Fraser glacial and nonglacial sediments (Mullineaux, 1965). The White River valley wall and valley floor are composed of glacially consolidated sediments from multiple Pleistocene glaciations and interglacial deposition during the Pleistocene (2.6 million to 11,600 years ago). The latest postglacial and Holocene (11,600 years ago to present) geologic processes included erosion and transport of sediment from uplands and drainage headwaters, and transport of sediment from lahars originating on Mount Rainier (Collins and Montgomery, 2010; Zehfuss et. al, 2003). The deep glacial meltwater channel below the project area was subsequently infilled with Holocene (Recent) alluvium. The Holocene alluvium deposited along the White River merged into a continuous alluvial deposit through the regional lowland that now contains (from Seattle southward to Tacoma) the lower reaches of the Duwamish, Green, White, and Puyallup rivers.

The geologic history of the White River valley generally consists of the following processes:

- **Subglacial Erosion of the White-Green-Duwamish River Valley.** Erosion by ice from the Vashon ice sheet and subglacial meltwater flow created the broad north-to-south trending marine embayment now occupied by the White, Green, and Duwamish rivers. Glacially overridden soils and bedrock lie at considerable depth below younger and weaker, late-glacial and postglacial deposits.

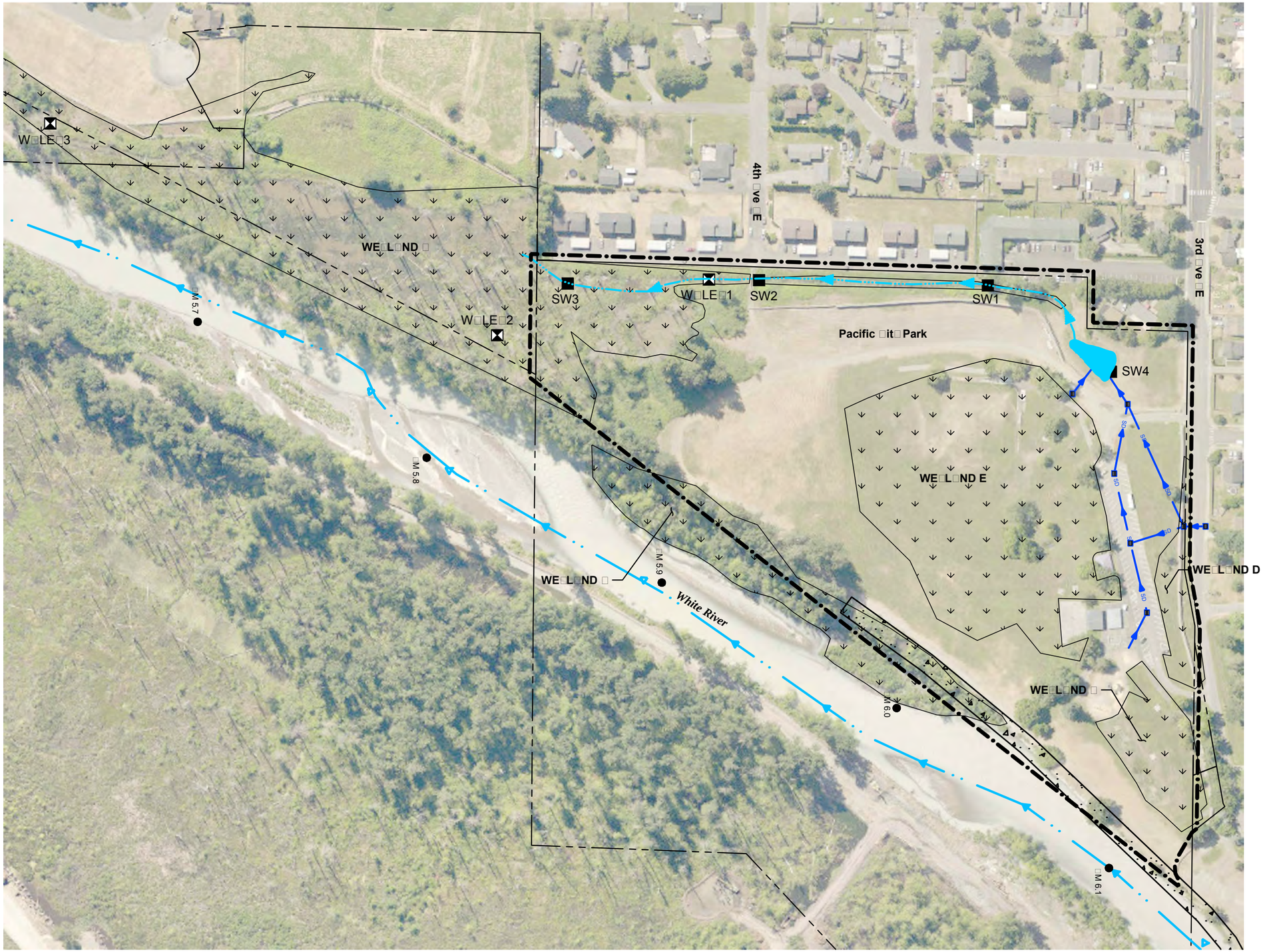

Figure 4.
Wetlands, Stormwater Conveyance Features, and Surface Water Sample Locations, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- SD — E□isting storm drain line
- E□isting wetland
- E□isting stormwater pond
- E□isting concrete revetment
- E□isting stormwater ditch
- E□isting catch basin
- SW□ — Sample location
- W□LE□□ — Sample location
- □M 6.0 — □iver mile (10th)

Notes

1. Study area for surface water samples e□tends south of par□to include □ing □ounty 2010 and 2011 sampling.

0 100 200 □00 Feet

King County

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Aerial source: □ ing County □2017□

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- **Postglacial Incision and Sedimentation.** Shortly after deglaciation, sea level was several hundred feet lower than at present, and the Puget Lowland was depressed by the weight of the glacial ice. Rapid isostatic rebound (causing uplift of land) combined with low post-glacial sea level allowed the lowland rivers, including the White River, to incise to the lower base level. Several hundred feet of rising sea level continued until about 5,000 years ago, partially resulting from combined effects of melting ice caps and local isostatic rebound following deglaciation. The rise in sea level resulted in marine flooding of the Duwamish, White and Green river valleys. The oldest post-glacial deposits in the valleys include marine clays and muds.

- **Embayment and Valley Filling.** The marine embayment filled with Holocene alluvium derived primarily from multiple lahars (volcanic mudflows) originating on Mount Rainier. The most recent large lahar that impacted the valley, known as the Osceola Mudflow, travelled down the White River valley from Mount Rainier approximately 5,600 years ago. White River deposition in the Puget Lowland has been fan-dominated between Puyallup and Kent. Sedimentation of the White River fan was driven largely by large-scale erosion of postglacial and lahar deposits as the White River carved the confined valley upriver of the marine embayment.

  After the initial pulse of diamictic (unsorted) debris from the Osceola Mudflow, sedimentation around the project area occurred as hyperconcentrated flow deposits (sediment rich but water transported and reworked deposits), deltaic deposits, and alluvial deposits. Deposition occurred in several discrete phases, and these deposits are described as tightly packed sand and gravel of volcanic origin with a distinct dark purple-gray color. Other post-Osceola mudflow deposits including hyperconcentrated sands have also been identified within younger Holocene alluvial strata (Zehfuss et al., 2003) in the Lowland.

- **Historic Filling and Hydraulic Engineering.** Historically, the White River flowed north across its alluvial fan through the present location of Auburn to join the Green River. The Stuck River, which is occupied by the present-day White River, was a distributary of the White River that flowed into the Puyallup River and carried variable amounts of White River flow. Early twentieth century flooding and hydraulic engineering revised flow paths and outlet points of the White and Green rivers, resulting in the system present today where the entire flow of the White River discharges south to the Puyallup River.

2.4.2. Site Geology

Explorations were completed at the Site by Shannon & Wilson in 2015 and 2016 under contract with King County, and additional explorations were completed by Herrera in 2017 under separate contract. Soil borings were advanced using direct push methods to investigate soil and groundwater quality. In addition, geotechnical explorations, including test pits and soil borings, were completed by Shannon & Wilson in 2016 and by Aspect in 2018. The boring logs and test pit logs from these subsurface investigations are included in Appendix A and D, respectively. The geologic conditions at the Site, as observed during these investigation activities, are described below.

Fill Soil

The approximate lateral extent of historical dumping and filling at Pacific City Park was initially estimated based on a review of historic aerial photographs and is depicted on Figure 3 (S&W 2016). Figure 5 depicts the lateral extent of fill soil that contains refuse (i.e., debris) based on explorations conducted in 2016, 2017, and 2018, along with the locations of soil borings and monitoring wells completed at the Site. Cross sections depicting the extent of fill soil are presented in Figures 6 and 7.

Fill soil containing refuse was encountered at depths ranging from 2 to 20 feet below ground surface (bgs). The refuse includes glass, brick, cement, organics, wood, paper, rubber and ceramics. The refuse is mixed with fill soil consisting of variable amounts of silt, sand, and gravel. The fill soil with refuse is typically thicker in the central/south-central portion of the Site. The fill soil with refuse is covered with approximately 2 to 10 feet of sandy, gravelly fill soil that was reportedly placed following closure of the dumpsite to cover the debris and create a level surface (S&W, 2016). Groundwater levels within the fill soil were observed at depths of approximately 5 feet bgs. Holocene alluvium, described further below, was observed below the fill soil with refuse.

Holocene Alluvium

Alluvium consists of floodplain and channel deposits. Floodplain deposits are described as relatively fine-grained soils ranging from silt and clay to silty fine to medium sand. Channel deposits are described as relatively clean sand with gravel, cobbles, and boulders with interbedded fine-grained sediments. The floodplain and channel deposits are not necessarily predictable using a continuous layered stratigraphy model due to past channel meandering through the area and infill processes associated with over-bank flooding events.

- *Floodplain Deposits*. During flood events, suspended-load sediment composed of sand, silt, and clay are deposited on floodplains peripheral to the active river channel. The deposits typically include relatively fine-grained soils ranging from silt and clay to silty fine to medium sand and are typically cross-bedded to laminated, although bedding may be indistinct. These deposits may also contain well-preserved logs, in situ stumps, and other organics and woody debris.

  Floodplain deposits are encountered beneath the fill soil or a thin layer of topsoil in all borings, and as deep as 51 feet bgs in boring B-16 (Figure 5). Floodplain deposits are identified based on grain size, fines content, interbedded texture, and density. Floodplain deposit soils consist of moist to wet, brown or gray, sandy, medium plasticity CLAY (CL), low plasticity SILT (ML), fibrous or fine-grained PEAT (PT), and relatively clean sand (containing less than 5 percent silt) to silty sand (SM, SP-SM, SP). The sand size fraction is typically fine to medium and rarely coarse, and soil types are commonly interbedded. Standard Penetration Test (SPT) N-values ranged from 1 to 31 blows per foot (bpf) with an average N-value of 18 bpf, indicating the floodplain deposits were typically stiff/medium dense (Aspect, 2018).

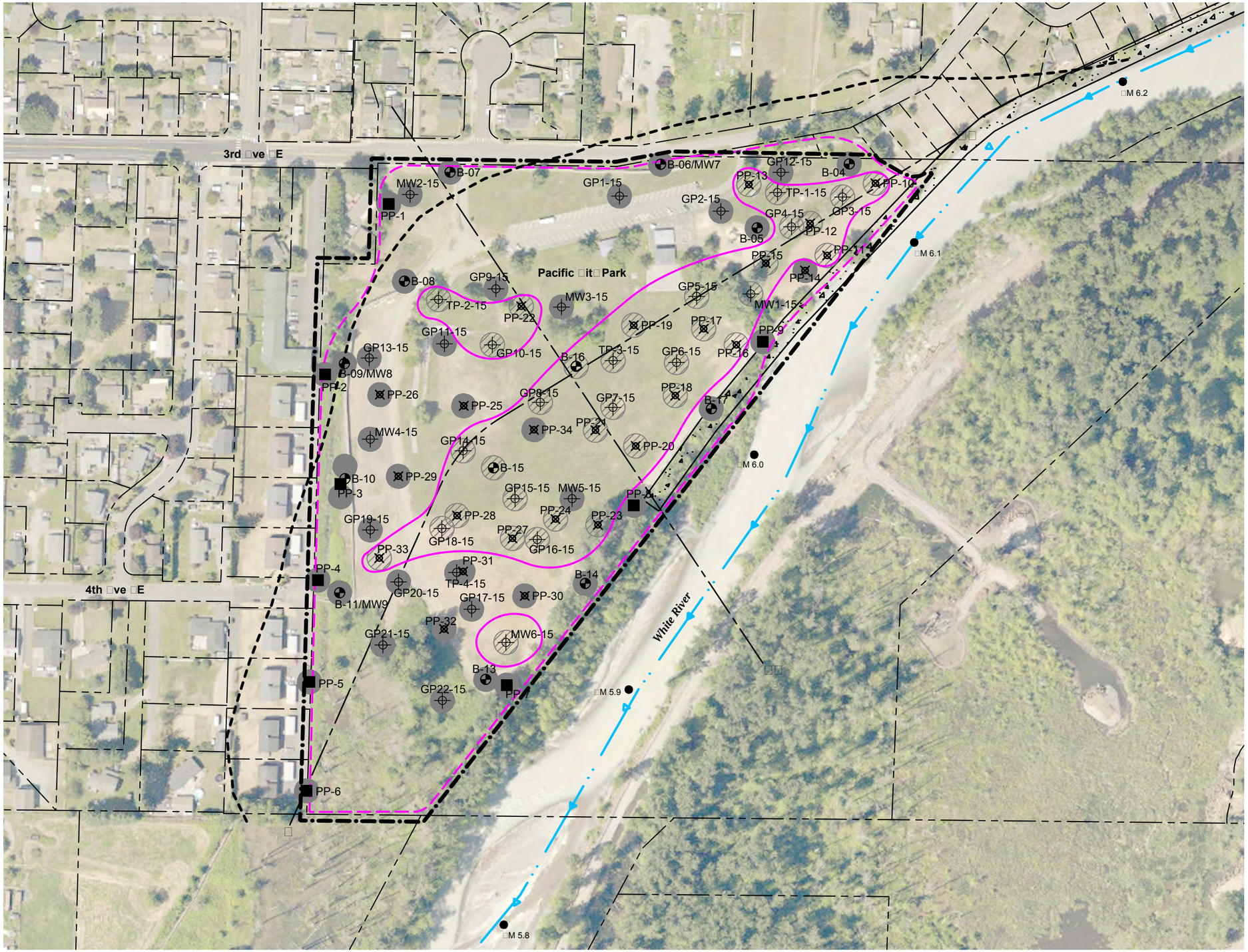

Figure 5.
Extent of Fill Soil Containing Refuse, and Soil Boring and Monitoring Well Locations, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Transect
- Historical e tent of river floodplain based on 1936 aerial photograph (source ing ounty)
- E isting concrete revetment
- M 6.0 iver mile (10th)
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- Appro imate lateral e tent of fill
- Appro imate lateral e tent of refuse
- Fill identified on boring log
- efuse and fill identified on boring log

0 100 200 00 Feet

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King County

Aerial source: ing County 2017

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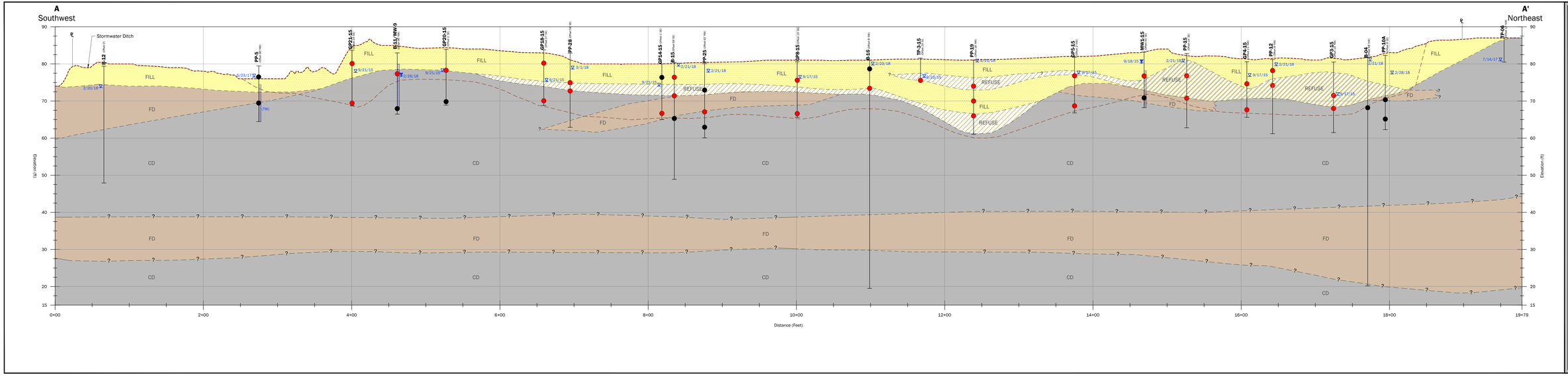

Figure 6.
Cross Section A-A'
Pacific City Park,
Pacific, Washington.

Legend

Water Level at Time of Drilling and Date Measured

Static Water Level in Well and Date Measured

Well Name (Well Distance and Direction)

Well Screen Interval

Temporary Well Screen

FD (Floodplain Deposits)

Fill (Soil)

Refuse + Fill

CD (Channel Deposits)

Approximate Extent of Soil With One or More COPCs at Concentrations Exceeding the SSLs

Soil Sample Location With One or More COPCs at Concentrations Exceeding the SSLS

Soil Sample Location With No COPCs at Concentrations Exceeding the SSLS

COPCs = Chemicals of Potential Concern
SSL = Site Screening Levels

Horizontal Datum is Washington State Plane North. Units are in US Survey Feet.
Vertical Datum is NAVD88.

0 25 50 100 Feet
Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 10'
Vertical Exaggeration 5x

King County

Aspect Consulting

Sep-2018	Ch/DMV
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G:\Aspect\170307 King County Pacific Beach Park - High Bank Stabilization\Figures\Cross Sections\A-A Long Cross Section 1 - Date Stamped Dec 21 2018 10:16am - Jason Jacobsen

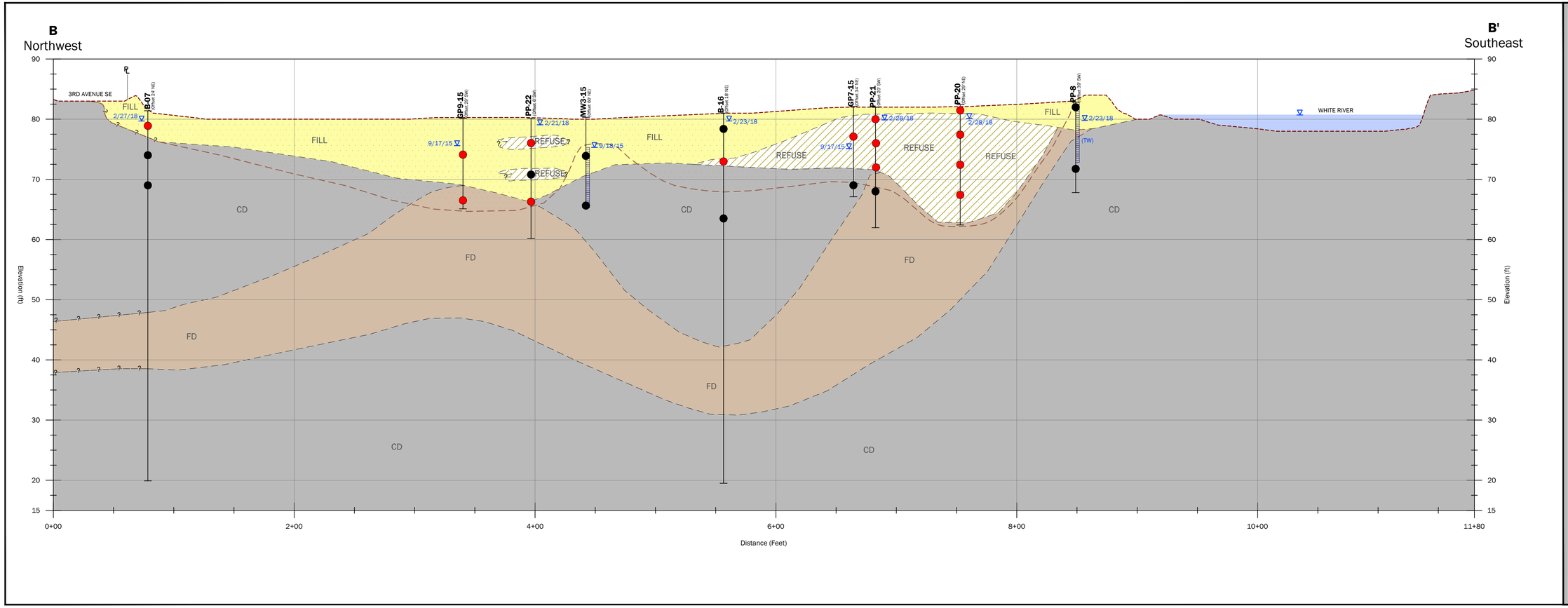


Figure 7.
Cross Section B-B'
Pacific City Park,
Pacific, Washington.

Legend

Water Level at Time of Drilling and Date Measured
B-05 (Offset 15' NE)
Well Name (Offset Distance and Direction)
9/22/17
Well Screen Interval
8/30/17
Temporary Well Screen
Static Water Level in Well and Date Measured
(TW)

- FD (Floodplain Deposits)
- Fill (Soil)
- Refuse + Fill
- CD (Channel Deposits)
- Approximate Extent of Soil With One or More COPCs at Concentrations Exceeding the SSLs
- Soil Sample Location With One or More COPCs at Concentrations Exceeding the SSLS
- Soil Sample Location With No COPCs at Concentrations Exceeding the SSLS

COPCs = Chemicals of Potential Concern
SSL = Site Screening Levels

Horizontal Datum is Washington State Plane North. Units are in US Survey Feet.
Vertical Datum is NAVD88.

0 25 50 100 Feet
Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 10'
Vertical Exaggeration 5x

King County

Aspect CONSULTING

Sep-2018	BY: CH/CMV
PROJECT NO. 170307	REVISED BY:

CAD Path: Q:\King County\170307 White River_Right Bank\2018-05 Geotechnical Investigation\170307 Cross Sections A & B.dwg Cross Section B || Date Saved: Dec 27, 2018 4:27pm || User: cameyke

- *Channel Deposits*. Channel deposits are the result of depositional sequences within the active or historical river channel(s). These deposits typically include relatively clean sand with gravel, cobbles, and boulders. Interbeds of silt, clay, and peat can be present within channel deposits, particularly in areas of historical oxbows or other low-energy channel features. Well-preserved logs and wood debris may be present in the channel deposits.

  Channel deposits are encountered both above and beneath the floodplain deposits, and as deep as 61.5 feet bgs in borings B-04, B-07, B-10, B-13, and B-16. Channel deposits are identified based on grain size, fines content, and color, which was commonly a dark purple-gray. Channel deposits generally consist of gray or dark gray, clean to silty SAND (SP/SW, SP-SM/ SW-SM, SM) or clean to sandy GRAVEL (GP). SPT N-values ranged from 2 to greater than 50 bpf, with an average N-value of around 30 bpf, indicating the channel deposits were variable and ranged from loose to very dense and were typically medium dense. Some N-values were overstated due to the presence of coarse gravel. Channel deposit density generally increased with depth.

2.4.3. Hydrogeologic Setting

Groundwater within the White River valley occurs primarily within alluvial deposits and glacial outwash deposits but also may occur in coarse-grained interglacial deposits (Welch et. al., 2015). The upper alluvial aquifer, primarily comprised of alluvial silt, sand and gravel deposits, is present throughout the White River valley and is estimated to range from 46 to 107 feet thick in the Site vicinity (Welch et. al., 2015). Groundwater in the upper alluvial aquifer is generally unconfined. The upper alluvial aquifer is separated from a lower alluvial aquifer by a confining unit comprised of volcanic mudflow-lahar deposits that range from 27 to 52 feet thick in the Site vicinity (Welch et. al., 2015). The horizontal groundwater flow direction within the upper alluvial aquifer is generally in the down-valley direction of the White River. Water level differences between the upper and lower alluvial aquifers indicate the potential for upward groundwater flow in the Site vicinity (Welch et. al, 2015). During late summer and early fall, when contribution from melting snow and glacial ice are lowest, it is likely that baseflow is the main source of water to the White River in the Site vicinity.

2.4.4. Site Hydrogeology

The groundwater levels in nine monitoring wells located at the Site were measured during two sampling events in 2017 and 2018 to range from near the ground surface (0.32 feet below the top of the monitoring well casing [bTOC]) to 6.7 feet bTOC (Table 1). King County has collected continuous groundwater level data in the wells since October 2015. Based on these data and river stage measured at the A Street gage, the general direction of groundwater flow at the Site is inferred to be to the west and southwest and fluctuates with river stage. This indicates that the White River is “losing” water to the upper alluvial aquifer near the Site. Refer to groundwater level contour maps presented in Figures 8, 9, and 10.

Based on slug tests performed during Aspect's 2018 geotechnical investigation, calculated hydraulic conductivities at the Site ranged from 10.4 feet/day to 103.4 feet/per day, resulting in a mean of 42.5 feet per day (Aspect, 2018). Lower hydraulic conductivity (9.8 feet/day to 11.6 feet/day) was observed in monitoring wells that are fully screened within the upper alluvial aquifer than those that are partially screened within the fill soil.

2.5. Future Site Use

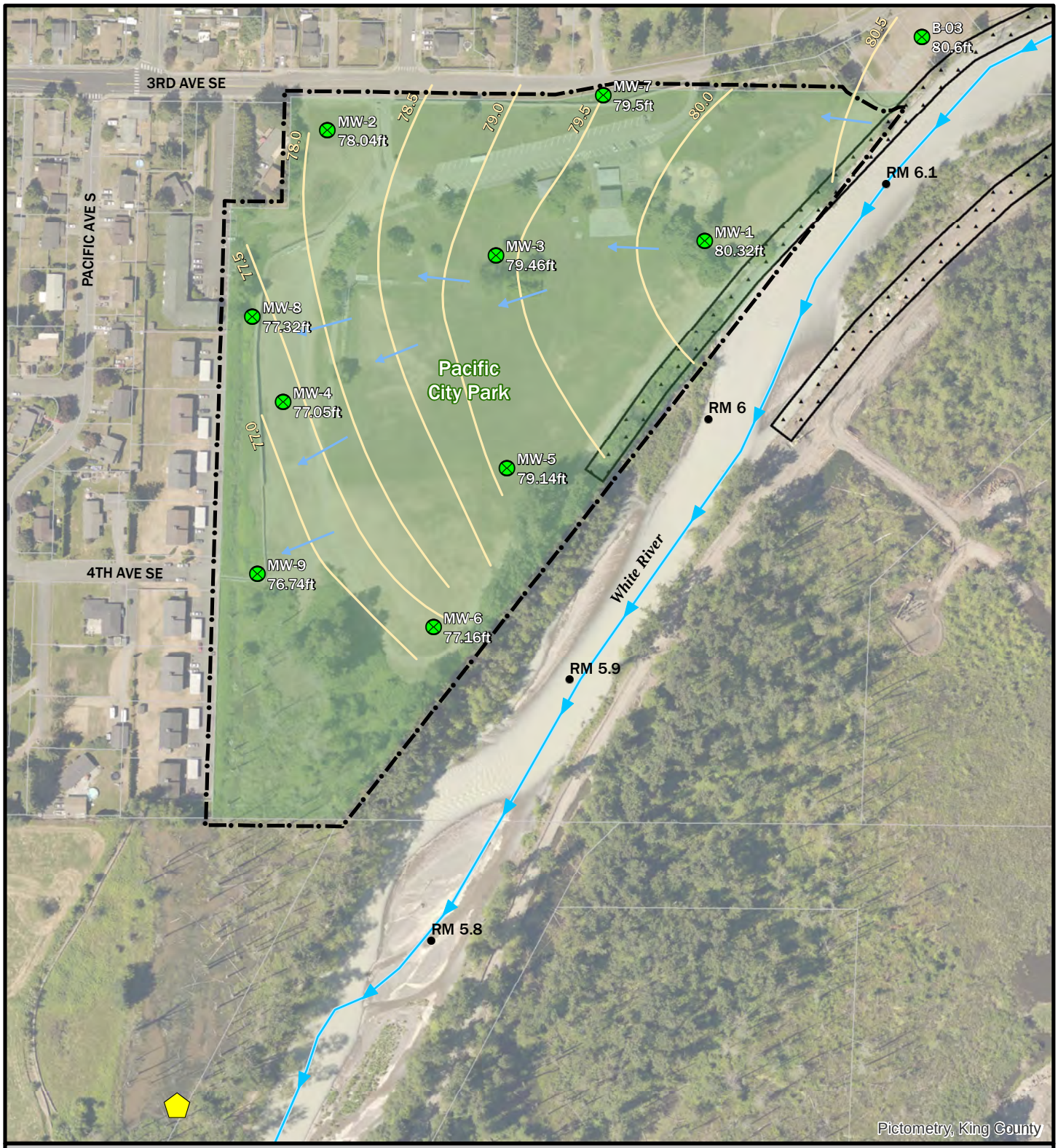
The planned future uses of the Site may include flood protection, restored aquatic and terrestrial habitat, and a public park.

2.6. Groundwater Use

Groundwater at the Site is currently not utilized for potable or non-potable purposes.

According to the Washington State Department of Health (DOH) Source Water Assessment Program (SWAP) mapping application, the City of Pacific supplies water to customers, including landowners adjacent to the Site and the Site itself, from three municipal water supply wells in a well field approximately 0.6-miles north of the Site (DOH, 2018). The Site is located beyond the 1-year travel time and within the 5-year travel time of the City's water supply wells (DOH, 2018). The Site is not located within the 10-year travel time of any other drinking water wells (DOH, 2018).

One drinking water well is identified approximately 0.35-miles east-northeast of the Site, on the opposite side of the White River (DOH, 2018). This well is reportedly owned by Danner Corporation, is listed as active, 260 feet deep, with a pumping capacity of approximately 30 gallons per minute (DOH, 2018). The water well is located upgradient of the Site and based on its depth, it is unlikely that it well is hydraulically connected to the upper alluvial aquifer at the Site. No other water supply wells were identified within one mile of the Site (DOH, 2018).



Legend

- Estimated direction of groundwater flow
- Groundwater contour
- Study area
- Existing monitoring wells
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Concrete revetment
- Parcels

Figure 8.
Groundwater Level Contour Map, March 23, 2018, Pacific City Park, Pacific, Washington.

0 125 250 500 Feet

King County

Aerial: King County (2017)
Prepared for King County by Herrera
Vertical datum: NAVD88

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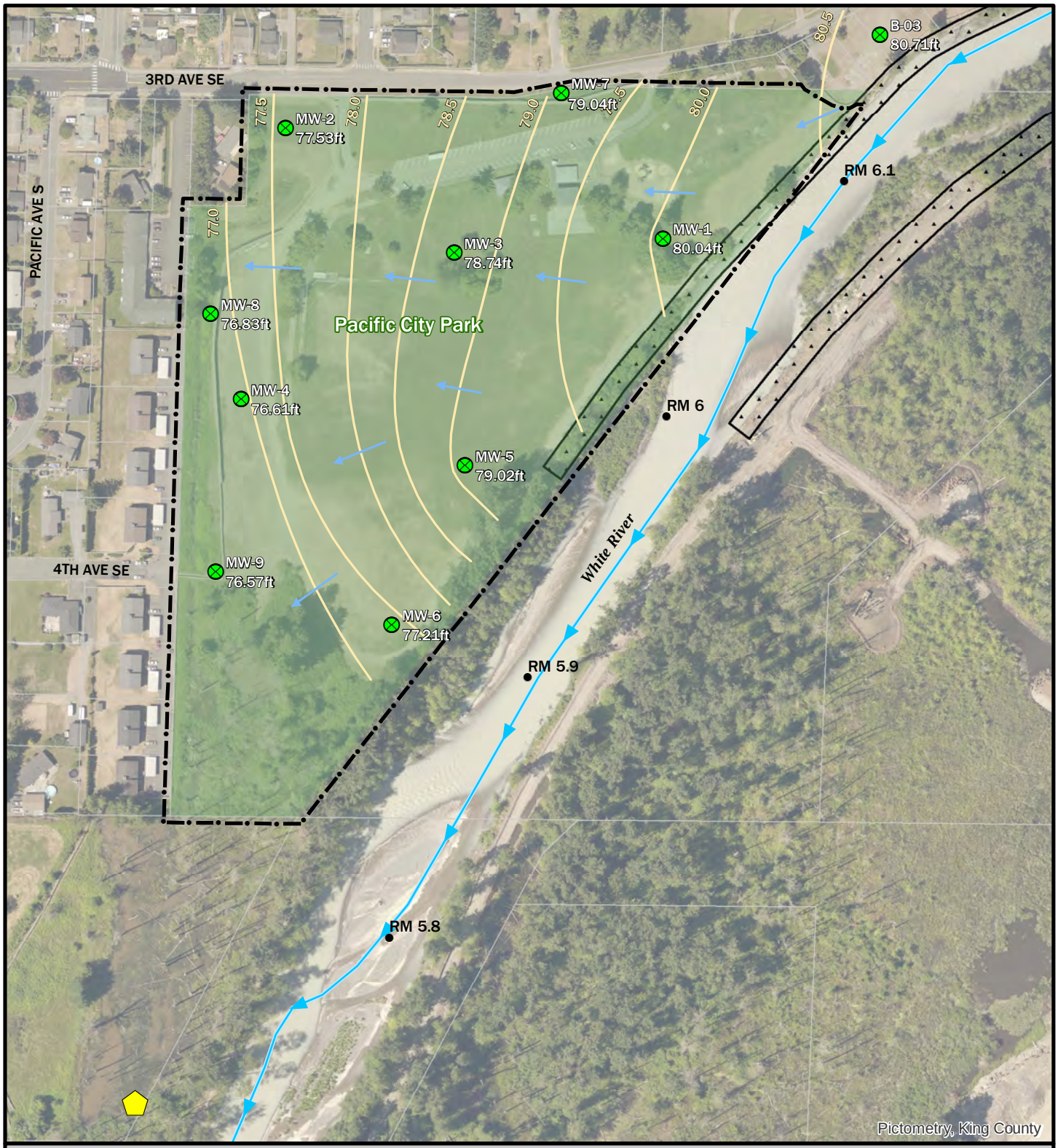

Legend

- Estimated direction of groundwater flow
- Groundwater contour
- Existing monitoring wells
- Barometric pressure sensor
- Study area
- River mile (10th)
- River
- Park
- Concrete revetment
- Parcels

Figure 9.
Groundwater Level Contour Map, June 21, 2018, Pacific City Park, Pacific, Washington.

0 125 250 500 Feet

N

King County

Aerial: King County (2017)
Prepared for King County by Herrera
Vertical datum: NAVD88

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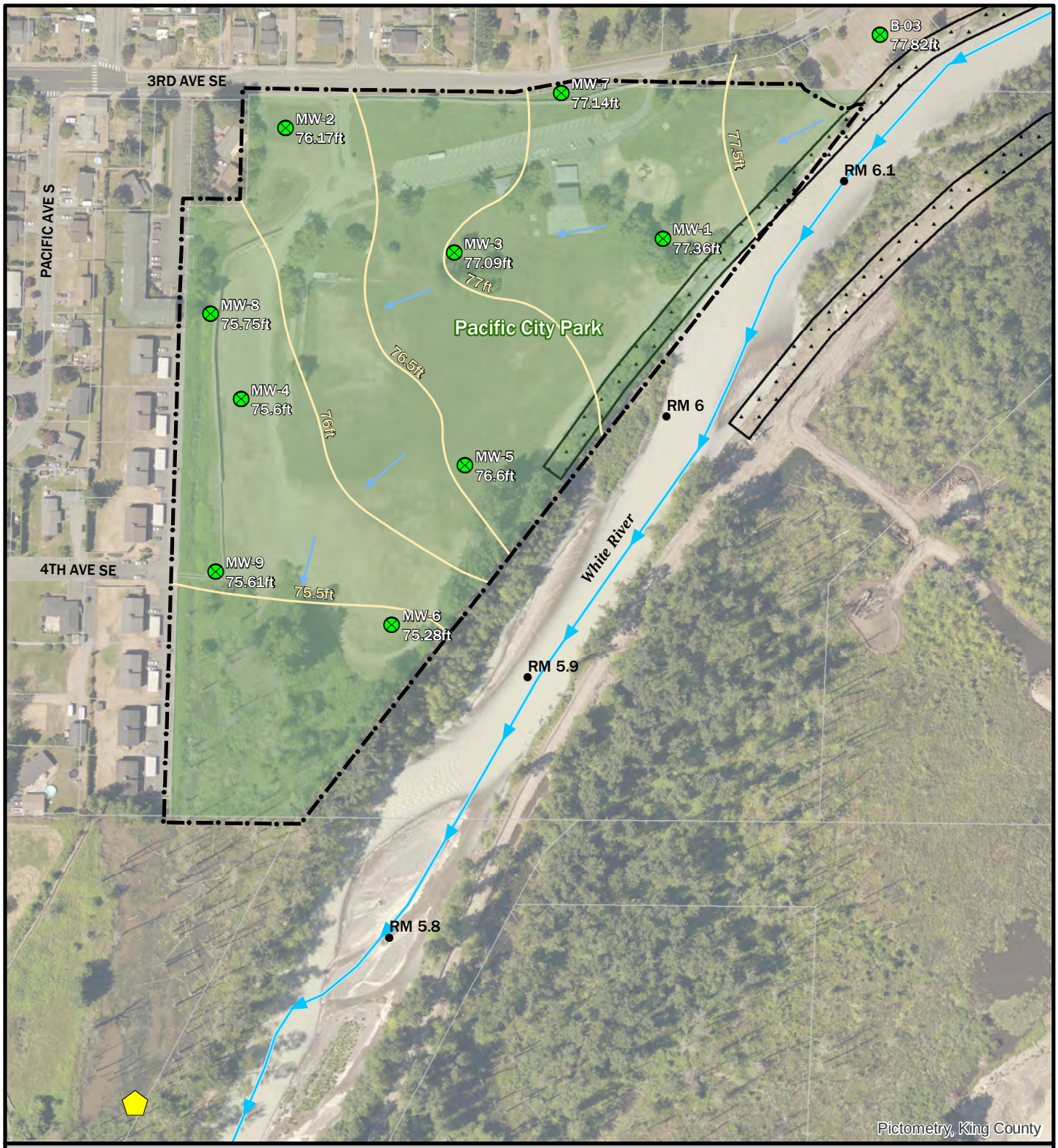

Legend

- Estimated direction of groundwater flow
- Groundwater contour
- Study area
- Existing monitoring wells
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Concrete revetment
- Parcels

Figure 10.
Groundwater Level Contour Map, September 26, 2018, Pacific City Park, Pacific, Washington.

0 125 250 500 Feet

King County

N

Aerial: King County (2017)
Prepared for King County by Herrera
Vertical datum: NAVD88

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3. FIELD INVESTIGATIONS

3.1. PREVIOUS ENVIRONMENTAL INVESTIGATIONS

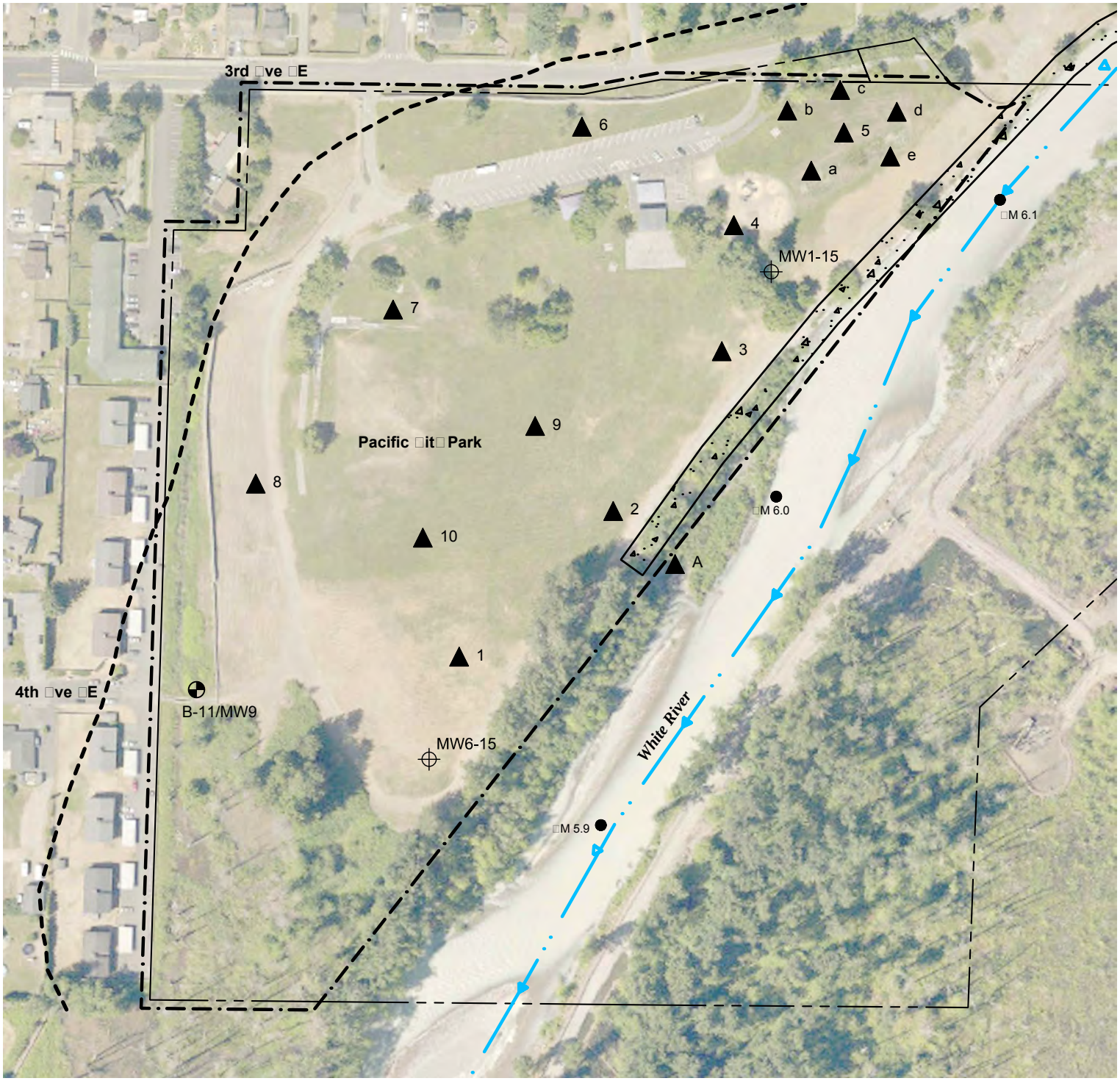
This section describes previous environmental investigations, including methods and results, conducted at the site from 1985 through 2017. The summary of the previous environmental investigations provided in this section compares results to the regulatory criteria that were used to evaluate data at the time of the investigation. Because an evaluation of exposure pathways and applicable screening levels had not yet been completed, the regulatory criteria consisted of the standard MTCA Method A and/or B cleanup levels for soil and groundwater. Site Screening Levels (SSLs) are developed for the RI in Section 3.2 and a comprehensive discussion of the results, for both the previous and current investigations is presented in the Conceptual Site Model, Section 4.

3.1.1. 1985 Abandoned Landfill Study

An Abandoned Landfill Study was conducted by the Seattle King County Health Department in 1985 on 20 sites in King County to determine if there were any public health problems associated with these sites (Seattle King County Department of Health, 1985) (Appendix B). The study involved research of geographical and historical data to help guide sampling efforts at the abandoned dumpsites. The sampling efforts consisted of a survey screening of methane and non-specific organics/inorganics and water quality parameters of conductivity, dissolved oxygen, pH, turbidity, and temperature. In the event the initial screening survey revealed any environmental issues, funds would be allocated for additional work.

In October 1984, fifteen boreholes were advanced at the Pacific City Park, and methane and non-specific trace gas concentrations (i.e., organic or inorganic gases with an ionization potential <10 electron volts detectable by photo-ionization detector) were recorded. Low concentrations of methane up to 0.4 percent and low concentrations of non-specific trace gas levels were detected with the exception of 6.2 parts per million detected at one location (Seattle King County Department of Health, 1985). The vapor monitoring data are presented in Table 6 and the monitoring locations are depicted on Figure 11.

Water quality measurements were recorded at a sample location along the southeast perimeter of the site along the right bank of the White River. A water sample tested for water quality parameters was determined to not be indicative of leachate (Seattle-King County Department of Public Health. 1985). The surface water measurements and laboratory analytical results are summarized in Table 2 and the sampling locations are depicted on Figure 4.



Legend

- Parcel boundary
- Study area
- Historical e tent of river floodplain based on 1936 aerial photograph (source ing ounty)
- E isting concrete revetment
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Soil vapor monitoring location appro imated from the Abandon Landfill Study in ing ounty. Seattle- ing ounty Department of Public Health, April 30, 1985
- M 6.0 iver mile (10th)

Figure 11.
Soil Vapor Monitoring Locations, Pacific City Park, Pacific, Washington.

0 100 200 00 Feet

King County

N

Aerial source: ing County 2017

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3.1.2. 2010 and 2011 Stormwater Sampling

In 2010 and 2011, King County (2015) collected stormwater samples from the ditch near the end of 4th Avenue SE and from two locations in the wetland located 300 feet and 1,000 feet south of 4th Avenue SE (Appendix C). Water was tested for 6020A metals, pesticides, herbicides, and EPA 8260C VOCs and EPA 8270D SVOCs (2015). Results from all three locations found detectable concentrations of VOCs in surface waters. The laboratory analytical results are summarized in Table 2 and the sampling locations are depicted on Figure 4.

3.1.3. 2016 Phase II Environmental Site Assessment

Beginning in 2015, a Phase II Environmental Site Assessment (ESA) was conducted to evaluate conditions across the Site (S&W 2016) (see Appendix D). Soil and groundwater samples were collected from 28 push-probes advanced to a maximum depth of approximately 15 feet bgs, and six monitoring wells constructed in six of the probe explorations. Soil samples were also analyzed from two of four test pits excavated to depths ranging from 6 to 7 feet bgs (Figure 5).

Soil samples were analyzed for gasoline-, diesel-, and lube oil-range petroleum hydrocarbons; VOCs; RCRA 8 metals; SVOCs, including polycyclic aromatic hydrocarbons (PAHs); herbicides; and pesticides. Groundwater samples were analyzed for gasoline-, diesel-, and lube oil-range petroleum hydrocarbons; PAHs; VOCs; and total and dissolved priority pollutant metals. Tables 6 and 7 summarize soil and groundwater sampling data from the investigation.

The concentrations of contaminants detected in soil and groundwater relative to standard MTCA Method A and/or B cleanup levels, are summarized as follows:

- Soil
    - Lube oil-range petroleum hydrocarbons were detected in two soil samples at depths of 4.5 and 5.5 feet bgs, above the MTCA Method A cleanup level.
    - Three arsenic samples, five cadmium samples, seven lead samples, and two mercury samples were detected above the MTCA Method A cleanup levels, at depths ranging from 4.5 to 12.5 feet bgs.
    - No VOCs were detected above the MTCA Method A cleanup levels.
    - SVOCs, including total cPAHs[2] were detected above the MTCA Method A cleanup level at 18 soil sample locations.
    - No PCBs were detected above the MTCA cleanup levels.

[2] Total cPAH toxic equivalency (TEQ) concentration calculated in accordance with WAC 173-340-708(8).

- Low concentrations of herbicides and pesticides were detected in 9 samples, and 3 samples, respectively during the 2016 Phase II ESA, but at several orders of magnitude below MTCA Method B cleanup levels (S&W 2016).

- Groundwater
  - Total arsenic concentrations exceeded the MTCA Method A cleanup level at eight locations. Dissolved arsenic exceeded the MTCA Method A cleanup level at two locations.
  - Total lead concentrations exceeded the MTCA Method A cleanup level at three locations. Dissolved lead was not detected above the MTCA Method A cleanup level.
  - No other metals, VOCs or petroleum hydrocarbons were detected above the MTCA cleanup levels.

3.1.4. 2017 Environmental Investigation

In 2017, Herrera advanced nine borings as part of an Environmental Investigation that included soil and groundwater sampling at the park boundary, outside of the fill area (Figure 5) (Herrera 2017) (see Appendix E).

The purpose of the 2017 Environmental Investigation was to determine if soil and/or groundwater contamination was present outside of the fill area and to determine the potential for offsite impacts. Herrera sampled the six existing monitoring wells located on the Site on May 15, 2017 and collected soil and groundwater samples from nine push-probe borings completed at the perimeter of the Site on May 23 and 24, 2017. Six push-probe explorations were completed along the western perimeter of the Site and three along the eastern perimeter.

Shallow and deep soil samples were collected at depth intervals of 0 to 5 feet and 10 to 15 feet in each of the nine borings. The samples were analyzed for gasoline and diesel-range total petroleum hydrocarbons; VOCs; SVOCs, including PAHs; and total and dissolved metals (Table 2). Six soil samples also were analyzed for PCBs based on the detection of lube oil. Groundwater samples were also collected from six existing monitoring wells and each of the nine probe borings. The samples were analyzed for gasoline and diesel-range total petroleum hydrocarbons; VOCs; PAHs; and total and dissolved metals (see Tables 3, 6 and 7).

The concentrations of contaminants detected in soil and groundwater relative to standard MTCA Method A and/or B cleanup levels, are summarized as follows:

- Soil
  - None of the soil concentrations reported for samples collected from nine boring locations exceeded the MTCA cleanup levels for gasoline- and diesel-range total petroleum hydrocarbons, VOCs, SVOCs, total and dissolved metals, or PCBs.

- Groundwater
    - Benzene and other VOC components of gasoline were detected in one groundwater sample collected from boring PP5, which also had a reported gasoline concentration. The benzene concentration slightly exceeded the MTCA Method A cleanup level. The presence of benzene and gasoline at PP-5 was likely attributable to an isolated spill not associated with the dumpsite, since no gasoline was detected in six monitoring wells or in water samples collected from probes GP-12-15, GP-13-15, and GP-21-15 by S&W in 2015.
    - Concentrations of total PAHs were below the MTCA Method A cleanup level.
    - Multiple MTCA exceedances for total metals in groundwater were attributed to extremely turbid samples collected from probe borings. In addition to sample turbidity, elevated arsenic concentrations in groundwater may be due to the release of arsenic derived from emissions associated with historical coal burning that was sequestered in peat (and other organic material), potential uses of arsenic at the nearby orchard, and/or from being located within the plume of the former Asarco lead and copper smelter in Tacoma.
    - Arsenic was the only metal detected in groundwater monitoring wells (and only in MW4-15) that exceeded the MTCA Method A cleanup level. Arsenic also was reported above the MTCA cleanup level in two wells (MW2-15 and MW4-15) during the October 2015 groundwater sampling event.

3.2. SITE CHARACTERIZATION

The following sections describe COPCs, SSLs, potential exposure pathways, data gaps, and site characterization activities for each site media including soil, groundwater, surface water, and soil vapor.

3.2.1. Contaminants of Potential Concern

The COPCs for the Site are those that could be potentially associated with, or attributable to, the historical activities conducted at the Site. The COPCs were initially identified based on historical use of the Site as a refuse dump site and the use of adjacent properties as orchards and farmland. In addition, historical photos suggest that treated wood may have been used in bank stabilization (S&W, 2016). Based on these activities, the COPCs include the following contaminant groups:

- TPH in the gasoline-, diesel-, and oil-ranges
- VOCs
- SVOCs, including PAHs

- Metals
- PCBs
- Herbicides and pesticides.

The results of previous investigations and the site characterization have been collectively evaluated to identify the COPCs that are present at the Site. The Site COPCs are chemicals that are reported above the laboratory reporting limits in any media sampled at the Site (soil, groundwater, surface water, and soil gas). SSLs have been developed to evaluate the chemical analytical results for the COPCs as part of this RI. The COPCs and their SSLs are presented on Tables 4 and 5, for soil and groundwater respectively. Because the development of the groundwater SSLs includes consideration of applicable surface water criteria, the SSLs for groundwater and surface water are the same (Table 5).

The development of SSLs is dependent on potential exposure pathways and receptors. The potential exposure pathways and receptors are summarized in Section 3.2.1.1 as the basis for the selection of SSLs in Section 3.2. 1.2. Section 3.2. 1.3 presents the RI data gaps that were addressed as part of the site characterization and the 2018 environmental exploration activities are summarized in Section 3.2.2.

The results of the site characterization are summarized in Section 3.3.2. The results of the previous investigations and the site characterization together constitute the RI and are the basis for development of the CSM (Section 4).

3.2.1.1. Potential Exposure Pathways

The development of SSLs relies on the identification of current and potential future exposure pathways and receptors. For purposes of developing SSLs, we acknowledge that there is a potential for contaminant migration and groundwater discharge to the river, so we have included consideration of regulatory criteria that are protective of surface water receptors. Because of the site setting, we have also included consideration of regulatory criteria that are protective of ecological receptors. The following exposure pathways and receptors are applicable.

- **Soil/refuse leaching to groundwater:** Contaminants in soil and/or refuse can leach to groundwater by infiltration of precipitation through contaminated soil and refuse or where groundwater is in contact with contaminated soil or refuse.
- **Ingestion of groundwater:** Human receptors have the potential to contact contaminants in groundwater via ingestion.
- **Direct contact with soil, refuse, groundwater and surface water:** Human, ecological, and aquatic receptors have the potential to contact contaminants in soil, refuse, groundwater, and groundwater that discharges as surface water under current exposure scenarios.

- **Ingestion of surface water and aquatic organisms:** Human receptors have the potential to ingest surface water and aquatic organisms that come into contact with contaminants in groundwater that discharges to surface water and sediment.

SSLs were established for the Site based on these potential exposure scenarios and are described in Section 3.2.3. The potential exposure pathways are evaluated in Section 4 (Conceptual Site Model).

Exposure pathways determined not applicable at the Site include:

- **Soil vapor discharge to ambient and indoor air:** Landfill gas (i.e., soil vapor) monitoring conducted during the 1985 Abandoned Landfill Study detected low concentrations of methane in boreholes at the site (Figure 11), and data in Appendix I with the highest being 0.4 percent (S&W 2016). Landfill gas monitoring was conducted March 23 and June 21, 2018, at monitoring wells MW-6 and MW-9; and September 23, 2018, at monitoring wells MW-1, MW-6, and MW-9 (Figure 11) and methane was not detected. No VOCs were detected in soil samples above MTCA Method A cleanup levels during the 2016 Phase II ESA (S&W 2016). The sampling and monitoring conducted to date does not indicate a potential exposure pathway from soil vapor to ambient and indoor air.

3.2.1.2. Site Screening Levels

The current and potential future exposure pathways and receptor described above were considered when developing the SSLs for the RI. Data collected during previous investigations and the RI were then evaluated against SSLs to assess the nature and extent of contamination at the Site. The SSLs are intentionally conservative and represent the most stringent of relevant and appropriate criteria for all potential exposure pathways. The SSLs are not cleanup levels. Site-specific cleanup levels should be developed as part of the Feasibility Study.

3.2.1.2.1. Soil

The SSLs for soil include consideration of the following:

- Standard MTCA Method A and B cleanup levels for the protection of human health for unrestricted land use, through direct contact only
- Calculated MTCA Method B cleanup levels for the protection of groundwater, direct contact and ingestion exposure (saturated soil)
- Ecological Indicator Soil Concentrations for the protection of plants, soil biota and terrestrial wildlife
- Puget Sound Background Metals Concentrations.

Soil concentrations protective of groundwater's highest beneficial use are calculated conservatively using Ecology's variable parameter 3-phase partitioning model (WAC 173-340-747[5]), and using the most stringent groundwater screening level, including potable (drinking) water criteria and criteria protective of surface water quality for the protection of aquatic organisms and human health based on consumption of aquatic organisms. MTCA-default parameter values are used in the 3-phase model. Based on shallow groundwater levels, which often result in surface flooding, the calculated Method B cleanup levels assume that all soil at the Site is saturated.

The soil concentrations generated by this MTCA-default methodology are intentionally conservative and are intended for preliminary data screening in the RI. Soil concentrations above these screening levels may or may not actually be leaching contaminants to groundwater at concentrations of concern. MTCA provides a range of options to further evaluate site-specific soil concentrations protective of groundwater, including use of soil leaching tests and empirical groundwater quality data, as outlined in WAC 173-340-747. The soil-to-groundwater-based soil screening levels may not be considered for a chemical if it can be demonstrated that soil concentrations are protective of groundwater using methods in WAC 173-340-747.

The preliminary soil criteria incorporated into the derivation of soil SSLs to be applied for the RI are included in Table 4 for each contaminant of concern (COC) at the Site.

3.2.1.2.2. Groundwater and Surface Water

SSLs for groundwater include consideration of the following:

- Standard MTCA Method A and B cleanup levels for the protection of human health through direct contact and ingestion for unrestricted land use.
- State and federal maximum contaminant levels for the protection of human health through direct contact and ingestion.
- Applicable state and federal criteria for the protection of surface water quality: protection of human health and aquatic life.

In accordance with MTCA, groundwater screening levels protective of surface water incorporate MTCA surface water cleanup levels including criteria from applicable state and federal laws (WAC 173-340-730). For protection of fresh water quality, screening levels are the most stringent of the following aquatic life criteria and human health criteria for consumption of aquatic organisms under state and federal laws:

- Washington State human health criteria for the consumption of water and organisms, EPA-approved values under Section 303(c) of the Clean Water Act.
- Federal National Recommended Water Quality Criteria pursuant to Section 304(a) of the Clean Water Act.

- Washington State Water Quality Standards (WAC 173-201A-240).
- Standard MTCA Method B surface water cleanup levels based on human consumption of fish (human health only).

The preliminary groundwater criteria incorporated into the derivation of groundwater SSLs to be applied for the RI are included in Table 5 *for* each COC at the Site.

3.2.2. Data Gaps Assessment

This section describes data gaps identified during previous Site investigations (see Section 3.1) and provides a description of the work that was conducted to address them.

3.2.2.1.1. 1985 Abandoned Landfill Study

The 1985 Site investigation by Public Health – Seattle & King County did not characterize the lateral or vertical extent of refuse or potential soil, groundwater, or surface water contamination at the site. These data gaps were addressed in subsequent investigations with soil borings, test pits, monitoring wells, groundwater sampling, and a geophysical survey.

3.2.2.1.2. 2010 and 2011 Stormwater Sampling

No conclusions regarding the source of the VOCs detected in stormwater samples were made by King County (2015). This data gap was addressed in subsequent investigations by collecting surface water and stormwater samples from the ditch and the stormwater pond along the west side of the Site and by collecting groundwater samples from push probes and monitoring wells throughout the Site.

3.2.2.1.3. 2016 Phase II ESA

The 2016 Phase II ESA was conducted to characterize soil and groundwater conditions across the site, and to determine where contaminated soils may be encountered during excavation activities associated with future levee setback work (S&W 2016). The assessment concluded that additional soil and groundwater data was needed to determine if soil and/or groundwater contamination was present outside of the fill area, and to determine the potential for offsite impacts. These data gaps were addressed in subsequent investigations with soil borings, additional monitoring wells, groundwater and surface water sampling, and a geophysical survey.

3.2.2.1.4. 2017 Environmental Investigation

The 2017 Environmental Investigation was conducted to determine if soil and/or groundwater contamination was present outside of the fill areas identified during the 2016 Phase II ESA, and to determine the potential for offsite impacts (Herrera 2017). The report concluded that three additional monitoring wells should be installed for the purpose of collecting samples for metals analyses from permanent wells that produce less turbid water samples than temporary soil borings. The report also concluded that monitoring wells should be resampled during seasonal high and low

water level periods to evaluate effects of seasonal changes in groundwater levels and flow directions on groundwater quality. These data gaps were addressed by installing upgradient monitoring well MW-7, and downgradient monitoring wells MW-8 and MW-9, and collecting quarterly groundwater samples in March, June, and September 2018 from all wells at the Site.

3.2.3. 2018 Environmental Investigation

The 2018 investigation work was conducted to address the data gaps identified and to support development and evaluation of alternatives for permanent flood protection along the right bank of the White River. The specific objectives of the sampling were to:

- Further refine the understanding of the lateral extent and thickness of refuse within the Study Area.
- Evaluate the presence and concentrations of chemical constituents both within the refuse and in soils surrounding the refuse.
- Collect sufficient physical and chemical information about the refuse and surrounding soil conditions to support the development and evaluation of feasible remedial alternatives.
- Evaluate variability in seasonal groundwater fluctuations and flow direction.
- Evaluate groundwater near the refuse for the presence and concentration of chemical constituents.

3.2.3.1. Investigation Methods

The 2018 environmental investigation consisted of the following components.

- January: completed a geophysical survey to characterize the depth and lateral extent of refuse and help target the locations of geotechnical and environmental explorations at the Site.
- February and March: completed 25 push probe environmental borings, and 13 geotechnical borings with environmental sampling, and installed three new monitoring wells (MW-7, MW-8, and MW-9) at three of the geotechnical boring locations.
- March, June, and September: collected groundwater samples from six existing monitoring wells, and the three new monitoring wells.
- June, and September: collected surface water samples at three locations within the stormwater drainage ditch along the west edge of the site, and at a fourth location within the onsite stormwater pond during the September sampling event.
- March, June, and September: monitored landfill gas at Site monitoring wells where the static groundwater level was below the top of the well screen.

3.2.3.1.1. Soil Sampling Methods

The work was conducted in accordance with the Sampling and Analysis Plan (Herrera 2018).

Soil samples from geotechnical borings were collected in 18-inch, split spoon samplers at 2.5-foot intervals from 2.5 feet bgs to the total depth of each boring. The soil was visually inspected for staining and classified in accordance with the ASTM International (ASTM) D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Discrete soil samples were collected for potential chemical analysis. The boring logs, including well construction details, are provided in Appendix A.

Soils encountered during drilling were visually inspected and classified in accordance with the Unified Soil Classification System (USCS; ASTM International [ASTM] D2488-09), and a photoionization detector (PID) instrument was used to screen soil for VOCs. Following soil sample collection, each boring was backfilled from the bottom to ground surface with bentonite chips and capped at the surface with soil or cement to match surrounding surface conditions. The soil boring logs are presented in Appendix A.

Sample collection intervals were adjusted in the field depending on the presence or absence of refuse and the homogeneity of the subsurface material. Sample intervals generally included:

- The first sample collected from the 0- to 5-foot depth interval or groundwater interface above the refuse if present
- A second sample from the 5- to 10-foot interval or within refuse
- A third sample from the 10- to 15-foot interval, below refuse (or from the 15- to 20-foot interval at locations within clean waste deep soil grids previously established by Shannon & Wilson [2016]).

A total of 93 soil samples from push probes PP10 through PP24 and geotechnical borings B-04 through B-17 were submitted to OnSite for the following laboratory analyses (see Figure 5):

- TPH identification using Ecology's Northwest total petroleum hydrocarbons, diesel-extended (NWTPH-Dx) method
- Total MTCA metals (arsenic, cadmium, chromium, mercury, and lead) using EPA Methods 6010C/7471A.
- Carcinogenic PAHs using EPA Method 8270D/SIM.

If TPH was identified in a sample, the sample was also analyzed for:

- Gasoline-range TPH and benzene, toluene, ethylbenzene and xylenes (BTEX) using Ecology's NWTPH-Gx method/EPA Method 8021B; and/or

- Diesel- and oil-range TPH using Ecology's NWTPH-Dx method; and
- PCBs using EPA Method 8082A (if oil-range TPH is detected).

3.2.3.1.2. Groundwater Sampling Methods

Monitoring wells MW-7, MW-8 and MW-9 drilled and constructed in accordance with the Minimum Standards for Construction and Maintenance of Wells, WAC 173-160. The borings were completed by a Holocene Drilling, Inc. of Puyallup, Washington using hollow stem auger drilling methods. The monitoring wells are each constructed with a 2-inch diameter PVC well casing with an 11-foot long well screen set from 4 feet to 15 feet bgs. Filter pack sand was placed in the annular space between the borehole and well screen. Bentonite chips were placed above the filter pack and each well was completed at the ground surface with flush-mounted steel monument sealed in concrete.

Following installation, the monitoring wells were developed with a submersible pump. Development continued until levels of sand and silt were reduced and water removed from the well was generally of clear quality. Development water from each well was contained in 55-gallon drums, stored temporarily at the site, pending analytical results.

On March 23, June 21, and September 23, 2018, groundwater samples were collected from monitoring wells MW-1 through MW-9, and submitted to Onsite for the following laboratory analyses:

- Gasoline-range TPH and BTEX using Ecology's NWTPH-Gx method/EPA 8021B;
- Diesel- and oil-range TPH using Ecology's NWTPHDx method;
- Total MTCA metals (arsenic, cadmium, chromium, mercury, and lead) using EPA Methods 6010C/200.8/7470A; and
- Carcinogenic PAHs using EPA Method 8270D/SIM.
- Volatile organic compounds using EPA Method 8260C.

If oil-range hydrocarbons were identified in a sample, the sample was also analyzed for PCBs using EPA Method 8280A.

Groundwater samples were collected according to procedures outlined in the Sampling and Analysis Plan (Herrera 2018) as follows:

- The well monument cover was removed, and the condition of the well and surrounding area was inspected.
- Observations were noted in the field notebook and on the well sampling log.

- The well casing plug was removed.
- The depth to groundwater was measured from the top of the well monument to the nearest 0.01 foot using an electronic water level indicator.
- The date, time, and measurements were recorded on the well sampling log.
- Care was taken to ensure that no bubbles or headspace were present for the VOC samples.
- Containers were securely capped, labeled, and placed into a chilled cooler for storage, prior to delivery to the laboratory.
- The date and time of sample collection was recorded on the well sampling log and chain-of-custody form.

The wells were purged of standing water using a low-flow purge method at approximately 0.4 liters per minute with clean, dedicated polyethylene tubing and a submersible pump. Tubing was placed 3 to 5 feet below the top of the water table and opposite the screened zone in the monitoring wells.

During purging, pH, water temperature, dissolved oxygen, specific conductivity, water level, and pumping rate were measured. The amount of water purged, water parameter measurements, and time of collection were recorded on the well sampling log. Recharge occurred quickly for the wells; the water levels remained constant during purging and sampling. Purged water removed during development was placed into 55-gallon drums stored on site.

Samples were collected with the same dedicated polyethylene tubing used to purge the well by pumping directly into sample containers provided by the analytical laboratory.

3.2.3.1.3. Surface Water Sampling Methods

Surface water samples were collected according to King County Standard Operating Procedure (SOP) *Sampling Methods for Stream and River Water (SOP #214v3)* as follows:

- One-liter unpreserved amber glass bottles were dipped directly into the surface water to fill them, and one of the unpreserved bottles was used to collect and transfer water into other bottles containing preservative.
- The date, time, sample identification, sampler name, and requested analysis were recorded on each sample bottle label and on the chain-of-custody form.
- Field measurements for temperature (degrees centigrade), pH (standard units), dissolved oxygen (milligrams/liter [mg/L]), and specific conductivity (µs/cm), and turbidity (nephelometric turbidity units) were recorded in a log book using a calibrated YSI Pro DSS multi-meter.

- Care was taken to ensure that no bubbles or headspace were present for the VOC samples.
- Containers were securely capped, labeled, and placed into a chilled cooler for storage, prior to delivery to the laboratory.

On June 29, 2018, surface water samples were collected from three locations (SW1 thru SW3) along the stormwater ditch in conjunction with the June 2018 quarterly groundwater sampling event. On October 9, 2018, surface water samples were collected during a rainstorm from the same three locations along the ditch, plus a fourth location (SW4) within the northeast corner of the onsite stormwater pond. The surface water samples were submitted to Onsite for the following laboratory analyses:

- Gasoline-range TPH and BTEX using Ecology's NWTPH-Gx method
- Diesel- and lube oil-range TPH using Ecology's NWTPH-Dx method
- Total MTCA metals (arsenic, cadmium, chromium, mercury, and lead) using EPA Methods 6010C/200.8/7470A
- cPAHs using EPA Method 8270D/SIM
- VOCs using EPA Method 8260C
- Hardness by EPA Method 6010D/SM 2340B.

Samples were held for potential analysis of PCBs pending the results of oil-range TPH analysis, but no oil-range petroleum hydrocarbons were detected so subsequent PCB analysis was not performed.

3.2.3.1.4. Soil Vapor Monitoring Methods

Landfill gas monitoring was performed using a Landtec Gas Analyzer & Extraction Monitor (GEM) 2000 Plus gas analyzer and extraction monitor that was calibrated by the supplier prior to use. During the March 2018 event the wells were purged using the GEM at a rate of approximately 300 milliliters per minute (ml/min), and during the June 2018 event, the wells were purged during monitoring using an Aircheck Sampler pump by SKC, Ltd. at a rate of approximately 3,000 ml/min. Table 8 presents a summary of the gas monitoring conducted in 1985 by King County, as well as the 2018 monitoring conducted by Herrera.

Landfill gas monitoring was conducted March 23 and June 21, 2018, at two locations (MW-6 and MW-9; and September 23, 2018, at three locations (MW-1, MW-6, and MW-9) (Figure 11). These three wells were the only wells where the measured groundwater elevations were below the top of the well screen.

3.2.3.2. Sampling/Analytical Results

The following subsections present the sampling methods and the analytical results by media for the 2018 investigation work described above.

3.2.3.2.1. Geophysical Survey

On January 30 and 31, 2018, a geophysical survey was completed to further delineate the lateral and vertical extent of buried metal debris identified in 2016, and to aid in targeting additional geotechnical and environmental explorations (Duoos, P. 2018; S&W 2016). The survey study area included the open park area and did not extend into the wooded area to the south or beyond the Site boundary. A copy of the geophysical report is included in Appendix F.

Electromagnetic and magnetic geophysical methods were used along a grid established at the Site to determine the general lateral extent of buried refuse, and a magnetometer was also used to search for buried ferrous (iron-bearing) metal.

Areas interpreted to have buried metal debris were categorized as low, moderate, and high anomalous zones. Except for one low metal anomalous zone identified near the northwest part of the Site, most of the buried metal debris anomalies were located near the central and southeastern portions of the site. A long, linear feature was identified along the southeast edge of the Site, parallel to the White River; it is possible that this feature is part of the historic levee.

3.2.3.2.2. Soil Results

A summary of soil analytical results is presented in Table 7. Figures 12 through 15 depict the extent of soil contamination from diesel- and lube-oil range petroleum hydrocarbons, lead, PCBs, and total cPAHs.

Gasoline-range petroleum hydrocarbons were initially detected by method NWTPH-hydrocarbon identification (HCID) in samples at only three locations: PP23, PP24, and PP25. Follow-up analysis detected a concentration of gasoline-range petroleum hydrocarbons in PP25-13 (400 milligrams/kilogram [mg/kg]) that exceeded the SSL of 100 mg/kg; BTEX compounds were not detected above the laboratory reporting limits; however, the RLs for benzene, toluene, and ethyl benzene were higher than the SSLs.

Diesel- and lube-oil range petroleum hydrocarbons were initially detected by method NWTPH-HCID in 25 samples at 18 locations. Follow-up analysis detected diesel-range petroleum hydrocarbons that exceeded the SSL of 200 mg/kg in samples from four locations at concentrations ranging from 400 to 1,800 mg/kg.

Lube oil-range petroleum hydrocarbons exceeded the SSL of 2,000 mg/kg in samples from five locations at concentrations ranging from 3,200 to 12,000 mg/kg. BTEX compounds were not detected above the laboratory reporting limits.

A review of laboratory chromatograms for the analytical results of Ecology Method NWTPH-Dx for quantification of diesel- and oil-range TPH indicates that most of the TPH present in soil at the Site is lube oil. The one exception is diesel-range TPH detected in soil at boring B-05, which appears to have a chromatographic signature similar to weathered diesel fuel. In accordance with Ecology Implementation Memorandum #4, Determining Compliance with Method A Cleanup Levels for Diesel and Heavy Oil, the NWTPH-Dx results for all samples (except B-05-7.5) have been summed to calculate a Total NWTPH-Dx value that is compared to the SSL for lube oil-range TPH of 2,000 mg/kg.

MTCA metals were detected above SSLs in samples from 21 locations. Lead was the metal most frequently detected above the SSL and was therefore used as an indicator of metals contamination across the Site. Arsenic exceeded the SSL of 20 mg/kg in only one sample: PP15-12 (24 mg/kg). Cadmium exceeded the SSL of 1 mg/kg in 18 samples from 13 locations at concentrations ranging from 1.2 to 27 mg/kg. Chromium exceeded the SSL of 48 mg/kg in six samples from five locations at concentrations ranging from 53 to 430 mg/kg. Lead exceeded the SSL of 25 mg/kg in 38 samples from 20 locations at concentrations ranging from 30 to 7,300 mg/kg. And mercury exceeded the SSL of 0.07 mg/kg in four samples from 3 locations at concentrations ranging from 0.41 to 1.2 mg/kg.

Total PCBs were detected above the SSL of 0.33 mg/kg in samples from four locations at concentrations ranging from 0.74 to 1.36 mg/kg.

Concentrations of total cPAHs were detected above the SSL of 0.09 mg/kg in soil samples collected from three locations at concentrations ranging from 0.094 to 1.2 mg/kg.

3.2.3.2.3. Groundwater Results

A summary of groundwater analytical results for samples collected from monitoring wells is presented in Table 6. No gasoline-, diesel-, or lube oil-range petroleum hydrocarbons were detected above SSLs in groundwater samples collected from the nine monitoring wells in March, June, and September 2018.

One VOC, (cis) 1,2-dichloroethene, was detected below the SSL in two samples from MW3; 1,4-dichlorobenzene was detected below the SSL in one sample from MW6, and chlorobenzene was detected below the SSL in three samples from MW4. No other VOCs or total PCBs were detected above the SSLs in any of the samples from the wells.

Of the five MTCA metals, total arsenic was detected above the SSL of 3.3 µg/L in 13 samples from 7 wells at concentrations ranging from 3.4 to 14 µg/L, and total lead was detected above the SSL of 2.5 µg/L 3 samples from one well at concentrations ranging from 3.2 to 5.6 µg/L. Dissolved arsenic was detected above the SSL in four samples from three wells at concentrations ranging from 4.8 to 9.8 µg/L, and dissolved lead was detected above the SSL in one sample from one well at a concentration of 3.0 µg/L.

The concentration of total cPAHs exceeded the SSL of 0.015 µg/L in one sample from MW-6 (0.017 µg/L).

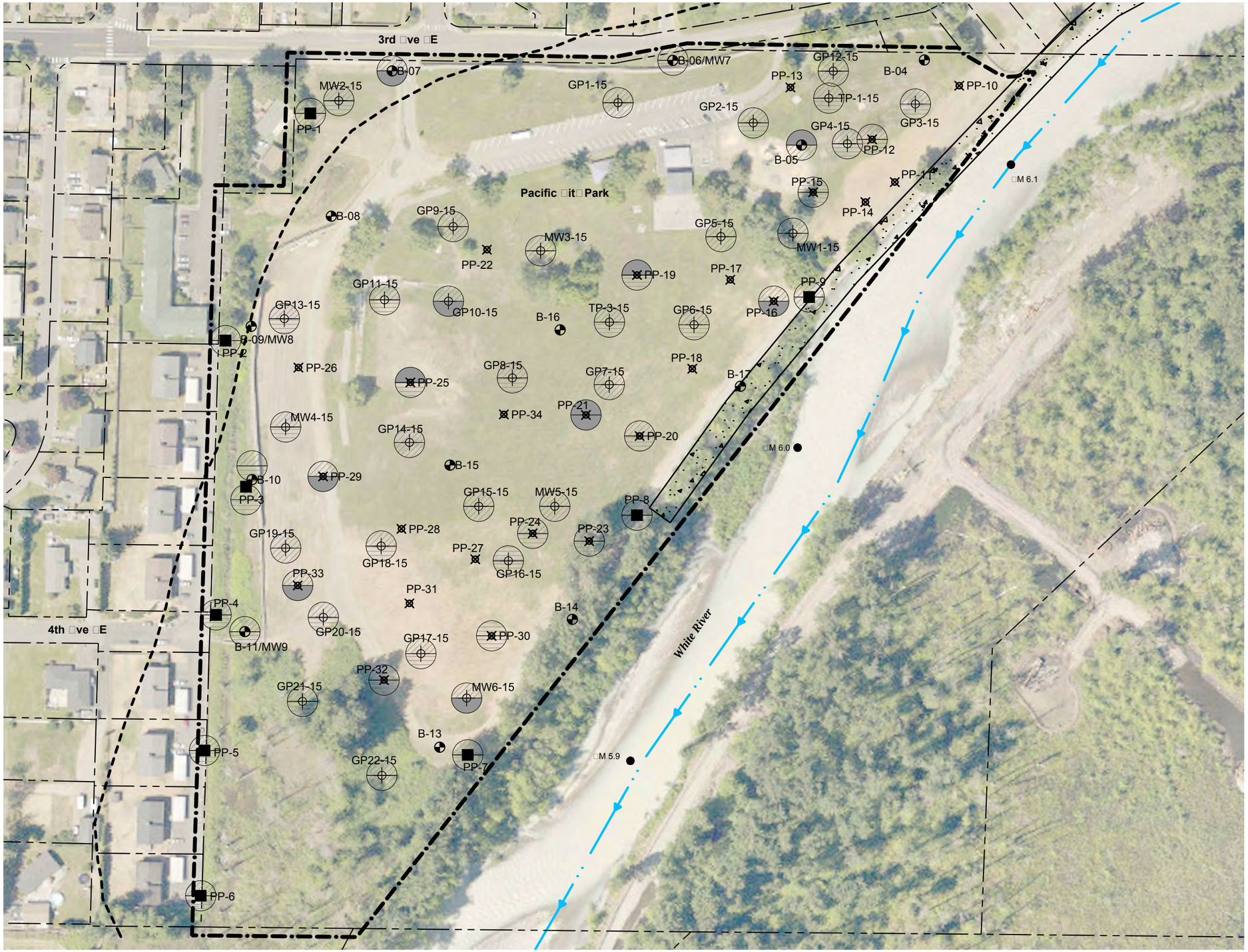

Figure 12.
Extent of Diesel and Lube-oil Range Petroleum Hydrocarbons in Soil, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical e tent of river floodplain based on 1936 aerial photograph (source ing ounty)
- E isting concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- M 6.0 iver mile (10th)

Sample results

- Diesel results
- Lube-oil results
- Not detected
- Detected below site screening level
- E ceeds site screening level

Notes

1. Site screening levels
   - 200 mg/ g for diesel
   - 2,000 mg/ g for lube-oil
2. mg/ g - milligrams per ilogram

0 75 150 300 Feet

N

King County

Aerial source: ing County 2017

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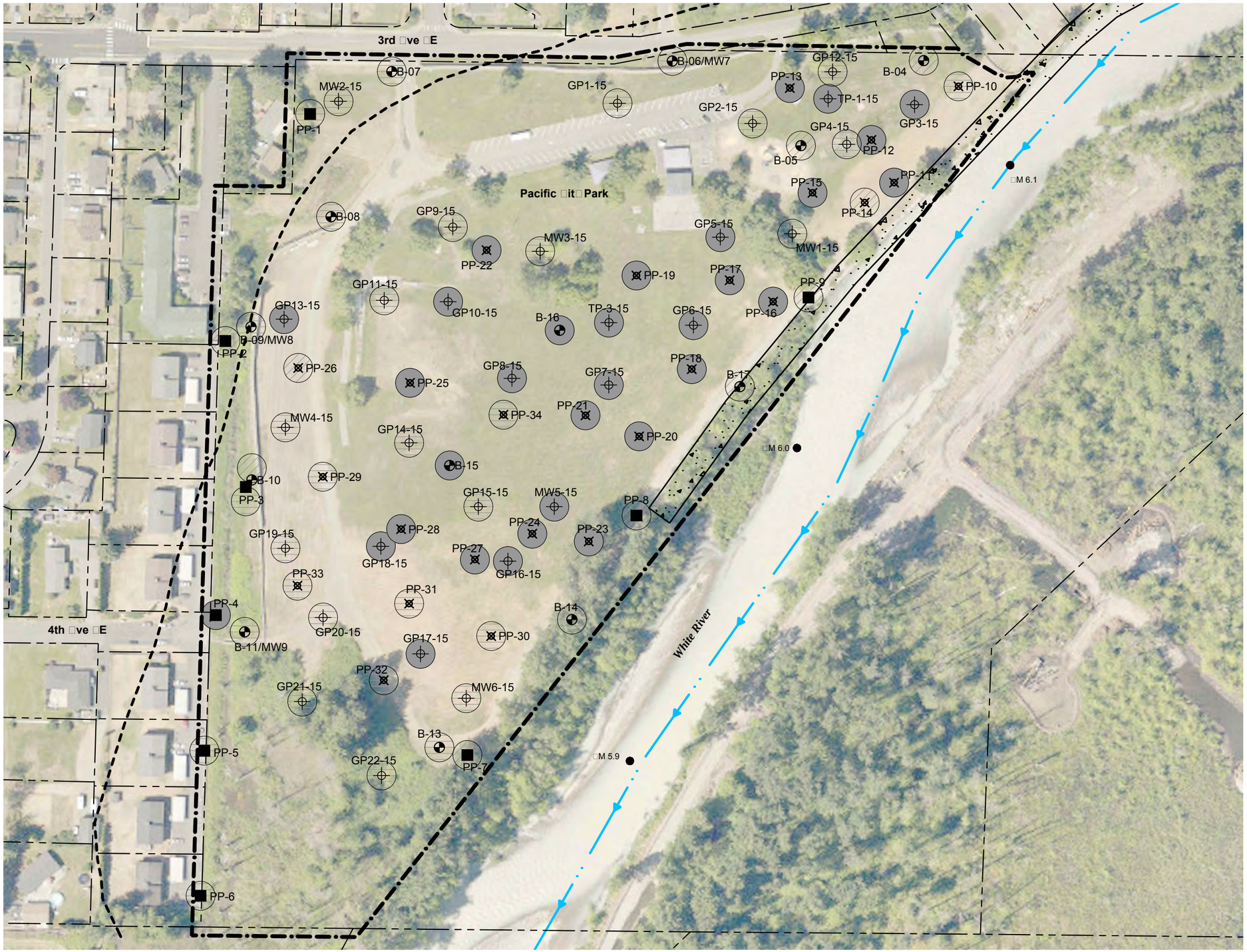

Figure 13.
Extent of Lead in Soil, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical e□tent of river floodplain based on 1936 aerial photograph (source□□ing □ounty)
- E□isting concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- □M 6.0 □iver mile (10th)

Sample results

- Not detected
- Detected below site screening level
- E□ceeds site screening level

Notes

1. Lead used as an indicator of site metals contamination for MT□A metals (arsenic, cadmium, chromium, lead, and mercury)
2. Site screening levels□
   - 44 mg/□g for lead
2. mg/□g - milligrams per □ilogram

0 75 150 300 Feet

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King County

Aerial source: □ ing County □2017□

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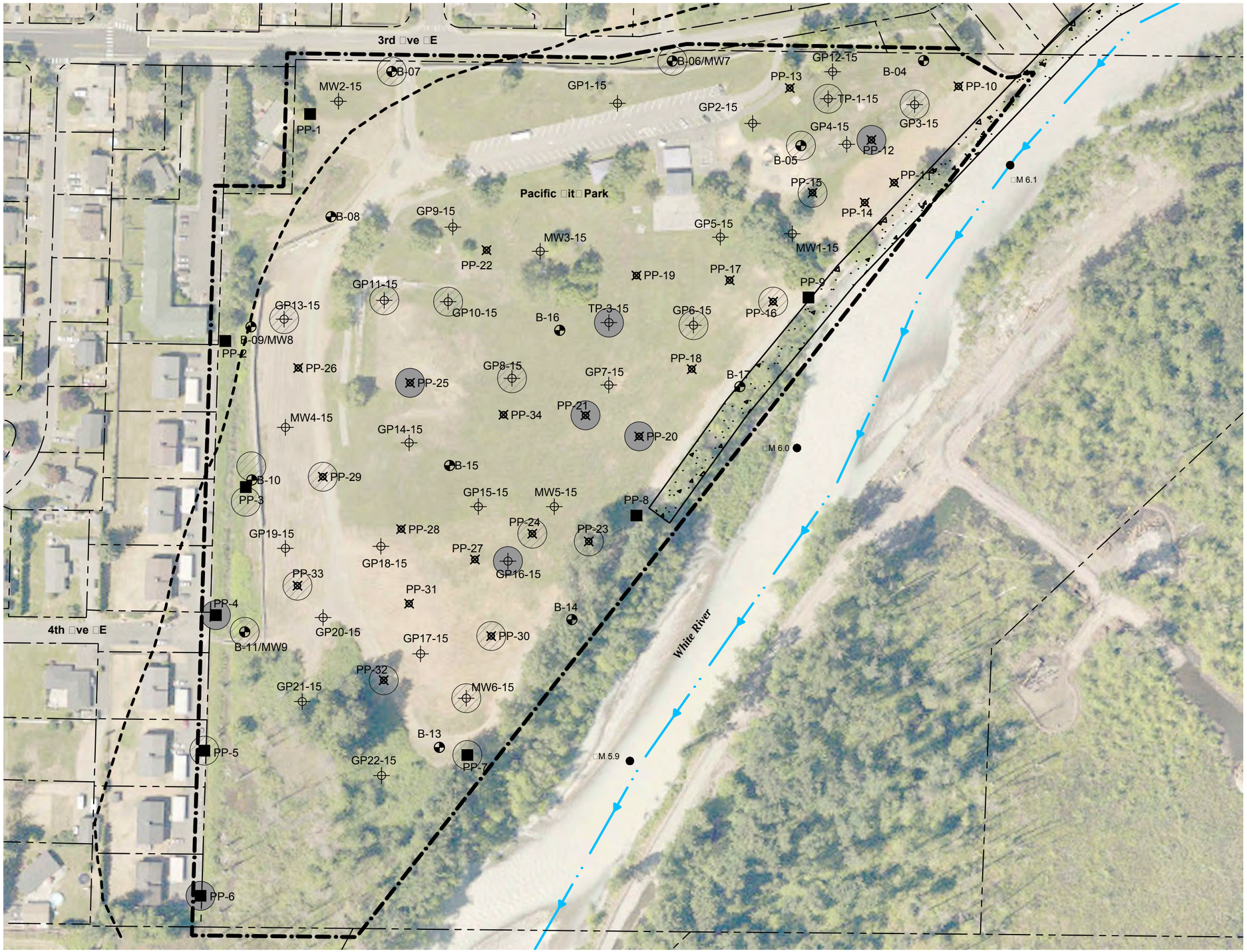

Figure 14.
Extent of Total Polychlorinated Biphenyls (PCBs) in Soil, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical e tent of river floodplain based on 1936 aerial photograph (source ing ounty)
- E isting concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- M 6.0 iver mile (10th)

Sample results

- Not detected
- Detected below site screening level
- E ceeds site screening level

Notes

1. Site screening levels
   - 0.05 mg/ g for total P Bs
2. mg/ g - milligrams per ilogram

0 75 150 300 Feet

N

King County

Aerial source: ing County 2017

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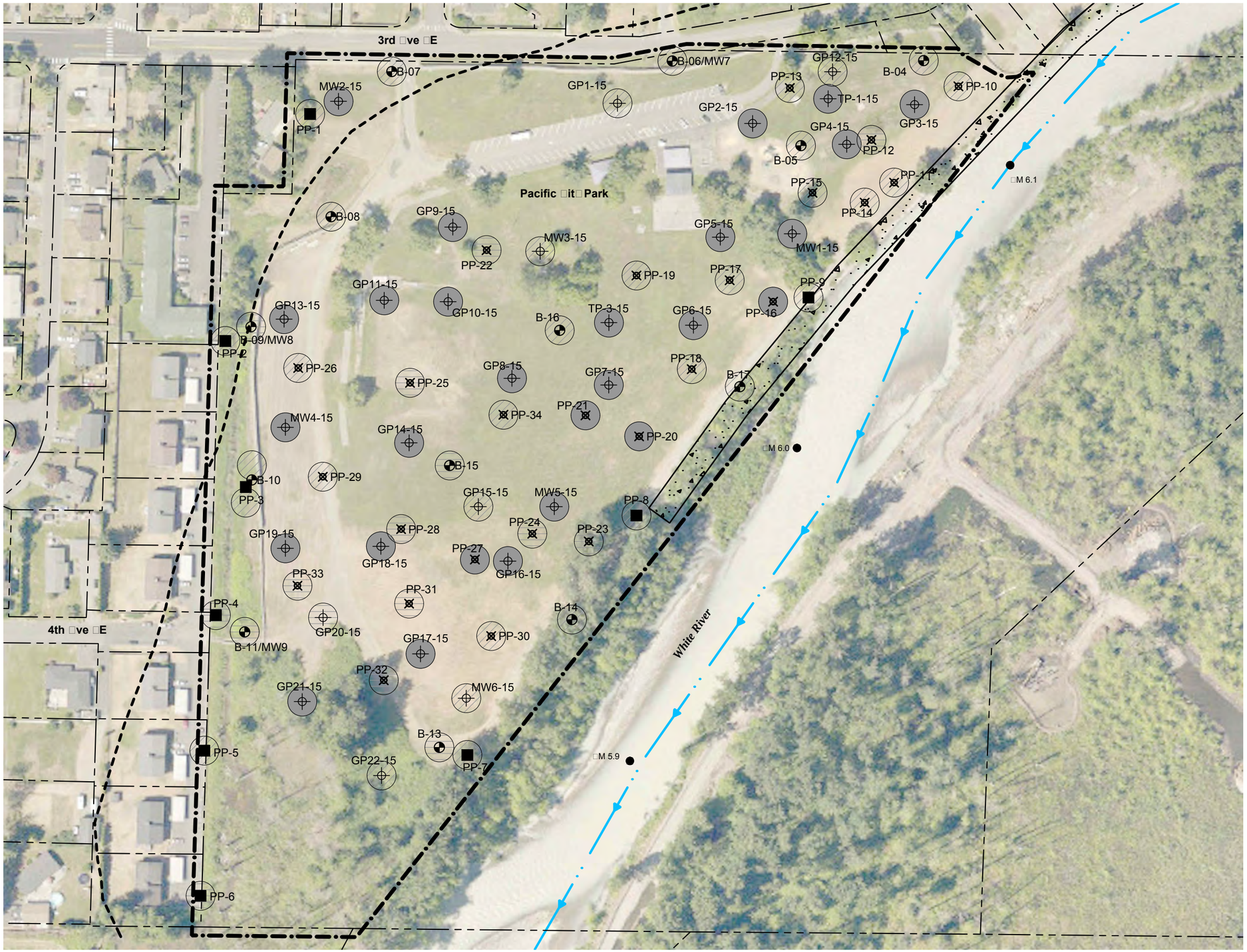

Figure 15.
Extent of Total Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) in Soil, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical e□tent of river floodplain based on 1936 aerial photograph (source□□ing □ounty)
- E□isting concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- □M 6.0 □iver mile (10th)

Sample results

- Not detected
- Detected below site screening level
- E□ceeds site screening level

Notes

1. Site screening levels□
   - 0.09 mg/□g for total cPAHs
2. mg/□g - milligrams per □ilogram

0 75 150 300 Feet

N

King County

Aerial source: □ ing County □2017□

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3.2.3.2.4. Surface Water Results

Surface water analytical results were compared to the groundwater SSLs protective of surface water shown in Table 2. No petroleum hydrocarbons, total MTCA metals, cPAHs, or VOCs were detected above the SSLs in any of the samples.

3.2.3.2.5. Soil Vapor Results

No methane (CH_4) or hydrogen sulfide (H_2S) were detected at MW-6 or MW-9 during the March, June, or September 2018 sampling events. In 1985, only low concentrations of methane (up to 0.4 percent) and low levels of trace gases (up to 6.2 ppm) were detected. Based on these results it does not appear that the Site is producing or releasing landfill gasses.

3.2.3.3. Data Quality Analysis

Laboratory analyses for the 2018 investigation were performed by OnSite Environmental, of Redmond, Washington, an Ecology-accredited laboratory. Laboratory reports and chain of custody forms are provided in Appendix G.

A data quality assurance review was completed by Herrera for all analyses performed (See memorandum included in Appendix H.) Data were validated based on the following:

- Sample custody, preservation, holding times, and completeness
- Laboratory reporting limits
- Method blank analysis
- Laboratory control sample analysis
- Surrogate compound analysis
- Matrix spike analysis
- Laboratory duplicate analysis

4. CONCEPTUAL SITE MODEL

The conceptual site model (CSM) for the Site has been developed based on historical land use information, the results of previous environmental investigations, and results from the RI work completed in 2018 to address data gaps. The CSM is the basis for developing technically feasible cleanup alternatives and selecting a final cleanup action. The CSM is dynamic and may be refined as additional information becomes available for the Site. The following sections describe the components of the CSM including the source of the COPCs, nature and extent of contamination, contaminant fate and transport, and a preliminary exposure assessment.

4.1. SOURCES OF CHEMICALS OF POTENTIAL CONCERN

Historical records indicate that municipal waste was placed on the Site as early as 1920 until approximately 1965. The previous investigations identified fill soil mixed with refuse that consists of pieces of concrete, wood, shards of glass and china, and bits of metal debris. Most of the refuse was reportedly burned. The Site was vacant until it was leased to the City of Pacific in 1969 and subsequently opened as a city park in 1972. Additional fill soil was placed throughout the Site through the 2000s, primarily in the south, southwest, west and north portions of the site.

The sources of COPCs include fill soil containing ubiquitous but low concentrations of metals and total cPAHs, and fill soil mixed with refuse, which analytical testing indicated the presence of TPH, PCBs and VOCs. Suspected sources of COPCs that were historically identified and evaluated included treated wood and possible nearby uses of pesticides and herbicides.

The approximate lateral extent of fill soil and refuse are depicted on Figures 3 and 5. The approximate vertical extent of fill soil and refuse are depicted on cross sections A-A′ and B-B′ (Figures 6 and 7, respectively).

4.2. NATURE AND EXTENT

The nature and extent of the COPCs at the Site are described based on the sources, physical conditions and analytical data collected during previous investigations and during the 2018 site characterization work. The Site is defined by the extent of hazardous substances in one or more media, at concentrations exceeding the SSLs. The presence of fill soil alone, in the absence of COPCs, does not fall under the definition of MTCA as a hazardous substance, and therefore, is not part of the MTCA Site. However, the presence of municipal waste does qualify as a hazardous substance. The Site is defined by any location where municipal waste and/or COPCs are present in soil, groundwater, surface water or soil vapor at concentrations exceeding the SSLs. The following subsections summarize the known distribution of concentrations of COPCs at the Site.

4.2.1. Physical Conditions

The Site consists of a relatively flat upland area bounded by the White River to the east, a paved road to the north, and a surface water drainage ditch and multi-family residential properties located to the west (Figure 2). During the wet season, typically between October and March, the central and northern portions of the Site are frequently inundated by the surface expression of shallow groundwater. Groundwater depths ranged from 4 to 9 feet bgs at the time of the Phase II investigation, in September 2015. In general, groundwater was encountered between 4 to 6 feet bgs, with deeper groundwater depths encountered in areas of higher relief, such as explorations located on the existing levee and in terraced fill areas in the southern portion of the Site (S&W 2016). The groundwater flow direction suggests that the White River loses surface water to the upper alluvial aquifer, at least seasonally.

Shallow groundwater levels in the unconfined, upper alluvial aquifer are also encountered seasonally in monitoring wells located on the Site and springtime groundwater flow has been observed to the west and southwest (Figures 8, 9, and 10). King County completed an animation of groundwater levels, based on hourly well measurements from October 2015 through October 2016. The direction of groundwater flow is typically to the southwest (parallel to river flow) for most of the year. When water levels rise in winter with the river stage, the gradient increases and has a more westerly component, away from the river (Brummer 2017).

The geology at the Site consists of fill overlying native Holocene alluvium to the maximum depth explored of approximately 62 feet bgs. Fill material was identified as soil with a disturbed appearance and from the presence of unnatural debris (refuse) such as glass shards and bottles, brick, cement, organics, wood, paper, rubber, and ceramic. The fill consists of fill soil and fill soil mixed with refuse. The fill soil consists of variable amounts of silt, sand and gravel that generally directly overlies the Holocene alluvium deposits across the Site, and ranges in thickness from inches to 15 feet. The fill soil mixed with refuse is primarily located beneath the eastern portions of the Park, along the White River, and is up to 20 feet thick in the central and south-central portions of the Site (Figures 6 and 7). The refuse is typically covered by one to four feet of sandy, gravelly fill soil.

The fill is underlain by alluvial overbank deposits consisting mostly of poorly graded sand with gravel to sandy gravel interbedded with backwater lacustrine deposits consisting of silt with organics and interbeds of silty sand.

Figure 5 depicts the estimated lateral extents of fill soil and fill soil with refuse and the transect locations for cross sections that depict subsurface characteristics at the Site. Cross sections A-A' and B-B' are depicted on Figures 6 and 7, respectively.

4.2.2. Soil

The primary COPCs exceeding the SSLs in soil are lead and total cPAHs, which are present in fill soil and refuse throughout the Site (Figures 13 and 15, respectively). Other primary COPCs are present in soil at concentrations exceeding the SSLs sporadically throughout the Site in the fill soil and refuse, including metals (arsenic, barium, cadmium, chromium, mercury and silver), TPH and PCBs (Table 7). For the purposes of the RI, lead is used as an indicator of the presence of all metals in soil at concentrations exceeding the SSLs. Although all metals are not present in soil above SSLs, where lead is reported above the SSLs, the soil samples that contain metals exceeding the SSLs almost always contain lead above the SSLs. The soil data for total cPAHs, lead, TPH and PCBs are depicted on Figures 15, 13, 12, and 14, respectively.

Secondary chemicals that have been detected in soil at the Site at concentrations exceeding the SSLs, include the following:

1. Chlorinated VOCs, including tetrachloroethene (PCE) and trichloroethene (TCE);
2. Other SVOCs, including non-carcinogenic PAHs, pentachlorophenol (PCP) and phthalate compounds; and
3. Pesticides.

Many of these secondary chemicals have been detected in a single soil sample collected at the Site (Table 7.) All of these secondary chemicals have been detected in soil samples collected from areas of the Site where fill soil with refuse has been observed and are co-located with concentrations of total cPAHs and lead in soil. Developing a cleanup action to address exposure risk to human health and the environment from the primary COPCs in the areas of the Site where refuse is located will include those areas where these secondary chemicals have been detected above SSLs, so they are not discussed further in the CSM.

The highest concentrations of total cPAHs and/or lead in soil are generally observed in soil borings where refuse was observed, including the area of borings PP-17, PP-20 and PP-21, where refuse was observed to be up to 20 feet thick (see Figure 5). Relatively high concentrations of total cPAHs and lead are also reported in soil at boring GP10-15, where historical photos suggest refuse disposal in the late 1950s and into the mid-1960s (Table 4). The lateral extent of total cPAHs and lead in soil has not been defined in soil to the west-southwest of borings PP-4, PP-5 and PP-6, where fill soil extends beyond the property boundary and the results of soil samples collected within the fill at the property boundary contain concentrations of one or more of the COPCs above the SSLs. The vertical extent of lead and total cPAHs in soil, depicted on the cross-sections (Figures 6 and 7), is defined by the results of soil samples collected from native Holocene alluvium soils located beneath the fill soil and refuse (Figures 13 and 15). The soil data indicates that COPCs are present above the SSLs in the upper 2- to 8-feet of native soil beneath the fill and refuse.

The locations where TPH was detected in soil above the SSLs are depicted on Figure 12. The distribution of TPH in soil at the Site, at concentrations above the SSLs, is typically limited to shallow depths in the fill soil. Except for borings PP-21 and PP-25, all the total NWTPH-Dx concentrations above the SSLs are reported in fill soil located at depths ranging from 1 foot to 5.5 feet bgs. When deeper, native soil was sampled in these same borings, the concentrations of total NWTPH-Dx are below the SSLs, defining the vertical extent (Table 7). Similarly, the concentrations of total NWTPH-Dx above the SSLs in borings PP-21 and PP-25 are reported at depths of 10 and 13 feet bgs, respectively near the fill soil-native soil interface, and deeper soil samples collected from both borings (at depths of 15 and 17 feet bgs, respectively) do not contain total NWTPH-Dx concentrations above the SSLs (Table 7).

Concentrations of total PCBs in soil are generally below 1 mg/kg, except for soil samples collected from borings PP-21 (1.33 mg/kg) and PP-25 (1.36 mg/kg) (Figure 14). With the exception of boring PP-4, the presence of total PCBs at concentrations above the SSLs in soil generally correlates to the presence of fill soil with refuse.

The extent of fill soil has been inferred based on historical aerial photographs, however the presence and quality of fill soil beyond the property boundaries has not been evaluated. The lateral extent of one or more of the COPCs, at concentrations above the SSLs, in either fill soil or fill soil mixed with refuse is shown on Figure 16. The lateral extent of COPCs in fill soil are sufficiently defined to the north to characterize the quality of the fill soil and to allow for the development and evaluation of remedial alternatives. Further evaluation into the extent and quality of fill soil to the west-southwest is needed to adequately characterize the Site for the purpose of developing and evaluating remedial alternatives.

4.2.3. Groundwater

The nature and extent of COPCs in groundwater is based on the results of laboratory analytical results of reconnaissance groundwater samples collected from borings in 2017 (Table 3) and from groundwater samples collected from Site monitoring wells during three separate sampling events conducted between 2015 and 2018 (Table 6)

MTCA (WAC 173-340-720(9)) dictates that groundwater cleanup levels shall be determined by analysis of groundwater samples representative of the groundwater and that analysis shall be conducted on unfiltered samples unless it can be demonstrated that a filtered groundwater sample provides a more representative measure of groundwater quality.

A comparison of total and dissolved metals concentrations detected in groundwater samples collected from the Site suggest that filtered groundwater samples (dissolved metals data) provide a more representative measure of groundwater quality for metals than unfiltered samples (total metals data), for purposes of determining groundwater compliance evaluation under MTCA.

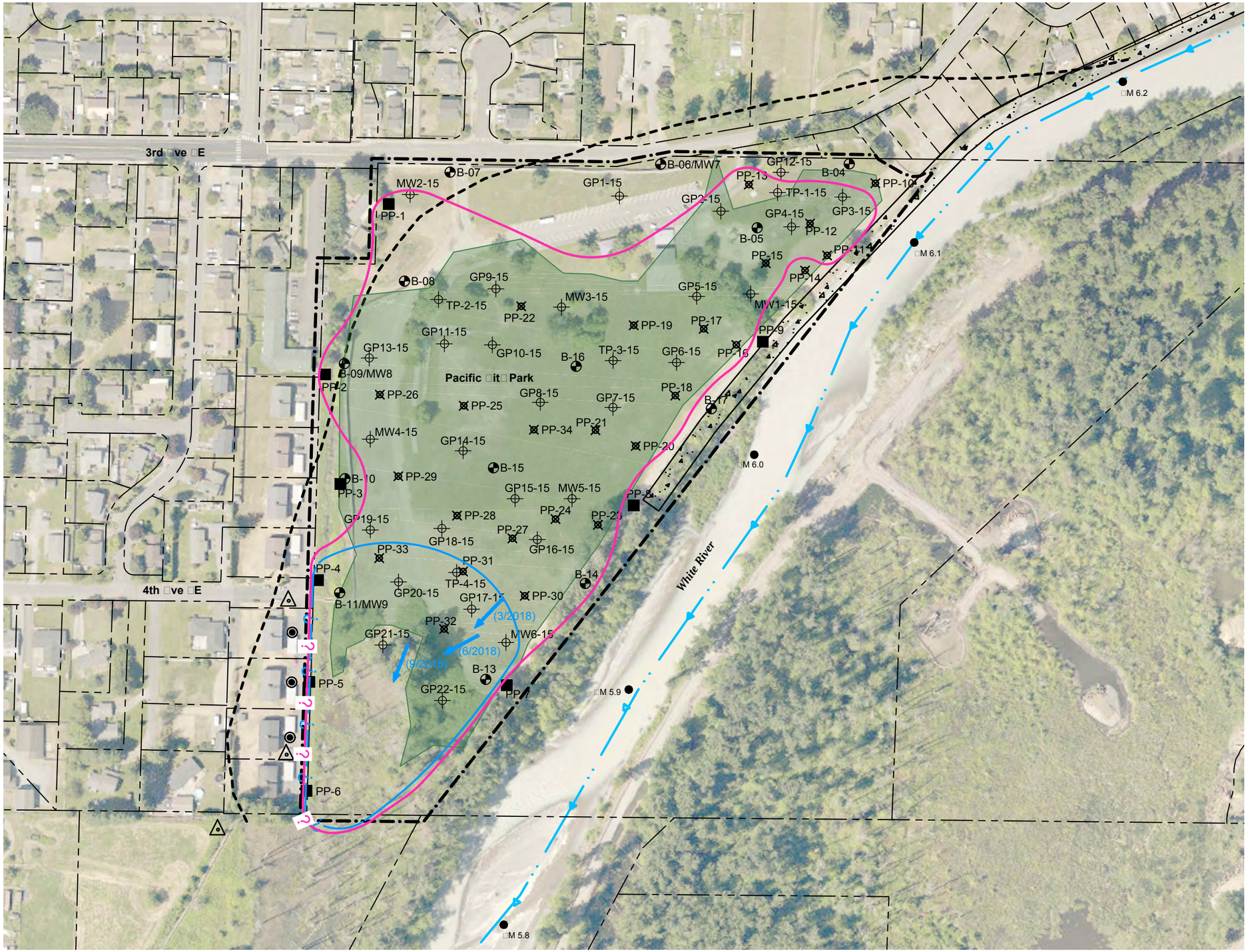

Figure 16.
Extent of Soil and Groundwater Contamination Above Site Screening Levels, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Site boundary
- GW plume of non-metal PCBs
- Historical extent of river floodplain based on 1936 aerial photograph (source King County)
- Existing concrete revetment
- Approximate extent of historic fill/dumping
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- Probe location (Herrera 12-2018)
- Monitoring well location (12-2018)
- M 6.0 River mile (10th)
- (3/2018) Estimated direction of groundwater flow (date sampled)

0 100 200 300 Feet

King County

N

Aerial source: King County 2017

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The metals being analyzed for in Site groundwater samples are naturally occurring, inorganic hazardous substances (Ecology, 1994), and even low quantities of suspended solids in a sample can bias high the detected metals concentration in an unfiltered groundwater sample compared to what is dissolved in groundwater. This is evident in the reconnaissance groundwater samples collected from the PP-borings in 2017, where there is a stark difference between the reported concentrations of total metals and dissolved metals in samples collected from temporary borings, where the volume of suspended solids in a sample is typically high. In contrast, there is little difference in the reported concentrations of total metals and dissolved metals in groundwater samples collected from properly developed monitoring wells, where the groundwater turbidity is low.

Assuming that the dissolved metals concentrations are representative of groundwater quality at the Site, the COPCs that have been detected in groundwater at concentrations above the SSLs consist of metals (arsenic and lead), benzene and total cPAHs.

Arsenic has been detected above the SSLs in groundwater samples collected from across the Site (Figure 17). The SSL for arsenic is based on the protection of surface water, adjusted upward in consideration of the laboratory practical quantitation limit, resulting in the SSL of 3.3 micrograms/liter [ug/L] (Table 4). The MTCA Method A cleanup level for arsenic of 5 ug/L is based on natural background concentrations and the state and federal drinking water standard maximum contaminant level (MC) for arsenic is 10 ug/L. Although not yet promulgated, Ecology has proposed a human-health surface water quality standard of 10 ug/L. Dissolved arsenic has been detected in reconnaissance groundwater samples collected from two locations, PP-1 and PP-2 at concentrations above 10 ug/L. None of the groundwater results for samples collected from properly constructed and developed monitoring wells contain dissolved arsenic above 10 ug/L.

Dissolved lead has been detected above the SSLs in groundwater samples collected from well MW-5 and boring PP-4 (Table 6). Benzene and total cPAHs were detected above the SSLs in groundwater samples collected from borings PP-4, PP-5, PP-6 and MW-6 (Figure 18). The nature and extent of dissolved lead, benzene and total cPAHs in groundwater has not been fully defined in the downgradient direction (to the south-southwest).

4.2.4. Surface Water

Results from surface water sampling in the drainage ditch along the west side of the Site indicate there are no SSL exceedances for Site COPCs, except for vinyl chloride detected in two separate surface water samples collected from the same location in December 2010 and January 2011 (Table 2). None of the surface water samples collected from the west drainage ditch in 2018 (locations SW-1, SW-2 and SW-3) had detections of the COPCs above laboratory reporting limits (Table 2). The surface water sample locations are depicted on Figure 4.

4.2.5. Soil Gas

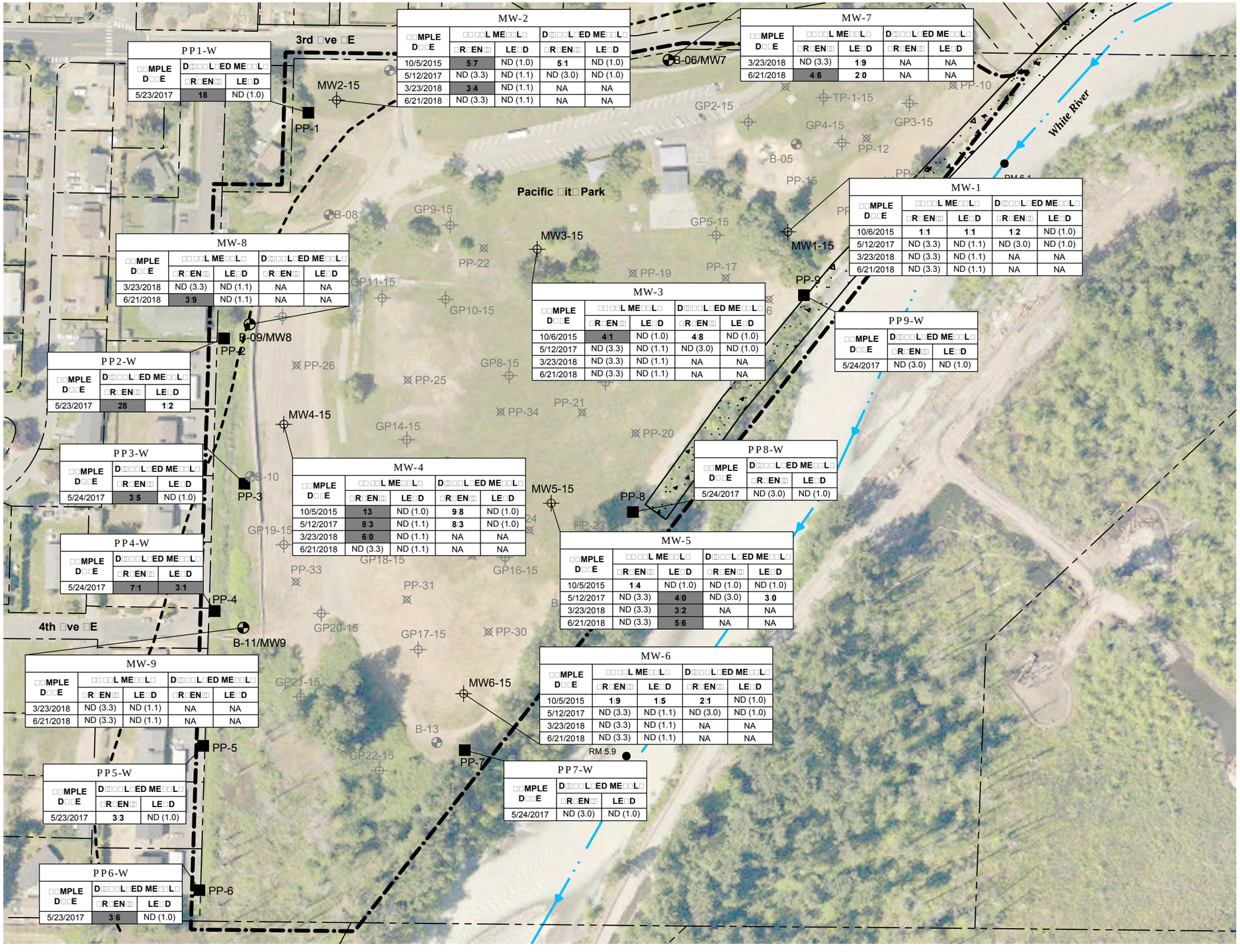
Based on the landfill gas sampling during the 1985 Abandoned Landfill Study and the fill gas monitoring conducted March 23, June 21, and September 23, 2018, during the RI at three monitoring wells (MW-1, MW-6, and MW-9), little to no methane was detected. See Figure 11 for sample locations.

4.3. Fate and Transport

Concentrations of several COPCs [including metals (primarily lead and arsenic), total cPAHs, and TPH (primarily lube oil)] exceed SSLs across the Site in native soil, fill soil, and fill soil mixed with refuse. In general, concentrations of COPCs in soil are highest in the east-central portion of the Site where refuse was disposed at thicknesses up to 20 feet bgs. The fill soil mixed with refuse also contains concentrations of other COPCs above the SSLs (chlorinated VOCs, SVOCs and pesticides); however, the presence of these chemicals is limited to a few soil samples and are probably associated with the quality of localized, discrete refuse. In native soil located beneath the refuse, the concentrations of COPCs are typically lower than what is reported in the fill soil with refuse and, the vertical extent is limited to less than 10 feet, suggesting that downward migration of COPCs slowed or ceased because of changes in density between fill and native soils, sorption characteristics, and/or the presence of groundwater.

Although concentrations of total cPAHs and lead are ubiquitous in fill soil and refuse across the Site, there are relatively few detections in groundwater, suggesting that total cPAHs and lead are not readily leaching from the fill soil or the refuse. However, the groundwater data collected at the south-southwest corner of the Site, which is downgradient of the refuse mass but still within the fill soil, suggests that there may be a low concentration, diffuse groundwater plume emanating from the refuse or there may be localized groundwater impacts attributable to variations in the fill soil quality. Groundwater likely discharges as surface water in the drainage ditch, at least seasonally. However, concentrations of total cPAHs, arsenic and lead have not been detected in surface water samples above laboratory reporting limits.

Very low methane concentrations were detected during the landfill gas monitoring for the 1985 Abandoned Landfill Study. No methane was detected during the landfill gas monitoring conducted March 23, June 21, and September 26, 2018 during the RI at monitoring wells (MW-1, MW-6 and/or MW-9). Benzene was detected in one groundwater sample from the southwest corner of the Site above the MTCA Method A cleanup level. However, based on the Site model, the benzene detection appears to be a localized anomaly and due to its proximity to adjacent property dumpsters, and is likely from a recent spill. The sampling and monitoring conducted to date does not indicate a potential exposure pathway from soil vapor to ambient and indoor air.



MW-2				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/5/2015	5.7	ND (1.0)	5.1	ND (1.0)
5/12/2017	ND (3.3)	ND (1.1)	ND (3.0)	ND (1.0)
3/23/2018	3.4	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

MW-7				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
3/23/2018	ND (3.3)	1.9	NA	NA
6/21/2018	4.6	2.0	NA	NA

PP1-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/23/2017	18	ND (1.0)

MW-1				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/6/2015	1.1	1.1	1.2	ND (1.0)
5/12/2017	ND (3.3)	ND (1.1)	ND (3.0)	ND (1.0)
3/23/2018	ND (3.3)	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

MW-8				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
3/23/2018	ND (3.3)	ND (1.1)	NA	NA
6/21/2018	3.9	ND (1.1)	NA	NA

MW-3				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/6/2015	4.1	ND (1.0)	4.8	ND (1.0)
5/12/2017	ND (3.3)	ND (1.1)	ND (3.0)	ND (1.0)
3/23/2018	ND (3.3)	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

PP9-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/24/2017	ND (3.0)	ND (1.0)

PP2-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/23/2017	28	1.2

PP3-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/24/2017	3.5	ND (1.0)

MW-4				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/5/2015	13	ND (1.0)	9.8	ND (1.0)
5/12/2017	8.3	ND (1.1)	8.3	ND (1.0)
3/23/2018	6.0	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

PP8-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/24/2017	ND (3.0)	ND (1.0)

PP4-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/24/2017	7.1	3.1

MW-5				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/5/2015	1.4	ND (1.0)	ND (1.0)	ND (1.0)
5/12/2017	ND (3.3)	4.0	ND (3.0)	3.0
3/23/2018	ND (3.3)	3.2	NA	NA
6/21/2018	ND (3.3)	5.6	NA	NA

MW-9				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
3/23/2018	ND (3.3)	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

MW-6				
□□MPLE D□□E	□□□□L ME□□L□		D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D	□R□EN□□	LE□D
10/5/2015	1.9	1.5	2.1	ND (1.0)
5/12/2017	ND (3.3)	ND (1.1)	ND (3.0)	ND (1.0)
3/23/2018	ND (3.3)	ND (1.1)	NA	NA
6/21/2018	ND (3.3)	ND (1.1)	NA	NA

PP5-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/23/2017	3.3	ND (1.0)

PP7-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/24/2017	ND (3.0)	ND (1.0)

PP6-W		
□□MPLE D□□E	D□□□□L□ED ME□□L□	
	□R□EN□□	LE□D
5/23/2017	3.6	ND (1.0)

Figure 17.
Extent of Total and Dissolved Metals in Groundwater, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical extent of river floodplain based on 1936 aerial photograph (source: King County)
- Existing concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- RM 6.0 River mile (10th)
- 1.1 Sample detected above the reporting limit
- 1.1 Sample exceeds site screening level

Notes

1. Total and dissolved metals values reported in micrograms per liter (µg/L)
2. ND - not detected above the laboratory reporting limit shown in parenthesis
3. NA - not analyzed

0 75 150 300 Feet

N

King County

Aerial source: □ ing County □2017□

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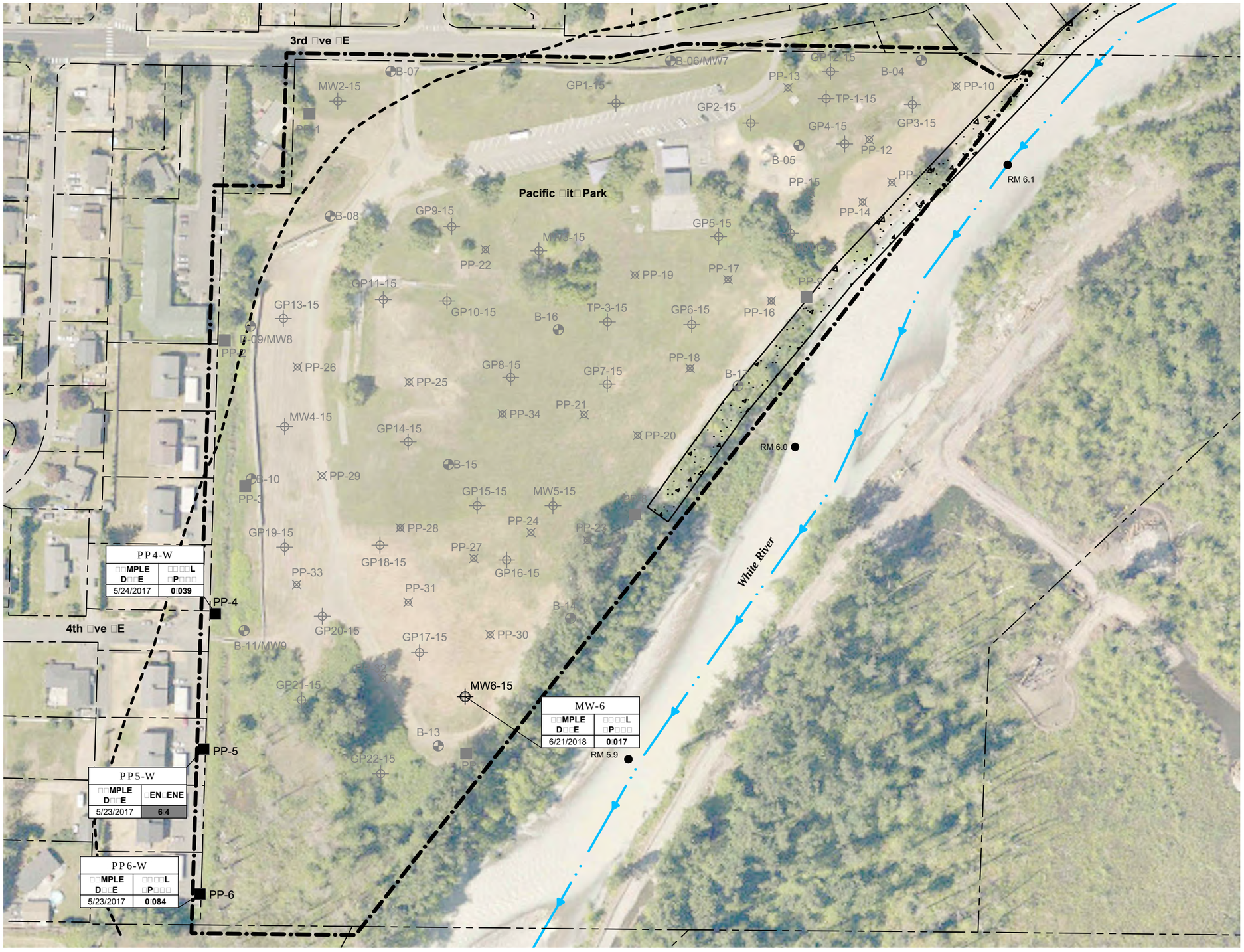

Figure 18.
Non-metals Contaminants of Concern in Groundwater, Pacific City Park, Pacific, Washington.

Legend

- Parcel boundary
- Study area
- Historical extent of river floodplain based on 1936 aerial photograph (source: King County)
- Existing concrete revetment
- Probe location (Herrera, 5-2017)
- Probe/well/test pit location (Shannon & Wilson, 9-2015)
- Geotech boring location (Aspect 2-2018, 3-2018)
- Probe location (Herrera 2-2018, 3-2018)
- RM 6.0 River mile (10th)
- 1.1 Sample detected above the reporting limit
- 1.1 Sample exceeds site screening level

Notes

1. Total and dissolved metals values reported in micrograms per liter (µg/L)
2. ND - not detected above the laboratory reporting limit shown in parenthesis
3. NA - not analyzed

0 75 150 300 Feet

King County

N

Aerial source: □ ing County □2017□

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4.4. Preliminary Exposure Assessment

An exposure pathway describes the mechanisms by which human or ecological exposure to contaminants can occur assuming no remedial action or protective controls are in place. An exposure pathway is considered complete if a human or ecological receptor can be exposed to a contaminant via that pathway. A preliminary assessment of potential exposure pathways was completed to develop SSLs for evaluation of RI data, as provided in Section 3.2.1.1. All potential receptors and exposure pathways at the Site will be considered when developing the proposed cleanup standards as part of the Feasibility Study (FS). Based on the current and expected future use of the Site, a brief discussion of the receptors and exposure pathways that will be evaluated in the FS is provided below.

Protection of Human Health. The FS will be completed to ensure the protection of human health through the following potential exposure to receptors:

1. Direct contact by Site workers during construction and Site maintenance, and park visitors with soil, refuse, groundwater and surface water containing hazardous substances.

2. Ingestion of groundwater containing hazardous substances.

   The primary COPCs detected above SSLs in soil and groundwater at the Site are total cPAHs and heavy metals, which do not pose a risk to human health via vapor intrusion and inhalation. Because soil at the Site is nearly continuously saturated, there is limited volatilization and preferential pathway.

Protection of Groundwater Discharge to Surface Water. The FS will consider the groundwater to surface water migration pathway to ensure the protection of beneficial use of surface water (human recreational, aquatic, and terrestrial receptors in the White River).

Protection of Terrestrial Ecological Receptors. WAC 173-340-7490 addresses procedures to be followed to ensure protection of terrestrial ecological receptors from exposure to contaminated soil. The FS will consider the protection of terrestrial ecological receptors.

5. PROPOSED CLEANUP STANDARDS

A cleanup standard includes both a cleanup level (chemical- and media-specific concentration of a contaminant that is protective of human health and the environment via all exposure pathways) and a point of compliance (the location where the cleanup level must be attained to achieve protectiveness). The preliminary cleanup levels and points of compliance for the Site are described in the following subsections. Final cleanup standards will be proposed in the draft Cleanup Action Plan for the Site and approved by Ecology.

5.1. CLEANUP LEVELS

Cleanup levels (CULs) are defined by regulatory numeric criteria (contaminant concentrations) that are protective of human health and the environment. Cleanup levels are contaminant-specific and media-specific and are only proposed for hazardous substances that exceed SSLs at the Site. The cleanup levels are used as the basis for developing media-specific remedial action objectives (RAOs) for the cleanup action. As described in Section 3.2.1.2, SSLs were developed for this RI for each hazardous substance that has historically been detected in soil, groundwater, or surface water at the Site.

Final proposed CULs for constituents that exceed SSLs in soil, groundwater and surface water will be defined in the FS and approved by Ecology as part of the development of the Cleanup Action Plan for the Site.

5.1.1. Soil

The preliminary soil cleanup levels are likely to be equivalent to the SSLs developed in 3.2.1.2.2 for the protection of human health and the environment, through complete exposure pathways, including the protection of leaching from soil to groundwater and surface water.

5.1.2. Groundwater and Surface Water

The preliminary groundwater and surface water cleanup levels for non-metal COPCs are likely to be equivalent to the SSLs developed in 3.2.1.2.2 for the protection of surface water. Because metals are naturally occurring in Washington soils and groundwater, the groundwater and surface water cleanup levels for metals may be adjusted based on reasonable and likely exposure scenarios and other relevant requirements. For example, the groundwater cleanup level for arsenic may be adjusted to the MTCA Method A groundwater cleanup level of 5 ug/L, which is based on background concentrations for the state of Washington, or the proposed state of Washington human-health surface water quality standard of 10 ug/L.

5.2. Points of Compliance

5.2.1. Soil

In accordance with MTCA, the point of compliance for direct contact with soil extends to 15 feet bgs, based on a reasonable maximum depth of excavation and assumed placement of excavated soils at the surface where contact occurs. For soil CULs based on leaching to groundwater and the protection of surface water, the soil point of compliance is all depths, above and below the water table.

5.2.2. Groundwater

Under MTCA, the standard point of compliance for groundwater CULs is throughout the site, regardless of whether groundwater is potable (WAC 173-340-720(8)(b)). If it is not practicable to meet groundwater CULs throughout the site within a reasonable restoration time frame, Ecology may approve a conditional point of compliance (WAC 173-340-720(8)(c)). Remedial alternatives will be developed and evaluated in the future FS assuming the standard point of compliance for groundwater.

5.3. Terrestrial Ecological Evaluation

The purpose of a Terrestrial Ecological Evaluation (TEE) is to ensure the protection of land-based plants and animals from potential exposure to contaminated soil and to establish cleanup standards protective of terrestrial ecological receptors, if necessary (WAC 173-340-7490). The Site does not qualify for an exclusion from a TEE, nor does it qualify for a simplified TEE (WAC 173-340-7491 and -7492). To evaluate for the protection of ecological receptors, MTCA Ecological Indicator Soil Concentrations were included in the development of SSLs to evaluate the RI data. Per MTCA, a site-specific TEE will be conducted in consultation with Ecology and will facilitate selection of a cleanup action by developing information necessary to evaluate cleanup action alternatives in the FS.

6. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

6.1. SUMMARY

The RI report has been prepared to meet the requirements of the MTCA and regulations implementing it, WAC 173-340, to provide the results of investigations completed to characterize the nature and extent of contamination at the Site. The RI Report has been prepared in general accordance with the Remedial Investigation Checklist Guidance (Ecology 2016).

The Site is located on the existing right bank of the White River in the City of Pacific, Washington, on property that was historically part of the river channel before the construction of a levee and concrete revetment in 1919. The portions of the property located landward of the levee were filled as a King County refuse dump, which was active between approximately 1921 and 1965. The results of investigation activities indicate that portions of the Site were filled with soil and portions of the Site were filled with a combination of soil and refuse. The presence of fill soil alone, in the absence of COPCs, does not fall under the definition of MTCA as a hazardous substance, and therefore, is not part of the MTCA Site. The Site is defined by any location where refuse is present or where COPCs are present in soil, groundwater, surface water or soil vapor at concentrations exceeding the SSLs. The current Site use includes a seasonal city park, undeveloped natural areas along the White River, and temporary flood protection (HESCO) barrier.

Because of the unknown nature of the fill soil and refuse, initial investigations conducted on the Site included a full analytical suite of COPCs, including TPH, metals, VOCs, SVOCs, PCBs, herbicides and pesticides. Subsequent phases of investigation focused on characterizing the nature and extent of the primary COPCs, which consist of TPH, metals, PCBs and total cPAHs. The results of investigative work indicate that the fill soil contains ubiquitous concentrations of lead and total cPAHs. In areas where refuse was known to have been dumped and/or was observed to be present in subsurface explorations, the results of soil characterization samples identify higher concentrations of total cPAHs and lead, as well as the frequent detection of TPH and PCBs and rare detections of chlorinated VOCs, other SVOCs and pesticides. Laterally, the extent of COPCs in soil are generally defined by the extent of fill. Vertically, the COPCs are present throughout the fill and extend up to 10 feet into the underlying native, alluvial deposits.

The COPCs detected in groundwater include arsenic, lead, total cPAHs and benzene. Arsenic has been detected in groundwater samples collected from across the Site, is naturally occurring in soil and groundwater in Washington state and is likely not present in Site groundwater at concentrations that warrant remedial action. Lead, total cPAHs and benzene have been detected

above the SSLs in groundwater samples collected to the south-southwest of the refuse, which is hydraulically downgradient based on water level elevations in monitoring wells on the Site. The groundwater data suggest that there may be a low concentration, seasonal and/or diffuse groundwater plume emanating from the refuse or there may be localized groundwater impacts attributable to variations in the fill soil quality. Although groundwater is assumed to discharge to surface water in some areas of the Site, the results of surface water sampling do not indicate the migration of COPCs in groundwater to surface water.

6.2. Conclusions and Recommendations

The presence of COPCs in soil generally corresponds to the locations of historical placement of fill and refuse (see Figure 16). A remedial action for the Site is likely to include components of removal, treatment and/or containment to mitigate potential risks to human health and the environment associated with the presence of hazardous substances in fill soil and refuse. Sufficient information regarding the extent and quality of the fill and refuse, and the associated groundwater impacts, has been collected to allow for the development and evaluation of remedial alternatives, with one exception. Additional investigation is warranted to further evaluate the extent of fill soil and the presence of COPCs in soil and groundwater to the south-southwest of the property boundary. This would include installing three additional groundwater monitoring wells, one on 4th Avenue SE, just west of probe location PP-4 and MW-9, one to the west of probe location PP-5, and one to the southwest of probe location PP-6. In addition, three explorations are planned to assess soil conditions along the parcel boundary by the apartments immediately west of the Park. The proposed additional explorations are shown in Figure 16.

Quarterly groundwater monitoring of the Site monitoring wells is planned to continue to evaluate seasonal fluctuations in water levels and variability in groundwater quality. The CSM will be revised as additional information is collected.

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TABLES

Table 1. Summary of Water Level Elevation Data from Monitoring Wells, Pacific City Park Remedial Investigation, Pacific, Washington.

Monitoring Well Identification	Measurement Date	Reference Elevation (feet)[a]	Depth to Water (feet)	Water Level Elevation (feet)
MW-1	5/12/17	83.16	2.33	80.83
	3/23/18		2.84	80.32
	6/21/18		3.12	80.04
	9/26/18		5.8	77.36
MW-2	5/12/17	79.85	1.37	78.48
	3/23/18		1.81	78.04
	6/21/18		2.32	77.53
	9/26/18		3.68	76.17
MW-3	5/12/17	80.1	0.40	79.61
	3/23/18		0.55	79.46
	6/21/18		1.27	78.74
	9/26/18		3.01	77.09
MW-4	5/12/17	80.14	2.73	78.41
	3/23/18		3.09	77.05
	6/21/18		3.53	76.61
	9/26/18		4.54	75.6
MW-5	5/12/17	81.4	1.60	79.80
	3/23/18		2.26	79.14
	6/21/18		2.38	79.02
	9/26/18		4.8	76.6
MW-6	5/12/17	83.81	5.71	78.10
	3/23/18		6.65	77.16
	6/21/18		6.60	77.21
	9/26/18		8.53	75.28
MW-7[b]	3/23/18	79.82	0.32	79.50
	6/21/18		0.78	79.04
	9/26/18		2.68	77.14
MW-8[b]	3/23/18	79.95	2.63	77.32
	6/21/18		3.12	76.83
	9/26/18		4.2	75.75
MW-9[b]	3/23/18	82.59	5.85	76.74
	6/21/18		6.02	76.57
	9/26/18		6.98	75.61
B-03[c]	3/23/18	86.12	5.52	80.60
	6/21/18		5.41	80.71
	9/26/18		8.3	77.82

[a] Reference elevation is the top of protective casing (North American Vertical Datum 1988 [NAVD 88])

[b] MW-7, MW-8, and MW-9 correspond to probe borings B-06, B-09, and B-11, respectively.

[c] Standing water level measurement only at boring location B-03. No groundwater sample was collected.

Table 2. Summary of Surface Water Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Parameter	Sample Identification																			SSL[a]
	WRLEV1-Drainage Ditch				WRLEV2-Upstream Wetland				WRLEV3-Downstream Wetland				SW1		SW2		SW3		SW4	
	12/8/10	1/4/11	2/28/11	3/10/11	12/8/10	1/4/11	2/28/11	3/10/11	12/8/10	1/4/11	2/28/11	3/10/11	6/29/18	10/9/18	6/29/18	10/9/18	6/29/18	10/9/18	10/9/18	
Field Parameters																				
Temp (°C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.2	12.2	14.7	12.3	14.3	12.9	12.9	NA
DO (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.62	1.2	1.84	0.36	1.12	0.8	0.65	NA
Cond (µS/cm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	153.7	204	170.1	208	177.5	151	179	NA
pH (std units)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.73	6.84	6.84	6.74	6.94	6.65	6.69	NA
Turbidity (NTU)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.72	Clear	10.76	Clear	12.33	Clear	Clear	NA
Conventional Parameters (mg/L)																				
TKN	**1.75**	**1.58**	**0.997**	**0.772**	**0.31**	**3.23**	**2.54**	**0.202**	**1.48**	**1.63**	**0.954**	**1.04**	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate+Nitrite Nitrogen	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.04)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.04)	NA	NA	NA	NA	NA	NA	NA	NA
TP	**0.136**	**0.134**	**0.132**	**0.134**	**0.115**	**0.142**	**0.070**	**0.035**	**0.162**	**0.205**	**0.170**	**0.196**	NA	NA	NA	NA	NA	NA	NA	NA
OP	ND (0.02)	**0.049**	**0.026**	**0.086**	**0.007**	**0.016**	**0.024**	**0.025**	ND (0.005)	**0.014**	**0.024**	**0.060**	NA	NA	NA	NA	NA	NA	NA	NA
Hardness (mg CaCO3/L)	**125**	**141**	**86.6**	**64.6**	**47.8**	**39**	**22**	**26.9**	**113**	**125**	**90.5**	**88**	**66**	**62**	**71**	**51**	**74**	**51**	**45**	NA
Petroleum Hydrocarbons (µg/L)																				
GRO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	*1,000*
DRO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (250)	ND (250)	ND (260)	ND (260)	ND (260)	ND (260)	ND (250)	*500*
Lube Oil RO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (410)	ND (410)	ND (420)	ND (420)	ND (420)	ND (410)	ND (400)	*500*
Volatile Organic Compounds (µg/L)																				
Benzene	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*0.44*
Toluene	ND (0.2)	ND (0.2)	NA	NA	**0.551**	**0.5**	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**1.1**	ND (1.0)	*57*
Ethylbenzene	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*29*
Xylenes	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	*1,000*
Acetone	ND (2)	ND (2)	NA	NA	ND (2)	ND (2)	NA	NA	ND (4)	ND (2)	NA	NA	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*7,200*
(cis)1,2-Dichloroethene	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*16*
Chlorobenzene	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.2)	ND (0.2)	NA	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*100*
Vinyl Chloride	**0.0308**	**0.0371**	NA	NA	ND (0.01)	ND (0.01)	NA	NA	ND (0.01)	ND (0.02)	NA	NA	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*0.02*
Total Metals (µg/L)																				
Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (3.3)	ND (3.3)	ND (3.3)	ND (3.3)	ND (3.3)	ND (3.3)	ND (3.3)	*3.3*
Cadmium	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	*4.4*
Calcium	**37,900**	**42,600**	**25,600**	**18,700**	**14,300**	**11,900**	**6,450**	**7,790**	**35,400**	**39,900**	**28,500**	**26,300**	NA	NA	NA	NA	NA	NA	NA	*NA*
Chromium	ND (1)	**1.08**	ND (1)	ND (1)	**0.32**	ND (1)	ND (1)	ND (0.2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	*74*
Copper	ND (0.4)	ND (0.4)	ND (2)	ND (2)	ND (0.4)	ND (2)	ND (2)	ND (2)	ND (0.4)	ND (0.4)	ND (2)	ND (2)	NA	NA	NA	NA	NA	NA	NA	*1,300*
Iron	NA	NA	NA	**6,850**	NA	NA	NA	**2,240**	NA	NA	NA	**8,580**	NA	NA	NA	NA	NA	NA	NA	*1,000*
Lead	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	*2.5*
Magnesium	**7,370**	**8,500**	**5,520**	**4,330**	**2,930**	**2,280**	**1,440**	**1,820**	**6,090**	**6,200**	**4,700**	**5,390**	NA	NA	NA	NA	NA	NA	NA	*NA*
Mercury	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	*0.50*

Table 2 (continued). Summary of Surface Water Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Parameter	Sample Identification																			SSL[a]
	WRLEV1-Drainage Ditch				WRLEV2-Upstream Wetland				WRLEV3-Downstream Wetland				SW1		SW2		SW3		SW4	
	12/8/10	1/4/11	2/28/11	3/10/11	12/8/10	1/4/11	2/28/11	3/10/11	12/8/10	1/4/11	2/28/11	3/10/11	6/29/18	10/9/18	6/29/18	10/9/18	6/29/18	10/9/18	10/9/18	
Dissolved Metals (µg/L)																				
Chromium	ND (1)	**1.12**	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (0.2)	ND (1)	ND (1)	ND (1)	ND (1)	NA	NA	NA	NA	NA	NA	NA	*74*
Copper	ND (0.4)	ND (2)	ND (2)	ND (2)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	NA	NA	NA	NA	NA	NA	NA	*1,300*
Lead	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	NA	NA	NA	NA	NA	NA	NA	*2.5*
Zinc	**6.72**	**4.89**	**3.42**	**3.17**	ND (2.5)	ND (2.5)	ND (0.5)	**2.82**	**2.5**	ND (2.5)	ND (2.5)	ND (2.5)	NA	NA	NA	NA	NA	NA	NA	*50*
Carcinogenic Polycyclic Aromatic Hydrocarbons (µg/L)																				
Benzo(a) anthracene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Benzo(b) fluoranthene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Benzo(j,k) fluoranthene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Benzo(a) pyrene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Chrysene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.016*
Indeno(1,2,3-cd)pyrene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Dibenz(a,h) anthracene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.0099)	ND (0.010)	ND (0.0098)	ND (0.010)	*0.01*
Total cPAHs TEQ[b]	ND (0.0071)	ND (0.0072)	NA	NA	ND (0.0071)	ND (0.0072)	NA	NA	ND (0.0071)	ND (0.0072)	NA	NA	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.007)	ND (0.008)	ND (0.007)	ND (0.008)	*0.085*
Semivolatile Organic Compounds (µg/L)																				
2-Methylphenol	ND (0.024)	ND (0.024)	NA	NA	**0.539**	**0.307**	NA	NA	**0.113**	**0.0574**	NA	NA	NA		NA		NA			*NA*
4-Methylphenol	ND (0.047)	ND (0.048)	NA	NA	**1.55**	**0.197**	NA	NA	ND (0.047)	ND (0.048)	NA	NA	NA		NA		NA			*NA*
Acenaphthene	ND (0.0189)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0189)	ND (0.0095)	NA	NA	NA		NA		NA			*30*
Acenaphthylene	ND (0.0094)	ND (0.0096)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	ND (0.0094)	ND (0.0095)	NA	NA	NA		NA		NA			*NA*
Benzoic Acid	**1**	**1.9**	NA	NA	**1.75**	**0.909**	NA	NA	ND (0.472)	**1.55**	NA	NA	NA		NA		NA			*NA*
Benzyl Alcohol	ND (0.094)	ND (0.096)	NA	NA	**0.263**	**0.21**	NA	NA	**0.225**	ND (0.095)	NA	NA	NA		NA		NA			*NA*
Butyl Benzyl Phthalate	**0.102**	ND (0.048)	NA	NA	ND (0.047)	**0.092**	NA	NA	ND (0.047)	ND (0.048)	NA	NA	NA		NA		NA			*1.0*
Bis(2-Ethylhexyl) phthalate	**0.99**	NS (0.26)	NA	NA	**0.488**	**0.23**	NA	NA	ND (0.472)	**1.77**	NA	NA	NA		NA		NA			*1.0*
Diethyl Phthalate	ND (0.024)	ND (0.024)	NA	NA	**0.026**	ND (0.024)	NA	NA	ND (0.472)	ND (0.024)	NA	NA	NA		NA		NA			*NA*
Di-n-butyl Phthalate	**0.176**	**0.14**	NA	NA	**0.134**	**0.14**	NA	NA	**0.149**	**0.126**	NA	NA	NA		NA		NA			*8*
Naphthalene	ND (0.0189)	**0.0241**	NA	NA	ND (0.0094)	**0.013**	NA	NA	**0.0231**	**0.0338**	NA	NA	NA		NA		NA			*4,710*

Bold values detected above the reporting limit

Shaded values exceed the site screening level

[a] Refer to Table 7 "Proposed Site Screening Levels for Groundwater and Surface Water" for notes on how each screening level was selected.

[b] Total carcinogenic polycyclic aromatic hydrocarbon (cPAHs) toxic equivalency (TEQ) concentration was calculated using one-half the reporting limit for compounds that were not detected above the reporting limit.

mg/L = milligrams per liter

µg/L = micrograms per liter

NA = not analyzed

ND = not detected above laboratory reporting limits shown in parentheses

SSL = site screening levels

Table 3. Summary of Groundwater Sample Results from Push Probes, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location									Site Screening Level[a] (µg/L)
	PP1-W	PP2-W	PP3-W	PP4-W	PP5-W	PP6-W	PP7-W	PP8-W	PP9-W	
Sample Date	5/23/2017–5/24/2017									
NWTPH-Gx (µg/L)										
Gasoline Range Organics	ND (100)	ND (100)	ND (100)	ND (100)	**210**	ND (100)	ND (100)	ND (100)	ND (100)	*1,000*
NWTPH-Dx (mg/L)										
Diesel Range Organics	ND (0.27)	ND (0.37)	ND (0.26)	ND (0.26)	ND (0.27)	ND (0.26)	ND (0.28)	ND (0.26)	ND (0.28)	*500*
Lube Oil	ND (0.43)	ND (0.60)	ND (0.42)	ND (0.41)	ND (0.43)	ND (0.42)	ND (0.44)	ND (0.41)	ND (0.45)	*500*
Volatile Organic Compounds (µg/L)										
Acetone	**6.7**	**75**	**5.3**	**5.6**	**5.5**	**7.9**	**6.1**	**5.2**	**7.2**	7200
Carbon disulfide	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.22**	800
Benzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**6.4**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	0.44
Toluene	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**5.2**	ND (1.0)	ND (1.0)	57
Chlorobenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.43**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	100
Xylenes	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	**32.57**	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	1,000
Isopropylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.45**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	NA[c]
n-Propylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.95**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	800
1,3,5-Trimethylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**3.1**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	80
1,2,4-Trimethylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**12**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	NA[c]
Total Metals (µg/L)										
Antimony	ND (5.6)	ND (5.6)	ND (5.6)	**47**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	*5.6*
Arsenic	**36**	**910**	**18**	**110**	**14**	**14**	**110**	ND (3.3)	**30**	*3.3*
Beryllium	ND (11)	**34**	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	*4*
Cadmium	ND (4.4)	**24**	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	*4.4*
Chromium	**73**	**2,000**	**63**	**240**	**29**	**45**	**210**	ND (11)	**49**	*50*
Copper	**80**	**4,200**	**120**	**460**	**50**	**54**	**570**	ND (11)	**110**	*640*
Lead	**250**	**2,100**	**54**	**2,800**	**32**	**55**	**250**	ND (1.1)	**61**	*2.5*
Mercury	ND (0.50)	**4.3**	ND (0.50)	**1.2**	ND (0.50)	ND (0.50)	**0.68**	ND (0.50)	ND (0.50)	*0.5*
Nickel	**33**	**1,800**	**32**	**190**	ND (22)	**46**	**210**	ND (22)	**44**	*100*
Selenium	ND (5.6)	**53**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	**6.0**	ND (5.6)	ND (5.6)	*50*
Silver	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	*10*
Thallium	ND (5.6)	**9.6**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	*0.16*
Zinc	**700**	**5,500**	**130**	**1,000**	**49**	**100**	**520**	**71**	**210**	*120*
Dissolved Metals (µg/L)										
Antimony	ND (5.0)	ND (5.0)	ND (5.0)	**7.1**	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*5.6*
Arsenic	**18**	**28**	**3.5**	**7.1**	**3.3**	**3.6**	ND (3.0)	ND (3.0)	ND (3.0)	*3.3*
Beryllium	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*273*
Cadmium	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	*4.4*
Chromium	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*74*
Copper	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*1,300*
Lead	ND (1.0)	**1.2**	ND (1.0)	**3.1**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	*2.5*
Mercury	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	*0.50*
Nickel	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	*52*
Selenium	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*5.6*
Silver	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*10*
Thallium	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*0.216*
Zinc	**39**	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	**62**	ND (25)	*120*
Polycyclic Aromatic Hydrocarbons (µg/L)										
Naphthalene	ND (0.0096)	ND (0.12)	ND (0.0096)	ND (0.10)	**0.18**	ND (0.097)	ND (0.0097)	ND (0.0095)	ND (0.0096)	*160*
Benzo(a)anthracene	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.013**	ND (0.0097)	**0.052**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.01*
Chrysene	ND (0.0096)	**0.012**	ND (0.0096)	**0.021**	ND (0.0097)	**0.080**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.016*
Benzo(b)fluoranthene	ND (0.0096)	**0.020**	ND (0.0096)	**0.036**	ND (0.0097)	**0.14**	ND (0.0097)	ND (0.0095)	**0.019**	*0.01*
Benzo(j,k)fluoranthene	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.011**	ND (0.0097)	**0.042**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.01*
Benzo(a)pyrene	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.024**	ND (0.0097)	**0.051**	ND (0.0097)	ND (0.0095)	**0.010**	*0.01*
Indeno(1,2,3-cd)pyrene	ND (0.0096)	**0.014**	ND (0.0096)	**0.040**	ND (0.0097)	**0.066**	ND (0.0097)	ND (0.0095)	**0.011**	*0.01*
Dibenz(a,h)anthracene	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.011**	ND (0.0097)	**0.018**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.01*
Benzo(g,h,i)perylene	ND (0.0096)	**0.020**	ND (0.0096)	**0.046**	ND (0.0097)	**0.055**	ND (0.0097)	ND (0.0095)	**0.012**	NA[c]
Total cPAHs TEQ[b]	ND (0.0072)	**0.011**	ND (0.0072)	**0.039**	ND (0.0073)	**0.084**	ND (0.0073)	ND (0.0072)	**0.014**	*0.015*

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

[a] Refer to Table 7 "Proposed Site Screening Levels for Groundwater and Surface Water" for notes on how each screening level was selected.

[b] Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) toxic equivalency (TEQ) concentration was calculated using one-half the reporting limit for compounds that were not detected above the reporting limit.

[c] No Site screening level established for this parameter

µg/L = micrograms per Liter

ND = not detected above laboratory reporting limits (shown in parentheses)

PP – push probe

Table 4. Proposed Site Screening Levels for Soil, Pacific City Park Remedial Investigation, Pacific, Washington.

Constituent (by group)[a]	Protection of Human Health – Direct Contact: MTCA Method A/B (Unrestricted Land Use)[c]	Listed MTCA Method B Protective of Groundwater (Saturated	Protection of Groundwater (saturated soil): MTCA Method A/ Calculated Method B[d]	Protection of Ecological Receptors MTCA Ecological Indicator Soil Concentrations[b]: Plants	Soil Biota	Wildlife	Natural Background Metals Concentrations[e]	Practical Quantitation Limit (PQL)	*Proposed Site Soil Screening Level*[f]
Petroleum Hydrocarbons									
Gasoline Range Organics (no benzene)			100		100	5,000		5	*100*
Diesel Range Organics			2,000		200	6,000		25	*200*
Lube Oil Range Organics			2,000					50	*2,000*
Metals									
Arsenic	20	0.146	0.097	10	60	132	20	10	*20*
Barium	16,000	82.6	41.3	500		102		2.5	*41.3*
Cadmium			0.031	4	20	14	1	0.5	*1*
Chromium		24,000	50	42	42	67	48	0.5	*48*
Lead	250	150	25	50	500	118	24	5	*25*
Mercury		0.105	0.026	0.3	0.1	5.5	0.07	0.025	*0.07*
Selenium	400	0.264	0.030	1	70	0.3	0.78	10	*10*
Silver	400	0.687	0.086	2			0.61	0.5	*0.61*
Volatile Organic Compounds (VOCs)									
Benzene		0.00174	0.0002					0.001	*0.001*
Toluene		0.273	0.024	200				0.005	*0.024*
Ethylbenzene		0.343	0.014					0.001	*0.014*
Xylenes		0.831	0.52					0.002	*0.52*
Acetone	72,000	2.07	2.07					0.005	*2.07*
2-Butanone (methyl ethyl ketone)	48,000		1.38					0.005	*1.38*
Carbon Disulfide	8,000	0.266	0.27					0.001	*0.27*
Cis-1,2-Dichloroethene	160	0.00515	0.005					0.001	*0.005*
Chlorobenzene	1,600	0.0511	0.051		40			0.001	*0.051*
Methylene Chloride	0.02	0.00148	0.001					0.005	*0.005*
p-Isopropyltoluene (cumene)	8,000		0.229					0.001	*0.229*
Styrene	16,000	0.12	0.120	300				0.001	*0.120*
Tetrachloroethene (PCE)	0.05	0.00276	0.0013					0.001	*0.0013*
Trichloroethene (TCE)	0.03	0.00152	0.0001					0.001	*0.001*
1,2,4-Trimethylbenzene								0.001	
Semi-Volatile Organic Compounds (SVOCs)									
4-Nitrophenol								0.033	
Benzyl Alcohol								0.017	
Bis(2-ethylhexyl)phthalate	71.4	0.668	0.111					0.033	*0.111*
Butyl benzylphthalate	526	0.646	0.0140					0.033	*0.033*
Di-n-butyl Phthalate	8,000	2.97	0.015					0.17	*0.17*
Di-n-octyl Phthalate	800	13,300	13,312					0.033	*800*
Naphthalenes[g]	5	0.236	0.236					0.033	*0.236*
Pentachlorophenol	2.5	0.000878	0.004	3	6	4.5		0.17	*0.17*
Phenol	24,000	0.757	0.757	70	30			0.033	*0.757*
p-Cresol	8,000							0.033	*8,000*
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	4,800	4.98	0.156	20				0.0067	*0.156*
Acenaphthylene								0.0067	
Anthracene	24,000	114	7.134					0.0067	*7.134*
Benzo(a)anthracene	1.37	0.043	0.004					0.0067	*0.0067*
Benzo(a)pyrene	0.1	0.116	0.010			12		0.0067	*0.010*
Benzo(b)fluoranthene	1.37	0.147	0.012					0.0067	*0.012*
Benzo(j,k)fluoranthene	13.7	1.47	0.012					0.0067	*0.012*
Chrysene	137	4.77	0.0064					0.0067	*0.0067*
Dibenz(a,h)anthracene	0.137	0.021	0.018					0.0067	*0.018*
Fluoranthene	3,200	31.6	0.296					0.0067	*0.296*
Fluorene	3,200	5.12	0.080		30			0.0067	*0.080*
Indeno(1,2,3-cd)pyrene	1.37	0.416	0.035					0.0067	*0.035*
Phenanthrene	400	0.000878	0.000					0.0067	*0.0067*
Pyrene	2,400	32.8	0.546					0.0067	*0.546*
Total cPAHs TEQ	0.1	0.0214	0.090			12		0.0101	*0.020*
Polychlorinated Biphenyls (PCBs)									
Total PCBs	1		0.015	40		0.65		0.05	*0.05*

Table 4 (continued). Proposed Site Screening Levels for Soil, Pacific City Park Remedial Investigation, Pacific, Washington.

Constituent (by group)[a]	Protection of Human Health – Direct Contact: MTCA Method A/B (Unrestricted Land Use)[c]	Listed MTCA Method B Protective of Groundwater (Saturated)	Protection of Groundwater (saturated soil): MTCA Method A/ Calculated Method B[d]	Protection of Ecological Receptors MTCA Ecological Indicator Soil Concentrations[b]: Plants	Soil Biota	Wildlife	Natural Background Metals Concentrations[e]	Practical Quantitation Limit (PQL)	*Proposed Site Soil Screening Level*[f]
Herbicides									
2,4-DB	640							0.095	*640*
2,4,5-T	800							0.095	*800*
Bentazon	2,400								*2,400*
Chloramben	1,200								*1,200*
Dacthal (chlorthal-dimethyl)	800								*800*
Dalapon	2,400							2.3	*2,400*
Dinoseb	80							0.095	*80*
Picloram	5,600								*5,600*
Silvex (2,4,5-TP)	640							0.095	*640*
Organochlorine Pesticides									
4,4′-DDD[h]	4.17	0.0168	0.0002			0.75		*0.01*	*0.01*
4,4′-DDE[i]	2.94	0.0223	0.0004			0.75		*0.01*	*0.01*
Cis-chlordane[j]	2.86	0.103	0.0003		1	2.7		*0.01*	*0.01*
Endosulfan I[k]	480	0.103	0.0001					*0.005*	*0.005*
Endosulfan II[k]	480	0.223	0.0001					*0.01*	*0.01*
Endosulfan sulfate		0.223						0.01	
Gamma-chlordane[j]	2.86		0.0003					*0.01*	*0.01*
Methoxychlor	400	3.21	0.0016					0.01	*0.01*

All units in milligrams per kilogram (mg/kg), unless otherwise stated.

Blank cells are intentional and indicate that criteria are not available.

Shaded cells denote the most restrictive criteria that is proposed as the site screening level.

[a] Cleanup levels have been developed for only those compounds that have been detected at the Site above laboratory reporting limits in any media.

[b] Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants and Animals, lowest value of concentrations established protective of plants, soil biota and wildlife (WAC 173-340-7493).

[c] Model Toxics Control Act (MTCA) Method A or Method B Soil Cleanup Levels for Unrestricted Land Uses (WAC 173-340) for the protection of human health through direct contact.

[d] MTCA Method A for petroleum hydrocarbons, calculated Method B for the protection of groundwater discharging to surface water for all other compounds.

[e] Natural background values for metals from Natural Background Soil Metals Concentrations in Washington State (Ecology 1994), except arsenic which is from MTCA (WAC 173-340-900, Table 740-1).

[f] Proposed site screening level for soil is the most restrictive of MTCA Method A/B and Ecological Indicator Soil Concentration Screening Levels, adjusted for natural background and laboratory PQLs.

[g] Screening level for naphthalenes is a total value for naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene.

[h] Screening levels for DDD are used for 4,4′-DDD.

[i] Screening levels for DDE are used for 4,4′-DDE.

[j] Screening levels for chlordane are used for cis-chlordane and gamma-chlordane.

[k] Screening levels for endosulfan are used for endosulfan I and endosulfan II.

Table 5. Proposed Site Screening Levels for Groundwater and Surface Water, Pacific City Park Remedial Investigation, Pacific, Washington.

Constituent (by group)[a]	Protection of Groundwater as Drinking Water (ingestion)			Protection of Surface Water											Practical Quantitation Limit (PQL)	*Proposed Site Groundwater Screening Level*[h]	*Proposed Site Surface Water Screening Level*[i]
				EPA 2016 CWA – Effective Human Health Criteria Applicable to Washington:[b] Consumption of		National Recommended Water Quality Criteria[c]				WAC 173-201A Table 240[d]				MTCA Method B Standard[e]			
						Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Human Health			
	MTCA Method A/B (unrestricted land use)[f]	Federal MCL[g]	Washington State MCL[g]	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only				
Total Petroleum Hydrocarbons																	
Gasoline Range Organics	1,000														100	*1,000*	
Diesel Range Organics	500														250	*500*	
Lube Oil	500														400	*500*	
Metals																	
antimony	6.4	6	6	6	90			5.6	640			12	180	1040	5.0	5.6	5.6
Arsenic	5	10	10	0.018	0.14	340	150	0.018	0.14	360	190	10	10	0.0982	3.3	*3.3*	*3.3*
Barium	3,200	2,000	2,000					1,000							28	*1,000*	*1,000*
beryllium	32	4	4											273	4	4	273
Cadmium	5	5	5			1.8	0.72								4.4	*4.4*	*4.4*
Calcium (stormwater only)															1,000		
Chromium	50	100	100			570	74							243,000	10	*50*	*74*
Copper	640	1,300	1,300	1,300				1,300				1,300		2,880	11	*640*	*1,300*
Iron (stormwater only)							1,000								10		*1,000*
Lead	15	15	15			65	2.5								1.1	*2.5*	*2.5*
Magnesium (stormwater only)															1,000		
Mercury	2	2	2			1.4	0.77	0.14	0.15	2.1	0.012	0.14	0.15		0.50	*0.50*	*0.50*
Nickel	320		100	80	100	470	52	610	4600			150	190	1100	20	52	52
Selenium	80	50	50	60	200		5	170	4,200	20	5	120	480	2,700	5.6	*5.6*	*5.6*
Silver	80					3.2								25,900	10	*10*	*10*
Thallium	0.16	2	2	1.7	6.3			0.24	0.47			0.24	0.27	0.216	0.20	0.20	0.216
Zinc	4,800			1,000	1,000	120	120	7,400	26,000			2,300	2,900	16,500	50	*120*	*120*
Volatile Organic Compounds (VOCs)																	
Benzene	5	5	5	0.44	1.6			0.58	16			0.44	1.6	22.7	0.20	*0.44*	*0.44*
Toluene	1,000	1,000	1,000	72	130			57	520			180	410	18,900	0.20	*57*	*57*
Ethylbenzene	700	700	70	29				68	130			200	270	6,820	0.20	*29*	*29*
Xylenes	1,000	10,000	10,000												0.40	*1,000*	*1,000*
Acetone	7,200														5.0	*7,200*	*7,200*
2-Butanone (methyl ethyl ketone)	4,800														5.0	*4,800*	
Carbon Disulfide	800														0.20	*800*	*800*
Cis-1,2-Dichloroethene	16	70	70												0.20	*16*	*16*
Chlorobenzene	160	100	100	100	200			100	800			380	890	5,190	0.2	*100*	*100*
isopropylbenzene															0.20		
Methylene Chloride	5	5	5	10	100			20	1,000			16	250	3,600	1.0	*5*	*10*
n-propylbenzene	800														0.20	*800*	

Table 5 (continued). Proposed Site Screening Levels for Groundwater and Surface Water, Pacific City Park Remedial Investigation, Pacific, Washington.

Constituent (by group)[a]	Protection of Groundwater as Drinking Water (ingestion)			Protection of Surface Water											Practical Quantitation Limit (PQL)	*Proposed Site Groundwater Screening Level*[h]	*Proposed Site Surface Water Screening Level*[i]
				EPA 2016 CWA – Effective Human Health Criteria Applicable to Washington:[b] Consumption of		National Recommended Water Quality Criteria[c]				WAC 173-201A Table 240[d]				MTCA Method B Standard[e]			
						Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Human Health			
	MTCA Method A/B (unrestricted land use)[f]	Federal MCL[g]	Washington State MCL[g]	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only				
Volatile Organic Compounds (VOCs) (continued)																	
p-Isopropyltoluene (cumene)	800														0.20	*800*	
Styrene	1,600	100	100												0.20	*100*	
Tetrachloroethene (PCE)	5	5	5	2.4	2.9			10	29			4.9	7.1	99.6	0.20	*2.4*	*2.4*
Trichloroethene (TCE)	0.54	5	5	0.3	0.7			0.6	7			0.38	0.86	12.8	0.20	*0.3*	*0.3*
1,2,4-Trimethylbenzene															0.20		
1,3,5-trimethylbenzene	80														0.20	*80*	
Vinyl Chloride (stormwater only)				0.02	0.18			0.022	1.6			0.02	0.26	3.7	0.02		*0.02*
Semi-Volatile Organic Compounds (SVOCs)																	
4-Nitrophenol															5.0		
Benzoic Acid (stormwater only)															5.0		
Benzyl Alcohol															1.0		
Bis(2-ethylhexyl)phthalate	6.25	6	6	0.045	0.046			0.32	0.37			0.23	0.25	3.56	1.0	*1.0*	*1.0*
Butyl benzyl phthalate	46.1			0.013	0.013			0.10	0.10			0.56	0.58	8.32	1.0	*1.0*	*1.0*
Diethyl Phthalate (stormwater only)				200	200			600	600			4,200	5,000	28,400	1.0		*200*
Di-n-butyl Phthalate	1,600			8	8			20	30			450	510	2,910	1.0	*8*	*8*
Di-n-octyl Phthalate	160														1.0	*160*	
Naphthalenes[j]	160													4,710	0.01	*160*	*4,710*
Pentachlorophenol	0.219	1	1	0.002	0.002	19	15	0.03	0.04			0.046	0.1	1.47	5.0	*5.0*	*5.0*
Phenol	2,400			9,000	70,000			4,000	300,000			18,000	200,000	556,000	1.0	*2,400*	*4,000*
p-Cresol	800														1.0	*800*	
Polycyclic Aromatic Hydrocarbons (PAHs)																	
Acenaphthene	960			30	30			70	90			110	110	648	0.10	*30*	*30*
Acenaphthylene															0.10		
Anthracene	4,800							300	400			3,100	4,600	25,900	0.10	*300*	*300*
Benzo(a)anthracene	0.12			0.00016	0.00016			0.0012	0.0013			0.014	0.021	0.296	0.010	*0.010*	*0.010*
Benzo(a)pyrene	0.012	0.2	0.2	0.000016	0.000016			0.00012	0.00013			0.0014	0.0021	0.0296	0.010	*0.010*	*0.010*
Benzo(b)fluoranthene	0.12			0.00016	0.00016			0.0012	0.0013			0.014	0.021	0.296	0.010	*0.010*	*0.010*
Benzo(j,k)fluoranthene	1.2			0.0016	0.0016			0.012	0.013			0.014	0.21	2.96	0.010	*0.010*	*0.010*
Chrysene	12			0.016	0.016			0.12	0.13			1.4	2.1	29.6	0.010	*0.016*	*0.016*
Dibenz(a,h)anthracene	0.012			0.000016	0.000016			0.00012	0.00013			0.0014	0.0021	0.0296	0.010	*0.010*	*0.010*
Fluoranthene	640			6	6			20	20			16	16	86.4	0.10	*6*	*6*
Fluorene	640			10	10			50	70			420	610	3,460	0.10	*10*	*10*

Table 5 (continued). Proposed Site Screening Levels for Groundwater and Surface Water, Pacific City Park Remedial Investigation, Pacific, Washington.

Constituent (by group)[a]	Protection of Groundwater as Drinking Water (ingestion)			Protection of Surface Water											Practical Quantitation Limit (PQL)	*Proposed Site Groundwater Screening Level*[h]	*Proposed Site Surface Water Screening Level*[i]
				EPA 2016 CWA – Effective Human Health Criteria Applicable to Washington:[b] Consumption of		National Recommended Water Quality Criteria[c]				WAC 173-201A Table 240[d]				MTCA Method B Standard[e]			
						Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Aquatic Life – Freshwater		Protection of Human Health: Consumption of		Protection of Human Health			
	MTCA Method A/B (unrestricted land use)[f]	Federal MCL[g]	Washington State MCL[g]	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only	Acute	Chronic	Water and Organisms	Organisms Only				
Polycyclic Aromatic Hydrocarbons (PAHs) (continued)																	
Indeno(1,2,3-cd)pyrene	0.12			0.00016	0.00016			0.0012	0.0013			0.014	0.021	0.296	0.010	*0.010*	*0.010*
Phenanthrene															0.10		
Pyrene	480			8	8			20	30			310	460	2,590	0.10	*8*	*8*
Total cPAHs TEQ	0.012	0.2	0.2	0.000016	0.000016			0.00012	0.00013			0.0014	0.0021	0.0296	0.085	*0.015*	*0.015*
Polychlorinated Biphenyls (PCBs)																	
Total PCBs	0.1	0.5	0.5	0.000007	0.000007		0.014	0.000064	0.000064	2	0.014	0.00017	0.00017	0.000105	0.050	*0.050*	
Herbicides																	
2,4-DB	128														0.071	*128*	
2,4,5-T	160														0.071	*160*	
Bentazon	480															*480*	
Herbicides (continued)																	
Chloramben	240															*240*	
Dacthal (chlorthal-dimethyl)	160															*160*	
Dalapon	240	200	200												0.46	*200*	
Dinoseb	16	7	7												0.047	*7*	
Picloram	1,120	500	500													*500*	
Silvex (2,4,5-TP)	128	50	50												0.048	*50*	
Organochlorine Pesticides																	
4,4′-DDD[k]	0.365			0.0000079	0.0000079	1.1	0.001	0.00012	0.00012			0.000036	0.000036	0.0005	0.005	*0.005*	0.005
4,4′-DDE[l]	0.257			0.00000088	0.00000088			0.000018	0.000018			0.000051	0.000051	0.000353	0.005	*0.005*	0.005
Cis-chlordane[m]	0.25	2	2	0.000022	0.000022	2.4	0.0043	0.00031	0.00032	2.4	0.0043	0.000093	0.000093	0.00132	0.005	*0.005*	0.005
Gamma-chlordane[m]	0.25	2	2	0.000022	0.000022	2.4	0.0043	0.00031	0.00032	2.4	0.0043			0.00132	0.005	*0.005*	0.005
Endosulfan I[n]	96									0.22	0.056			57.6	0.005	*0.056*	0.056
Endosulfan II[n]	96									0.22	0.056			57.6	0.005	*0.056*	0.056
Endosulfan sulfate				9	10			20	40			9.7	10	57.6	0.005	*9*	9
Methoxychlor	80	40	40				0.03	0.02	0.02					8.1	0.010	*0.02*	0.02

All units in micrograms per liter (ug/L), unless otherwise stated.
Blank cells are intentional and indicate that criteria are not available.
Shaded cells denote the most restrictive criteria that is proposed as the site screening level.

[a] Cleanup levels have been developed for only those compounds that have been detected at the Site above laboratory reporting limits. Constituents with SW only indicate that constituent was only detected in surface water samples.
[b] Washington State human health criteria for the consumption of water and organisms and organisms only, EPA-approved human health criteria under 40 CFR 131.45.
[c] National recommended water quality criteria for the protection of aquatic organisms and protection of human health based on consumption of organisms from Section 304 of the Clean Water Act.
[d] Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC.
[e] MTCA Method B Standard Surface Water Cleanup Level for the protection of human health; the most stringent value is used.
[f] Washington State Model Toxics Control Act (MTCA) Cleanup Regulation Ground Water Method A or Method B Standard Formula Values for protection of human health through ingestion (groundwater as drinking water; WAC 173-340-720).
[g] Federal and Washington State Maximum Contaminant Level (MCL) for drinking water.

[h] Proposed site screening level for groundwater is the most restrictive of MTCA Method A/B and Protection of Surface Water Criteria Screening Levels, adjusted for laboratory PQLs.
[i] Proposed site screening level for surface water is the most restrictive of Protection of Surface Water Criteria Screening Levels, adjusted for laboratory PQLs.
[j] Screening level for naphthalenes is a total value for naphthalene, 1-methyl naphthalene, and 2-methyl naphthalene.
[k] Screening levels for DDD are used for 4,4'-DDD.
[l] Screening levels for DDE are used for 4,4'-DDE.
[m] Screening levels for chlordane are used for cis-chlordane and gamma-chlordane.
[n] Screening levels for endosulfan are used for endosulfan I and endosulfan II.

Table 6. Summary of Groundwater Sample Results from Monitoring Wells, Pacific City Park Remedial Investigation, Pacific, Washington.

Sample Location	Sample Date	Analytical Parameter (µg/L)																			
		Petroleum Hydrocarbons			Volatile Organic Compounds							Total Metals					Dissolved Metals				
		GRO	DRO	Lube Oil	Benzene	Toluene	Ethylbenzene	Xylenes	(cis) 1,2-Dichloroethene	1,4-Dichloro benzene	Chlorobenzene	Arsenic	Cadmium	Chromium	Lead	Mercury	Arsenic	Cadmium	Chromium	Lead	Mercury
Site Screening Level (µg/L)		*1,000*	*500*	*500*	*0.44*	*57*	*29*	*1,000*	*16*		*100*	*3.3*	*4.4*	*50*	*2.5*	*0.5*	*3.3*	*4.4*	*50*	*2.5*	*0.5*
MW-1	10/6/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	ND (1.0)	**1.1**	ND (0.20)	ND (0.50)	**1.1**	ND (0.10)	**1.2**	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	ND (3.0)	ND (4.0)	ND (10)	ND (1.0)	ND (0.50)
	3/23/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (270)	ND (430)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-2	10/5/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	ND (1.0)	**5.7**	ND (0.20)	**2.3**	ND (1.0)	ND (0.10)	**5.1**	ND (0.20)	**1.6**	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (270)	ND (440)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	ND (3.0)	ND (4.0)	ND (10)	ND (1.0)	ND (0.50)
	3/23/18	ND (110)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	**3.4**	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (270)	ND (430)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	**4.9**	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-3	10/6/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	ND (1.0)	**4.1**	ND (0.20)	**2.8**	ND (1.0)	ND (0.10)	**4.8**	ND (0.20)	**1.5**	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	ND (3.0)	ND (4.0)	ND (10)	ND (1.0)	ND (0.50)
	3/23/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	**0.22**	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	**0.35**	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-4	10/5/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	**5.7**	**13**	ND (0.20)	**2.7**	ND (1.0)	ND (0.10)	**9.8**	ND (0.20)	**1.5**	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	**1.5**	**8.3**	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	**8.3**	ND (4.0)	ND (10)	ND (1.0)	ND (0.50)
	3/23/18	ND (110)	ND (270)	ND (440)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	**1.1**	**6.0**	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (270)	ND (430)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (250)	ND (410)	**0.22**	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	**4.6**	**14**	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-5	10/5/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	ND (1.0)	**1.4**	ND (0.20)	**0.52**	ND (1.0)	ND (0.10)	ND (1.0)	ND (0.20)	ND (0.5)	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	**4.0**	ND (0.50)	ND (3.0)	ND (4.0)	ND (10)	**3.0**	ND (0.50)
	3/23/18	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	**3.2**	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	**5.6**	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	**1.9**	ND (0.50)	NA	NA	NA	NA	NA
MW-6	10/5/15	ND (50)	ND (50)	ND (100)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.20)	ND (1.0)	**1.9**	ND (0.20)	**0.74**	**1.5**	ND (0.10)	**2.1**	ND (0.20)	ND (0.50)	ND (1.0)	ND (0.10)
	5/12/17	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	ND (3.0)	ND (4.0)	ND (10)	ND (1.0)	ND (0.50)
	3/23/18	ND (110)	ND (280)	ND (450)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	**0.20**	ND (0.20)	**4.5**	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-7	3/23/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	**1.9**	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	**4.6**	ND (4.4)	ND (11)	**2.0**	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	**5.5**	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA

Table 6 (continued). Summary of Groundwater Sample Results from Monitoring Wells, Pacific City Park Remedial Investigation, Pacific, Washington.

Sample Location	Sample Date	Analytical Parameter (µg/L)																			
		Petroleum Hydrocarbons			Volatile Organic Compounds							Total Metals					Dissolved Metals				
		GRO	DRO	Lube Oil	Benzene	Toluene	Ethylbenzene	Xylenes	(cis) 1,2-Dichloroethene	1,4-Dichloro benzene	Chlorobenzene	Arsenic	Cadmium	Chromium	Lead	Mercury	Arsenic	Cadmium	Chromium	Lead	Mercury
Site Screening Level (µg/L)		*1,000*	*500*	*500*	*0.44*	*57*	*29*	*1,000*	*16*		*100*	*3.3*	*4.4*	*50*	*2.5*	*0.5*	*3.3*	*4.4*	*50*	*2.5*	*0.5*
MW-8	3/23/18	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	**3.9**	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
MW-9	3/23/18	ND (100)	ND (260)	ND (420)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA
	6/21/18	ND (100)	ND (260)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	ND (0.20)	ND (3.3)	ND (4.4)	ND (11)	ND (1.1)	ND (0.50)	NA	NA	NA	NA	NA
	9/26/18	ND (100)	ND (250)	ND (410)	ND (0.20)	ND (1.0)	ND (0.20)	ND (0.40)	ND (0.20)	ND (0.20)	**0.38**	**3.6**	ND (4.4)	ND (11)	ND (11)	ND (0.50)	NA	NA	NA	NA	NA

Note: MW7, MW8, and MW9 correspond to borings B06, B09, and B11

BOLD values detected above the reporting limit.

Shaded values exceed site criteria.

cPAHs (TEQ) = Carcinogenic polycyclic aromatic hydrocarbons toxic equivalency

DRO = Diesel range organics

PCBs = Polychlorinated biphenyls

GRO = Gasoline range organics

µg/L = micrograms per liter

NA = not analyzed or not applicable

ND = not detected above laboratory reporting limits shown in parentheses

Table 6 (continued). Summary of Groundwater Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Sample Location	Sample Date	Field Parameters					Analytical Parameter (µg/L)								
								Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)							
		Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (std units)	Turbidity (NTU)	Total PCBs	Benzo(a) anthracene	Chrysene	Benzo(b) fluoranthene	Benzo(j,k) fluoranthene	Benzo(a) pyrene	Indeno(1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Total cPAHs (TEQ)
Site Screening Level (µg/L)		*NA*	*NA*	*NA*	*NA*	*NA*	*0.05*	*0.01*	*0.016*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.015*
MW-1	10/6/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.076)
	5/12/17	9.0	3.28	98	6.84	Clear	NA	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0072)
	3/23/18	6.9	4.67	97	6.94	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)
	6/21/18	11.3	1.69	77	6.79	Clear	NA	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0072)
	9/26/18	14.2	2.76	113	6.64	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
MW-2	10/5/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.0072)
	5/12/17	11.9	2.47	296	6.58	Clear	NA	ND (0.0099)	ND (0.0099)	ND (0.0099)	ND (0.0099)	ND (0.0099)	ND (0.0099)	ND (0.0099)	ND (0.0075)
	3/23/18	9.8	0.66	328	6.54	Clear	NA	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.0083)
	6/21/18	13.7	3.28	270	6.33	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	9/26/18	15.8	0.23	276	6.30	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)
MW-3	10/6/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.0072)
	5/12/17	10.9	0.69	332	7.08	Clear	NA	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0072)
	3/23/18	8.1	0.50	332	7.01	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	6/21/18	12.8	0.11	281	7.08	Clear	NA	ND (0.0097)	ND (0.0097)	ND (0.0097)	ND (0.0097)	ND (0.0097)	ND (0.0097)	ND (0.0097)	ND (0.0073)
	9/26/18	14.5	0.12	322	6.65	Clear	NA	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0072)
MW-4	10/5/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.0072)
	5/12/17	11.5	0.19	348	6.60	Clear	NA	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0072)
	3/23/18	9.1	0.55	307	6.15	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	6/21/18	15.4	2.05	309	6.62	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	9/26/18	20.4	1.47	325	6.10	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
MW-5	10/5/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.0072)
	5/12/17	9.5	1.06	156	7.08	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	3/23/18	6.7	0.47	129	6.69	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	6/21/18	11.6	0.08	126	7.44	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	9/26/18	15.3	0.26	193	6.90	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)
MW-6	10/5/15	NR	NR	NR	NR	NR	NA	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.100)	ND (0.0072)
	5/12/17	10.2	0.25	132	6.25	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
	3/23/18	6.9	0.73	161	5.95	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)
	6/21/18	12.4	0.14	154	6.69	Clear	NA	**0.014**	**0.014**	**0.012**	**0.012**	**0.011**	**0.012**	**0.011**	**0.017**
	9/26/18	15.1	0.44	341	6.25	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076)
MW-7	3/23/18	6.9	0.52	127	6.94	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071
	6/21/18	16.2	0.12	137	6.59	Clear	NA	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0096)	ND (0.0072
	9/26/18	16.2	0.49	151	6.47	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)

Table 6 (continued). Summary of Groundwater Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Sample Location	Sample Date	Field Parameters					Analytical Parameter (µg/L)								
								Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs)							
		Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (std units)	Turbidity (NTU)	Total PCBs	Benzo(a) anthracene	Chrysene	Benzo(b) fluoranthene	Benzo(j,k) fluoranthene	Benzo(a) pyrene	Indeno(1,2,3-cd) pyrene	Dibenz(a,h) anthracene	Total cPAHs (TEQ)
Site Screening Level (µg/L)		*NA*	*NA*	*NA*	*NA*	*NA*	*0.05*	*0.01*	*0.016*	*0.01*	*0.01*	*0.01*	*0.01*	*0.01*	*0.015*
MW-8	3/23/18	10.8	0.45	400	6.62	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076
	6/21/18	13.4	2.44	384	6.24	Clear	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.0076
	9/26/18	16.4	0.61	325	6.56	Clear	NA	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0094)	ND (0.0071)
MW-9	3/23/18	10.5	0.42	294	6.22	Clear	NA	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.0083
	6/21/18	11.5	2.65	240	6.58	Clear	NA	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0074
	9/26/18	14.5	0.60	249	6.41	Clear	NA	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0098)	ND (0.0074

Note: MW7, MW8, and MW9 correspond to borings B06, B09, and B11

BOLD values detected above the reporting limit.

Shaded values exceed site criteria.

cPAHs (TEQ) = Carcinogenic polycyclic aromatic hydrocarbons toxic equivalency

DRO = Diesel range organics

PCBs = Polychlorinated biphenyls

GRO = Gasoline range organics

µg/L = micrograms per liter

NA = not analyzed or not applicable

ND = not detected above laboratory reporting limits shown in parentheses

NR = not reported

Table 7. Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		Site Screening Level[a] (mg/kg)
	GP-1-15		GP-2-15		GP-3-15		GP-4-15		GP-5-15			GP-6-15		GP-7-15		GP-8-15			
Sample Date	9/17/15		9/17/15		9/17/15		9/17/15		9/17/15			9/17/15		9/17/15		9/17/15			
Depth (feet)	5.0	13.5	4.5	14.0	9.0	12.5	5.0	13.0	5.0	13.0	13 dup	7.5	14.0	5.0	14.0	5.0	14.5	14.5 dup	
Petroleum Hydrocarbons (mg/kg)																			
Gasoline Range Organics	ND (2.96)	ND (3.44)	ND (3.19)	ND (3.13)	ND (3.33)	ND (7.99)	ND (2.87)	ND (3.41)	ND (4.31)	ND (3.20)	ND (3.60)	ND (5.40)	ND (3.35)	ND (3.79)	ND (3.74)	ND (3.05)	ND (3.65)	ND (3.25)	*100*
Diesel Range Organics	ND (23.0)	ND (25.1)	ND (19.8)	ND (21.2	ND (24.4)	ND (38.9)	ND (23.8)	ND (25.0)	ND (23.7)	ND (23.2)	ND (21.9)	ND (33.7)	ND (22.5)	ND (19.1)	ND (22.2)	ND (22.9)	ND (24.9)	ND (24.7)	*200*
Lube Oil Range Organics	ND (57)	ND (63)	**75**	ND (53)	ND (61)	**275**	**182**	ND (63)	ND (59)	ND (58)	ND (55)	**217**	ND (56)	ND (48)	ND (56)	**119**	ND (62)	ND (62)	*2,000*
Volatile Organic Compounds by EPA 8260 (mg/kg)																			
Benzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.001*
Toluene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.024*
Ethylbenzene	ND (0.018)	ND (0.021)	ND (0.019)	ND (0.019)	ND (0.013)	ND (0.048)	ND (0.017)	ND (0.020)	ND (0.026)	ND (0.019)	ND (0.022)	ND (0.032)	ND (0.020)	ND (0.023)	ND (0.022)	ND (0.018)	ND (0.022)	ND (0.020)	*0.014*
Total Xylenes	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.52*
Acetone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*2.07*
2-Butanone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*1.38*
Carbon Disulfide	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.27*
Cis-1,2-Dichloroethene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.005*
Chlorobenzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.051*
Methylene Chloride	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.005*
p-Isopropyltoluene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.229*
Styrene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.120*
Tetrachloroethene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.032)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	**0.023**	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.0013*
Trichloroethene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*0.001*
1,2,4-Trimethylbenzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	ND (0.015)	ND (0.013)	*NA*
Total Metals by EPA 6010D/7471B (mg/kg)																			
Arsenic	**1.7**	**1.4**	**3.1**	**2.9**	**3.4**	**102**	**3.8**	**1.4**	**7.6**	**2.3**	**4.0**	**50**	**2.2**	**6.1**	**2.4**	**12**	**5.9**	**3.3**	*20*
Barium	**23**	**15**	**38**	**21**	**24**	**154**	**36**	**17**	**85**	**23**	**19**	**631**	**23**	**148**	**17**	**224**	**50**	**36**	*41.3*
Cadmium	ND (0.17)	ND (0.18)	**0.25**	ND (0.20)	ND (0.20)	**3.8**	**0.20**	ND (0.21)	**1.4**	ND (0.19)	ND (0.18)	**37**	ND (0.19)	**0.79**	ND (0.18)	**0.71**	ND (0.20)	ND (0.20)	*1*
Chromium	**9.8**	**13**	**18**	**17**	**11**	**143**	**12**	**11**	**20**	**12**	**14**	**115**	**9.7**	**23**	**9.59**	**17**	**20**	**15**	*48*
Lead	**1.3**	**1.2**	**22**	**1.4**	**22**	**2,780**	**19**	**1.3**	**45**	**1.9**	**2.0**	**2,180**	**1.5**	**63**	**1.5**	**370**	**3.2**	**2.1**	*25*
Mercury	ND (0.29)	ND (0.30)	ND (0.23)	ND (0.29)	ND (0.30)	**0.55**	ND (0.28)	ND (0.32)	ND (0.30)	ND (0.28)	ND (0.27)	**9.1**	ND (0.30)	**2.5**	ND (0.28)	ND (0.29)	ND (0.30)	ND (0.29)	*0.07*
Selenium	**1.2**	**1.3**	**1.5**	**1.2**	**1.1**	**1.2**	**1.5**	**1.1**	**1.6**	**1.1**	**1.4**	**1.7**	**1.1**	**1.3**	**1.1**	**1.9**	**1.5**	**1.0**	*10*
Silver	ND (0.087)	ND (0.091)	ND (0.084)	ND (0.098)	ND (0.10)	**2.5**	ND (0.093)	ND (0.11)	**0.12**	ND (0.095)	ND (0.092)	**2.6**	ND (0.096)	**0.14**	ND (0.09)	**0.14**	ND (0.10)	ND (0.10)	*0.61*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)																			
Total PCBs	–	–	–	–	–	ND (0.20)	–	–	–	–	–	ND (0.17)	–	–	–	ND (0.11)	–	–	*0.05*
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg)																			
Acenapthene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.156*
Acenaphthylene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*NA*
Anthracene	ND (0.089)	ND (0.101)	**0.091**	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*7.134*
Benzyl Alcohol	ND (0.111)	ND (0.126)	ND (0.108)	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*NA*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		Site Screening Level[a] (mg/kg)
	GP-1-15		GP-2-15		GP-3-15		GP-4-15		GP-5-15			GP-6-15		GP-7-15		GP-8-15			
Sample Date	9/17/15		9/17/15		9/17/15		9/17/15		9/17/15			9/17/15		9/17/15		9/17/15			
Depth (feet)	5.0	13.5	4.5	14.0	9.0	12.5	5.0	13.0	5.0	13.0	13 dup	7.5	14.0	5.0	14.0	5.0	14.5	14.5 dup	
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg) (continued)																			
Bis(2-Ethylhexyl) Phthalate	ND (0.111)	ND (0.126)	ND (0.108)	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*0.111*
Butyl Benzylphthalate	ND (0.111)	ND (0.126)	ND (0.108)	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*0.033*
Dibutyl Phthalate	ND (0.111)	ND (0.126)	**0.13**	ND (0.116)	ND (0.119)	ND (0.195)	**0.12**	ND (0.120)	**0.28**	ND (0.117)	ND (0.112)	**0.17**	ND (0.122)	ND (0.103)	ND (0.115)	**0.13**	ND (0.136)	ND (0.129)	*0.17*
Di-N-Octyl Phthalate	ND (0.111)	ND (0.126)	ND (0.108)	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*800*
Fluoranthene	ND (0.089)	ND (0.101)	**0.13**	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.15**	ND (0.097)	ND (0.083)	ND (0.092)	**0.11**	ND (0.109)	ND (0.103)	*0.296*
Fluorene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.080*
1-Methylnaphthalene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.236*
2-Methylnaphthalene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.236*
Naphthalene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.236*
4-Nitrophenol	ND (0.553)	ND (0.630)	ND (0.538)	ND (0.578)	ND (0.594)	ND (0.974)	ND (0.566)	ND (0.602)	ND (0.571)	ND (0.586)	ND (0.560)	ND (0.843)	ND (0.608)	ND (0.517)	ND (0.576)	ND (0.594)	ND (0.681)	ND (0.643)	*NA*
p-Cresol	ND (0.111)	ND (0.126)	ND (0.108)	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*8,000*
Pentachlorophenol	ND (0.111)	ND (0.126)	**0.20**	ND (0.116)	ND (0.119)	ND (0.195)	ND (0.113)	ND (0.120)	ND (0.114)	ND (0.117)	ND (0.112)	ND (0.169)	ND (0.122)	ND (0.103)	ND (0.115)	ND (0.119)	ND (0.136)	ND (0.129)	*0.17*
Phenanthrene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.0067*
Phenol	ND (0.221)	ND (0.252)	ND (0.215)	ND (0.231)	ND (0.238)	ND (0.389)	ND (0.226)	ND (0.241)	ND (0.228)	ND (0.234)	ND (0.224)	ND (0.337)	ND (0.243)	ND (0.207)	ND (0.230)	ND (0.237)	ND (0.272)	ND (0.257)	*0.757*
Pyrene	ND (0.089)	ND (0.101)	**0.16**	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.29**	ND (0.097)	ND (0.083)	ND (0.092)	**0.11**	ND (0.109)	ND (0.103)	*0.546*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)																			
Benzo(a)anthracene	ND (0.089)	ND (0.101)	**0.14**	ND (0.093)	**0.11**	**0.19**	**0.12**	**0.11**	**0.13**	**0.11**	**0.10**	**0.62**	ND (0.097)	**0.11**	ND (0.092)	**0.13**	ND (0.109)	ND (0.103)	*0.0067*
Benzo(a)pyrene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	**0.28**	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.93**	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	**0.55**	**0.23**	*0.01*
Benzo(b)fluoranthene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.51**	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.012*
Benzo(j,k)fluoranthene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.19**	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.012*
Chrysene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	**0.25**	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	ND (0.103)	*0.0067*
Dibenz(a,h)anthracene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	**53**	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.089)	ND (0.101)	ND (0.086)	ND (0.093)	ND (0.095)	ND (0.156)	ND (0.091)	ND (0.096)	ND (0.091)	ND (0.094)	ND (0.090)	ND (0.135)	ND (0.097)	ND (0.083)	ND (0.092)	ND (0.095)	ND (0.109)	**62**	*0.035*
Total cPAHs (TEQ)[b]	ND (0.08)	ND (0.091)	**0.087**	ND (0.084)	**0.092**	**0.36**	**0.089**	**0.093**	**0.091**	**0.091**	**0.087**	**1.1**	ND (0.088)	**0.082**	ND (0.083)	**0.094**	**0.60**	**0.27**	*0.020*
Herbicides by EPA 8151A (mg/kg)																			
2,4-DB	ND (0.029)	ND (0.031)	ND (0.026)	ND (0.030)	ND (0.030)	ND (0.051)	ND (0.029)	ND (0.032)	ND (0.030)	ND (0.030)	ND (0.029)	ND (0.042)	ND (0.030)	ND (0.026)	ND (0.029)	ND (0.030)	ND (0.034)	ND (0.032)	*640*
2,4,5-T	ND (0.059)	ND (0.063)	ND (0.052)	ND (0.059)	ND (0.059)	ND (0.102)	ND (0.058)	ND (0.065)	ND (0.061)	ND (0.050	ND (0.058)	ND (0.085)	ND (0.059)	ND (0.051)	ND (0.059)	ND (0.060)	ND (0.068)	ND (0.064)	*800*
Bentazon	ND (0.059)	ND (0.063)	ND (0.052)	ND (0.059)	ND (0.059)	ND (0.102)	ND (0.058)	ND (0.065)	ND (0.061)	ND (0.050	ND (0.058)	ND (0.085)	ND (0.059)	ND (0.051)	ND (0.059)	ND (0.060)	ND (0.068)	ND (0.064)	*2,400*
Chloramben	ND (0.024)	ND (0.025)	**23**	ND (0.024)	ND (0.024)	ND (0.041)	**25**	ND (0.026)	**24**	ND (0.024)	ND (0.023)	ND (0.034)	ND (0.024)	ND (0.021)	ND (0.023)	**26**	ND (0.027)	ND (0.025)	*1,200*
Chlorthal-dimethyl	ND (0.029)	ND (0.031)	ND (0.026)	ND (0.030)	ND (0.030)	ND (0.051)	ND (0.029)	ND (0.032)	ND (0.030)	ND (0.030)	ND (0.029)	ND (0.042)	ND (0.030)	ND (0.026)	ND (0.029)	ND (0.030)	ND (0.034)	ND (0.032)	*800*
Dalapon	ND (0.024)	ND (0.025)	ND (0.021)	ND (0.024)	ND (0.024)	ND (0.041)	ND (0.023)	ND (0.026)	ND (0.024)	ND (0.024)	ND (0.023)	ND (0.034)	ND (0.024)	ND (0.021)	ND (0.023)	ND (0.024)	ND (0.027)	ND (0.025)	*2,400*
Dinoseb	ND (0.059)	ND (0.063)	ND (0.052)	ND (0.059)	ND (0.059)	ND (0.102)	ND (0.058)	ND (0.065)	ND (0.061)	ND (0.050	ND (0.058)	ND (0.085)	ND (0.059)	ND (0.051)	ND (0.059)	ND (0.060)	ND (0.068)	ND (0.064)	*80*
Picloram	ND (0.059)	ND (0.063)	ND (0.052)	ND (0.059)	ND (0.059)	ND (0.102)	ND (0.058)	ND (0.065)	ND (0.061)	ND (0.050	ND (0.058)	ND (0.085)	ND (0.059)	ND (0.051)	ND (0.059)	ND (0.060)	ND (0.068)	ND (0.064)	*5,600*
Silvex	ND (0.024)	ND (0.025)	ND (0.021)	ND (0.024)	ND (0.024)	ND (0.041)	ND (0.023)	ND (0.026)	ND (0.024)	ND (0.024)	ND (0.023)	ND (0.034)	ND (0.024)	ND (0.021)	ND (0.023)	ND (0.024)	ND (0.027)	ND (0.025)	*640*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		Site Screening Level[a] (mg/kg)
	GP-1-15		GP-2-15		GP-3-15		GP-4-15		GP-5-15			GP-6-15		GP-7-15		GP-8-15			
Sample Date	9/17/15		9/17/15		9/17/15		9/17/15		9/17/15			9/17/15		9/17/15		9/17/15			
Depth (feet)	5.0	13.5	4.5	14.0	9.0	12.5	5.0	13.0	5.0	13.0	13 dup	7.5	14.0	5.0	14.0	5.0	14.5	14.5 dup	
Organochlorine Pesticides by EPA 8081(mg/kg)																			
4,4'-DDD	ND (0.023)	ND (0.025)	ND (0.021)	ND (0.023)	ND (0.023)	ND (0.039)	ND (0.023)	ND (0.025)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.031)	ND (0.023)	**0.074**	ND (0.023)	ND (0.023)	ND (0.026)	ND (0.025)	*0.01*
4,4'-DDE	ND (0.023)	ND (0.025)	ND (0.021)	ND (0.023)	ND (0.023)	ND (0.039)	ND (0.023)	ND (0.025)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.031)	ND (0.023)	ND (0.199)	ND (0.023)	ND (0.023)	ND (0.026)	ND (0.025)	*0.01*
Cis-Chlordane (alpha)	ND (0.011)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.020)	ND (0.011)	ND (0.013)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.016)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.012)	ND (0.013)	ND (0.013)	*0.01*
Endosulfan I	ND (0.011)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.020)	ND (0.011)	ND (0.013)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.016)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.012)	ND (0.013)	ND (0.013)	*0.005*
Endosulfan II	ND (0.023)	ND (0.025)	ND (0.021)	ND (0.023)	ND (0.023)	ND (0.039)	ND (0.023)	ND (0.025)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.031)	ND (0.023)	**0.063**	ND (0.023)	ND (0.023)	ND (0.026)	ND (0.025)	*0.01*
Endosulfan Sulfate	ND (0.023)	ND (0.025)	ND (0.021)	ND (0.023)	ND (0.023)	ND (0.039)	ND (0.023)	ND (0.025)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.031)	ND (0.023)	ND (0.199)	ND (0.023)	ND (0.023)	ND (0.026)	ND (0.025)	*NA*
Gamma-Chlordane	ND (0.011)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.020)	ND (0.011)	ND (0.013)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.016)	ND (0.012)	ND (0.010)	ND (0.011)	ND (0.012)	ND (0.013)	ND (0.013)	*0.01*
Methoxychlor	ND (0.057)	ND (0.062)	ND (0.051)	ND (0.058)	ND (0.059)	ND (0.100)	ND (0.058)	ND (0.063)	ND (0.058)	ND (0.060)	ND (0.056)	ND (0.079)	ND (0.058)	ND (0.050)	ND (0.057)	ND (0.057)	ND (0.064)	ND (0.063)	*0.01*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	GP-9-15		GP-10-15		GP-11-15		GP-12-15		GP-13-15		GP-14-15			GP-15-15		
Sample Date	9/17/15		9/17/15		9/17/15		9/18/15		9/21/15		9/21/15			9/21/15		
Depth (feet)	5.0	12.5	4.5	13.0	4.5	14.5	4.0	13.5	4.5	13.5	3.5	13.5	13.5 dup	6.0	14.0	
Petroleum Hydrocarbons (mg/kg)																
Gasoline Range Organics	ND (2.98)	ND (3.30)	ND (4.64)	ND (3.48)	ND (2.85)	ND (6.73)	ND (3.03)	ND (3.34)	ND (3.30)	ND (2.98)	ND (2.98)	ND (2.98)	ND (2.98)	ND (2.98)	ND (2.98)	*100*
Diesel Range Organics	ND (25)	ND (25)	ND (27)	ND (24)	ND (21)	ND (36)	ND (23)	ND (25)	ND (22)	ND (27)	ND (20)	ND (34)	ND (27)	ND (25)	ND (26)	*200*
Lube Oil Range Organics	ND (62)	ND (63)	**3,840**	ND (60)	**103**	ND (91)	ND (58)	ND (63)	**462**	ND (68)	ND (50)	ND (86)	ND (66)	ND (64)	ND (65)	*2,000*
Volatile Organic Compounds by EPA 8260 (mg/kg)																
Benzene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.001*
Toluene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.024*
Ethylbenzene	ND (0.018)	ND (0.020)	ND (0.028)	ND (0.021)	ND (0.017)	ND (0.040)	ND (0.018)	ND (0.020)	ND (0.020)	ND (0.024)	ND (0.021)	ND (0.037)	ND (0.024)	ND (0.027)	ND (0.022)	*0.014*
Total Xylenes	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.52*
Acetone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*2.07*
2-Butanone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*1.38*
Carbon Disulfide	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.27*
Cis-1,2-dichloroethene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.005*
Chlorobenzene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.051*
Methylene Chloride	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.005*
p-Isopropyltoluene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.229*
Styrene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	*0.120*
Tetrachlorethene	ND (0.012)	ND (0.013)	ND (0.019)	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.0013*
Trichloroethene	ND (0.012)	ND (0.013)	**0.066**	ND (0.014)	ND (0.011)	ND (0.027)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.025)	ND (0.016)	ND (0.018)	ND (0.015)	*0.001*
1,2,4-Trimethylbenzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	*NA*
Total Metals by EPA 6010D/7471B (mg/kg)																
Arsenic	**1.9**	**2.7**	**39.7**	**1.2**	**2.5**	**3.0**	**2.8**	**1.2**	**3.4**	**3.3**	**2.9**	**7.7**	**4.6**	**2.5**	**1.7**	*20*
Barium	**29**	**59**	**232**	**31**	**33**	**72**	**27**	**18**	**40**	**73**	**36**	**95**	**103**	**42**	**32**	*41.3*
Cadmium	ND (0.18)	ND (0.22)	**8.3**	ND (0.19)	ND (0.16)	ND (0.28)	ND (0.20)	ND (0.20)	**0.19**	ND (0.22)	**0.19**	ND (0.30)	ND (0.24)	**0.39**	ND (0.21)	*1*
Chromium	**18**	**21**	**314**	**14**	**14**	**22**	**13**	**14**	**19**	**24**	**13**	**23**	**32**	**18**	**12**	*48*
Lead	**8.3**	**3.6**	**3,320**	**2.06**	**40**	**4.3**	**3.5**	**1.3**	**424**	**4.3**	**20**	**5.2**	**6.2**	**15**	**1.6**	*25*
Mercury	ND (0.28)	ND (0.30)	ND (0.31)	ND (0.30)	ND (0.25)	ND (0.45)	ND (0.29)	ND (0.31)	ND (0.26)	ND (0.33)	ND (0.28)	ND (0.46)	ND (0.31)	ND (0.33)	ND (0.30)	*0.07*
Selenium	**0.74**	**1.7**	**0.96**	**1.0**	**0.80**	**1.4**	**1.4**	**0.89**	**0.99**	**2.1**	**0.96**	**3.2**	**2.5**	**0.66**	**0.83**	*10*
Silver	ND (0.091)	ND (0.109)	**1.99**	ND (0.093)	ND (0.080)	ND (0.14)	ND (0.10)	ND (0.099)	ND (0.091)	ND (0.11)	ND (0.093)	ND (0.15)	ND (0.12)	ND (0.12)	ND (0.11)	*0.61*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)																
Total PCBs	–	–	ND (0.13)	–	ND (0.11)	–	–	–	ND (0.11)	–	–	–	–	–	–	*0.05*
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg)																
Acenapthene	ND (0.095)	ND (0.108)	**29.2**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.156*
Acenaphthylene	ND (0.095)	ND (0.108)	**0.13**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*NA*
Anthracene	ND (0.095)	ND (0.108)	**106**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*7.134*
Benzyl Alcohol	ND (0.119)	ND (0.135)	ND (0.138)	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*NA*
Bis(2-Ethylhexyl) Phthalate	ND (0.119)	ND (0.135)	**1.6**	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	**0.17**	ND (0.139)	**0.12**	**0.25**	ND (0.142)	**0.15**	ND (0.134)	*0.111*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	GP-9-15		GP-10-15		GP-11-15		GP-12-15		GP-13-15		GP-14-15			GP-15-15		
Sample Date	9/17/15		9/17/15		9/17/15		9/18/15		9/21/15		9/21/15			9/21/15		
Depth (feet)	5.0	12.5	4.5	13.0	4.5	14.5	4.0	13.5	4.5	13.5	3.5	13.5	13.5 dup	6.0	14.0	
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg) (continued)																
Butyl Benzylphthalate	ND (0.119)	ND (0.135)	ND (0.138)	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*0.033*
Di-N-Octyl Phthalate	ND (0.119)	ND (0.135)	ND (0.138)	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*0.17*
Dibutyl Phthalate	ND (0.119)	ND (0.135)	**0.18**	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*800*
Fluoranthene	ND (0.095)	ND (0.108)	**365**	**0.11**	ND (0.085)	**0.19**	ND (0.095)	ND (0.100)	**0.14**	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.296*
Fluorene	ND (0.095)	ND (0.108)	**37.5**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.080*
2-Methylnaphthalene	ND (0.095)	ND (0.108)	**3.1**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.236*
1-Methylnaphthalene	ND (0.095)	ND (0.108)	**6.1**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.236*
Naphthalene	ND (0.095)	ND (0.108)	**4.4**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.00002)	ND (0.00002)	ND (0.00004)	ND (0.110)	ND (0.00003)	ND (0.00002)	*0.236*
4-Nitrophenol	ND (0.595)	ND (0.68)	**1.4**	ND (0.633)	ND (0.528)	ND (0.899)	ND (0.592)	ND (0.622)	ND (0.546)	ND (0.693)	ND (0.576)	ND (0.910)	ND (0.711)	ND (0.732)	ND (0.672)	*NA*
p-Cresol	ND (0.119)	ND (0.135)	ND (0.138)	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*8,000*
Pentachlorophenol	ND (0.119)	ND (0.135)	ND (0.138)	ND (0.127)	ND (0.106)	ND (0.180)	ND (0.118)	ND (0.124)	ND (0.109)	ND (0.139)	ND (0.115)	ND (0.182)	ND (0.142)	ND (0.146)	ND (0.134)	*0.17*
Phenanthrene	ND (0.095)	ND (0.108)	**317**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.100)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.0067*
Phenol	ND (0.238)	ND (0.270)	ND (0.276)	ND (0.253)	ND (0.211)	ND (0.360)	ND (0.237)	ND (0.249)	ND (0.218)	ND (0.277)	ND (0.231)	ND (0.364)	ND (0.284)	ND (0.293)	ND (0.269)	*0.757*
Pyrene	ND (0.095)	ND (0.108)	**345**	ND (0.101)	ND (0.085)	**0.19**	ND (0.095)	ND (0.100)	**0.13**	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.546*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)																
Benzo(a)anthracene	**0.11**	**0.12**	**164**	ND (0.10)	**0.11**	**0.20**	ND (0.095)	ND (0.092)	**0.13**	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.0067*
Benzo(a)pyrene	ND (0.095)	**0.24**	**91**	**0.213**	ND (0.085)	**0.59**	ND (0.095)	ND (0.092)	ND (0.087)	**0.45**	ND (0.092)	**0.64**	**0.54**	ND (0.117)	ND (0.108)	*0.01*
Benzo(b)fluoranthene	ND (0.095)	ND (0.108)	**186**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.092)	**0.23**	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.012*
Benzo(j,k)fluoranthene	ND (0.095)	ND (0.108)	**28**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.092)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.012*
Chrysene	ND (0.095)	ND (0.108)	**193**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.092)	ND (0.087)	ND (0.111)	ND (0.092)	ND (0.146)	ND (0.114)	ND (0.117)	ND (0.108)	*0.0067*
Dibenz(a,h)anthracene	ND (0.095)	ND (0.108)	**62**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.092)	ND (0.087)	ND (0.111)	ND (0.095)	ND (0.146)	**53**	ND (0.117)	ND (0.108)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.095)	ND (0.108)	**53**	ND (0.101)	ND (0.085)	ND (0.144)	ND (0.095)	ND (0.092)	ND (0.087)	ND (0.111)	ND (0.095)	ND (0.146)	**62**	ND (0.117)	ND (0.108)	*0.035*
Total cPAHs (TEQ)[b]	**0.092**	**0.25**	**213**	**0.25**	**0.083**	**0.66**	ND (0.86)	ND (0.090)	**0.10**	**0.48**	ND (0.083)	**0.64**	**0.58**	ND (0.117)	ND (0.108)	*0.020*
Herbicides by EPA 8151A (mg/kg)																
2,4-DB	ND (0.030)	ND (0.033)	ND (0.034)	ND (0.032)	ND (0.027)	ND (0.047)	ND (0.031)	ND (0.031)	ND (0.028)	ND (0.034)	ND (0.028)	ND (0.046)	ND (0.036)	ND (0.036)	ND (0.033)	*640*
2,4,5-T	ND (0.061)	ND (0.067)	ND (0.068)	ND (0.064)	ND (0.054)	ND (0.093)	ND (0.062)	ND (0.062)	ND (0.056)	ND (0.068)	ND (0.057)	ND (0.092)	ND (0.071)	ND (0.073)	ND (0.067)	*800*
Bentazon	ND (0.061)	ND (0.067)	ND (0.068)	ND (0.064)	ND (0.054)	ND (0.093)	ND (0.062)	ND (0.062)	ND (0.056)	ND (0.068)	ND (0.057)	ND (0.092)	ND (0.071)	ND (0.073)	ND (0.067)	*2,400*
Chloramben	ND (0.024)	ND (0.027)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.037)	ND (0.025)	ND (0.025)	ND (0.022)	ND (0.027)	ND (0.023)	ND (0.037)	ND (0.028)	ND (0.029)	ND (0.027)	*1,200*
Chlorthal-dimethyl	ND (0.030)	ND (0.033)	ND (0.034)	ND (0.032)	ND (0.027)	ND (0.047)	ND (0.031)	ND (0.031)	ND (0.028)	ND (0.034)	ND (0.028)	ND (0.046)	ND (0.036)	ND (0.036)	ND (0.033)	*800*
Dalapon	ND (0.024)	ND (0.027)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.037)	ND (0.025)	ND (0.025)	ND (0.022)	ND (0.027)	ND (0.023)	ND (0.037)	ND (0.028)	ND (0.029)	ND (0.027)	*2,400*
Dinoseb	ND (0.061)	ND (0.067)	ND (0.068)	ND (0.064)	ND (0.054)	ND (0.093)	ND (0.062)	ND (0.062)	ND (0.056)	ND (0.068)	ND (0.057)	ND (0.092)	ND (0.071)	ND (0.073)	ND (0.067)	*80*
Picloram	ND (0.061)	ND (0.067)	ND (0.068)	ND (0.064)	ND (0.054)	ND (0.093)	ND (0.062)	ND (0.062)	ND (0.056)	ND (0.068)	ND (0.057)	ND (0.092)	ND (0.071)	ND (0.073)	ND (0.067)	*5,600*
Silvex	ND (0.024)	ND (0.027)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.037)	ND (0.025)	ND (0.025)	ND (0.022)	ND (0.027)	ND (0.023)	ND (0.037)	ND (0.028)	ND (0.029)	ND (0.027)	*640*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	GP-9-15		GP-10-15		GP-11-15		GP-12-15		GP-13-15		GP-14-15			GP-15-15		
Sample Date	9/17/15		9/17/15		9/17/15		9/18/15		9/21/15		9/21/15			9/21/15		
Depth (feet)	5.0	12.5	4.5	13.0	4.5	14.5	4.0	13.5	4.5	13.5	3.5	13.5	13.5 dup	6.0	14.0	
Organochlorine Pesticides by EPA 8081 (mg/kg)																
4,4'-DDD	ND (0.024)	ND (0.027)	ND (0.026)	ND (0.024)	ND (0.022)	ND (0.038)	o	ND (0.024)	ND (0.021)	ND (0.027)	ND (0.021)	ND (0.034)	ND (0.027)	ND (0.027)	ND (0.025)	*0.01*
4,4'-DDE	ND (0.024)	ND (0.027)	ND (0.026)	ND (0.024)	ND (0.022)	ND (0.038)	ND (0.024)	ND (0.024)	ND (0.021)	ND (0.027)	ND (0.021)	ND (0.034)	ND (0.027)	ND (0.027)	ND (0.025)	*0.01*
Cis-Chlordane (alpha)	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.011)	ND (0.019)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.014)	ND (0.011)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.012)	*0.01*
Endosulfan I	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.011)	ND (0.019)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.014)	ND (0.011)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.012)	*0.005*
Endosulfan II	ND (0.024)	ND (0.027)	ND (0.026)	ND (0.024)	**0.056**	ND (0.038)	ND (0.024)	ND (0.024)	ND (0.021)	ND (0.027)	ND (0.021)	ND (0.034)	ND (0.027)	ND (0.027)	ND (0.025)	*0.01*
Endosulfan Sulfate	ND (0.024)	ND (0.027)	ND (0.026)	ND (0.024)	**0.060**	ND (0.038)	ND (0.024)	ND (0.024)	ND (0.021)	ND (0.027)	ND (0.021)	ND (0.034)	ND (0.027)	ND (0.027)	ND (0.025)	*NA*
Gamma-Chlordane	ND (0.012)	ND (0.013)	ND (0.013)	ND (0.012)	ND (0.011)	ND (0.019)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.014)	ND (0.011)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.012)	*0.01*
Methoxychlor	ND (0.059)	ND (0.066)	ND (0.065)	ND (0.060)	**0.127**	ND (0.094)	ND (0.060)	ND (0.059)	ND (0.053)	ND (0.067)	ND (0.053)	ND (0.085)	ND (0.066)	ND (0.069)	ND (0.062)	*0.01*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																Site Screening Level[a] (mg/kg)
	GP-16-15		GP-17-15			GP-18-15		GP-19-15		GP-20-15		GP-21-15		GP-22-15			
Sample Date	9/21/15		9/21/15			9/21/15		9/21/15		9/21/15		9/21/15		9/22/15			
Depth (feet)	8.0	13.5	7.0	14.5	7 dup	3.0	14.0	5.0	14.5	5.5	14.0	4.0	14.0	1.5	3.0	3.0 dup	
Petroleum Hydrocarbons (mg/kg)																	
Gasoline Range Organics	ND (4.83)	ND (3.95)	ND (4.2)	ND (3.9)	ND (3.8)	ND (3.5)	ND (3.7)	ND (3.1)	ND (4.7)	ND (3.3)	ND (3.6)	**3.7**	ND (4.0)	ND (3.5)	ND (3.6)	ND (2.7)	*100*
Diesel Range Organics	**72**	ND (25)	ND (27.2)	ND (20.2)	ND (23.9)	ND (20.3)	ND (23.6)	ND (20.7)	ND (24.8)	ND (19.7)	ND (20.8)	ND (23.3)	ND (21.8)	ND (21.4)	ND (20.4)	ND (19.3)	*200*
Lube Oil Range Organics	**427**	ND (63)	**70**	ND (51)	**401**	**302**	ND (59)	ND (52)	ND (62)	**285**	ND (52)	**728**	ND (55)	ND (53)	ND (51)	ND (48)	*2,000*
Volatile Organic Compounds by EPA 8260 (mg/kg)																	
Benzene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.001*
Toluene	**0.022**	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.024*
Ethylbenzene	ND (0.029)	ND (0.024)	ND (0.025)	ND (0.023)	ND (0.023)	ND (0.021)	ND (0.022)	ND (0.019)	ND (0.028)	ND (0.020)	ND (0.022)	ND (0.020)	ND (0.024)	ND (0.021)	ND (0.022)	ND (0.016)	*0.014*
Total Xylenes	**0.029**	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.52*
Acetone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*2.07*
2-Butanone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*1.38*
Carbon Disulfide	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.27*
Cis-1,2-dichloroethene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.005*
Chlorobenzene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.051*
Methylene Chloride	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	**0.020**	ND (0.013)	**0.015**	**0.014**	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.005*
p-Isopropyltoluene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	**0.13**	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.229*
Styrene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	*0.120*
Tetrachlorethene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.0013*
Trichloroethene	ND (0.019)	ND (0.016)	ND (0.017)	ND (0.016)	ND (0.015)	ND (0.014)	ND (0.015)	ND (0.012)	ND (0.019)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.016)	ND (0.014)	ND (0.014)	ND (0.010)	*0.001*
1,2,4-Trimethylbenzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	ND (0.012)	*NA*
Total Metals by EPA 6010D/7471B (mg/kg)																	
Arsenic	**18.5**	**1.8**	**8.7**	**2.0**	**5.7**	**5.2**	**5.6**	**3.5**	**2.7**	**4.0**	**1.9**	**2.6**	**2.8**	**3.8**	**3.8**	**4.0**	*20*
Barium	**78**	**26**	**52**	**22**	**38**	**47**	**25**	**44**	**38**	**32**	**21**	**40**	**27**	**46**	**44**	**44**	*41.3*
Cadmium	**1.9**	ND (0.198)	**0.36**	ND (0.19)	**3.2**	**0.32**	ND (0.18)	ND (0.18)	ND (0.20)	ND (0.17)	ND (0.18)	**0.23**	ND (0.20)	ND (0.17)	ND (0.19)	ND (0.18)	*1*
Chromium	**57**	**13**	**16**	**12**	**19**	**18**	**56**	**22**	**17**	**19**	**11**	**22**	**14**	**18**	**19**	**19**	*48*
Lead	**552**	**2.2**	**49**	**2.6**	**39**	**60**	**5.7**	**5.4**	**2.2**	**19.6**	**2.3**	**18**	**3.4**	**5.1**	**4.1**	**5.5**	*25*
Mercury	ND (0.42)	ND (0.29)	ND (0.31)	ND (0.26)	ND (0.29)	ND (0.24)	ND (0.26)	ND (0.24)	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.25)	ND (0.28)	**0.38**	ND (0.25)	ND (0.25)	*0.07*
Selenium	ND (0.63)	**0.89**	**1.5**	**0.99**	**1.5**	**1.1**	**0.90**	**1.1**	**0.86**	**1.2**	**0.9**	**0.85**	**0.78**	**1.7**	**1.6**	**1.8**	*10*
Silver	**0.18**	ND (0.10)	ND (0.117)	ND (0.095)	ND (0.102)	ND (0.091)	ND (0.090)	ND (0.088)	ND (0.099)	ND (0.085)	ND (0.092)	ND (0.095)	ND (0.099)	ND (0.084)	ND (0.097)	ND (0.091)	*0.61*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)																	
Total PCBs	**0.42**	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.05*
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg)																	
Acenapthene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.156*
Acenaphthylene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*NA*
Anthracene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	**0.13**	**0.15**	ND (0.086)	ND (0.092)	ND (0.090)	*7.134*
Benzyl Alcohol	ND (0.166)	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	ND (0.107)	ND (0.119)	ND (0.108)	ND (0.128)	ND (0.106)	ND (0.115)	ND (0.114)	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*NA*
Bis (2-Ethylhexyl) Phthalate	**2.5**	ND (0.121)	ND (0.139)	ND (0.113)	**1.09**	ND (0.107)	**0.38**	ND (0.108)	ND (0.128)	**0.21**	ND (0.115)	**2.76**	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*0.111*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																Site Screening Level[a] (mg/kg)
	GP-16-15		GP-17-15			GP-18-15		GP-19-15		GP-20-15		GP-21-15		GP-22-15			
Sample Date	9/21/15		9/21/15			9/21/15		9/21/15		9/21/15		9/21/15		9/22/15			
Depth (feet)	8.0	13.5	7.0	14.5	7 dup	3.0	14.0	5.0	14.5	5.5	14.0	4.0	14.0	1.5	3.0	3.0 dup	
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg) (continued)																	
Butyl Benzylphthalate	**0.17**	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	ND (0.107)	ND (0.119)	**0.27**	ND (0.128)	ND (0.106)	ND (0.115)	**0.18**	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*0.033*
Dibutyl Phthalate	ND (0.166)	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	ND (0.107)	ND (0.119)	ND (0.108)	ND (0.128)	ND (0.106)	ND (0.115)	ND (0.114)	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*0.17*
Di-N-Octyl Phthalate	ND (0.166)	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	**0.17**	ND (0.119)	ND (0.108)	ND (0.128)	ND (0.106)	ND (0.115)	ND (0.114)	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*800*
Fluoranthene	**0.15**	ND (0.097)	ND (0.111)	ND (0.091)	**0.13**	**0.11**	ND (0.095)	ND (0.086)	ND (0.102)	**0.096**	ND (0.092)	**0.25**	**0.13**	ND (0.086)	ND (0.092)	ND (0.090)	*0.296*
Fluorene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.080*
2-Methylnaphthalene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.236*
1-Methylnaphthalene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.236*
Naphthalene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.236*
4-Nitrophenol	ND (0.831)	ND (0.605)	ND (0.694)	ND (0.566)	ND (0.622)	ND (0.533)	ND (0.596)	ND (0.539)	ND (0.638)	ND (0.530)	ND (0.575)	ND (0.571)	ND (0.575)	ND (0.540)	ND (0.575)	ND (0.565)	*NA*
p-Cresol	ND (0.166)	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	ND (0.107)	ND (0.119)	ND (0.108)	ND (0.128)	ND (0.106)	ND (0.115)	ND (0.114)	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*8,000*
Pentachlorophenol	ND (0.166)	ND (0.121)	ND (0.139)	ND (0.113)	ND (0.124)	ND (0.107)	ND (0.119)	ND (0.108)	ND (0.128)	ND (0.106)	ND (0.115)	ND (0.114)	ND (0.115)	ND (0.108)	ND (0.115)	ND (0.113)	*0.17*
Phenanthrene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	**0.11**	**0.13**	ND (0.086)	ND (0.092)	ND (0.090)	*0.0067*
Phenol	ND (0.333)	ND (0.242)	ND (0.278)	ND (0.226)	ND (0.249)	ND (0.213)	ND (0.238)	ND (.216)	ND (0.255)	ND (0.212)	ND (0.230)	**0.57**	ND (0.230)	ND (0.216)	ND (0.230)	ND (0.226)	*0.757*
Pyrene	**0.19**	ND (0.097)	**0.13**	ND (0.091)	**0.14**	**0.12**	ND (0.095)	ND (0.086)	ND (0.102)	**0.090**	ND (0.092)	**0.23**	**0.11**	ND (0.086)	ND (0.092)	ND (0.090)	*0.546*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)																	
Benzo(a)anthracene	**0.21**	ND (0.097)	**0.19**	ND (0.091)	ND (0.100)	**0.16**	ND (0.095)	ND (0.086)	ND (0.102)	**0.13**	ND (0.092)	**0.16**	**0.12**	ND (0.086)	ND (0.092)	ND (0.090)	*0.0067*
Benzo(a)pyrene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	**0.17**	ND (0.086)	**0.28**	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.01*
Benzo(b)fluoranthene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	**0.19**	**0.17**	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.012*
Benzo(j,k)fluoranthene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.012*
Chrysene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	**0.095**	ND (0.095)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	**0.23**	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.0067*
Dibenz(a,h)anthracene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.009)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.133)	ND (0.097)	ND (0.111)	ND (0.091)	ND (0.100)	ND (0.085)	ND (0.009)	ND (0.086)	ND (0.102)	ND (0.085)	ND (0.092)	ND (0.091)	ND (0.092)	ND (0.086)	ND (0.092)	ND (0.090)	*0.035*
Total cPAHs (TEQ)[b]	**0.13**	ND (0.088)	**0.10**	ND (0.082)	ND (0.090)	**0.089**	**0.54**	**0.091**	**0.32**	**0.086**	ND (0.083)	**0.096**	**0.091**	ND (0.078)	ND (0.083)	ND (0.081)	*0.020*
Herbicides by EPA 8151A (mg/kg)																	
2,4-DB	ND (0.041)	ND (0.031)	ND (0.035)	ND (0.029)	ND (0.031)	ND (0.027)	ND (0.030)	ND (0.027)	ND (0.032)	ND (0.027)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.027)	ND (0.029)	ND (0.028)	*640*
2,4,5-T	ND (0.082)	ND (0.063)	ND (0.071)	ND (0.057)	ND (0.063)	ND (0.055)	ND (0.059)	ND (0.055)	ND (0.064)	ND (0.054)	ND (0.058)	ND (0.059)	ND (0.059)	ND (0.055)	ND (0.058)	ND (0.056)	*800*
Bentazon	ND (0.082)	ND (0.063)	ND (0.071)	ND (0.057)	ND (0.063)	ND (0.055)	ND (0.059)	ND (0.055)	ND (0.064)	ND (0.054)	ND (0.058)	ND (0.059)	ND (0.059)	ND (0.055)	ND (0.058)	ND (0.056)	*2,400*
Chloramben	ND (0.033)	ND (0.025)	ND (0.028)	ND (0.023)	ND (0.025)	ND (0.022)	ND (0.024)	ND (0.022)	ND (0.026)	ND (0.022)	ND (0.023)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.022)	*1,200*
Chlorthal-dimethyl	ND (0.041)	ND (0.031)	ND (0.035)	ND (0.029)	ND (0.031)	ND (0.027)	ND (0.030)	ND (0.027)	ND (0.032)	ND (0.027)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.027)	ND (0.029)	ND (0.028)	*800*
Dalapon	ND (0.033)	ND (0.025)	ND (0.028)	ND (0.023)	ND (0.025)	ND (0.022)	ND (0.024)	ND (0.022)	ND (0.026)	ND (0.022)	ND (0.023)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.022)	*2,400*
Dinoseb	ND (0.082)	ND (0.063)	ND (0.071)	ND (0.057)	ND (0.063)	ND (0.055)	ND (0.059)	ND (0.055)	ND (0.064)	ND (0.054)	ND (0.058)	ND (0.059)	ND (0.059)	ND (0.055)	ND (0.058)	ND (0.056)	*80*
Picloram	ND (0.082)	ND (0.063)	ND (0.071)	ND (0.057)	ND (0.063)	ND (0.055)	ND (0.059)	ND (0.055)	ND (0.064)	ND (0.054)	ND (0.058)	ND (0.059)	ND (0.059)	ND (0.055)	ND (0.058)	ND (0.056)	*5,600*
Silvex	ND (0.033)	ND (0.025)	ND (0.028)	ND (0.023)	ND (0.025)	ND (0.022)	ND (0.024)	ND (0.022)	ND (0.026)	ND (0.022)	ND (0.023)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.022)	*640*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																Site Screening Level[a] (mg/kg)
	GP-16-15		GP-17-15			GP-18-15		GP-19-15		GP-20-15		GP-21-15		GP-22-15			
Sample Date	9/21/15		9/21/15			9/21/15		9/21/15		9/21/15		9/21/15		9/22/15			
Depth (feet)	8.0	13.5	7.0	14.5	7 dup	3.0	14.0	5.0	14.5	5.5	14.0	4.0	14.0	1.5	3.0	3.0 dup	
Organochlorine Pesticides by EPA 8081 (mg/kg)																	
4,4'-DDD	ND (0.029)	ND (0.025)	ND (0.027)	ND (0.021)	ND (0.025)	ND (0.021)	ND (0.022)	ND (0.020)	ND (0.023)	ND (0.019)	ND (0.023)	ND (0.022)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.022)	*0.01*
4,4'-DDE	ND (0.029)	ND (0.025)	ND (0.027)	ND (0.021)	ND (0.025)	ND (0.021)	ND (0.022)	ND (0.020)	ND (0.023)	ND (0.019)	ND (0.023)	ND (0.022)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.022)	*0.01*
Endosulfan I	ND (0.015)	ND (0.012)	ND (0.013)	ND (0.011)	ND (0.013)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	*0.01*
Endosulfan II	ND (0.029)	ND (0.025)	ND (0.027)	ND (0.021)	ND (0.025)	ND (0.021)	ND (0.022)	ND (0.020)	ND (0.023)	ND (0.019)	ND (0.023)	ND (0.022)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.022)	*0.005*
Cis-Chlordane (alpha)	ND (0.015)	ND (0.012)	ND (0.013)	ND (0.011)	ND (0.013)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	*0.01*
Endosulfan Sulfate	ND (0.029)	ND (0.025)	ND (0.027)	ND (0.021)	ND (0.025)	ND (0.021)	ND (0.022)	ND (0.020)	ND (0.023)	ND (0.019)	ND (0.023)	ND (0.022)	ND (0.021)	ND (0.021)	ND (0.020)	ND (0.022)	*NA*
Gamma-Chlordane	ND (0.015)	ND (0.012)	ND (0.013)	ND (0.011)	ND (0.013)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.011)	ND (0.010)	ND (0.011)	ND (0.010)	ND (0.011)	*0.01*
Methoxychlor	ND (0.073)	ND (0.062)	ND (0.067)	ND (0.052)	ND (0.064)	ND (0.052)	ND (0.054)	ND (0.051)	ND (0.057)	ND (0.047)	ND (0.057)	ND (0.056)	ND (0.052)	ND (0.053)	ND (0.0500)	ND (0.054)	*0.01*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	MW-1-15		MW-2-15		MW-3-15		MW-4-15		MW-5-15		MW-6-15			TP-1-15	TP-3-15	
Sample Date	9/18/15		9/18/15		9/18/15		9/22/15		9/22/15		9/22/15			9/23/15	9/23/15	
Depth (feet)	6.0	12.0	3.0	13	6.5	15.0	6.0	14.5	5.0	12.5	5.5	5.5 dup	14.0	5.5	6.0	
Petroleum Hydrocarbons (mg/kg)																
Gasoline Range Organics	ND (2.7)	ND (3.3)	ND (3.3)	ND (5.5)	ND (3.88)	ND (3.69)	ND (2.66)	ND (4.89)	ND (3.79)	ND (3.57)	ND (3.59)	ND (4.29)	ND (3.88)	ND (5.83)	ND (3.66)	*100*
Diesel Range Organics	ND (24.0)	ND (23.9)	ND (21.9)	ND (37.8)	ND (23)	ND (26)	ND (22)	ND (29)	ND (24)	ND (24)	ND (20)	ND (20)	ND (20)	ND (27)	ND (24)	*200*
Lube Oil Range Organics	ND (60)	ND (60)	**137**	ND (95)	ND (59)	ND (64)	**1,250**	ND (74)	ND (61)	ND (61)	ND (50)	**4,080**	ND (51)	**895**	**267**	*2,000*
Volatile Organic Compounds by EPA 8260 (mg/kg)																
Benzene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.001*
Toluene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.024*
Ethylbenzene	ND (0.016)	ND (0.020)	ND (0.020)	ND (0.033)	ND (0.023)	ND (0.022)	ND (0.016)	ND (0.029)	ND (0.023)	ND (0.021)	ND (0.022)	ND (0.023)	ND (0.026)	ND (0.035)	ND (0.022)	*0.014*
Total Xylenes	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.52*
Acetone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*2.07*
2-Butanone	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*1.38*
Carbon Disulfide	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.27*
Cis-1,2-dichloroethene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.005*
Chlorobenzene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.051*
Methylene Chloride	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.005*
p-Isopropyltoluene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.229*
Styrene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	*0.120*
Tetrachlorethene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.0013*
Trichloroethene	ND (0.011)	ND (0.013)	ND (0.013)	ND (0.022)	ND (0.016)	ND (0.015)	ND (0.011)	ND (0.020)	ND (0.015)	ND (0.014)	ND (0.014)	ND (0.016)	ND (0.017)	ND (0.023)	ND (0.015)	*0.001*
1,2,4-Trimethylbenzene	ND (0.012)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.013)	ND (0.030)	ND (0.012)	ND (0.014)	ND (0.017)	ND (0.013)	ND (0.014)	ND (0.022)	ND (0.013)	ND (0.015)	ND (0.015)	*NA*
Total Metals by EPA 6010D/7471B (mg/kg)																
Arsenic	**3.7**	**2.7**	**3.1**	**8.1**	**3.8**	**1.6**	**4**	**4.5**	**4.6**	**2.2**	**3.5**	**3.3**	**3.9**	**5.2**	**17**	*20*
Barium	**31**	**20**	**28**	**74**	**17**	**27**	**45**	**80**	**98**	**30**	**39**	**29**	**28**	**78**	**315**	*41.3*
Cadmium	**0.44**	ND (0.20)	ND (0.17)	ND (0.28)	ND (0.21)	ND (0.23)	ND (0.19)	ND (0.25)	**5.4**	ND (0.19)	ND (0.17)	ND (0.19)	ND (0.17)	**0.61**	**1.4**	*1*
Chromium	**17**	**14**	**15**	**22**	**12**	**12**	**26**	**21**	**24**	**15**	**18**	**12**	**13**	**22**	**30**	*48*
Lead	**41.1**	**3.4**	**23**	**4.9**	**1.3**	**1.5**	**19**	**3.8**	**56**	**7.7**	**12**	**14**	**2.0**	**88**	**364**	*25*
Mercury	ND (0.26)	ND (0.28)	ND (0.24)	ND (0.44)	ND (0.30)	ND (0.32)	ND (0.28)	ND (0.34)	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.29)	ND (0.28)	ND (0.35)	ND (0.30)	*0.07*
Selenium	**1.1**	**1.0**	**0.89**	**2.35**	**0.86**	**0.98**	**1.2**	**2.5**	**1.6**	**1.3**	**1.5**	**1.1**	**1.4**	**1.0**	**1.2**	*10*
Silver	ND (0.094)	ND (0.10)	ND (0.084)	ND (0.14)	ND (0.10)	ND (0.11)	ND (0.094)	ND (0.13)	ND (0.092)	ND (0.094)	ND (0.087)	ND (0.095)	ND (0.087)	**0.20**	**0.47**	*0.61*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)																
Total PCBs	–	–	–	–	–	–	–	–	–	–	–	ND (0.11)	–	ND (0.13)	**0.23**	*0.05*
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg)																
Acenapthene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.093**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.156*
Acenaphthylene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	ND (0.092)	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*NA*
Anthracene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.84**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*7.134*
Benzyl Alcohol	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*NA*
Bis (2-Ethylhexyl) Phthalate	ND (0.118)	ND (0.122)	**0.12**	**0.33**	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*0.111*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	MW-1-15		MW-2-15		MW-3-15		MW-4-15		MW-5-15		MW-6-15			TP-1-15	TP-3-15	
Sample Date	9/18/15		9/18/15		9/18/15		9/22/15		9/22/15		9/22/15			9/23/15	9/23/15	
Depth (feet)	6.0	12.0	3.0	13	6.5	15.0	6.0	14.5	5.0	12.5	5.5	5.5 dup	14.0	5.5	6.0	
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg) (continued)																
Butyl Benzylphthalate	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*0.033*
Dibutyl Phthalate	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	**0.14**	ND (0.154)	**0.14**	**0.15**	**0.13**	**0.16**	**0.14**	**0.31**	**0.14**	*0.17*
Di-N-Octyl Phthalate	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*800*
Fluoranthene	ND (0.094)	ND (0.098)	**0.16**	ND (0.152)	ND (0.099)	ND (0.108)	**0.47**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	**0.11**	ND (0.094)	ND (0.110)	**0.15**	*0.296*
Fluorene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.18**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.080*
1-Methylnaphthalene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.18**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.236*
2-Methylnaphthalene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.16**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.236*
Naphthalene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	ND (0.092)	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.236*
4-Nitrophenol	ND (0.590)	ND (0.612)	ND (0.570)	ND (0.952)	ND (0.618)	ND (0.618)	**0.80**	ND (0.0445)	ND (0.036)	ND (0.038)	ND (0.553)	ND (0.594)	ND (0.588)	**0.041**	**0.049**	*NA*
p-Cresol	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*8,000*
Pentachlorophenol	ND (0.118)	ND (0.122)	ND (0.114)	ND (0.190)	ND (0.124)	ND (0.135)	ND (0.114)	ND (0.154)	ND (0.120)	ND (0.121)	ND (0.111)	ND (0.118)	ND (0.119)	ND (0.138)	ND (0.122)	*0.17*
Phenanthrene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.82**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.0067*
Phenol	ND (0.236)	ND (0.245)	ND (0.228)	ND (0.381)	ND (0.247)	ND (0.270)	ND (0.229)	ND (0.308)	ND (0.241)	ND (0.241)	ND (0.221)	ND (0.235)	ND (0.238)	ND (0.276)	ND (0.244)	*0.757*
Pyrene	ND (0.094)	ND (0.098)	**0.15**	ND (0.152)	ND (0.099)	ND (0.108)	**0.72**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	**0.14**	*0.546*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)																
Benzo(a)anthracene	**0.13**	ND (0.098)	**0.14**	ND (0.152)	ND (0.099)	ND (0.108)	**0.33**	ND (0.123)	**0.13**	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	**0.16**	ND (0.098)	*0.0067*
Benzo(a)pyrene	ND (0.094)	ND (0.098)	ND (0.091)	**0.52**	ND (0.099)	ND (0.108)	**0.20**	**0.27**	**0.17**	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.01*
Benzo(b)fluoranthene	ND (0.094)	ND (0.098)	**0.26**	ND (0.152)	ND (0.099)	ND (0.108)	**0.35**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	**0.22**	*0.012*
Benzo(j,k)fluoranthene	ND (0.094)	ND (0.098)	**0.11**	ND (0.152)	ND (0.099)	ND (0.108)	ND (0.092)	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.012*
Chrysene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	**0.30**	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.0067*
Dibenz(a,h)anthracene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	ND (0.008)	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.094)	ND (0.098)	ND (0.091)	ND (0.152)	ND (0.099)	ND (0.108)	ND (0.008)	ND (0.123)	ND (0.096)	ND (0.097)	ND (0.089)	ND (0.095)	ND (0.094)	ND (0.110)	ND (0.098)	*0.035*
Total cPAHs (TEQ)[b]	**0.093**	ND (0.089)	**0.10**	**0.58**	ND (0.089)	ND (0.098)	**0.28**	**0.27**	**0.18**	ND (0.087)	ND (0.080)	ND (0.085)	ND (0.086)	**0.10**	**0.099**	*0.020*
Herbicides by EPA 8151A (mg/kg)																
2,4-DB	ND (0.028)	ND (0.030)	ND (0.028)	ND (0.047)	ND (0.031)	ND (0.034)	ND (0.028)	ND (0.037)	ND (0.030)	ND (0.032)	ND (0.027)	**0.022**	**0.019**	**0.024**	ND (0.015)	*640*
2,4,5-T	ND (0.056	ND (0.059	ND (0.056	ND (0.094	ND (0.063)	ND (0.068)	ND (0.056)	ND (0.074)	ND (0.061)	ND (0.063)	ND (0.054)	**0.071**	ND (0.028)	ND (0.034)	ND (0.031)	*800*
Bentazon	ND (0.056	ND (0.059	ND (0.056	ND (0.094	ND (0.056	ND (0.068)	ND (0.056)	ND (0.074)	ND (0.061)	ND (0.063)	ND (0.054)	**0.071**	ND (0.028)	ND (0.034)	ND (0.031)	*2,400*
Chloramben	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.038)	ND (0.025)	ND (0.027)	ND (0.022)	ND (0.030)	ND (0.024)	ND (0.025)	ND (0.022)	**0.029**	**0.021**	**0.077**	**0.11**	*1,200*
Chlorthal-dimethyl	ND (0.028)	ND (0.030)	ND (0.028)	ND (0.047)	ND (0.031)	ND (0.034)	ND (0.028)	ND (0.037)	ND (0.030)	ND (0.032)	ND (0.027)	**0.022**	**0.019**	**0.024**	ND (0.015)	*800*
Dalapon	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.038)	ND (0.025)	ND (0.027)	ND (0.022)	ND (0.030)	ND (0.024)	ND (0.025)	ND (0.022)	**0.029**	**0.021**	**0.077**	**0.11**	*2,400*
Dinoseb	ND (0.056	ND (0.059	ND (0.056	ND (0.094	ND (0.056	ND (0.068)	ND (0.056)	ND (0.074)	ND (0.061)	ND (0.063)	ND (0.054)	**0.040**	**0.028**	**0.045**	**0.032**	*80*
Picloram	ND (0.056)	ND (0.059)	ND (0.056)	ND (0.094)	ND (0.063)	ND (0.068)	ND (0.056)	ND (0.074)	ND (0.061)	ND (0.063)	ND (0.054)	**0.040**	**0.028**	**0.045**	**0.032**	*5,600*
Silvex	ND (0.023	ND (0.024	ND (0.022	ND (0.038	ND (0.031)	ND (0.034)	ND (0.028)	ND (0.037)	ND (0.030)	ND (0.032)	ND (0.027)	**0.022**	**0.019**	**0.024**	ND (0.015)	*640*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															Site Screening Level[a] (mg/kg)
	MW-1-15		MW-2-15		MW-3-15		MW-4-15		MW-5-15		MW-6-15			TP-1-15	TP-3-15	
Sample Date	9/18/15		9/18/15		9/18/15		9/22/15		9/22/15		9/22/15			9/23/15	9/23/15	
Depth (feet)	6.0	12.0	3.0	13	6.5	15.0	6.0	14.5	5.0	12.5	5.5	5.5 dup	14.0	5.5	6.0	
Organochlorine Pesticides by EPA 8081 (mg/kg)																
4,4'-DDD	ND (0.024)	ND (0.023)	ND (0.022)	ND (0.035)	ND (0.024)	ND (0.025)	ND (0.020)	ND (0.030)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.021)	ND (0.024)	ND (0.023)	*0.01*
4,4'-DDE	ND (0.024)	ND (0.023)	ND (0.022)	ND (0.035)	ND (0.024)	ND (0.025)	ND (0.020)	ND (0.030)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.021)	ND (0.024)	ND (0.023)	*0.01*
Cis-Chlordane (alpha)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.018)	ND (0.012)	ND (0.013)	ND (0.010)	ND (0.015)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.012)	*0.01*
Endosulfan I	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.018)	ND (0.012)	ND (0.013)	ND (0.010)	ND (0.015)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.012)	*0.005*
Endosulfan II	ND (0.024)	ND (0.023)	ND (0.022)	ND (0.035)	ND (0.024)	ND (0.025)	ND (0.020)	ND (0.030)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.021)	ND (0.024)	ND (0.023)	*0.01*
Endosulfan Sulfate	ND (0.024)	ND (0.023)	ND (0.022)	ND (0.035)	ND (0.024)	ND (0.025)	ND (0.020)	ND (0.030)	ND (0.023)	ND (0.024)	ND (0.022)	ND (0.023)	ND (0.021)	ND (0.024)	ND (0.023)	*NA*
Gamma-Chlordane	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.018)	ND (0.012)	ND (0.013)	ND (0.010)	ND (0.015)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.012)	*0.01*
Methoxychlor	ND (0.059)	ND (0.058)	ND (0.054)	ND (0.088)	ND (0.059)	ND (0.063)	ND (0.049)	ND (0.075)	ND (0.058)	ND (0.060)	ND (0.056)	ND (0.058)	ND (0.053)	ND (0.059)	ND (0.058)	*0.01*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		Site Screening Level[a] (mg/kg)
	PP1		PP2		PP3		PP4		PP5		PP6		PP7		PP8		PP9		
Sample Date	5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/24/2017		
Depth (feet)	2.0	10	2.5	10	2.5	10	3.0	10	2.5	10	2.0	10	0	10	0.5	10	0	10	
Petroleum Hydrocarbons by Methods NWTPH-Gx and NWTPH-Dx (mg/kg)																			
Gasoline	ND (6.9)	ND (8.0)	ND (7.8)	ND (9.0)	ND (6.6)	ND (7.0)	ND (7.4)	ND (7.1)	ND (7.0)	ND (8.1)	ND (5.7)	ND (9.7)	ND (6.6)	ND (7.8)	ND (6.1)	ND (9.6)	ND (5.6)	ND (7.0)	*100*
Diesel Range Organics	ND (31)	ND (33)	ND (33)	ND (36)	ND (31)	ND (31)	ND (54)	ND (55)	ND (68)	ND (34)	ND (29)	ND (37)	ND (31)	ND (31)	ND (28)	ND (36)	ND (26)	ND (31)	*200*
Lube Oil Range Organics	ND (62)	ND (67)	ND (66)	ND (73)	**140**	ND (62)	**500**	**570**	**620**	ND (67)	**62**	ND (75)	**63**	ND (63)	ND (57)	ND (71)	ND (52)	ND (62)	*2,000*
Volatile Organic Compounds by EPA 8260C (mg/kg)																			
Benzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.001*
Toluene	**0.019**	**0.020**	**0.025**	**0.019**	ND (0.006)	**0.016**	**0.016**	**0.011**	ND (0.006)	**0.016**	**0.010**	**0.008**	ND (0.007)	**0.022**	**0.014**	**0.021**	**0.014**	**0.015**	*0.024*
Ethylbenzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.014*
Total Xylenes	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	*0.52*
Acetone	ND (0.011)	**0.051**	**0.071**	**0.088**	**0.058**	**0.028**	ND (0.011)	**0.051**	ND (0.012)	**0.046**	**0.011**	**0.10**	ND (0.014)	**0.019**	**0.027**	**0.016**	ND (0.013)	**0.015**	*2.07*
2-Butanone	ND (0.006)	**0.012**	**0.019**	**0.023**	**0.013**	ND (0.006)	ND (0.006)	**0.007**	ND (0.006)	**0.013**	ND (0.005)	**0.025**	ND (0.007)	ND (0.007)	ND (0.007)	ND (0.007)	ND (0.006)	ND (0.006)	*1.38*
Carbon Disulfide	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.006)	**0.002**	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.27*
Cis-1,2-dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.005*
Chlorobenzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.051*
Methylene Chloride	ND (0.011)	ND (0.013)	ND (0.012)	ND (0.014)	ND (0.012)	ND (0.012)	ND (0.011)	ND (0.013)	ND (0.012)	ND (0.013)	ND (0.001)	ND (0.015)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.014)	ND (0.013)	ND (0.012)	*0.005*
p-Isopropyltoluene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.069)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.057)	ND (0.001)	*0.229*
Styrene	**0.019**	**0.020**	**0.025**	**0.019**	ND (0.006)	**0.016**	**0.016**	**0.011**	ND (0.006)	**0.016**	**0.010**	**0.008**	ND (0.007)	**0.022**	**0.014**	**0.021**	**0.014**	**0.015**	*0.120*
Tetrachloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.0013*
Trichloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*0.001*
1,2,4-Trimethylbenzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002)	**0.012**	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	*NA*
Total Metals by EPA 6010D/7471B (mg/kg)																			
Arsenic	ND (12)	ND (13)	ND (13)	ND (15)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)	ND (13)	ND (12)	ND (15)	ND (12)	ND (13)	ND (11)	ND (14)	ND (10)	ND (12)	*20*
Cadmium	ND (0.62)	ND (0.67)	ND (0.66)	ND (0.73)	ND (0.63)	ND (0.62)	ND (0.63)	ND (0.62)	ND (0.65)	ND (0.67)	ND (0.58)	ND (0.74)	ND (0.61)	ND (0.63)	ND (0.57)	ND (0.71)	ND (0.52)	ND (0.62)	*1*
Chromium	**20**	**13**	**11**	**11**	**27**	**9.5**	**29**	**13**	**23**	**13**	**29**	**14**	**12**	**11**	**13**	**13**	**25**	**14**	*48*
Lead	**8.9**	ND (6.7)	ND (6.6)	ND (7.3)	**25**	ND (6.2)	**84**	ND (6.2)	**27**	ND (6.7)	**9.7**	ND (7.4)	ND (6.1)	ND (6.3)	ND (5.7)	ND (7.1)	ND (5.2)	ND (6.2)	*25*
Mercury	ND (0.31)	ND (0.33)	ND (0.33)	ND (0.36)	ND (0.31)	ND (0.31)	ND (0.32)	ND (0.31)	ND (0.33)	ND (0.34)	ND (0.29)	ND (0.37)	ND (0.31)	ND (0.31)	ND (0.28)	ND (0.36)	ND (0.26)	ND (0.31)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)																			
Total PCBs	–	–	–	–	ND (0.063)	–	**0.18**	ND (0.062)	ND (0.065)	–	**0.12**	–	ND (0.061)	–	–	–	–	–	*0.05*
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg)																			
Acenapthene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.156*
Acenaphthylene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*NA*
Anthracene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.009**	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*7.134*
Benzyl Alcohol	ND (0.210)	ND (0.220)	ND (0.220)	ND (0.240)	ND (0.210)	ND (0.210)	ND (0.210)	ND (0.210)	ND (0.220)	ND (0.220)	ND (0.190)	ND (0.250)	ND (0.200)	ND (0.210)	**0.70**	ND (0.240)	ND (0.170)	ND (0.210)	*NA*
Bis (2-Ethylhexyl) Phthalate	**0.052**	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*0.111*
Butyl Benzylphthalate	ND (0.041)	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*0.033*
Dibutyl Phthalate	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.19)	ND (0.25)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.24)	ND (0.17)	ND (0.21)	*0.17*

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		Site Screening Level[a] (mg/kg)
	PP1		PP2		PP3		PP4		PP5		PP6		PP7		PP8		PP9		
Sample Date	5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/24/2017		
Depth (feet)	2.0	10	2.5	10	2.5	10	3.0	10	2.5	10	2.0	10	0	10	0.5	10	0	10	
Semi-Volatile Organic Compounds by EPA 8270D/SIM (mg/kg) (continued)																			
Di-N-Octyl Phthalate	ND (0.041)	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*800*
Fluoranthene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.042**	ND (0.008)	ND (0.009)	ND (0.009)	**0.013**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.296*
Fluorene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.080*
1-Methylnaphthalene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.236*
2-Methylnaphthalene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.017**	**0.010**	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	*0.236*
Naphthalene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.236*
4-Nitrophenol	ND (0.041)	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*NA*
p-Cresol	ND (0.041)	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*8,000*
Pentachlorophenol	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.19)	ND (0.25)	ND (0.20)	ND (0.21)	ND (0.19)	ND (0.24)	ND (0.17)	ND (0.21)	*0.17*
Phenanthrene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.028**	**0.011**	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.0067*
Phenol	ND (0.041)	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*0.757*
Pyrene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.046**	ND (0.008)	ND (0.009)	ND (0.009)	**0.015**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.546*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)																			
Benzo(a)anthracene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.029**	ND (0.008)	ND (0.009)	ND (0.009)	**0.008**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.0067*
Benzo(a)pyrene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.034**	ND (0.008)	ND (0.009)	ND (0.009)	**0.012**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.01*
Benzo(b)fluoranthene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.042**	ND (0.008)	ND (0.009)	ND (0.009)	**0.016**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.012*
Benzo(j,k)fluoranthene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.014**	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.012*
Chrysene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.037**	**0.014**	ND (0.009)	ND (0.009)	**0.012**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.0067*
Dibenz(a,h)anthracene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.008)	**0.027**	ND (0.008)	ND (0.009)	ND (0.009)	**0.009**	ND (0.010)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.007)	ND (0.008)	*0.035*
Total cPAHs (TEQ)[b]	**ND (0.006)**	**ND (0.007)**	**ND (0.007)**	**ND (0.007)**	**ND (0.006)**	**ND (0.006)**	**0.046**	**0.006**	**ND (0.007)**	**ND (0.007)**	**0.016**	**ND (0.008)**	**ND (0.006)**	**ND (0.006)**	**ND (0.006)**	**ND (0.007)**	**ND (0.005)**	**ND (0.006)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location														Site Screening Level[a] (mg/kg)
	PP10		PP11		PP12			PP13	PP14		PP15		PP16		
Sample Date	2/28/18		2/28/18		2/21/18			2/21/18	2/28/18		2/21/18		2/28/18		
Depth (feet)	11	17	5	10	2	7	10	10	5	12	6	12	1	11	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)															
Diesel Range Organics	–	–	–	–	ND (31)	ND (130)	ND (32)	–	–	–	**81**	–	ND (320)	–	*200*
Lube Oil Range Organics	–	–	–	–	**69**	**800**	**82**	–	–	–	**550**	–	**3,200**	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)															
Gasoline	–	–	–	–	–	–	–	–	–	–	–	–	ND (5.3)	–	*100*
Benzene	–	–	–	–	–	–	–	–	–	–	–	–	ND (0.020)	–	*0.001*
Toluene	–	–	–	–	–	–	–	–	–	–	–	–	ND (0.053)	–	*0.024*
Ethylbenzene	–	–	–	–	–	–	–	–	–	–	–	–	ND (0.053)	–	*0.014*
Total Xylenes	–	–	–	–	–	–	–	–	–	–	–	–	ND (0.11)	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)															
Arsenic	ND (16)	ND (12)	**19**	ND (13)	ND (12)	**16**	ND (13)	ND (12)	ND (12)	ND (13)	ND (15)	**24**	ND (11)	ND (12)	*20*
Cadmium	ND (0.82)	ND (0.62)	**1.7**	**0.72**	ND (0.62)	**4.1**	ND (0.64)	**3.5**	ND (0.62)	ND (0.65)	**0.79**	**1.0**	ND (0.53)	**1.2**	*1*
Chromium	**22**	**15**	**39**	**36**	**15**	**31**	**25**	**29**	**12**	**11**	**22**	**34**	**20**	**24**	*48*
Lead	**15**	ND (6.2)	**840**	**480**	**8.8**	**500**	**30**	**330**	ND (6.2)	ND (6.5)	**75**	**270**	**17**	**200**	*25*
Mercury	ND (0.41)	ND (0.31)	**0.41**	**1.2**	ND (0.31)	**0.76**	ND (0.32)	ND (0.31)	ND (0.31)	ND (0.32)	ND (0.38)	ND (0.30)	ND (0.27)	ND (0.31)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)															
Total PCBs	–	–	–	–	ND (0.062)	**0.29**	ND (0.064)	–	–	–	ND (0.076)	–	ND (0.053)	–	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)															
Benzo(a)anthracene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	**0.008**	**0.010**	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	**0.20**	**0.12**	*0.0067*
Benzo(a)pyrene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	**0.015**	**0.011**	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	**0.058**	**0.10**	*0.01*
Benzo(b)fluoranthene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	**0.016**	**0.014**	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	**0.086**	**0.15**	*0.012*
Benzo(j,k)fluoranthene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.036)	**0.049**	*0.012*
Chrysene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	**0.014**	**0.013**	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	**0.060**	**0.11**	*0.0067*
Dibenz(a,h)anthracene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.010)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.036)	**0.015**	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.011)	ND (0.008)	ND (0.009)	ND (0.008)	**0.012**	ND (0.010)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.010)	ND (0.008)	**0.036**	**0.069**	*0.035*
Total cPAHs (TEQ)[b]	**ND (0.008)**	**ND (0.006)**	**ND (0.007)**	**ND (0.006)**	**0.020**	**0.015**	**ND (0.007)**	**ND (0.006)**	**ND (0.006)**	**ND (0.007)**	**ND (0.008)**	**ND (0.060)**	**0.094**	**0.14**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location													Site Screening Level[a] (mg/kg)
	PP17			PP18			PP19			PP20				
Sample Date	2/28/18			2/28/18			2/21/18			2/28/18				
Depth (feet)	1	5	10	3	5	10	7	10	15	2	5	10	15	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)														
Diesel Range Organics	–	–	–	–	–	–	**400**	–	–	ND (29)	ND (200)	ND (32)	ND (58)	*200*
Lube Oil Range Organics	–	–	–	–	–	–	**370**	–	–	**380**	**1,300**	**95**	**320**	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)														
Gasoline	–	–	–	–	–	–	–	–	–	–	–	–	–	*100*
Benzene	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.001*
Toluene	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.024*
Ethylbenzene	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.014*
Total Xylenes	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)														
Arsenic	**19**	ND (12)	ND (12)	ND (12)	ND (20)	ND (13)	ND (13)	ND (12)	ND (12)	ND (12)	ND (15)	ND (13)	ND (14)	*20*
Cadmium	**4.0**	**4.5**	**1.6**	**2.4**	**3.1**	**1.2**	ND (0.63)	**0.95**	**3.2**	ND (0.58)	**3.7**	ND (0.64)	ND (0.70)	*1*
Chromium	**57**	**59**	**24**	**63**	**39**	**40**	**17**	**30**	**17**	**15**	**53**	**22**	**15**	*48*
Lead	**7,300**	**380**	**29**	**130**	**230**	**97**	**82**	**340**	**96**	**28**	**630**	**270**	**330**	*25*
Mercury	ND (0.32)	ND (0.30)	ND (0.29)	ND (0.31)	ND (0.49)	ND (0.33)	ND (0.32)	ND (0.29)	ND (0.30)	ND (0.29)	ND (0.37)	ND (0.32)	ND (0.35)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)														
Total PCBs	–	–	–	–	–	–	–	–	–	ND (0.058)	**0.74**	ND (0.064)	ND (0.070)	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)														
Benzo(a)anthracene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	**0.0080**	**0.23**	ND (0.043)	ND (0.046)	*0.0067*
Benzo(a)pyrene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	**0.013**	**0.22**	ND (0.043)	ND (0.046)	*0.01*
Benzo(b)fluoranthene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	**0.023**	**0.20**	ND (0.043)	ND (0.046)	*0.012*
Benzo(j,k)fluoranthene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.0077)	ND (0.098)	ND (0.043)	ND (0.046)	*0.012*
Chrysene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	**0.019**	**0.37**	ND (0.043)	ND (0.046)	*0.0067*
Dibenz(a,h)anthracene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.0077)	ND (0.098)	ND (0.043)	ND (0.046)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	ND (0.013)	ND (0.009)	ND (0.008)	ND (0.008)	ND (0.008)	**0.013**	**0.12**	ND (0.043)	ND (0.046)	*0.035*
Total cPAHs (TEQ)[b]	**ND (0.007)**	**ND (0.006)**	**ND (0.006)**	**ND (0.006)**	**ND (0.010)**	**ND (0.007)**	**ND (0.006)**	**ND (0.006)**	**ND (0.006)**	**0.018**	**0.29**	**ND (0.032)**	**ND (0.035)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location													Site Screening Level[a] (mg/kg)
	PP21				PP22			PP23				PP24		
Sample Date					2/21/18			2/28/18				2/28/18		
Depth (feet)	2	6	10	15	4	9	13	2	5	10	15	7	10	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)														
Diesel Range Organics	**57**	**150**	**1,800**	**110**	–	–	–	ND (29)	–	–	–	ND (35)	–	*200*
Lube Oil Range Organics	**540**	**960**	**10,000**	**1,200**	–	–	–	**200**	–	–	–	**130**	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)														
Gasoline	–	–	**39**	–	–	–	–	ND (13)	–	–	–	ND (7.5)	–	*100*
Benzene	–	–	ND (0.024)	–	–	–	–	ND (0.025)	–	–	–	ND (0.020)	–	*0.001*
Toluene	–	–	ND (0.12)	–	–	–	–	ND (0.13)	–	–	–	ND (0.075)	–	*0.024*
Ethylbenzene	–	–	ND (0.12)	–	–	–	–	ND (0.13)	–	–	–	ND (0.075)	–	*0.014*
Total Xylenes	–	–	ND (0.24)	–	–	–	–	ND (0.26)	–	–	–	ND (0.15)	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)														
Arsenic	ND (13)	**17**	ND (16)	ND (14)	ND (13)	ND (12)	ND (12)	ND (12)	ND (11)	ND (13)	ND (15)	ND (14)	ND (12)	*20*
Cadmium	**0.90**	**27**	**6.2**	ND (1.4)	ND (0.64)	ND (0.61)	**2.4**	ND (0.59)	ND (0.55)	ND (0.67)	ND (0.76)	**2.3**	ND (0.58)	*1*
Chromium	**30**	**74**	**23**	**20**	**9.9**	**9.9**	**36**	**19**	**15**	**13**	**18**	**18**	**10**	*48*
Lead	**740**	**2,800**	**180**	ND (14)	ND (6.4)	ND (6.1)	**270**	**460**	**97**	ND (6.7)	**220**	**480**	ND (5.8)	*25*
Mercury	**0.87**	ND (0.51)	ND (0.410	ND (0.68)	ND (0.32)	ND (0.31)	ND (0.29)	ND (0.29)	ND (0.27)	ND (0.34)	ND (0.38)	ND (0.35)	ND (0.29)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)														
Total PCBs	**0.52**	**0.27**	**1.33**	ND (0.14)	–	–	–	ND (0.059)	–	–	–	ND (0.069)	–	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)														
Benzo(a)anthracene	**0.076**	**0.14**	**0.90**	ND (0.018)	**0.056**	ND (0.004)	ND (0.008)	**0.012**	**0.18**	ND (0.009)	ND (0.010)	ND (0.018)	ND (0.008)	*0.0067*
Benzo(a)pyrene	**0.062**	**0.13**	**0.85**	ND (0.018)	**0.064**	ND (0.004)	ND (0.008)	**0.011**	**0.044**	ND (0.009)	ND (0.010)	ND (0.018)	ND (0.008)	*0.01*
Benzo(b)fluoranthene	**0.11**	**0.22**	**1.3**	ND (0.018)	**0.088**	ND (0.004)	ND (0.008)	**0.017**	**0.10**	ND (0.009)	ND (0.010)	**0.031**	ND (0.008)	*0.012*
Benzo(j,k)fluoranthene	**0.033**	**0.077**	**0.30**	ND (0.018)	**0.029**	ND (0.004)	ND (0.008)	ND (0.0078)	ND (0.015)	ND (0.009)	ND (0.010)	ND (0.018)	ND (0.008)	*0.012*
Chrysene	**0.097**	**0.18**	**1.0**	ND (0.018)	**0.086**	ND (0.004)	ND (0.008)	**0.017**	**0.044**	ND (0.009)	ND (0.010)	**0.035**	ND (0.008)	*0.0067*
Dibenz(a,h)anthracene	**0.010**	**0.024**	**0.19**	ND (0.018)	**0.017**	ND (0.004)	ND (0.008)	ND (0.0078)	**0.019**	ND (0.009)	ND (0.010)	ND (0.018)	ND (0.008)	*0.018*
Indeno(1,2,3-cd)pyrene	**0.040**	**0.11**	**0.71**	ND (0.018)	**0.051**	ND (0.004)	ND (0.008)	**0.0082**	**0.026**	ND (0.009)	ND (0.010)	ND (0.018)	ND (0.008)	*0.035*
Total cPAHs (TEQ)[b]	**0.090**	**0.19**	**1.2**	**ND (0.014)**	**0.089**	**ND (0.006)**	**ND (0.006)**	**0.0059**	**0.078**	**ND (0.007)**	**ND (0.008)**	**0.016**	**ND (0.006)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location														Site Screening Level[a] (mg/kg)
	PP25			PP26		PP27		PP28		PP29			PP30		
Sample Date	2/21/18			2/21/18		2/28/18		3/1/18		3/1/18			2/28/18		
Depth (feet)	7	13	17	11	17	7	10	8	10	3	5	10	5	10	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)															
Diesel Range Organics	–	**1,400**	**49**	–	–	–	–	–	–	ND (280)	–	–	**71**	–	*200*
Lube Oil Range Organics	–	**1,200**	**130**	–	–	–	–	–	–	**5,900**	–	–	**630**	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)															
Gasoline	–	**400**	ND (15)	–	–	–	–	–	–	–	–	–		–	*100*
Benzene	–	ND (0.026)	ND (0.15)	–	–	–	–	–	–	–	–	–		–	*0.001*
Toluene	–	ND (0.13)	ND (0.15)	–	–	–	–	–	–	–	–	–		–	*0.024*
Ethylbenzene	–	ND (0.13)	ND (0.15)	–	–	–	–	–	–	–	–	–		–	*0.014*
Total Xylenes	–	ND (0.13)	ND (0.15)	–	–	–	–	–	–	–	–	–		–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)															
Arsenic	ND (14)	ND (17)	ND (19)	ND (12)	ND (15)	ND (15)	ND (12)	ND (13)	ND (12)	ND (11)	ND (13)	ND (13)	ND (13)	ND (11)	*20*
Cadmium	ND (0.68)	**1.9**	ND (0.93)	ND (0.58)	ND (0.77)	**0.88**	ND (0.61)	ND (0.63)	ND (0.62)	ND (0.56)	ND (0.66)	ND (0.66)	**0.83**	ND (0.57)	*1*
Chromium	**13**	**38**	**28**	**21**	**15**	**28**	**12**	**25**	**23**	**25**	**15**	**16**	**16**	**14**	*48*
Lead	**8.8**	**140**	ND (9.3)	ND (5.8)	ND (7.7)	**180**	ND (6.1)	**49**	**6.8**	**8.8**	ND (6.5)	ND (6.6)	**31**	ND (5.7)	*25*
Mercury	ND (0.34)	ND (0.42)	ND (0.47)	ND (0.29)	ND (0.39)	ND (0.36)	ND (0.30)	ND (0.31)	ND (0.31)	ND (0.28)	ND (0.32)	ND (0.33)	ND (0.32)	ND (0.28)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)															
Total PCBs	–	**1.36**	ND (0.093)	–	–	–	–	–	–	ND (0.056)	–	–	ND (0.064)	–	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)															
Benzo(a)anthracene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	**0.036**	ND (0.008)	ND (0.008)	**0.011**	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.0067*
Benzo(a)pyrene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	**0.038**	ND (0.008)	ND (0.008)	**0.010**	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.01*
Benzo(b)fluoranthene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	**0.049**	ND (0.008)	ND (0.008)	**0.0084**	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.012*
Benzo(j,k)fluoranthene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	**0.014**	ND (0.008)	ND (0.008)	ND (0.0083)	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.012*
Chrysene	ND (0.009)	**0.012**	ND (0.012)	ND (0.008)	ND (0.010)	**0.051**	ND (0.008)	ND (0.008)	**0.011**	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.0067*
Dibenz(a,h)anthracene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	ND (0.0097)	ND (0.008)	ND (0.008)	ND (0.0083)	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.009)	ND (0.011)	ND (0.012)	ND (0.008)	ND (0.010)	**0.025**	ND (0.008)	ND (0.008)	ND (0.0083)	ND (0.038)	ND (0.009)	ND (0.009)	ND (0.085)	ND (0.008)	*0.035*
Total cPAHs (TEQ)[b]	**ND (0.007)**	**0.008**	**ND (0.009)**	**ND (0.006)**	**ND (0.008)**	**0.051**	**ND (0.006)**	**ND (0.006)**	**0.013**	**ND (0.029)**	**ND (0.007)**	**ND (0.007)**	**ND (0.064)**	**ND (0.006)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location													Site Screening Level[a] (mg/kg)
	PP31		PP32			PP33			PP34		B-04	B-05		
Sample Date	3/1/18		3/1/18			3/1/18			2/21/18		2/21/18	2/20/18		
Depth (feet)	3	11	4	7	10	3	5	10	8	15	12.5	7.5	12.5	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)														
Diesel Range Organics	–	–	–	ND (60)	–	ND (750)	–	–	–	–	–	**440**	–	*200*
Lube Oil Range Organics	–	–	–	**650**	–	**12,000**	–	–	–	–	–	ND (220)	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)														
Gasoline	–	–	–	–	ND (13)	ND (12)	–	–	–	–	–	–	–	*100*
Benzene	–	–	–	–	ND (0.026)	ND (0.024)	–	–	–	–	–	–	–	*0.001*
Toluene	–	–	–	–	ND (0.13)	ND (0.12)	–	–	–	–	–	–	–	*0.024*
Ethylbenzene	–	–	–	–	ND (0.13)	ND (0.12)	–	–	–	–	–	–	–	*0.014*
Total Xylenes	–	–	–	–	ND (0.26)	ND (0.24)	–	–	–	–	–	–	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)														
Arsenic	ND (11)	ND (12)	ND (12)	ND (12)	ND (12)	ND (11)	ND (12)	ND (13)	ND (12)	–	ND (13)	ND (12)	ND (13)	*20*
Cadmium	ND (0.56)	ND (0.62)	ND (0.62)	ND (0.61)	ND (0.61)	ND (0.56)	ND (0.59)	ND (0.67)	ND (0.61)	–	ND (0.64)	ND (0.60)	ND (0.63)	*1*
Chromium	**21**	**12**	**16**	**15**	**20**	**17**	**19**	**13**	**12**	–	**16**	**430**	**11**	*48*
Lead	**12**	ND (6.2)	**12**	**15**	ND (6.1)	**8.1**	**7.3**	ND (6.7)	**6.1**	–	ND (6.4)	ND (6.0)	ND (6.3)	*25*
Mercury	ND (0.28)	ND (0.31)	ND (0.31)	ND (0.31)	ND (0.31)	ND (0.28)	ND (0.30)	ND (0.34)	ND (0.30)	–	ND (0.32)	ND (0.30)	ND (0.32)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)														
Total PCBs	–	–	–	ND (0.061)	ND (0.061)	ND (0.056)	–	–	–	–	–	ND (0.060)	–	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)														
Benzo(a)anthracene	ND (0.008)	ND (0.008)	**0.010**	**0.038**	ND (0.008)	ND (0.075)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.0067*
Benzo(a)pyrene	ND (0.008)	ND (0.008)	**0.011**	**0.036**	ND (0.008)	ND (0.075)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.01*
Benzo(b)fluoranthene	**0.0093**	ND (0.008)	**0.024**	**0.051**	ND (0.008)	**0.14**	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.012*
Benzo(j,k)fluoranthene	ND (0.008)	ND (0.008)	ND (0.008)	**0.013**	ND (0.008)	ND (0.075)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.012*
Chrysene	ND (0.008)	ND (0.008)	**0.015**	**0.055**	ND (0.008)	**0.19**	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.0067*
Dibenz(a,h)anthracene	ND (0.008)	ND (0.008)	ND (0.008)	**0.009**	ND (0.008)	ND (0.075)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.008)	ND (0.008)	**0.0095**	**0.025**	ND (0.008)	ND (0.075)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.008)	*0.035*
Total cPAHs (TEQ)[b]	**0.006**	**ND (0.006)**	**0.016**	**0.050**	**ND (0.006)**	**0.068**	**ND (0.006)**	**ND (0.007)**	**ND (0.006)**	**ND (0.007)**	**ND (0.006)**	**ND (0.006)**	**ND (0.006)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific Park City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location														Site Screening Level[a] (mg/kg)
	B-06			B-07			B-08			B-09		B-10	B-11		
Sample Date	2/22/18			2/27/18			2/26/18			2/22/18		2/26/18	2/26/18		
Depth (feet)	2.5	10	12.5	2.5	7.5	12.5	5	7.5	12.5	5	15	7.5	2.5	12.5	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)															
Diesel Range Organics	ND (31)	ND (31)	ND (32)	ND (150)	ND (310)	ND (33)	–	–	–	–	–	ND (30)	ND (33)	–	*200*
Lube Oil Range Organics	**150**	ND (61)	**130**	**4,400**	**1,800**	**180**	–	–	–	–	–	**88**	**380**	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)															
Gasoline	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*100*
Benzene	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.001*
Toluene	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.024*
Ethylbenzene	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.014*
Total Xylenes	–	–	–	–	–	–	–	–	–	–	–	–	–	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)															
Arsenic	ND (12)	ND (13)	ND (13)	ND (12)	ND (12)	ND (13)	ND (14)	–	ND (13)	ND (15)	ND (16)	ND (12)	ND (13)	ND (12)	*20*
Cadmium	**0.75**	ND (0.61)	ND (0.64)	ND (0.58)	ND (0.62)	ND (0.66)	ND (0.69)	–	ND (0.67)	ND (0.77)	ND (0.78)	ND (0.59)	ND (0.65)	ND (0.60)	*1*
Chromium	**13**	**13**	**11**	**15**	**14**	**10**	**16**	–	**18**	**16**	**24**	**8.0**	**16**	**13**	*48*
Lead	**20**	ND (6.1)	ND (6.4)	**6.0**	ND (6.2)	ND (6.6)	**6.9**	–	ND (6.7)	**20**	ND (7.8)	ND (5.9)	**15**	ND (6.0)	*25*
Mercury	ND (0.31)	ND (0.31)	ND (0.32)	ND (0.29)	ND (0.31)	ND (0.33)	ND (0.35)	–	ND (0.34)	ND (0.39)	ND (0.39)	ND (0.29)	ND (0.32)	ND (0.30)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)															
Total PCBs	ND (0.062)	–	ND (0.064)	ND (0.058)	ND (0.062)	ND (0.066)	–	–	–	–	–	ND (0.059)	ND (0.26)	–	*0.05*
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)															
Benzo(a)anthracene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	ND (0.010)	ND (0.010)	ND (0.008)	**0.016**	ND (0.008)	*0.0067*
Benzo(a)pyrene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	ND (0.010)	ND (0.010)	ND (0.008)	**0.019**	ND (0.008)	*0.01*
Benzo(b)fluoranthene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	**0.011**	ND (0.010)	ND (0.008)	**0.053**	ND (0.008)	*0.012*
Benzo(j,k)fluoranthene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	ND (0.010)	ND (0.010)	ND (0.008)	**0.014**	ND (0.008)	*0.012*
Chrysene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	**0.012**	ND (0.010)	ND (0.008)	**0.035**	ND (0.008)	*0.0067*
Dibenz(a,h)anthracene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	ND (0.010)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.008)	ND (0.008)	ND (0.009)	ND (0.039)	ND (0.041)	ND (0.009)	ND (0.009)	–	ND (0.009)	ND (0.010)	ND (0.010)	ND (0.008)	**0.017**	ND (0.008)	*0.035*
Total cPAHs (TEQ)[b]	**ND (0.006)**	**ND (0.006)**	**ND (0.007)**	**ND (0.029)**	**ND (0.031)**	**ND (0.007)**	**ND (0.007)**	–	**ND (0.007)**	**0.008**	**ND (0.008)**	**ND (0.006)**	**0.030**	**ND (0.006)**	*0.020*

SEE END OF TABLE 7 FOR COMPLETE LIST OF TABLE NOTES.

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

Table 7 (continued). Summary of Soil Sample Results, Pacific Park City Park Remedial Investigation, Pacific, Washington.

Analytical Parameter	Sample Location												Site Screening Level[a] (mg/kg)
	B-13		B-14		B-15			B-16			B-17		
Sample Date	2/23/18		2/21/18		2/21/18			2/23/18			2/20/18		
Depth (feet)	7.5	15	5	10	5	7.5	15	2.5	7.5	17.5	10	15	
Petroleum Hydrocarbons by Method NWTPH-Dx (mg/kg)													
Diesel Range Organics	–	–	–	–	–	–	–	–	–	–	–	–	*200*
Lube Oil Range Organics	–	–	–	–	–	–	–	–	–	–	–	–	*2,000*
Volatile Petroleum Products Including Gasoline, Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) by NWTPH-GX (mg/kg)													
Gasoline	–	–	–	–	–	–	–	–	–	–	–	–	*100*
Benzene	–	–	–	–	–	–	–	–	–	–	–	–	*0.001*
Toluene	–	–	–	–	–	–	–	–	–	–	–	–	*0.024*
Ethylbenzene	–	–	–	–	–	–	–	–	–	–	–	–	*0.014*
Total Xylenes	–	–	–	–	–	–	–	–	–	–	–	–	*0.52*
Total Metals by EPA 6010D/7471B (mg/kg)													
Arsenic	ND (17)	ND (13)	ND (13)	ND (12)	ND (17)	ND (15)	ND (13)	ND (14)	ND (12)	ND (13)	ND (12)	ND (11)	*20*
Cadmium	ND (0.84)	ND (0.66)	ND (0.67)	ND (0.62)	**1.3**	ND (0.76)	ND (0.67)	ND (0.71)	**1.6**	ND (0.66)	ND (0.61)	ND (0.54)	*1*
Chromium	**24**	**8.9**	**23**	**17**	**35**	**31**	**17**	**18**	**28**	**16**	**23**	**9.6**	*48*
Lead	**12**	ND (6.6)	**31**	**33**	**75**	**49**	ND (6.7)	**9.2**	**68**	ND (6.6)	ND (6.1)	ND (5.4)	*25*
Mercury	ND (0.42)	ND (0.33)	ND (0.34)	ND (0.31)	ND (0.43)	ND (0.38)	ND (0.34)	ND (0.36)	ND (0.29)	ND (0.33)	ND (0.31)	ND (0.27)	*0.07*
Polychlorinated Biphenyls (PCBs) by EPA 8082A (mg/kg)													
Total PCBs	–	–	–	–	–	–	–	–	–	–	–	–	0.05
Carcinogenic Polycyclic Aromatic Hydrocarbons (cPAHs) by EPA 8270D/SIM (mg/kg)													
Benzo(a)anthracene	ND (0.011)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.0067*
Benzo(a)pyrene	ND (0.011)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.01*
Benzo(b)fluoranthene	**0.014**	ND (0.009)	ND (0.009)	ND (0.008)	**0.014**	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.012*
Benzo(j,k)fluoranthene	ND (0.011)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.012*
Chrysene	**0.016**	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.0067*
Dibenz(a,h)anthracene	ND (0.011)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.018*
Indeno(1,2,3-cd)pyrene	ND (0.011)	ND (0.009)	ND (0.009)	ND (0.008)	ND (0.012)	ND (0.010)	ND (0.009)	ND (0.010)	ND (0.008)	ND (0.009)	ND (0.008)	ND (0.007)	*0.035*
Total cPAHs (TEQ)[b]	**0.009**	**ND (0.007)**	**ND (0.007)**	**ND (0.006)**	**0.010**	**ND (0.008)**	**ND (0.007)**	**ND (0.007)**	**ND (0.006)**	**ND (0.067)**	**ND (0.006)**	**ND (0.006)**	*0.020*

BOLD values detected above the reporting limit.

Shaded values exceed the site screening level

Native Soil
Fill/Refuse

[a] Refer to Table 6 "Proposed Site Screening Levels for Soil" for notes on how each screening level was selected.

[b] Total carcinogenic polycyclic aromatic hydrocarbons (cPAHs) toxicity equivalency (TEQ) concentration was calculated using one-half the reporting limit for compounds that were not detected above the reporting limit.

mg/kg = milligrams per kilogram

ND = not detected above laboratory reporting limits (shown in parentheses)

– = not analyzed or not applicable

Table 8. Summary of Soil Vapor Monitoring Data, Pacific City Park Remedial Investigation, Pacific, Washington.

	Sample Identification[a]																					
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**a**	**b**	**c**	**d**	**e**	**MW6**	**MW9**	**MW6**	**MW9**	**MW1**	**MW6**	**MW9**
Sample Date	**10/23/1984**															**3/23/18**		**6/21/18**		**9/26/18**		
Parameter																						
Methane (% Vol	Trace	0	0	0	0.3	0	0	0	NA	0	0.4	Trace	0.2	Trace	Trace	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trace Gas[b] (ppm)	0.1	0.3	-0.1	0	6.2	0	0	NA	0	-0.1	0	0	0	0.1	0	NA	NA	NA	NA	NA	NA	NA
H2S (ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0

[a] Samples 1 through 10, and a through e by King County 1984. Samples MW6 and MW9 by Herrera 2018.

[b] Trace gases include any organic or inorganic gases with an ionization potential <10.2 electron volts (eV) detected by photo-ionization detector (PID).

NA = not analyzed

ppm = parts per million

H_2S = hydrogen sulfide

APPENDIX A

Soil Boring Logs

SOIL PROBE BORING LOG

HERRERA

Boring ID PP1
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	NW corner of park	Sampling method	5 ft core with plastic liner
Client	King County		~ 50 feet west of MW-2	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20/50	▼ 1.8		ML	Grass/Brown sandy SILT, trace of gravel, FILL, damp
				1		
						Brown SILT, trace of sand, FILL, damp Static water level measured at 1.8 feet. Soil sample PP1-2 collected at 9:20
				2		
				3		
					SM	Brown silty SAND, trace of gravel, FILL,wet
				4		
				5		
0	5-foot core with liner	100			ML	Dark Brown-gray sandy SILT, wet
				6		
				7		
				8		
					SM	Dark Brown-black silty SAND, wet
				9		
				10	PT	Dark Brown-gray PEAT, damp
0	5-foot core with liner	100			SM	Soil sample PP1-10 collected at 9:45 Dark Brown-black silty SAND, wet
				11		
				12		
					ML	8” Dark Brown SILT, trace of sand, wet
				13	SM	Dark Brown-black, silty SAND, wet
				14	ML	Brown-gray SILT, damp
					ML/PT	Brown SILT, and PEAT, damp
				15	ML	Brown-gray SILT, damp
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP1-W at 10:00. Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP2
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SE corner of Megan's Court	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0.1	5-foot core with liner	60	▽ 2.5	1	ML	Grass/Brown gravelly sandy SILT, FILL, damp
				2		Brown sandy SILT, FILL, damp
				3, 4, 5		Soil sample PP2-2.5 collected at 10:35 Groundwater encountered during drilling Dark Brown sandy SILT, wet
0	5-foot core with liner	50		6, 7		
				8, 9	SM	Dark Brown silty SAND, wet
				10	ML	Dark Brown sandy SILT, trace of gravel, wet
0	5-foot core with liner	100		11, 12	SM	Soil sample PP2-10 collected at 10:50 Dark Brown-black silty SAND, wet
				13, 14, 15	MH MH/PT	Greenish-gray silty CLAY, with red-brown mottling, damp Occasional 1-inch peat lenses
						Initially set temporary screen from 5 feet to 15 feet, raised screen to 2 feet to 12 feet. Very slow yielding, took 2.5 hours to collect water Sample. Purged approximately 1-quart prior to sample collection. Began water sample PP2-W collection at 11:00. Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP3
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	East side of ditch	Sampling method	5 ft core with plastic liner
Client	King County		~ 190 feet north of PP4	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40/35	▼ 3.1	1	ML	Grass/Brown gravelly sandy SILT, FILL, damp
				2		Brown gravelly SILT, FILL, damp
				3	ML	Brown gravelly SILT, FILL, wet. Soil sample PP3-2.5 collected at 10:05 Static water level measured at 3.1 feet.
				4		
				5		
0	5-foot core with liner	50/55		6		
				7	ML	Brown sandy SILT, FILL, wet
				8	SP	Dark Brown-black fine to medium SAND, trace of gravel, wet
				9		
				10		
0	5-foot core with liner	0/100		11		Soil sample PP3-10 collected at 10:15
				12		
				13		
				14		
				15		Greenish-gray sandy SILT, wet
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP3-W at 10:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP4
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	East end of 4th Avenue SE in grass	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.2		SM	Grass/Dark Brown gravelly silty SAND, some concrete, FILL, damp
				1		
					SW	4" zone of medium silty SAND, FILL, damp
				2		
				3	ML	Brown gravelly sandy SILT, red-brown mottling, FILL, damp. Soil sample PP4-3 collected at 8:30
				4	SW	Static water level measured at 3.2 feet. Dark Brown-black gravelly SAND, FILL, wet
				5		
0	5-foot core with liner	55			SM	Gray-black gravelly silty SAND, piece of asphalt, FILL, wet
				6		
				7		
					ML	Dark Brown-black sandy SILT, wet
				8		
				9	SP	Dark Brown-black fine to medium SAND, wet
				10		Soil sample PP4-10 collected at 8:40
0	5-foot core with liner	100		11		
				12		
					ML	Dark Brown SILT, wet
				13		
					SM	Dark Brown silty SAND, wet
				14	ML	Dark Brown SILT, organic material, damp
				15		
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP4-W at 9:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP5
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~ 215 feet north of PP6,	Sampling method	5 ft core with plastic liner
Client	King County		east side of HESCOs	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.0	1, 2	SM	Grass/Topsoil, Dark Brown gravelly silty SAND, piece of wire, FILL, damp
				3, 4	SW	Soil sample PP5-2.5 collected at 15:40 Dark Brown-gray gravelly SAND, FILL, damp Static water level measured at 3.0 feet.
				5	PT	Brown PEAT, wet
0.3	5-foot core with liner	60		6, 7	ML	Dark Brown-black sandy SILT, wet
				8, 9	SW	Dark Brown-black fine to medium SAND, trace of silt, organic material, wet
				10		Dark Brown-black gravelly fine to coarse SAND, trace of silt, wet
0	5-foot core with liner	40		11, 12, 13, 14	SW	Soil sample PP5-10 collected at 15:50 Dark Brown-black fine to medium SAND, trace of gravel, wet
				15		Dark Brown-black, fine to coarse gravelly SAND, wet
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP5-W at 16:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP6
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SW corner of park, east side	Sampling method	5 ft core with plastic liner
Client	King County		of HESCOs	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0.1	5-foot core with liner	40	▼ 3.3	1, 2	GW	Grass/Brown sandy GRAVEL, FILL, damp
				3, 4, 5	SM	Soil sample PP6-2 collected at 14:35 Brown gravelly silty SAND, piece of a ball, FILL, damp Static water level measured at 3.3 feet .
0	5-foot core with liner	60		6, 7, 8, 9, 10	SM	Dark Brown-black silty SAND, organic material, wet
0	5-foot core with liner	100		11, 12	ML	Soil sample PP6-10 collected at 14:45 Dark Brown sandy SILT, organic material, wet
				13, 14	SP	Dark Brown-black, medium SAND, trace of silt, wet
				15	ML	Dark Brown sandy SILT, wet
						Set temporary screen from 2 feet to 12 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP6-W at 15:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP7
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SE corner of park, ~ 125 feet	Sampling method	5 ft core with plastic liner
Client	King County		south of MW-6	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40/30/30	▼ 1.8	1 2	SM	Dark Brown silty SAND, organic material, FILL, damp Soil sample PP7-0 collected at 14:30 Soil sample PP10-0 (duplicate sample, false time-14:35) Static water level measured at 1.8 feet
				3 4 5	GW	Dark Brown sandy GRAVEL, trace of silt, cobbles, wet .
0	5-foot core with liner	75		6 7 8 9 10	SM	Dark Brown silty gravelly SAND, wet
0	5-foot core with liner	60		11 12 13 14 15		Soil sample PP7-10 collected at 14:40
						Set temporary screen from 0 feet to 10 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP7-W at 14:50 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP8
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~125 feet east-southeast of MW-5	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20/30		1	ML	Dark Brown sandy gravelly SILT, some wood, FILL, damp Soil sample PP8-0.5 collected at 13:20
				2	SM	Brown silty gravelly SAND, FILL, damp
				3	▼ 3.1	wet Static water level measured at 3.1 feet
				4		.
				5		
0	5-foot core with liner	30		6	GW	Dark Gray-black, fine to coarse sandy GRAVEL, wet
				7		
				8		
				9		
				10		
0	5-foot core with liner	40		11		Soil sample PP8-10 collected at 13:30 cobbles
				12		
				13		
				14		
				15		
						Set temporary screen from 0 feet to 10 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP8-W at 13:10 Collected duplicate water sample PP10-W (false time 13:45) Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP9
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~100 feet south-southeast of MW-1	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20		1 2 3 4 5	GW ▼ 4.0	Gravel at surface Soil sample PP9-0 collected at 11:50 Brown-dark brown sandy GRAVEL, FILL, damp wet Static water level measured at 4.0 feet
0	5-foot core with liner	20		6 7 8 9 10	GW	Dark Brown fine to coarse sandy GRAVEL, small cobbles, wet
0	5-foot core with liner	80		11	SW	Soil sample PP9-10 collected at 12:00 Dark Red-brown fine to medium SAND, wet
				12 13 14	GW	Dark Red-brown fine to coarse sandy GRAVEL, wet
					SW	Dark Brown-black fine to medium SAND, wet
				15	GW	Dark Brown-black sandy GRAVEL, wet
						Set temporary screen from 3 feet to 13 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP9-W at 12:10 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

Boring ID PP10
Total depth 8 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	17-06520-000	Location	NE corner of park	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	35	▼ 5.0	1, 2, 3, 4, 5	GW	Grass/topsoil Brown sandy GRAVEL, trace of silt, small cobbles, FILL, damp
0	3-foot core with liner	25		6, 7, 8	ML	Brown gravelly SILT, trace of sand, cobbles, FILL, wet Soil sample PP10-6 collected at 9:40
						Backfilled borehole with bentonite chips. Unable to penetrate beyond 6 feet in first borehole. Unable to penetrate beyond 8 feet in second borehole.

Photoionization detector (PID)
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP10A
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	NE corner of park.	Sampling method	5 foot-core with plastic liner
Client	King County		Immediately adjacent to PP10.	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	25	▼ 5.0	1, 2, 3, 4, 5	ML	Grass/Brown sandy SILT, trace of gravel, cobbles, brick fragment, FILL, damp
0	5-foot core with liner	55		6, 7, 8, 9, 10	SW	Dark Brown gravelly fine to coarse SAND, FILL, wet
					CL	Brown gravelly silty CLAY, FILL, wet
					GW	Gray sandy GRAVEL, pieces of concrete, wood, FILL, damp
0	5-foot core with liner	80		11, 12, 13, 14, 15		Wood
					ML	Gray-brown, sandy SILT, organic material, trace of gravel, wet Soil sample PP10-11 collected at 8:40
					SW	Gray-Dark brown, fine to coarse SAND, trace of gravel, wet
					GW	Gray-Dark brown, sandy GRAVEL, cobbles, wet
0	5-foot core with liner	100		16, 17, 18, 19, 20	SW	Dark Brown-gray, fine to coarse SAND, trace of gravel, wet
						Soil sample PP10-17 collected at 9:08 Wood/thin silt zone (1”)
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP11
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	35 feet northeast of levee	Sampling method	5 foot-core with plastic liner
Client	King County		50 feet northeast of PP14	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 5.0	1, 2, 3, 4, 5	SW	Grass, Brown silty gravelly fine to coarse SAND, cobbles, FILL, damp Soil sample PP11-2 collected at 9:15
0	5-foot core with liner	20		6, 7, 8, 9, 10	GW	Soil sample PP11-5 collected at 9:20 Dark Brown sandy GRAVEL, glass fragments, plastic, brick fragments, FILL wet
0	5-foot core with liner	40		11, 12, 13, 14, 15	GW	Soil sample PP11-10 collected at 9:25 Dark Brown sandy GRAVEL, glass fragments, plastic, brick fragments, FILL wet
-	5-foot core with liner	-		16, 17, 18, 19, 20		Soil sample PP11-15 collected at 9:25
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP12
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	East of standing water, north	Sampling method	5 foot-core with plastic liner
Client	King County		end of park	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 1.7	1, 2, 3, 4, 5	SW	Grass, Brown gravelly SAND, trace of silt, cobbles, FILL, wet Soil sample PP12-2 collected at 9:50 Small piece of thin metal wire, plastic
0	5-foot core with liner	40		6, 7, 8, 9, 10	SM	Brown silty SAND, trace of cobbles and gravel, glass, plastic, brick fragments, organic material, thin root fibers, wood, FILL, wet Soil sample PP12-7 collected at 10:00
0	5-foot core with liner	50		11, 12, 13, 14, 15	SW	Soil sample PP12-10 collected at 10:10 Gray-brown fine to coarse SAND, wet
0	5-foot core with liner	100		16, 17, 18, 19, 20	SW	Soil sample PP12-16 collected at 10:20 Dark Brown-gray fine to medium SAND, with a trace of silt, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP13
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	West end of standing water	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	35	▼ 0.3	1, 2, 3, 4, 5	ML	Grass, Brown fine sandy SILT, FILL, wet Soil sample PP13-2 collected at 10:30
0	5-foot core with liner	15		6, 7, 8, 9, 10	SW	Dark Brown-gray fine to medium SAND, FILL, wet Soil sample PP13-6 collected at 10:40
0	5-foot core with liner	45		11, 12, 13, 14, 15	SW	Soil sample PP13-10 collected at 10:50 Dark Gray medium to coarse SAND, trace of gravel, cobbles, piece of glass, FILL, wet
0	5-foot core with liner	100		16, 17, 18, 19, 20	SW	Soil sample PP13-15 collected at 11:00 Dark Gray fine to coarse SAND, with a trace of gravel, wood fragments, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP14
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	120 feet southwest of PP11,	Sampling method	5 foot-core with plastic liner
Client	King County		30 feet northwest of levee.	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20		1, 2, 3, 4, 5	SW	Grass, Brown silty gravelly fine to coarse SAND, cobbles, FILL, damp Soil sample PP14-1 collected at 9:50
0	5-foot core with liner	20		6, 7, 8, 9, 10	SW	Soil sample PP14-1 collected at 9:55 Dark Brown-gray, fine to coarse SAND, trace of gravel, FILL, damp Water encountered in core sample at 9 feet. .
0	5-foot core with liner	80		11		
					GW	Dark Brown-gray, fine to coarse sandy GRAVEL, cobbles, wet
				12, 13, 14	SW	Dark Brown-gray, fine to coarse SAND, trace of gravel, wet Soil sample PP14-12 collected at 10:00
					ML	Brown-gray, fine sandy SILT, wet
				15, 16	GW	Brown-gray, fine to coarse sandy GRAVEL, cobbles, wet
0	5-foot core with liner	100		17, 18	ML	Soil sample PP14-16 collected at 10:05 Brown fine to medium sandy SILT, wet
				19, 20	GW	Gray-brown, fine to coarse sandy GRAVEL, cobbles, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP15
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	~55 feet SE of Geotech Boring	Sampling method	5 foot-core with plastic liner
Client	King County		B-05	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40	▼ 2.3	1, 2, 3, 4, 5	SM	Grass, Brown silty SAND, with a trace of gravel, FILL, damp Brown gravelly silty SAND, brick fragments, FILL, wet Soil sample PP15-4 collected at 11:40
0	5-foot core with liner	20		6, 7, 8, 9, 10	SM	Brown-gray silty SAND, with some cobbles, piece of glass, thin piece of wire, brick fragments, rubber, FILL, wet Soil sample PP15-6 collected at 11:55
0	5-foot core with liner	50		11, 12, 13, 14, 15	SM	Brown-gray silty SAND, with glass, wire, brick fragments, FILL, wet Soil sample PP15-12 collected at 12:05 Brown-gray silty SAND, wet
0	5-foot core with liner	90		16, 17, 18, 19, 20	SW	Gray gravelly SAND, with a trace of silt, wet Soil sample PP15-16 collected at 12:15
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP16
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	50 feet west of PP16	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30		1	SM	Grass, Brown silty fine to medium SAND, FILL, damp
				2, 3, 4, 5	SW	Soil sample PP16-1 collected at 10:30 Brown-gravelly fine to coarse SAND, FILL, damp
	5-foot core with liner	0		6, 7, 8, 9, 10		No recovery – three attempts
0	5-foot core with liner	55		11	GM	Dark Brown – gray, fine to coarse sandy GRAVEL, trace of silt, wet
				12	SM	Soil sample PP16-11 collected at 10:45 Dark Gray-brown, silty SAND, wet
				13, 14, 15	GM	Dark Gray – brown fine to coarse sandy GRAVEL, wet
0	5-foot core with liner	80		16	SW	Soil sample PP16-15 collected at 10:50 Dark Gray-brown gravelly fine to coarse SAND, piece of glass, wet
				17, 18	GW	Gray-brown fine to coarse sandy GRAVEL, wet
				19	SW	Gray-brown gravelly fine to coarse SAND, wet
				20	GW	Gray-brown fine to coarse sandy GRAVEL, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP17
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	50 feet west of PP16	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 2.7	1	SM	Grass, Brown silty SAND, trace of gravel, FILL, damp
				2, 3, 4, 5	GW	Soil sample PP17-1 collected at 11:00 Brown-dark gray, fine to coarse sandy GRAVEL, glass, plastic, brick, rubber, FILL, damp-wet
0	5-foot core with liner	20		6, 7, 8, 9	GW	Soil sample PP17-5 collected at 11:10 Brown-dark gray, fine to coarse sandy GRAVEL, glass, tile, brick, wood, FILL, wet
				10	SM	Gray-brown silty SAND, wet
0	5-foot core with liner	50		11, 12, 13, 14, 15	GW	Soil sample PP17-5 collected at 11:20 Dark Gray-brown fine to coarse sandy GRAVEL, cobbles, wet
0	5-foot core with liner	100		16, 17, 18	GW	
				19, 20	SM	Soil sample PP17-18 collected at 11:28 Dark Gray-brown, silty fine SAND, wet wood
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP18
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Approximately 40 feet west of levee and south of PP16	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	35	▼ 2.2	1	SM	Grass, Brown silty SAND, FILL, wet
				2, 3	SW	Dark Gray-brown, gravelly fine to medium SAND, FILL, damp
				4	SM	Soil sample PP18-3 collected at 11:50 Light Brown silty SAND, with a trace of gravel, wet, FILL
				5	SW	Light Brown-gray gravelly SAND, FILL, wet
0	5-foot core with liner	30		6, 7, 8, 9, 10	SM	Soil sample PP18-5 collected at 12:00 Light Brown fine to medium sandy SILT, concrete, FILL, wet
0	5-foot core with liner	30		11, 12, 13, 14, 15	GW	Soil sample PP18-10 collected at 12:05 Dark Gray -brown fine to coarse sandy GRAVEL, glass, brick fragments, FILL, wet
0	5-foot core with liner	50		16, 17, 18, 19, 20	ML	Soil sample PP18-15 collected at 12:10 Dark Gray-brown fine sandy SILT, wet Wood
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP19
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	~30 feet south of the Basketball court	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	35	▼ 0.5	1, 2, 3, 4, 5	ML	Grass, Brown sandy SILT, with a trace of gravel, FILL, wet Soil sample PP19-3 collected at 12:20
0	5-foot core with liner	40		6, 7, 8	SM	Brown silty SAND, with a trace of gravel, pieces of concrete, FILL, wet Soil sample PP19-7 collected at 12:30
0	5-foot core with liner	50		9, 10, 11, 12, 13, 14, 15	GW	Gray sandy GRAVEL, with cobbles, FILL, wet Soil sample PP19-10 collected at 12:40 Gray sandy GRAVEL, FILL, wet
0	5-foot core with liner	60		16, 17	SW	Soil sample PP19-15 collected at 12:50 Gray-brown fine to medium SAND, brick fragments, FILL, wet
				18, 19, 20	GW	Gray sandy GRAVEL, brick fragments, glass, FILL, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP20
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	50 feet northwest of levee, 110 feet north of PP8.	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 2.3	1, 2, 3, 4, 5	SM	Grass, Brown fine to medium silty SAND, FILL, damp
					SM	Dark Brown fine to medium silty SAND, glass, plastic, trace of gravel, FILL, wet Soil sample PP20-2 collected at 12:50
0	5-foot core with liner	35		6, 7, 8, 9	SM	Soil sample PP20-5 collected at 12:55 Dark Brown silty fine to medium SAND, plastic, glass, trace of gravel FILL, wet
				10	ML	Dark Gray-brown silty fine sandy SILT, trace of gravel, FILL, wet
0	5-foot core with liner	30		11, 12, 13, 14, 15	SM	Soil sample PP20-10 collected at 13:05 Dark Gray-brown silty fine to coarse SAND, trace of gravel, glass, FILL, wet
0	5-foot core with liner	30		16, 17, 18, 19, 20	SM	Soil sample PP20-15 collected at 13:10 Dark Gray-brown silty fine to coarse SAND, trace of gravel, glass, FILL, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP21
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Approximately 80 feet west of PP20 and 160 feet west of levee.	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 2.1	1	SM	Topsoil/Brown silty fine SAND, FILL, damp
				2, 3, 4, 5	SW	Dark Brown, gravelly fine to medium SAND, trace of silt, glass, FILL, wet Soil sample PP21-2 collected at 13:30 Wood -2”
0	5-foot core with liner	30		6, 7, 8, 9, 10	GW	Wood -4” Dark Brown-black fine to coarse sandy GRAVEL, trace of silt, wood, plastic, glass, FILL, wet Soil sample PP21-6 collected at 13:35
0	5-foot core with liner	20		11, 12, 13, 14, 15	SM	Soil sample PP21-10 collected at 13:45 Dark Brown silty SAND, trace of gravel, wood, wet
0	5-foot core with liner	20		16, 17, 18, 19, 20	SM	Soil sample PP21-15 collected at 13:50 Dark Brown silty SAND, peat, wet Wood
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP22
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	North end of Baseball field	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 1.1	1, 2, 3, 4, 5	SM	Grass, Brown-gray silty SAND, with some gravel, FILL, damp
					SM	Dark Brown silty SAND, with some gravel, plastic, wood, FILL, wet Soil sample PP22-4 collected at 13:40
0	5-foot core with liner	100		6, 7, 8, 9, 10	SW	Dark Gray fine to coarse SAND, with a trace of silt, FILL, wet
					SW	Soil sample PP22-9 collected at 13:50 Dark Gray gravelly SAND, with a trace of silt, glass fragments, FILL, wet
0	5-foot core with liner	100		11, 12, 13	SW	Dark Gray gravelly SAND, with a trace of silt, FILL, wet
				14	GW	Soil sample PP22-13 collected at 13:55 Dark Gray sandy GRAVEL, piece of plastic, FILL, wet
				15	ML/PT	Light Brown-gray SILT, with a trace of clay, peat, wet
0	5-foot core with liner	100		16, 17, 18, 19, 20	ML	Light Brown-gray SILT, with a trace of clay, fine sand, wet Soil sample PP22-17 collected at 14:05
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP23
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	80 feet east of PP24, adjacent to levee.	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	30	▼ 2.7	1	SP	Grass, Brown silty fine SAND, FILL, damp
				2, 3, 4, 5	SW	Light Brown-gray gravelly SAND, trace of silt, rubber, wood, plastic, FILL, damp-wet Soil sample PP23-2 collected at 14:00
0	5-foot core with liner	30				Soil sample PP23-5 collected at 14:05
				6, 7, 8, 9, 10	SW	Light Brown-gray gravelly SAND, trace of silt, plastic, FILL, damp-wet
0	5-foot core with liner	90				Soil sample PP23-10 collected at 14:15
				11, 12	SW	Dark Gray-brown, fine to medium SAND, trace of gravel
				13, 14	SW	Dark Gray-brown, gravelly fine to coarse, SAND, wet
				15, 16	GW	Dark Gray-brown, fine to coarse sandy GRAVEL, two pieces of glass Soil sample PP23-15 collected at 14:20 wet
0	5-foot core with liner	60		17, 18	SW	Dark Brown-gray fine to coarse SAND, trace of gravel, wet
				19, 20	GW	Dark Brown-gray, fine to coarse sandy GRAVEL, cobbles, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP24
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Approximately 70 feet NW of PP23 and 80 feet NW of levee.	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0.1	5-foot core with liner	50	▼ 2.3	1, 2	SM	Grass/Brown silty SAND, FILL, damp
				3, 4, 5	GW	Soil sample PP24-2 collected at 14:30 Dark Brown-black sandy GRAVEL, glass, FILL, wet
0.2	5-foot core with liner	40		6, 7	SW	Brown-gray, gravelly SAND, glass, rubber, ceramic shards, FILL, wet
				8, 9, 10	GW	Soil sample PP24-7 collected at 14:35 Dark Gray-black fine to coarse sandy GRAVEL, rubber, glass, plastic, FILL, wet
0	5-foot core with liner	50		11, 12, 13, 14, 15	GW	Soil sample PP24-10 collected at 14:45 Dark Gray fine to coarse sandy GRAVEL, with cobbles, wet
0	5-foot core with liner	25		16, 17, 18, 19, 20	GW	Dark Gray, fine to coarse sandy GRAVEL, with cobbles, wet Sample was too coarse to collect soil sample
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP25
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Behind pitcher's mound	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	85	▼ 2.3	1	SM	Grass, Brown silty SAND, FILL, damp
				2	SP	Light Gray medium SAND, FILL, damp
				3	SM	Light Brown-gray gravelly silty SAND, FILL, wet Soil sample PP25-3 collected at 14:20
				4		
				5	SM	Light Brown-gray silty SAND, with a trace of gravel, FILL, wet
0	5-foot core with liner	100		6	SM	Light Brown-gray silty SAND, FILL, wet
				7		Soil sample PP25-7 collected at 14:25
				8		
				9		
				10		
0	5-foot core with liner	50		11	SM	Light Brown-gray silty SAND, FILL, wet
				12		
				13		
				14	SM	Soil sample PP25-13 collected at 14:30 Dark Brown-black silty SAND, Styrofoam, plastic, hydrocarbon odor, FILL, wet
				15		
0	5-foot core with liner	90		16		
				17		
				18	ML	Soil sample PP25-17 collected at 14:45 Gray-brown sandy SILT, wet
				19		
				20		
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP26
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	West of Baseball field	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	65	▼ 2.9	1, 2, 3, 4, 5	SM	Grass, Light brown silty SAND, with a trace of gravel, FILL, damp
					SM	Gray-brown gravelly silty SAND, FILL, wet Soil sample PP26-3 collected at 14:55
0	5-foot core with liner	25		6, 7, 8, 9, 10	SM	Gray-brown silty SAND, FILL, wet Soil sample PP26-7 collected at 15:05 Gray-brown silty gravelly SAND, FILL, wet
0	5-foot core with liner	60		11, 12, 13, 14, 15	GW	Soil sample PP26-11 collected at 15:10 Dark gray sandy GRAVEL, with cobbles, FILL, wet
0	5-foot core with liner	100		16, 17	GW	Dark gray sandy GRAVEL, with cobbles, FILL, wet
				18, 19, 20	ML	Soil sample PP26-17 collected at 15:15 Light Brown fine sandy SILT, with a trace of clay, some wood, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP27
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	80' NW of levee and 70'SE	Sampling method	5 foot-core with plastic liner
Client	King County		Of PP23	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40	▼ 4.7	1, 2, 3	SM	Grass, Brown fine to medium silty SAND, FILL, wet
				4, 5	SW	Soil sample PP27-4 collected at 15:45 Brown fine to coarse gravelly SAND, FILL, wet
0	5-foot core with liner	50		6	GW	Dark Brown to black, wood, plastic, glass, fine to coarse sandy GRAVEL, FILL, wet
				7, 8	ML	Dark Brown sandy SILT, FILL, wet Soil sample PP27-7 collected at 15:50
				9, 10	GW	Dark Gray-black, fine to coarse sandy GRAVEL, FILL, wet
0	5-foot core with liner	50		11, 12, 13, 14, 15	GW	Soil sample PP27-10 collected at 16:00 Dark Gray, fine to coarse sandy GRAVEL, glass, FILL, wet
0	5-foot core with liner	75		16, 17, 18, 19, 20	GW	Soil sample PP27-15 collected at 16:10 Dark Gray, fine to coarse sandy GRAVEL, glass, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP28
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	110' northwest of PP27	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	3/1/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
					ML	Grass, Brown SILT, FILL, damp
0	5-foot core with liner	45	▼ 4.3	1	SW	Brown-gray, gravelly fine to medium SAND, FILL, damp-wet
				2		
				3		Soil sample PP28-3 collected at 10:30
				4	GW	Brown-gray, fine to medium sandy GRAVEL, FILL, wet
				5	ML	Brown-gray, fine to medium sandy SILT, wood, FILL, wet
0.2	5-foot core with liner	25			SW	Dark gray, gravelly fine to coarse SAND, FILL, wet
				6		
				7		
				8		Soil sample PP28-8 collected at 10:35
				9		Plastic, glass, wood
				10		
0	5-foot core with liner	40			SW	Soil sample PP28-10 collected at 10:40 Gray gravelly fine to coarse SAND, wet
				11		
				12		
				13		
				14	GW	Gray fine to coarse sandy GRAVEL, wet
				15		
0	5-foot core with liner	60			SW	Soil sample PP28-15 collected at 10:45 Gray-brown, fine to coarse SAND, wet
				16		
				17		
				18	GW	Gray fine to coarse sandy GRAVEL, wet
				19		
				20		
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP29
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	East of gravel road, west of right field	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	3/1/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.1	1	SM	Grass, Light Brown silty fine SAND, FILL, damp
				2	GW	Light Gray sandy GRAVEL, FILL, damp
				3, 4	GW	Gray-brown, fine to coarse sandy GRAVEL, FILL, damp-wet Soil sample PP29-3 collected at 11:40
					GM	Light Brown silty sandy GRAVEL, FILL, wet
				5	SW	Dark Brown gravelly fine to coarse SAND, FILL, wet
0	5-foot core with liner	80		6	GW	Soil sample PP29-5 collected at 11:45 Gray fine to coarse sandy GRAVEL, FILL, wet
				7, 8	SW	Gray fine to coarse SAND, FILL, wet
				9	GW	Gray fine to coarse sandy GRAVEL, FILL, wet
				10	OL	Gray brown, SILT, organic material, damp
0	5-foot core with liner	80		11, 12	SW	Soil sample PP29-10 collected at 11:50 Gray silty fine to coarse SAND, wet
				13, 14, 15	ML	Gray brown clayey SILT, trace of sand, wet
0	5-foot core with liner	90		16, 17	ML	Soil sample PP29-15 collected at 11:55 Gray clayey SILT, wet
				18	SM	Gray silty fine SAND, wet
				19	ML	Gray sandy SILT, wet
				20	SM	Gray silty fine SAND, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP30
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Approximately 100 feet west	Sampling method	5 foot-core with plastic liner
Client	King County		O levee, south of PP23	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/28/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40		1, 2	SM	Grass, Brown silty fine SAND, FILL, damp
				3, 4	SW	Soil sample PP30-3 collected at 15:05 Dark Gray-Brown gravelly, fine to coarse SAND, cobbles, 4" zone of iron oxidation, FILL, damp
			▼ 5.3	5	SM	Dark Brown silty fine SAND, FILL, damp
0	5-foot core with liner	20		6, 7, 8, 9, 10	SW	Soil sample PP30-5 collected at 15:10 Dark Gray-brown gravelly fine to coarse SAND, glass, plastic, FILL, wet
0	5-foot core with liner	40		11, 12, 13, 14, 15	GW	Soil sample PP30-10 collected at 15:20 Dark Gray-brown fine to coarse sandy GRAVEL, Cobbles, wet
0	5-foot core with liner	40		16, 17, 18, 19, 20	SW	Soil sample PP30-15 collected at 15:25 Dark Gray gravelly fine to coarse SAND, piece of glass, cobbles, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP31
1Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	120 feet northwest of PP30	Sampling method	5 foot-core with plastic liner
Client	King County		levee	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	3/1/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
					ML	Grass, Brown SILT, FILL, damp
				1	SW	Light Brown fine to medium gravelly SAND, FILL, damp
				2	SW	Light Brown-gray gravelly, fine to coarse SAND, FILL, damp
0	5-foot core with liner	60		3		Soil sample PP31-3 collected at 10:00
				4	SW	Light Brown-gray fine to coarse sandy GRAVEL, FILL, damp
			▼ 5.5	5	SM	Dark Brown-gray silty gravelly fine SAND, FILL, damp
						Soil sample PP31-5 collected at 10:05
				6	SM	Gray-brown silty fine to medium SAND, trace of gravel, FILL, damp
				7		
2.8	5-foot core with liner	40			SM	Black silty SAND, wood, FILL, damp
				8		Predominantly wood
				9		
				10		
						Wood
				11	SW	Gray fine to medium SAND, wet Soil sample PP31-11 collected at 10:10
0	5-foot core with liner	70		12		
				13		
				14		
				15		
						Soil sample PP31-15 collected at 10:15
				16	SW	Gray fine to coarse SAND, trace of gravel, wet
0	5-foot core with liner	40		17		
				18	GW	Gray fine to coarse sandy GRAVEL, wet
				19		
				20		
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP32
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	160' northwest of PP7 and 200' northwest of levee	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	3/1/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
					ML	Grass, Brown SILT, FILL, damp
0	5-foot core with liner	40		1, 2, 3	SM	Light Brown silty gravelly SAND, FILL, damp
				4, 5	ML	Dark Brown-gray fine sandy SILT, FILL, damp Soil sample PP32-4 collected at 9:20
0	5-foot core with liner	35	▼ 7.4	6, 7	SM	Light Brown-gray silty gravelly SAND, some wood, FILL, damp
				8, 9, 10	SM	Soil sample PP32-7 collected at 9:30 Light Brown-gray silty gravelly SAND, some wood, FILL, wet
0	5-foot core with liner	25		11, 12, 13, 14, 15	GW	Soil sample PP32-10 collected at 9:35 Brown-gray sandy GRAVEL, wet
0	5-foot core with liner	60		16, 17	SW	Soil sample PP32-15 collected at 9:40 Dark gray fine to coarse SAND, trace of gravel, wet
				18, 19, 20	GW	Dark gray fine to coarse sandy GRAVEL, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP33
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Southwest portion of the park.	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	3/1/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.6	1, 2	SM	Grass, Gray-brown silty fine to medium SAND, FILL, damp
				3, 4	SW	Gray-brown, fine to medium gravelly SAND, burned waste, plastic, FILL, damp-wet Soil sample PP33-3 collected at 11:05
				5, 6, 7	GM	Gray-brown, silty sandy GRAVEL, FILL, wet Soil sample PP33-5 collected at 11:10
0	5-foot core with liner	30		8	SM	Gray-brown silty fine SAND, FILL, wet
				9, 10	GW	Gray-brown fine to coarse sandy GRAVEL, FILL, wet
0	5-foot core with liner	80		11, 12, 13, 14	SW	Soil sample PP33-10 collected at 11:15 Gray fine to coarse SAND, trace of gravel, FILL, wet
				15	ML	Gray fine sandy SILT, wet
0	5-foot core with liner	100			SM	Soil sample PP33-15 collected at 11:20; Gray fine silty SAND, wet
				16	ML	Gray fine sandy SILT, wet
				17, 18	SM	Gray fine silty SAND, wet
				19	ML	Gray-brown, clayey SILT, wet
				20		Gray-brown sandy SILT, wet Gray clayey sandy SILT, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

SOIL PROBE BORING LOG

HERRERA

Boring ID PP34
Total depth 20 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push probe
Project number	17-06520-000	Location	Between geotech borings B15 and B16	Sampling method	5 foot-core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	2/21/2018	Instrument(s)	PID

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40	▼ 0.9	1, 2, 3, 4	SM	Grass, Light brown silty gravelly SAND, FILL, wet
				5	SW	Soil sample PP34-4 collected at 15:40 Light Brown-gray gravelly SAND, FILL, wet
0	5-foot core with liner	35		6, 7, 8, 9, 10	SM	Light Brown-gray silty SAND, FILL, wet Soil sample PP34-8 collected at 15:50
0	5-foot core with liner	40		11, 12, 13	SW	Brown-gray fine to medium SAND, FILL, wet
				14	GW	Soil sample PP34-13 collected at 16:00 Brown sandy GRAVEL, FILL, wet
				15	PT	Brown PEAT, 4-inch zone, wet
0	5-foot core with liner	100		16, 17	ML	Soil sample PP34-15 collected at 16:05 Light Brown-gray SILT, wet
				18, 19, 20	CL	Clayey SILT, wet
						Backfilled borehole with bentonite chips.

PID = Photoionization detector
▼ = Water level at time of drilling

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1292437 N:99712.4 (est)	**B-04**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	81.7'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger and Mud Rotary Drilling	2/21/2018	NA	0.9' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
		∇ 2/21/2018						**TOPSOIL** Loose, moist, dark gray, gravelly, silty SAND (SM); fine to medium sand, numerous organics.	
	80	Boring backfilled with bentonite grout and capped with native soil.	S1		8 28 28	ENV Sample: B-04_2.5		**FILL** Very dense, wet, brown, sandy, GRAVEL (GP) with cobbles; fine to coarse sand, fine subrounded to subangular gravel.	
5		8.5-inch OD Hollow Stem Auger from 0 to 26.5 feet bgs.	S2		28 42 42	GS FC=3.8%			5
	75					ENV Sample: B-04_7.5			
			S3		12 13 10			**HOLOCENE ALLUVIUM** Medium dense, wet, dark gray-brown, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse subrounded gravel	
10			S4		2 6 8	GS FC=1.7%		Medium dense, wet, dark gray-brown, slightly gravelly SAND (SP); trace silt, fine to coarse sand, fine subangular gravel	10
	70					ENV Sample: B-04_12.5			
			S5		15 11 10			Loose, wet, dark gray-brown, slightly silty SAND (SP-SM); fine to coarse sand.	
15			S6		2 3 6	FC=0.7%		Loose, wet, dark gray-brown, gravelly, SAND (SP); fine to coarse sand, fine and coarse subrounded gravel.	15
	65					ENV Sample: B-04_17.5			
			S7		1 3 21			Loose, wet, dark gray-brown, slightly silty SAND (SP-SM); fine to medium sand.	
								Medium dense, wet, dark gray, sandy, GRAVEL (GP); fine to coarse sand, fine and coarse subrounded gravel.	
20			S8		2 4 7			Medium dense, wet, dark-gray, slightly silty SAND (SP-SM); fine to coarse sand, scattered wood debris.	20
	60								
25			S9		2 3 10	FC=6.9%			25
	55	3.825-inch OD tricone bit from 26.5 feet to end of hole.							
30			S10		16 24 25				30
	50								

Legend

Sample Method
- ○ No Soil Sample Recovery
- ▮ Split Barrel 3" X 2.375" (Mod Cal)
- ◪ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ⊢——⊣ Liquid Limit

Water Level
- ∇ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-04

Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1292437 N:99712.4 (est)	Exploration Number: **B-04**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 81.7'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/21/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 0.9' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
	45		S11		6 8 14			No recovery, gravel slough. No recovery	
40	40		S12		9 13 18	FC=35.4%		Dense, wet, gray, very silty SAND (SM); non-plastic, fine sand, laminations of varying silt content, rare wood fragments and peat laminations.	40
45	35		S13		10 12 18			Dense, wet, gray, slightly silty SAND (SP-SM); low-plasticity, fine to medium sand, trace coarse rounded gravel, scattered clay and peat laminations.	45
50	30		S14		5 5 6			Stiff, wet, gray, SILT (ML); non-plastic, trace fine sand, with scattered peat and silty sand laminations. Stiff, wet, green, CLAY (CL); low to medium plasticity.	50
55	25		S15		18 16 12			Medium dense, wet, gray, silty SAND (SM); fine to medium sand, scattered slightly silty sand laminations.	55
60	20		S16		46 30 24			Very dense, wet, dark gray, slightly silty SAND (SP-SM); fine to coarse sand. Bottom of exploration at 61.5 ft. bgs.	60
65	15								65

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-04
Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1292254 N:99584.8 (est)	**B-05**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	81.8'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger Drilling	2/20/2018	NA	1.4' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Description
		2/20/2018				**TOPSOIL** Soft, moist, dark brown, SILT (ML); non-plastic, fine and coarse sand, numerous organics.
	80	Boring backfilled with bentonite grout and capped with native soil.	S1	3, 10, 16	ENV Sample: B-05_2.5	**FILL** Very stiff, wet, brown sandy SILT (ML); non-plastic, fine to medium sand.
						Medium dense, wet, brown, sandy, silty GRAVEL (GM); fine to coarse sand, fine and coarse angular to rounded gravel. metal sheet at 3' bgs.
5		8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.	S2	20, 22, 34		Very dense, wet, gray, slightly silty SAND (SP-SM); fine to medium sand.
	75					**HOLOCENE ALLUVIUM** Dense, wet, gray, sandy GRAVEL (GP); fine to coarse sand, fine and coarse subrounded to angular gravel.
			S3	25, 26, 13	GS FC=3.9% ENV Sample: B-05_7.5	Medium dense, wet, dark gray, gravelly SAND (SP); fine to coarse sand, fine and coarse subrounded to angular gravel. Blows overstated due to gravel.
10			S4	6, 14, 14	FC=1.2% ENV Sample: B-05_12.5	Medium dense, wet, dark gray, SAND (SP) with cobbles; fine to coarse sand, fine and coarse subrounded to angular gravel.
	70		S5	20, 18, 14		
15			S6a, S6b	2, 2, 9	ENV Sample: B-05_17.5	Medium dense, wet, gray, silty SAND (SM); fine to medium sand with rare clay (CL) laminations and lenses of numerous organics.
	65		S7	27, 50/6"		Medium dense, wet, dark gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse subrounded to subangular gravel.
20			S8	7, 6, 8 (54.1)		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand.
	60					
25			S9	9, 14, 15		
	55					
30			S10	1, 14, 17		Dense, wet, dark gray, SAND (SP); trace silt, trace fine and coarse subrounded gravel, fine to coarse sand.
	50					Bottom of exploration at 31.5 ft. bgs.

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-05

Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		Coordinates (SPN NAD83 ft)	Exploration Number
	Pacific City Park, King County, Washington.		E:1292061 N:99710.5	**B-06/MW-7**
Contractor	Equipment	Sampling Method	Ground Surface (GS) Elev. (NAVD88)	Ecology Well Tag No. BKC-439
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	80.18'	
Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Alex	Hollow-Stem Auger Drilling	2/22/2018	79.82'	0.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
	80	8-inch flush mounted in concrete 2/22/2018 Expansion plug					**TOPSOIL** Soft, wet, dark brown, SILT (ML); non-plastic, fine sand.	
		2-inch Sch 40 PVC riser 0.3-4 feet Bentonite chips 2-3 feet	S1	8 8 23	ENV Sample: B-06_2.5		**FILL** Medium dense, wet, gray, sandy GRAVEL (GP); trace silt, fine to coarse sand, fine and coarse rounded to angular gravel.	
5	75		S2	15 14 5	GS FC=2.8%		**HOLOCENE ALLUVIUM** Medium dense, wet, dark gray, gravelly, SAND (SP); fine to coarse sand, fine and coarse rounded to subrounded gravel.	5
		10x20 sand 3-15 feet	S3	11 12 9			Becomes loose at 7.5' bgs.	
10	70	2-inch Sch 40 PVC 0.010-inch-slot screen 4-14.7 feet	S4	6 5 2	ENV Sample: B-06_10			10
			S5a S5b	5 5 6	FC=0.9% ENV Sample: B-06_12.5		Medium dense, wet, dark gray, SAND (SP); fine to medium sand. Medium dense, wet, dark gray, very gravelly SAND (SP); fine to coarse sand, fine and coarse subrounded to subangular gravel. Blows overstated due to gravel. Becomes loose at 15' bgs.	
15	65	Threaded cap	S6	3 3 2			Bottom of exploration at 16.5 ft. bgs.	15
20	60							20
25	55							25
30	50							30

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF/AAF
Approved by:

Exploration Log B-06/MW-7
Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291646 N:99695.2 (est)	Exploration Number: **B-07**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 81.4'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/27/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 1.7' (ATD)

Exploration Completion and Notes:

- ▽ 2/27/2018 Boring backfilled with bentonite grout and capped with native soil.
- 8.5-inch OD Hollow Stem Auger from 0 to 21.5 feet bgs.
- 3.825-inch OD tricone bit from 21.5 feet to end of hole.

Depth (feet)	Elev. (feet)	Sample Type/ID	Blows/6"	Tests	Description
					TOPSOIL Loose, wet, dark brown, silty SAND (SM); fine to medium sand, trace fine gravel.
					FILL Loose, wet, brown, sandy GRAVEL (GP); trace silt, fine to coarse sand, fine and coarse subrounded to angular gravel, concrete fragments, trace organics.
	80	S1	7 7 9	ENV Sample: B-07_2.5	
5		S2	8 6 4		**HOLOCENE ALLUVIUM** Medium dense, wet, dark gray, very gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse subrounded to subangular gravel, trace organics.
	75	S3a S3b	8 6 5	ENV Sample: B-07_7.5	Becomes fine to medium sand with no gravel.
					Loose, wet, dark gray, GRAVEL (GP); trace sand, fine and coarse gravel.
10		S4	2 4 3	GS FC=2.7%	Loose, wet, dark gray, SAND (SP); fine to medium sand, trace organics.
	70	S5	1 1 1	ENV Sample: B-07_12.5	Very loose, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand, trace organics.
15		S6a S6b	2 1 1	GS FC=7.9%	
	65			ENV Sample: B-07_17.5	Very soft, very moist, brown, SILT (ML) interbedded withslightly silty SAND (SP-SM) and organic SILT (OL); non-plastic, fine to medium sand, numerous organics.
		S7	16 24 29		Very dense, wet, dark gray slightly silty SAND (SP-SM) interbedded withSILT (ML); non-plastic, fine to medium sand.
20		S8	10 16 24		Very dense, wet, dark gray, very sandy, GRAVEL (GP); trace silt, fine to coarse sand, fine and coarse rounded to subangular gravel. Becomes dense at 20' bgs.
	60				
25		S9	7 16 17		Dense, wet, dark gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse rounded to subangular gravel.
	55				
30		S10	6 13 17	FC=11.6%	Medium dense, wet, dark gray, slightly silty SAND (SP-SM); trace silt, fine to medium sand.
	50				Medium stiff, wet, gray and brown, SILT (ML); silt, clay, and peat from cuttings.

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method:
- ○ No Soil Sample Recovery
- ▮ Split Barrel 3" X 2.375" (Mod Cal)
- ◪ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level: ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-07
Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291646 N:99695.2 (est)	Exploration Number: **B-07**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 81.4'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/27/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 1.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
	45		S11		3 3 3			Medium stiff, wet, gray and brown, SILT (ML); silt, clay, and peat from cuttings. (continued)	
40	40		S12		12 15 15			Medium dense, wet, gray, silty SAND (SM); fine to medium sand, scattered laminations of wood and peat.	40
45	35		S13		36 50/5"			Very dense, wet, dark gray, sandy GRAVEL (GP); fine to coarse sand, fine and coarse rounded to angular gravel. Blows elevated due to gravel.	45
50	30		S14		10 18 50/5"			Becomes very dense at 50' bgs.	50
55	25		S15		44 31 17			Dense, wet, dark gray, slightly gravelly, slightly silty SAND (SP-SM); predominantly fine to medium sand, fine and coarse rounded to subangular gravel.	55
60	20		S16		18 30 30			Very dense, wet, dark gray, silty SAND (SM); non-plastic, fine to medium sand, scattered thin beds of silt.	60
65	15							Bottom of exploration at 61.5 ft. bgs.	65

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-07
Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291556 N:99480.2 (est)	Exploration Number: **B-08**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 80.5'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger Drilling	Work Start/Completion Dates: 2/26/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 4.4' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
	80	Boring backfilled with bentonite grout and capped with native soil. ▽ 2/26/2018 8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.	S1	11 8 8			**TOPSOIL** Loose, wet, dark brown, silty SAND (SM); fine to medium sand, trace fine gravel. **FILL** Medium dense, wet, brown-gray, sandy GRAVEL (GP); trace silt, fine to coarse sand, fine and coarse rounded to subangular gravel.	
5	75		S2	2 4 5	OC=2.7% ENV Sample: B-08_5 ENV Sample: B-08_7.5		**HOLOCENE ALLUVIUM** Loose, wet, dark brown, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine rounded to subrounded gravel, trace organics. Becomes dark gray at 7.5' bgs.	5
			S3a S3b	6 4 2	GS FC=1.9%		Very loose, wet, dark gray, very gravelly SAND (SP); trace silt, fine to coarse sand, fine and coarse rounded to subrounded gravel.	
10	70		S4	1 3 4			Becomes loose at 10' bgs.	10
			S5	3 6 4	58.8		Soft, very moist, gray, SILT (ML); low plasticity, frequent peat laminations.	
					AL OC=3.5% ENV Sample: B-08_12.5		Very loose, very moist, dark gray, slightly silty SAND (SP-SM); fine to coarse sand.	
15	65		S6	1 2 4	OC=4.2% FC=84.8% ENV Sample: B-08_17.5		Medium stiff, very moist, brown-gray, SILT (ML); non-plastic, trace fine sand, trace organics, frequent thin peat laminations.	15
			S7a S7b	8 10 15			Stiff, wet, gray, light sandy SILT (ML); non-plastic, fine sand. Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand.	
20	60		S8	3 4 5	GS FC=32.2%		Loose, wet, dark gray, very silty SAND (SM); fine to medium sand, trace fine subrounded to subangular gravel.	20
25	55		S9	4 10 27			Becomes dense at 25' bgs.	25
30	50		S10	2 6 18			Becomes medium dense at 30' bgs.	30
							Bottom of exploration at 31.5 ft. bgs.	

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ▮ Split Barrel 3" X 2.375" (Mod Cal)
- ◪ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF/AAF
Approved by:

Exploration Log B-08
Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307			Geotechnical Exploration Log	
	Project Address & Site Specific Location			Coordinates (SPN NAD83 ft)	Exploration Number
	Pacific City Park, King County, Washington.			E:1291433 N:99316.2	**B-09/MW-8**
Contractor	Equipment	Sampling Method		Ground Surface (GS) Elev. (NAVD88)	Ecology Well Tag No. BKC-440
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop		80.26'	
Operator	Exploration Method(s)	Work Start/Completion Dates		Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Alex	Hollow-Stem Auger Drilling	2/22/2018		79.95'	6.1' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
	80	8-inch flush monument in concrete Expansion plug; 2-inch Sch 40 PVC riser 0.3-4 feet; Bentonite chips 2-3 feet	S1	116.8	1 1 1	FC=77.7%		**TOPSOIL** Soft, moist, gray and brown, SILT (ML); non-plastic, fine sand, numerous organics. **HOLOCENE ALLUVIUM** Soft, moist, brown, sandy organic CLAY (OL); non-plastic, fine to medium sand. Soft, moist, brown, PEAT (PT); fine-grained peat, numerous organic fragments.	
5	75	▽ 2/22/2018	S2a S2b	60.7	2 8 9	GS OC=19.4% FC=57.9% ENV Sample: B-09_5		Medium stiff, wet, brown, sandy, SILT (ML); non-plastic, fine to medium sand, numerous organics. Loose, wet, dark gray, gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine and coarse rounded to subrounded gravel.	5
		10x20 sand 3-15 feet	S3a S3b	64.9 64.9	2 1 1	AL		Soft, wet, brown, SILT (ML); low-plasticity, fine-grained peat.	
10	70	2-inch Sch 40 PVC 0.010-inch-slot screen 4-14.7 feet	S4		3 4 4	ENV Sample: B-09_10		Soft, very moist, green-gray, slighty sandy, clayey SILT (ML); low to medium plasticity, fine sand, trace organics.	10
			S5	55.2	1 1 3	FC=93.3% ENV Sample: B-09_15		Soft, very moist, gray and brown, sandy SILT (ML); non-plastic, fine sand, frequent very thin bedded peat.	
15	65	Threaded cap	S6	57.8	4 8 19			Becomes medium stiff at 15' bgs.	15
								Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand. Bottom of exploration at 16.5 ft. bgs.	
20	60								20
25	55								25
30	50								30

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)
- ▮ Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF/AAF
Approved by:

Exploration Log B-09/MW-8
Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1291438 N:99086.4 (est)	**B-10**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	80.2'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger and Mud Rotary Drilling	2/26/2018	NA	2.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
	80							**TOPSOIL** Loose, wet, dark brown, silty SAND (SM); fine to coarse sand, numerous organics.	
		▽ 2/26/2018	S1		17 23 10	ENV Sample: B-10_2.5		**FILL** Medium dense, moist, dark brown and brown, very gravelly, silty SAND (SM); fine to coarse sand, fine and coarse subrounded to angular gravel, asphalt fragments.	
5	75	Boring backfilled with bentonite grout and capped with native soil.	S2	50.1	2 2 1			**HOLOCENE ALLUVIUM** Very loose, wet, brown-gray. slightly gravelly, silty SAND (SM) interbedded with soft, SILT (ML); low plasticity, fine to medium sand, fine subrounded gravel, wood fragments.	5
			S3		8 9 7	GS OC=0.6% FC=2.4% ENV Sample: B-10_7.5		Loose, wet, dark gray, very gravelly, SAND (SP); fine to coarse sand, fine and coarse subrounded gravel, rare organics.	
10	70	8.5-inch OD Hollow Stem Auger from 0 to 21.5 feet bgs.	S4		5 10 13	GS FC=1.4%		Medium dense, wet, dark gray, gravelly SAND (SP); fine to coarse sand, fine and coarse subrounded gravel.	10
			S5		12 11 13	ENV Sample: B-10_12.5			
15	65		S6a S6b		3 5 9	GS FC=9.6%		Medium dense, wet, dark gray, slightly silty SAND (SP-SM) interbedded withSILT (ML); low-plasticity, fine to coarse sand, trace fine gravel.	15
			S7	62.8	9 17 20	ENV Sample: B-10_17.5			
20	60	3.825-inch OD tricone bit from 21.5 feet to end of hole.	S8		8 11 18				20
25	55		S9		7 10 22			Dense, wet, dark gray, silty SAND (SM); fine to medium sand, large wood fragments up to 7-inches.	25
30	50		S10		16 23 23				30

Legend

Sample Method
- ○ No Soil Sample Recovery
- ▮ Split Barrel 3" X 2.375" (Mod Cal)
- ◪ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF/AAF
Approved by:

Exploration Log B-10

Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291438 N:99086.4 (est)	Exploration Number: **B-10**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 80.2'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/26/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 2.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%)● 0 10 20 30 40 50	Blows/6"	Tests	Material Type	Description	Depth (ft)
	45		S11		12 15 18	GS FC=9.1%		Dense, wet, dark gray, slightly gravelly, slightly silty SAND (SW-SM); fine to coarse sand, fine rounded to subrounded gravel.	
40	40		S12		7 8 9			Becomes medium dense at 40' bgs.	40
45	35		S13		5 3 2			Becomes loose, wet, dark gray, slightly silty SAND (SP-SM); fine to coarse sand, fining downhole.	45
50	30		S14		17 11 10			Medium dense, wet, dark gray, gravelly SAND (SP); trace silt, fine to coarse sand, fine and coarse subrounded to subangular gravel.	50
55	25		S15		14 12 10			Medium dense, wet, brown-gray, silty SAND (SM); fine sand.	55
60	20		S16		12 15 14			Becomes fine to medium sand at 60' bgs.	60
								Bottom of exploration at 61.5 ft. bgs.	
65	15								65

Legend

Sample Method
- ○ No Soil Sample Recovery
- ◧ Split Barrel 3" X 2.375" (Mod Cal)
- ◪ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF/AAF
Approved by:

Exploration Log B-10
Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1290986 N:98067.3 (est)	**B-100**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	77.5'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger and Mud Rotary Drilling	2/27/2018	NA	8.8' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
							TOPSOIL Soft, moist, dark brown, SILT (ML); non-plastic, fine sand, numerous organics.	
	75	Boring backfilled with bentonite grout and capped with native soil.	S1	1 0 1			**HOLOCENE ALLUVIUM** Very loose, moist to wet, dark brown-gray, slightly silty SAND (SP-SM) interbedded with very soft, brown, SILT (ML); non-plastic, fine to medium sand, numerous organics.	
5		8.5-inch OD Hollow Stem Auger from 0 to 10 feet bgs.	S2 (52.2)	1 2 1	FC=55.2%		Loose, wet, dark brown, silty SAND (SM); fine sand, trace organics.	5
							Soft, wet, brown, PEAT (PT); coarse-grained peat.	
	70	∇ 2/27/2018	S3	3 3 3	FC=29.7%		Loose, wet, dark gray, very silty SAND (SM); fine sand, trace organics.	
10		3.825-inch OD tricone bit from 10 feet to end of hole.	S4	2 3 4	GS FC=39%		Becomes with frequent thinly bedded silt, organic silt, and peat, trace organics.	10
	65		S5	6 7 5				
15			S6	4 4 2				15
							Soft, wet, brown, slightly sandy, SILT (ML); non-plastic to low plasticity, fine sand, numerous organics.	
	60		S7	4 4 7	OC=3%		Stiff, wet, brown SILT (ML) interbedded with medium dense, slightly silty SAND (SP-SM) and silty SAND (SM); non-plastic to low plasticity, fine to medium sand, trace organics.	
20			S8	5 6 8			Medium dense, wet, dark gray, silty SAND (SM) interbedded withslightly silty SAND (SP-SM); fine to medium sand, frequent thinly bedded sand, clay, organic silt, peat.	20
	55							
25			S9	8 14 15	FC=40%			25
	50							
30			S10	7 7 9				30
	45							

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◩ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ∇ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-100

Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1290986 N:98067.3 (est)	Exploration Number: **B-100**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 77.5'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/27/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 8.8' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Description	Depth (ft)
			S11	8, 11, 23	FC=5.5%	Dense, wet, dark gray, slightly silty SAND (SP-SM); trace silt, fine to coarse sand.	
	40					Medium dense, wet, gray, sandy, GRAVEL (GP); fine to coarse sand, fine subrounded to subangular gravel.	
40			S12a, S12b	19, 17, 9			40
	35					Very stiff, very moist, green-gray, clayey SILT (ML); low to medium plasticity.	
45			S13a, S13b	12, 11, 19		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand, rip-ups of brown silty sand.	45
	30					Medium dense, wet, brown, silty SAND (SM); fine sand.	
50			S14	8, 11, 12		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand, numerous organics, scattered thin beds of silty sand and silt.	50
	25						
55			S15	9, 9, 9	FC=71.6%	Very stiff, very moist, brown and gray, SILT (ML); non-plastic, fine sand, frequent thin laminations of peat.	55
	20						
60			S16	8, 9, 9		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand.	60
	15					Bottom of exploration at 61.5 ft. bgs.	
65							65
	10						

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◩ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-100
Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		Coordinates (SPN NAD83 ft)	Exploration Number
	Pacific City Park, King County, Washington.		E:1291428 N:98858.6	**B-11/MW-9**
Contractor	Equipment	Sampling Method	Ground Surface (GS) Elev. (NAVD88)	Ecology Well Tag No. BKC-441
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	82.96'	
Operator	Exploration Method(s)	Work Start/Completion Dates	Top of Casing Elev. (NAVD88)	Depth to Water (Below GS)
Alex	Hollow-Stem Auger Drilling	2/26/2018	82.59'	5.2' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)	Blows/6"	Tests	Material Type	Description	Depth (ft)
		8-inch flush monument in concrete Expansion plug						**TOPSOIL** Loose, moist, brown, gravelly, silty SAND (SM); fine to coarse sand, fine gravel, numerous organics.	
		2-inch Sch 40 PVC riser 0.3-4' bgs						**FILL** Loose, moist, dark brown, gravelly, silty SAND (SM); fine to medium sand, fine subrounded gravel, trace organics.	
	80	Bentonite chips 2-3' bgs	S1		9 11 10	GS FC=19.5% ENV Sample: B-11_2.5			
5		▽ 2/26/2018	S2		3 1 2			Becomes very loose and wet at 5' bgs.	5
	75	10x20 sand 3-15' bgs	S3		3 3 2	FC=18.2% ENV Sample: B-11_7.5		**HOLOCENE ALLUVIUM** Very loose, wet, dark gray, silty SAND (SM); fine to medium sand.	
10		2-inch Sch 40 PVC 0.010-inch-slot screen 4-14.7' bgs	S4		6 5 8	ENV Sample: B-11_10		Medium dense, wet, dark gray, very gravelly, SAND (SP); trace silt, fine to coarse sand, fine and coarse subrounded to subangular gravel.	10
	70		S5		11 12 12	GS FC=2.4% ENV Sample: B-11_12.5			
15		Threaded cap	S6		4 2 9	FC=5.5%		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to coarse sand.	15
								Bottom of exploration at 16.5 ft. bgs.	
20	65								20
25	60								25
30	55								30
	50								

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: AAF
Approved by:

Exploration Log B-11/MW-9
Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291356 N:98461.5 (est)	Exploration Number: **B-12**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 79.4'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger Drilling	Work Start/Completion Dates: 2/20/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 5.8' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
		Boring backfilled with bentonite grout and capped with native soil.					**TOPSOIL** Soft, moist, gray-brown, SILT (ML); low plasticity, fine to medium sand.	
		8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.	S1	1 1 1			**FILL** Very loose, very moist, brown, gravelly, silty SAND (SM); fine to coarse sand, fine subrounded to subangular gravel, numerous organics.	
5	75	∇ 2/20/2018	S2	3 1 1	OC=2.7%		**HOLOCENE ALLUVIUM** Very loose, wet, gray, gravelly, silty SAND (SM) interbedded with soft CLAY (CL); medium plasticity, fine to coarse sand, trace organics and wood fragments.	5
			S3	2 1 3			Very loose, wet, brown-gray, silty SAND (SM); fine sand, numerous organics.	
10	70		S4a S4b	1 2 0	FC=5.1%		Very loose, dark gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine rounded to subangular gravel. Soft, wet, brown, sandy SILT (ML); non-plastic, fine sand.	10
			S5	10 19 10			Medium dense, wet, dark gray, sandy GRAVEL (GP); fine to coarse sand, fine and coarse rounded to subangular gravel.	
15	65		S6	5 9 2				15
			S7	6 3 3			Loose, wet, dark gray, slightly gravelly, slightly silty SAND (SP-SM); fine to medium sand, fine rounded to subangular gravel.	
20	60		S8a S8b	3 4 4	FC=96.2%		Medium stiff, very moist, brown, slightly sandy SILT (ML); non-plastic, fine sand.	20
25	55		S9	2 1 4	FC=5.3%		Loose, wet, dark gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse rounded to subangular gravel.	25
30	50		S10	4 7 11				30
	45						Bottom of exploration at 31.5 ft. bgs.	

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ◯ No Soil Sample Recovery
- ◩ Split Barrel 2" X 1.375" (SPT)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ∇ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-12
Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1291717 N:98690.9 (est)	**B-13**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	84.5'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger and Mud Rotary Drilling	2/23/2018	NA	6.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Description
		Boring backfilled with bentonite grout and capped with native soil.	S1	5, 4, 4		**FILL** Loose, moist, brown, sandy slightly silty GRAVEL (GP-GM); fine to coarse sand, fine subangular to angular gravel, trace wood fragments, strong iron-oxide staining.
5	80	8.5-inch OD Hollow Stem Auger from 0 to 21.5 feet bgs. ▽ 2/23/2018	S2	8, 10, 14		Becomes medium dense at 5' bgs. Blows elevated due to gravel. Becomes wet at 6.7' bgs.
			S3	4, 5, 3	GS OC=8.5% FC=36.8% ENV Sample: B-13_7.5	**HOLOCENE ALLUVIUM** Medium dense, wet, brown, slightly gravelly, very silty SAND (SM); fine to medium sand, trace fine and coarse gravel numerous organics.
10	75		S4	50/4"		Very dense, wet, dark gray, GRAVEL (GP) with cobbles; fine and coarse gravel, trace organics (wood fragments).
			S5a, S5b	6, 4, 5	ENV Sample: B-13_12.5	Very loose, wet, dark gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine rounded to angular gravel, trace organics.
15	70		S6	1, 2, 1	ENV Sample: B-13_15	
			S7	18, 13, 12	GS FC=9.7% ENV Sample: B-13_17.5	
20	65		S8a, S8b	16, 32, 31		Medium dense, wet, dark gray, silty SAND (SM); fine to coarse sand, trace fine subrounded gravel.
		3.825-inch OD tricone bit from 21.5 feet to end of hole.				
25	60		S9a, S9b	6, 11, 8		Medium dense, dark gray, slightly gravelly SAND (SP); fine to medium sand, fine subrounded gravel.
30	55		S10	21, 17, 11	GS FC=4.6%	Medium dense, wet, dark gray, very sandy GRAVEL (GP); trace silt, medium to coarse sand, fine and coarse subangular to angular gravel.
	50					

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ○ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)
- ▮ Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ├──┤ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: AAF
Approved by:

Exploration Log B-13

Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291717 N:98690.9 (est)	Exploration Number: **B-13**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 84.5'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/23/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 6.7' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
			S11	17, 17, 18			Dense, wet, dark gray, SAND (SP); trace silt, fine to medium sand, trace fine subrounded gravel.	
40	45		S12a, S12b	6, 4, 2			Becomes loose at 41' bgs.	40
	40						Medium stiff, wet, gray, sandy SILT (ML); low to medium plasticity, fine sand.	
45			S13a, S13b	3, 5, 9				45
	35						Medium dense, wet, dark gray, slightly silty SAND (SP-SM); trace silt, fine to medium sand, trace fine subrounded gravel.	
50			S14	17, 18, 19			Becomes dense at 50' bgs.	50
	30							
55			S15	15, 19, 24	FC=7.2%			55
	25							
60			S16	20, 21, 24				60
							Bottom of exploration at 61.5 ft. bgs.	
65	20							65
	15							

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ├──┤ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: AAF
Approved by:

Exploration Log B-13

Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1291958 N:98958.7 (est)	**B-14**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	83.9'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger Drilling	2/21/2018	NA	3.8' (ATD)

Boring backfilled with bentonite grout and capped with native soil.

2/21/2018

8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.

Sample Type/ID: S1, S2, S3, S4, S5, S6a, S7, S8, S9, S10

Blows/foot ▲ Water Content (%) ● (0 10 20 30 40 50)

Blows/6": 7 7 8; 8 7 6; 5 6 7; 6 5 4; 5 13 16; 10 19 27; 6 2 2; 7 6 5; 3 4 5; 14 14 19

Tests: ENV Sample: B-14_5; ENV Sample: B-14_10; GS FC=6.3%; ENV Sample: B-14_15; FC=70.1%; ENV Sample: B-14_20; GS FC=5.8%

Depth (feet)	Elev. (feet)	Description
		FILL Dense, moist, brown, sandy, GRAVEL (GP) with cobbles; fine to coarse sand, fine and coarse subrounded gravel, road base/ levee crest.
		Loose, wet, dark gray-brown, gravelly, silty SAND (SM) with cobbles; fine to medium sand, fine and coarse rounded to angular gravel, scattered organics.
5		Loose, wet, brown, gravelly, slightly silty SAND (SP-SM) with cobbles; fine to medium sand, fine and coarse rounded to angular gravel, scattered organics, PVC fragments.
		Loose, wet, brown, sandy GRAVEL (GP) with cobbles; fine to coarse sand, fine and coarse subrounded to angular gravel.
10		**HOLOCENE ALLUVIUM** Loose, wet, dark brown-gray, gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine subangular to angular gravel, scattered organics.
		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine and coarse sand.
15		Medium dense, wet, dark gray, sandy GRAVEL (GP); fine to coarse sand, fine and coarse rounded to subangular gravel, trace organics.
		Loose, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand.
		Soft, wet, gray, slightly sandy SILT (ML); non-plastic, fine sand, scattered organics.
20		Becomes medium stiff and with scattered thin peat laminations at 20' bgs
25		Stiff, wet, gray and brown, SILT (ML); non-plastic, trace fine sand, very thinly laminated with frequent peat laminations and rare sand laminations, numerous organics.
30		Dense, wet, dark gray, very gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine and coarse subrounded to angular gravel.
		Bottom of exploration at 31.5 ft. bgs.

Elev. (feet): 80, 75, 70, 65, 60, 55, 50

Legend

Sample Method:
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level: Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-14

Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1291732 N:99109.4 (est)	**B-15**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	80.4'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger Drilling	2/21/2018	NA	1' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
	80	2/21/2018					**FILL** Very loose, moist, brown, silty SAND (SM); fine sand, numerous organics, from cuttings. Becomes wet at 1' bgs.	
		Boring backfilled with bentonite grout and capped with native soil.	S1	2 2 1			Very loose to loose, wet, silty SAND (SM); predominantly refuse, including: ABS pipe fragments, plastic sheeting, rug material.	
5	75	8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.	S2	1 0 7	ENV Sample: B-15_5			5
			S3	7 9 13	ENV Sample: B-15_7.5			
							HOLOCENE ALLUVIUM Loose, wet, dark gray, slightly gravelly, slightly silty SAND (SP-SM); fine to coarse sand, fine rounded to subangular gravel.	
10	70		S4	12 8 7	GS FC=3%		Medium dense, wet, dark gray, very gravelly, SAND (SP); fine to coarse sand, fine and coarse rounded to subangular gravel.	10
			S5	4 4 6			Medium stiff, moist, brown and gray, slightly sandy SILT (ML); non-plastic, fine to medium sand, scattered thin beds of slightly silty sand.	
15	65		S6	3 2 3	FC=92.3% ENV Sample: B-15_15			15
			S7	5 10 12	ENV Sample: B-15_18.5		Medium dense, very moist, gray, very silty SAND (SM); fine to medium sand, scattered thin silt and peat laminations.	
20	60		S8	7 9 12				20
							Medium dense, wet, dark gray, SAND (SP) interbedded withGRAVEL (GP); fine to coarse sand, fine and coarse rounded to subangular gravel.	
25	55		S9a S9b	6 12 10	GS FC=3.7%			25
30	50		S10a S10b	6 12 14				30
							Bottom of exploration at 31.5 ft. bgs.	

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 2" X 1.375" (SPT)
- Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-15

Sheet 1 of 1

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1291896 N:99309.9 (est)	**B-16**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	81'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger and Mud Rotary Drilling	2/23/2018	NA	1.3' (ATD)

Exploration Completion and Notes: ∇ 2/23/2018; Boring backfilled with bentonite grout and capped with native soil.; 8.5-inch OD Hollow Stem Auger from 0 to 21.5 feet bgs.; 3.825-inch OD tricone bit from 21.5 feet to end of hole.

Sample Type/ID	Blows/6"	Tests	Description
S1	2, 4, 6	OC=6.6%; ENV Sample: B-16_2.5	**FILL** Soft, moist, dark brown, sandy SILT (ML) interbedded withorganic SILT (OL); low to medium plasticity, fine sand, broken glass. Becomes wet at 1.3' bgs.
S2	3, 0, 1		Very loose, wet, brown, gravelly, silty SAND (SM); fine to medium sand, fine subrounded gravel, trace organics and wood fragments.
S3	7, 9, 3	GS; FC=3%; ENV Sample: B-16_7.5	**HOLOCENE ALLUVIUM** Very loose, wet, brown, very gravelly SAND (SP); fine to coarse sand, fine and coarse subrounded to angular gravel, trace organics.
S4	2, 2, 3		Medium stiff, wet, dark brown, sandy, slightly gravelly SILT (ML); non-plastic, fine to medium sand, fine subrounded gravel.
S5	3, 2, 5	GS; ENV Sample: B-16_12.5	Very loose, wet, dark gray, sandy GRAVEL (GP); medium to coarse sand, fien subrounded gravel.
S6	10, 10, 6	ENV Sample: B-16_17.5	Becomes medium dense at 15' bgs.
S7	10, 17, 26		Stiff, wet, gray, sandy SILT (ML); low-plasticity, fine sand.
S8	8, 11, 14	FC=31%	Medium dense, wet, dark gray, very silty SAND (SM); fine sand.
S9	12, 13, 18		Medium dense, wet, dark gray, gravelly, slightly silty SAND (SP-SM); predominantly fine to medium sand, fine and coarse subrounded to subangular gravel.
S10	14, 16, 17		Becomes fine to coarse sand with no gravel at 30' bgs.

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method:
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level: ∇ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: AAF
Approved by:

Exploration Log B-16
Sheet 1 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location: Pacific City Park, King County, Washington.		Coordinates (SPN NAD83 ft): E:1291896 N:99309.9 (est)	Exploration Number: **B-16**
Contractor: Holocene	Equipment: Rotary drill rig	Sampling Method: Autohammer; 140 lb hammer; 30" drop	Ground Surface (GS) Elev. (NAVD88): 81'(est)	
Operator: Alex	Exploration Method(s): Hollow-Stem Auger and Mud Rotary Drilling	Work Start/Completion Dates: 2/23/2018	Top of Casing Elev. (NAVD88): NA	Depth to Water (Below GS): 1.3' (ATD)

Depth (feet)	Elev. (feet)	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
45	45	S11	16 19 9	FC=6.4%		Medium dense, wet, dark gray, gravelly, slightly silty SAND (SP-SM); predominantly fine to medium sand, fine and coarse subrounded to subangular gravel. (continued)	
40	40	S12	2 2 11			Soft, moist, brown, sandy, organic CLAY (OL) interbedded with fibrous PEAT (PT); non-plastic, fine sand.	40
45	35	S13	8 7 12	GS FC=48.2%		Medium dense, wet, gray-brown, very silty SAND (SM); fine sand.	45
50	30	S14a S14b	8 12 27			Becomes dense at 50' bgs. Dense, wet, dark gray, slightly silty SAND (SP-SM); fine to coarse sand, scattered thin beds of silty sand.	50
55	25	S15a S15b	16 14 11			Becomes fine to medium sand at 55' bgs.	55
60	20	S16	8 13 16				60
65	15					Bottom of exploration at 61.5 ft. bgs.	65

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

65.2

Legend

Sample Method
- No Soil Sample Recovery
- Split Barrel 3" X 2.375" (Mod Cal)
- Split Barrel 2" X 1.375" (SPT)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level
- Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: AAF
Approved by:

Exploration Log B-16
Sheet 2 of 2

Aspect CONSULTING	Pacific Right Bank - 170307		Geotechnical Exploration Log	
	Project Address & Site Specific Location		*Coordinates (SPN NAD83 ft)*	*Exploration Number*
	Pacific City Park, King County, Washington.		E:1292164 N:99226.9 (est)	**B-17**
Contractor	*Equipment*	*Sampling Method*	*Ground Surface (GS) Elev. (NAVD88)*	
Holocene	Rotary drill rig	Autohammer; 140 lb hammer; 30" drop	85.2'(est)	
Operator	*Exploration Method(s)*	*Work Start/Completion Dates*	*Top of Casing Elev. (NAVD88)*	*Depth to Water (Below GS)*
Alex	Hollow-Stem Auger Drilling	2/20/2018	NA	4.9' (ATD)

Depth (feet)	Elev. (feet)	Exploration Completion and Notes	Sample Type/ID	Blows/6"	Tests	Material Type	Description	Depth (ft)
	85	Boring backfilled with bentonite grout and capped with native soil.	S1	5 7 5			**FILL** Medium dense, very moist, brown, sandy GRAVEL (GP); fine to coarse sand, fine and coarse rounded to angular gravel.	
5	80	▽ 2/20/2018 8.5-inch OD Hollow Stem Auger from 0 feet bgs to end of hole.	S2	5 7 10			Becomes loose at 5' bgs.	5
			S3	6 4 3	ENV Sample: B-17_7.5		**HOLOCENE ALLUVIUM** Loose, wet, dark gray, slightly silty SAND (SP-SM); fine to coarse sand, trace coarse angular gravel, trace organics.	
10	75		S4	6 3 5	FC=1% ENV Sample: B-17_10		Very loose, wet, dark gray, slightly gravelly SAND (SP); fine and coarse sand, fine and coarse rounded to subangular gravel.	10
			S5	6 6 11			Becomes medium dense and brown at 12.5' bgs.	
15	70		S6	7 16 14	GS FC=0.6% ENV Sample: B-17_15			15
			S7	12 18 5			Becomes dark gray at 17.5' bgs.	
20	65		S8	3 4 10	ENV Sample: B-17_20		Medium stiff, wet, gray-brown, sandy SILT (ML); non-plastic, fine sand, trace organics.	20
							Medium dense, wet, dark gray, silty SAND (SM); fine to medium sand.	
25	60		S9a S9b	7 13 11	FC=3.6%		Medium dense, wet, dark gray, sandy, GRAVEL (GP); trace silt, fine and coarse sand, fine and coarse subrounded to angular gravel.	25
30	55		S10	4 6 13	GS FC=5.3%		Medium dense, wet, dark gray, slightly silty SAND (SP-SM); fine to medium sand, trace, fine subrounded gravel.	30
							Bottom of exploration at 31.5 ft. bgs.	

Blows/foot ▲ Water Content (%) ● 0 10 20 30 40 50

Legend

Sample Method
- ○ No Soil Sample Recovery
- ◪ Split Barrel 2" X 1.375" (SPT)
- ▮ Split Barrel 3" X 2.375" (Mod Cal)

Plastic Limit ⊢—⊣ Liquid Limit

Water Level
- ▽ Water Level ATD

See Exploration Log Key for explanation of symbols

Logged by: JGF
Approved by:

Exploration Log B-17

Sheet 1 of 1

APPENDIX B

Abandoned Landfill Study in King County

King County

ABANDONED LANDFILL STUDY
IN
KING COUNTY

SEATTLE-KING COUNTY DEPARTMENT OF PUBLIC HEALTH

APRIL 30, 1985

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

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Greg Bishop
Project Co-Leader

Wayne L. Turnberg
Project Co-Leader

Karen VanDusen
Historical Research

EXECUTIVE SUMMARY

The King County Abandoned Landfill Survey was conducted from October through December 1984 by the Health Department's Environmental Health Division at the request of the King County Council. The twenty sites were selected during a September 17, 1984 meeting between the Seattle-King County Department of Public Health, the Solid Waste Division. (Subsequent to this meeting three additional sites were added to the list.) The primary objective of the survey was to determine if any public health problems existed at the predetermined sites.

The Health Department researched the geographical and historical data on each site with input from various city and county agencies. This information was used by the field staff for guidance in determining where the sampling efforts should be focused.

Due to the limited time and resources available for the study, the staff decided to conduct a primary survey utilizing general sampling parameters. In the event the primary survey revealed any environmental health problems, then funds would be requested for more detailed followup work. The parameters chosen as criteria for the primary survey were:

1. Gas - Methane and non-specific organics/inorganics exclusive of methane;

2. Water - Conductivity, dissolved oxygen, pH, turbidity and temperatures.

The report presents the results of the preliminary survey including the field and historical data for each site. Of the twenty-three sites studied, eleven were found to have no significant environmental health problems. Better leachate or methane control are recommended at four sites. It is further recommended that additional water and/or soil samples be taken and analyzed at eight sites for primary organics and inorganics that may be toxic to humans.

CHAPTER I
INTRODUCTION

- Background Information
- Historical Concerns
- Figure I
- Table I

BACKGROUND INFORMATION

Land use is a major concern for any governmental entity, but particularly for those located in urban areas. In King County the increasing demand for residential, commercial and industrial sites causes both the public and private sectors to look for appropriate, effective and efficient means to use and/or develop remaining vacant land. Reclaiming land through the use of sanitary landfills which are later developed for many different uses has been an acceptable pattern of land use development for years. At least one-hundred-fifty acres of land were so reclaimed in the City of Seattle. However, since the complicated community impacts of New York's "Love Canal," a long forgotten hazardous waste landfill, became known in the 1970's, both public and private citizens have become increasingly sensitive to the legacy of long accepted waste disposal practices. It has become increasingly clear that some sites previously used for landfills are not appropriate for certain types of development due to the potential risk they present for chronic exposure to hazardous materials for users or developers of the site. Other sites have negatively impacted ground and/or surface waters. As a result, several federal, state and local regulations have been passed in an effort to change long accepted patterns of waste disposal and studies have been undertaken or are underway to document existing or abandoned sites which pose either environmental and/or human health hazards.

Against this national background of activity and concern, in September 1984 the King County Council requested the Environmental Health Division of the Seattle-King County Health Department to conduct a preliminary study of the abandoned landfills in King County. In undertaking this study, the Department focused on these questions:

1. Where are the abandoned sanitary landfills in King County?

2. Have abandoned landfills at the currently known sites undergone enough stabilization to allow development to safely occur on site?

3. Is there any evidence to suggest that the abandoned site may contain materials known to be toxic to human health which could impact human health during site development or due to chronic exposure from later use of the site?

4. Is there any evidence to suggest that the site may be negatively impacting the surrounding community via ground/surface water contamination or methane migration?

Both field studies and a search of site specific historical records were conducted in order to answer these questions. In addition, generalized information about waste disposal practices, provided a background perspective regarding the significance of the problem in this County.

HISTORICAL CONCERNS

A preliminary review of abandoned landfills in King County suggests a picture of "probably anything" located "almost anyplace." Garbage was defined by the 1931 Superintendent of the Garbage Division of the Health and Sanitation Department, C.L. Murray, as, "Everything that is wasted from the home, the business house, manufacturing plant...We collect this material without any separation...."

The material collected went to sanitary fills at convenient spots throughout the area. Low lands such as tide lands, marsh or dry ravines were favorite locations. It was not unusual for property owners to lease land to the County for a garbage dump in order to level the property, making it more desirable for development. In addition, the County was plagued by promiscuous dumping on vacant property and dead-end streets.

As noted in a 1970 Public Works document, King County Solid Waste Disposal - For 2020 Vision, Vol. I, "Historically the major objective of solid waste disposal was to get waste out of residential neighborhoods into rural dumping areas at a minimum of cost to the taxpayer. These objectives, shared by both officials and citizens, were conducive neither to operating disposal sites in a sanitary manner nor to preventing environmental pollution. However, 'the out of sight, out of mind' attitude toward solid waste disposal was shared across the nation, and any system which moved solid waste away from citizens' homes was generally deemed an adequate system!

One of the major concerns left from the legacy of solid waste disposal practices in the past are the number of abandoned sites at forgotten locations, long since developed for other uses. Another concern is the traditional practice of mixing commercial/industrial and residential wastes. According to a 1980 Battelle report on the "Identification of Hazardous Waste Disposal Sites and

Management Practices in Region 10," it was not unusual for industries to use regional landfills for waste disposal. This is underscored by a report released by CH_2M Hill in August 1969 entitled, Seattle Area Oil Waste Disposal Facility Study. This report notes that the closing of landfills to oil waste disposal due to water pollution and the cessation of open burning of oil due to air pollution made it difficult to properly and legally dispose of oily wastes from shipyards, industries and service stations. These wastes were noted to contain crude, diesel, lubricating, cutting, cooling, cooking or any other form of mineral or vegetable oil.

Thus the composition of the waste disposal of the several landfills which have been abandoned is of concern from a historical perspective.

Another and well known problem associated with solid waste landfills is the contamination of ground and/or surface waters due to leachate. Closed landfills without leachate interception equipment can contribute to ground water contamination. A draft EIS on the 1982 Comprehensive Solid Waste Management Plan for King County notes that leachate from landfills is the major environmental problem currently caused by solid waste disposal in King County. Unfortunately few, if any of the abandoned sites studied in this report had leachate interception and thus not only current but past landfills as well may be contributing to ground water pollution.

Many of the abandoned landfill sites in King County come as a result of a new strategy in waste disposal. The expanding build-up of residential areas in the 1950's began to crowd out potential future County landfill disposal sites. Old sites were reaching their planned capacities. At the same time the construction of Interstate 5 forced the closure of three large County landfills. Two of these handled 75% of the solid waste in King County. In 1960 the shift from using

several landfill sites to the use of transfer stations in conjunction with large remote (at that time) disposal sites was adopted. Eventually seven transfer stations eliminated fifteen of the previously used open dumps in the County. What happened to those closed sites and their existing conditions is the concern of this report.

ABANDONED LANDFILL SITES

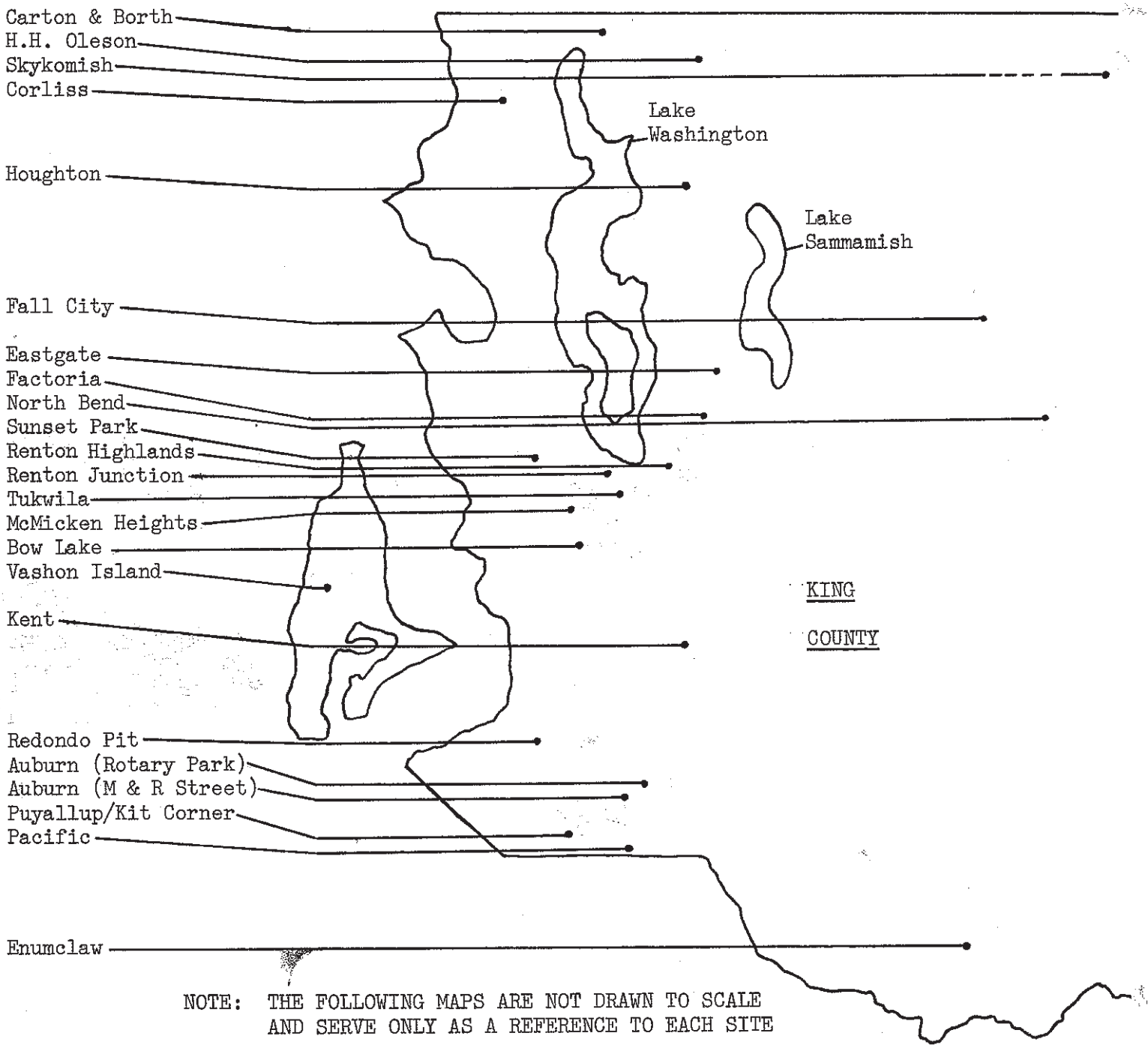
On September 17, 1984 a meeting was held between representatives of the Seattle-King County Department of Public Health and King County's Solid Waste division to determine the abandoned landfills to be targeted for this study. A list of twenty sites was organized based on the information available at that time. Subsequent to this meeting three additional sites were added to the list. All sites are presented in Table I and Figure 1.

CHAPTER II

METHODS AND MATERIALS

FIGURE 1

KING COUNTY ABANDONED LANDFILL LOCATIONS



NOTE: THE FOLLOWING MAPS ARE NOT DRAWN TO SCALE AND SERVE ONLY AS A REFERENCE TO EACH SITE

TABLE I

KING COUNTY ABANDONED LANDFILL LOCATIONS

Auburn (M & R Street) - Northwest of R Street and 25th Street S.E.

Auburn (Rotary Park) - Northwest of 27th Street S.E. and Alpine St. S.E.

Bow Lake - Northeast of S. 188th St. and Interstate-5

Carton & Borth - Northwest of 71st Ave. N.E. and N.E. 186th Street

Corliss - Northeast of Corliss Ave. N. and N. 163rd Street

Eastgate - Northeast of 156th Ave. S.E. and I-90, north end of Bellevue Airstrip

Enumclaw - Southeast of 284th Ave. S.E. and S.E. 448th Street

Factoria Pit - Northwest of 135th Ave S.E. and S.E. 40th Street

Fall City - Old Dump Rd. at first road bend

H.H. Oleson - Northeast of N.E. 172nd St. and 152 Pl. N.E.

Houghton - Northwest of N.E. 60th St. and 120th Ave. N.E.

Kent - Northeast of Maple St. and Tilden Avenue

McMicken Heights - Between the S. 175th St. dead-end and Interstate-5

North Bend - West of the Middle Fork Road, about 1 mile north of the Y turn from Edgewick Road

Pacific - South of 3rd Ave. S.E. at the White River

Puyallup/Kit Corner - Northeast of S. 360th St. and Interstate-5

Redondo Pit - Southwest of S. Dash Point Road and Pacific Highway South

Renton Highlands - Southwest of N.E. 3rd St. and Jefferson Avenue N.E.

Renton Junction - Between Monster Road and the Green River

Skykomish - North of the Stephen's Pass Highway just east of Skykomish

Sunset Park - Southwest of 18th Ave. S. and S. 136th Street

Tukwila - South of 62nd Ave. S. and S. 151st Street

Vashon Island - West of 130th Ave. S.W. across from the present landfill

METHODS AND MATERIALS

OBJECTIVE

It is the objective of this study to identify obvious and potential problems at the King County abandoned landfills that could adversely impact the public's health and safety.

General test parameters were selected for this preliminary assessment to:

1. Identify sites with problematic methane off-gasing;

2. Identify site areas that may have been used for hazardous waste dumping; and

3. Locate potential or obvious leachate seepage problems.

TEST PARAMETERS

The test parameters selected to identify problematic off-gasing include measurements of methane gas and non-specific trace gases. These are described as follows:

1. Methane Gas - a final by-product of anaerobic organic decomposition, methane is explosive when concentrated in the range of 4% to 18% per volume of atmoshere.

2. Trace Gas - for the purposes of this study, trace gas includes any organic or inorganic gas with an ionization potential of $\leq$ 10.2 eV. Methane, with an ionization potential of 12.98 eV would not be detected. Sites exhibiting trace gas levels greater than ambient air levels are suspect as potential areas of hazardous waste dumping.

The parameters selected to identify surface leachate seepage include pH, temperature, dissolved oxygen, electrolytic conductivity and turbidity. These are described as follows:

1. pH - typical leachate values have been reported to range from 3.7 to 8.5 with a median value of 5.8. Typical surface water values encountered in King County range between 6.5 to 8.5.

2. Temperature - fluctuates seasonally (electrolytic conductivity increases with temperature at a rate of approxiately 2% per degree C).

3. Dissolved Oxygen - dependent upon the physical, chemical, and biological activities in the water. Water quality tends to decrease with low dissolved oxygen values.

4. Electrolytic Conductivity - the ability for a water sample to carry an electric current. It is dependant upon the total concentration of the ionized substances dissolved in the water and temperature. Typical sanitary landfill leachate values have been reported to range from 0.1 to 1.2 milliohm/cm. Surface waters in King County typically exhibit conductivity values between 0.05 to 0.15 milliohm/cm.

5. Turbidity - measurement of suspended solids in a water sample reported in ppm. To approximate NTU's the following is given: ppm x 2.1 = NTU's.

SAMPLING INSTRUMENTATION

Gas measurements were made from one-half inch diameter bore holes sunk three feet into the ground at locations throughout each landfill area. Each hole was capped for a minimum of twenty minutes prior to testing to allow landfill gases to reach a state of equilibrium within the test holes. Methane gas and trace gas levels were monitored using the following instrumentation:

1. Methane Gas - Gas-Pointer Combustible Gas indicator, a product of Bacharach Instrument Company of Pittsburgh, Pennsylvania and Mountain View, California, a division of AMBAC Industries, Inc.

Sample gas was collected from the test hole through a suction tube, processed directly by the meter, and reported as percentage methane per volume of atmosphere.

2. Trace Gas - Model PI 101 Photoionization Analyzer, a product of HNU Systems, Inc. of Newton, Massachusetts.

Sample gas was collected from the test hole through a suction tube designed to draw gas at a flow rate of three-hundred to seven-hundred centimeters per minute past a photoionization sensor. The sample is directly processed by the instrument, recording trace organic and inorganic gases with ionization potentials of less than 10.2eV as parts per million.

Molecules with higher ionization potentials such as those forming the major components of air, would go undetected. Methane, with an ionization potential of 12.98 eV, would not register as part of the trace gases.

Water samples were tested in the field using a Model U-7 Water Quality Checker, a product of Horiba Instruments, Inc. of Irvine, California. The instrument was field calibrated using a standarized solution prior to testing, at a frequency of one per hour of operation. Field water samples were then placed into the unit's water test chamber for direct analysis by the sensor probes and read-out on digital display. The sensor probes were thoroughly rinsed with distilled water before and after each water testing.

HISTORICAL REVIEW METHODS

Since field tests give information about a site at only one point in time, it was appropriate to gain historical information on the twenty-three abandoned disposal sites. This was to provide a broader perspective of what might potentially be the site's characteristics. Specifically data gathering focused on past and present uses of the site in question; any engineering information about the site, including topography and soil studies; information pertaining to waste disposal practices at the site; and any information on known or suspected problems. This effort relied on available secondary data sources. Official records were few. However, files on some of the sites available from the King County Solid Waste Division contained many valuable references as did those from the King County Parks Department for sites subsequently developed for County parks. Anecdotal recollections, historical documents and maps, newspaper clippings, environmental impact statements and specialized studies done for development purposes, or citizen's advisory committee reports formed the bulk of the written report.

CHAPTER III
RESULTS

AUBURN (M & R STREET SITE)

During the time period from the early 1930's through the 1940's King County operated a landfill in the area bordered approximately by 21st and 25th Northeast and M & R Streets in Auburn. The exact closure date is unknown, but since the A.L. Wolfe Addition was platted and built upon by the mid-1950's, it can be assumed that the site closed no later than the early 1950's.

PAST AND PRESENT USE

The area in question was originally operated by King County and later annexed by the City of Auburn. The site was at one time a gravel pit which was subsequently reclaimed by the garbage fill. After the closure, the area was platted as the A.L. Wolfe Addition and is now a large single-family residential area.

SITE/ENGINEERING INFORMATION

Since closure of the landfill and the subsequent housing development there have been numerous settling problems. Particularly along 21st, 22nd and 23rd Streets inadequate compaction and settling prior to on-site development has played havoc with housing stability, water lines, streets and sidewalks. At one point, F.H.A. became involved and required that basements be dug under existing houses to increase stability of the structures.

The area has been described as including some of the old river bottom of the White River and as a relatively shallow fill area.

WASTE DISPOSAL PRACTICES

Generally the landfill is remembered as a place where one could bury and get rid of anything. However, Auburn has been primarily a bedroom community in a rural

setting so that at this time there is no evidence to support anything but residential garbage and rubbish as being deposited on site. The one exception is the apparent existence of a toothbrush factory in the area and the occasional finding of toothbrushes when digging post holes in residential back yards!

The fill was estimated to have been six to eight feet in depth.

SUSPECTED PROBLEMS

With the exception of the long standing land compaction/settling problem in this area, there is no historical information to suggest need for any further investigation.

FIELD RESULTS

On November 26, 1984 four bore holes were tested within the M and R Street site for the presence of methane and non-specific trace gases. Methane was not detected above a trace level from any of the test holes. Trace gas concentrations were low with a range of 0 to +0.3 ppm relative to ambient air levels (Table II).

No surface water was observed on or about the site. Street settling was observed within the vicinity of the former fill.

FIGURE 2

AUBURN ABANDONED LANDFILL: M AND R STREET

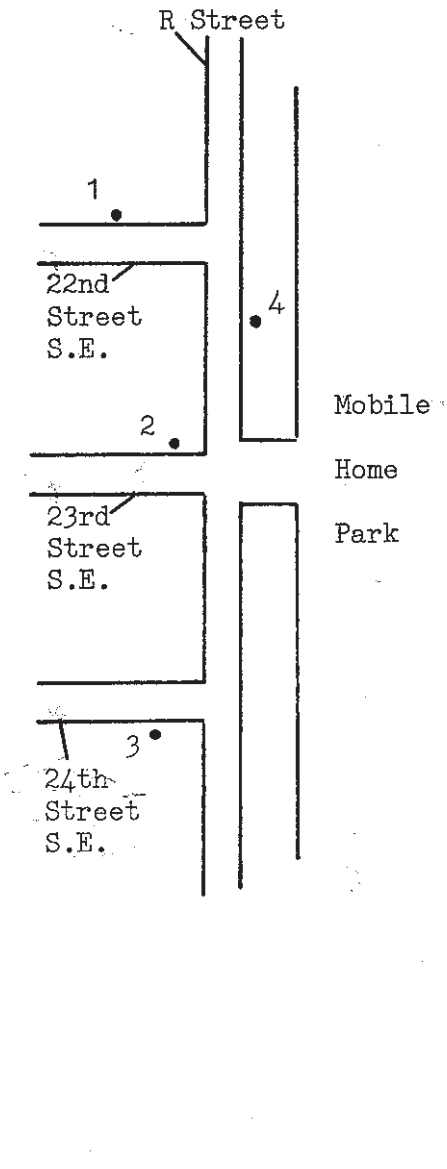


TABLE II

METHANE AND TRACE GAS CONCENTRATIONS
AUBURN ABANDONED LANDFILL: M and R STREETS

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	Trace	0
3	0	.3
4	Trace	0

*Reading represents change from ambient air level

AUBURN (ROTARY PARK SITE)

During the investigation of the main Auburn landfill, the existence of another landfill in the area was discovered. This was on the old Mead property, which is now part of the Auburn Rotary Park.

According to personal accounts this operated for several years until about 1965. In contrast to the main landfill this did not operate as a garbage dump but was primarily used for old cars, rocks, tires and general rubbish. Putrescible waste was not dumped here.

It is estimated that this site may have been thirty feet deep. Upon closure it was covered with one to two feet of top soil.

Since this site took everything except garbage it may be a site of long term concern, if "everything" included crankcase oil, pesticide cans and/or other potentially hazardous waste. However, no files, documents, or personal accounts suggest any problems at the site.

FIELD RESULTS

Twelve test holes were examined for methane and trace gas concentrations at the Rotary Park site on November 5, 1984 (Table III).

Methane gas levels were not observed exceeding trace concentrations throughout the site. Non-specific trace gas levels were observed ranging between 0 to +5.2 ppm relative to ambient air concentrations. Of note, the highest trace gas levels of +2.8, +1.9, and +5.2 ppm were located within the southeast corner of the park.

No waste was observed on or around the former landfill site, though a relatively high perched water table was noted within the southeast park quadrant.

FIGURE 3

AUBURN ABANDONED LANDFILL: ROTARY PARK

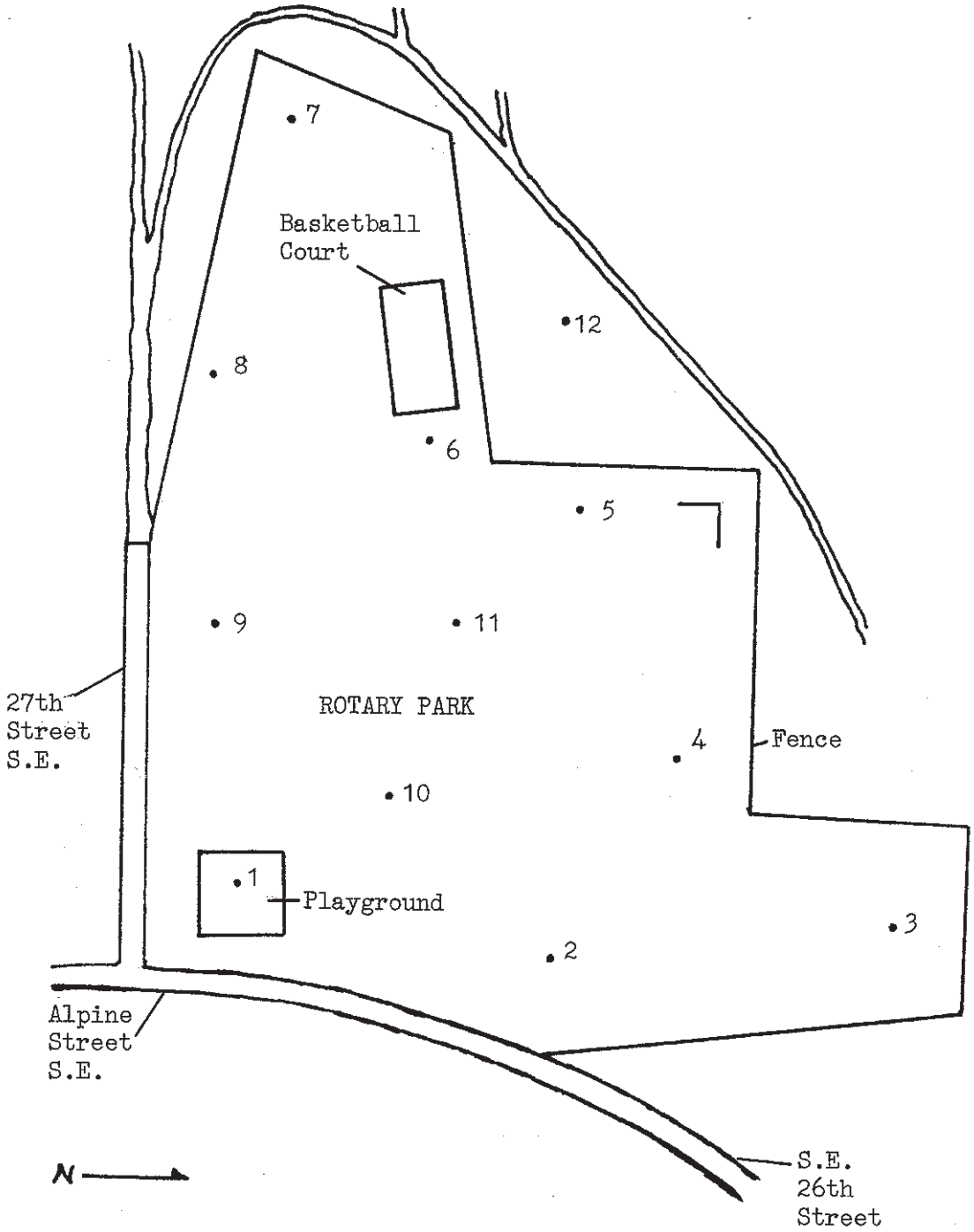


TABLE III

METHANE AND TRACE GAS CONCENTRATIONS
AUBURN ABANDONED LANDFILL: ROTARY PARK

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	2.8
2	0	.5
3	Trace	1.9
4	0	.5
5	Trace	.7
6	Trace	.2
7	Trace	.2
8	Trace	0
9	Trace	.4
10	0	5.2
11	Trace	0
12	0	0

*Reading represents change from ambient air level

BOW LAKE

Located in Section 35T-23N-R4E, the old Bow Lake landfill originally consisted of approximately 14 acres bordered on the west by Military Road and extending from slightly north of South 186th to the Orillia Exit road. It is typically identified as being at 188th and Military, the site of the old access road.

PAST AND PRESENT USE

The landfill was located in a predominantly rural area at the time of its operation. Old maps show a "dump" at the northern portion of the landfill site as early as in 1943. In the late 1950's the construction of Interstate 5 necessitated closure of the site as the freeway ran diagonally through this tract. In 1961 a transfer station was constructed on the site. This station became outdated and was redtagged by the Department of Labor and Industries in 1970. The "new" and existing transfer station was opened for a cost of $1.7 million in the fall of 1978. At that time it was serving an estimated population of 125,000 and transferring at least 60,000 tons of refuse annually to the Cedar Hills landfill site. It remains today the major transfer point for South King County.

SITE/ENGINEERING INFORMATION

There is a distinct slope of the old landfill site to the southeast corner. Early contour maps indicate a two hundred foot difference in elevation between the northwestern portion and the southeastern portion of the site.

Today the transfer site is bordered by freeway and freeway access roads on the west and south and private property on the north and east.

WASTE DISPOSAL PRACTICES

Records indicate that the Bow Lake landfill was the largest landfill in the County during the 1950's when it received 160,000 yd^3 of refuse annually. It served a large geographic area of South King County, running from the Seattle City boundary to Puget Sound, bordering Renton and Kent.

The toe of the fill appears to have moved from northwest to southeast as filling occurred through the years.

Interestingly a small incinerator was installed at the Bow Lake site on an experimental basis in 1955. Unfortunately this proved to be too smokey and incapable of handling the large items of refuse or garbage. In addition, it burned at too low a temperature to ensure complete combustion, so the incinerator was closed.

SUSPECTED PROBLEMS

Comments from private owners, the City of Tukwila and personal observation make it clear that the major problem at this abandoned landfill is uncontrolled leachate. It has apparently been a chronic problem for years.

A secondary concern is what might be in the site. Since the dump operated through the years when there was less effort and no regulation to separate waste types and since it served an area where there were commercial and industrial developments such as Sea-Tac and Boeing, there is the possibility that some potentially hazardous material could be on site. No records have been found to document this supposition. The site is listed on the EPA Region 10 ERRIS list.

FIELD RESULTS

The former Bow Lake Landfill was tested for methane and non-specific trace gas concentrations on October 22, 1984 (Table IV).

Of the seventeen bore holes tested for methane, four were observed within or above the explosive range of methane gas (4% to 18%). Peak methane levels of 30% and 35% were found at the northend of the site.

Trace gas levels ranged between 0 to +0.8 ppm relative to ambient air concentrations. Of note, four of the five positive trace gas readings corresponded to test holes which exhibited the highest levels of methane gas.

Leachate with an oily sheen and characteristic discoloration was observed seeping from the site from the southeast quadrant. Water parameters did not indicate it to be highly concentrated. These data are found in Table V.

Test parameters of a water sample retrieved from the transfer station storm drain did not indicate leachate contamination.

FIGURE 4

BOW LAKE ABANDONED LANDFILL

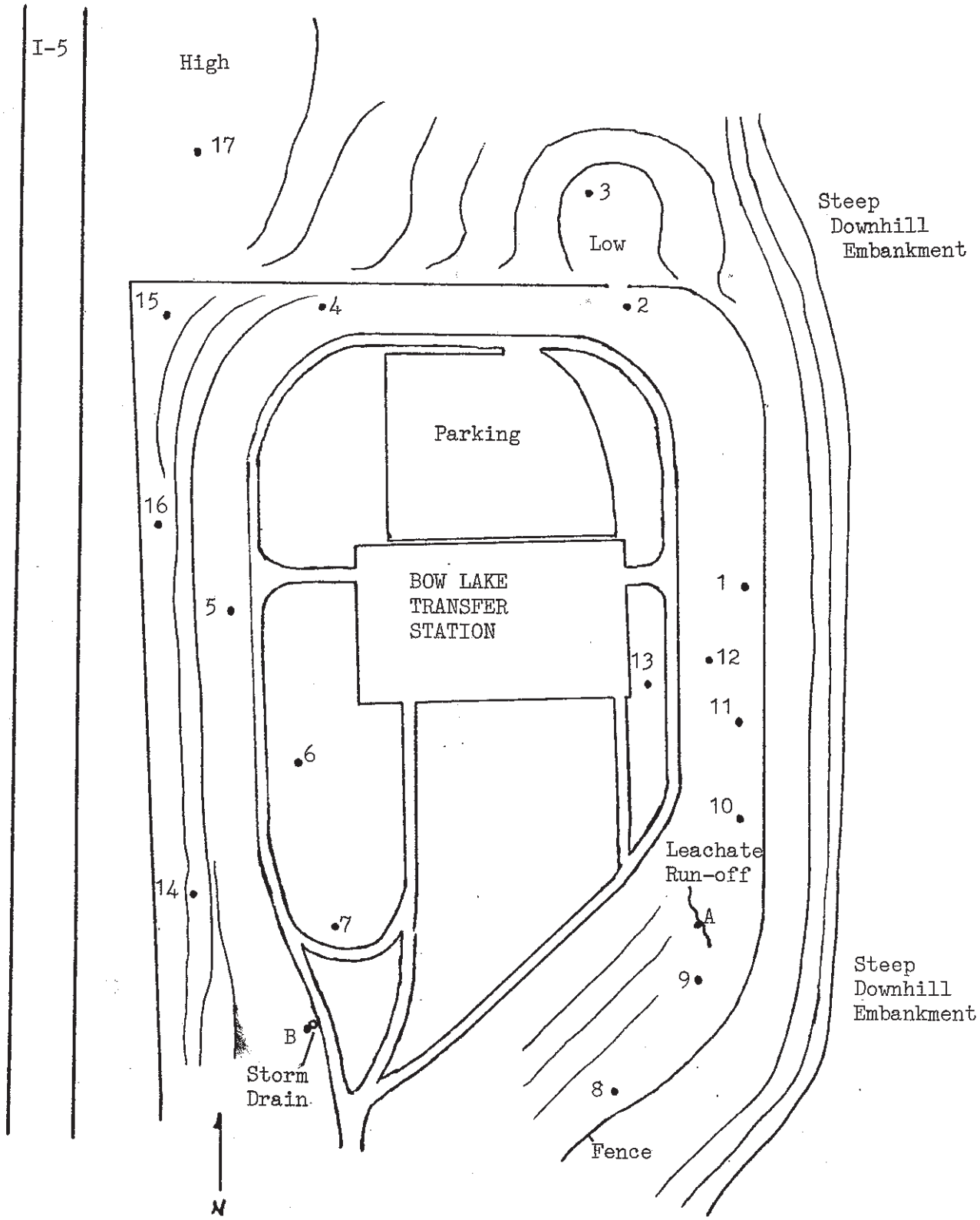


TABLE IV

METHANE AND TRACE GAS CONCENTRATIONS
BOW LAKE ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0	0
2	35	0.3
3	30	0.7
4	0	0.1
5	0	0
6	5	0.8
7	5	0.7
8	0 (Meter Box)	--
9	0	0
10	0	0
11	0	0
12	0	0
13	2.4	0
14	0	0
15	0	0
16	0	0
17	0	--

*Reading represents change from ambient air level

TABLE V

SURFACE WATER PARAMETERS
BOW LAKE ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	6.6	6.6
Temperature °C	13.1	15.5
Dissolved Oxygen ppm	1.6	4.2
Electrolytic Conductivity m℧/cm	0.5	0.5
Turbidity ppm	110	2

(1) Flowing leachate stream
(2) Standing water in storm drain

CARTON & BORTH

The Carton and Borth former landfill is situated between 68th Avenue Northeast and 71st Avenue Northeast. The southwesterly quarter of the site is currently occupied by the WesMar Industrial Park. The northwesterly quarter is presently under new building construction.

This site was formally known as the Loveless and Dillon Site. A Seattle Times article dated August 3, 1971 reported that the County Council approved an unclassified use permit for a sanitary landfill by Loveless and Dillon, Inc. This was described as a 12.81 acre landfill on the east side of 68th Avenue Northeast, Kenmore and about three hundred thirty feet north of the Tolt River pipeline.

Since it was a private operation, the County regulated and inspected the site. Health Department officials remember getting complaints about the site regarding stench, which may have been an indication of inadequate cover operations. In addition a stream, which is currently diverted around the perimeter of the property, once ran through the property. The Health Department had responded to complaints regarding the off-colored appearance and odor associated with this stream.

The site was primarily used for rubbish such as wood and stumps, demolition materials, and oil from roads. A minimal amount of garbage was apparently received. It operated for only a short time for the purpose of reclaiming the site for the commercial development that currently exists.

FIELD RESULTS

On October 30, 1984 nine test bore holes were placed in the easterly half of the Carton and Borth site for methane and trace gas monitoring. These data appear

in Table VI. Access for testing of the westerly half of the fill was denied by its current property owners.

Methane gas was observed in low concentrations throughout the site with a peak reading of 5%. All trace gas observations were neutral relative to ambient air concentrations.

One water sample was retrieved from the stream passing around the north to east perimeter of the fill. These data are presented in Table VII. Leachate contamination was not indicated by the test parameters.

FIGURE 5

CARTON & BORTH ABANDONED LANDFILL

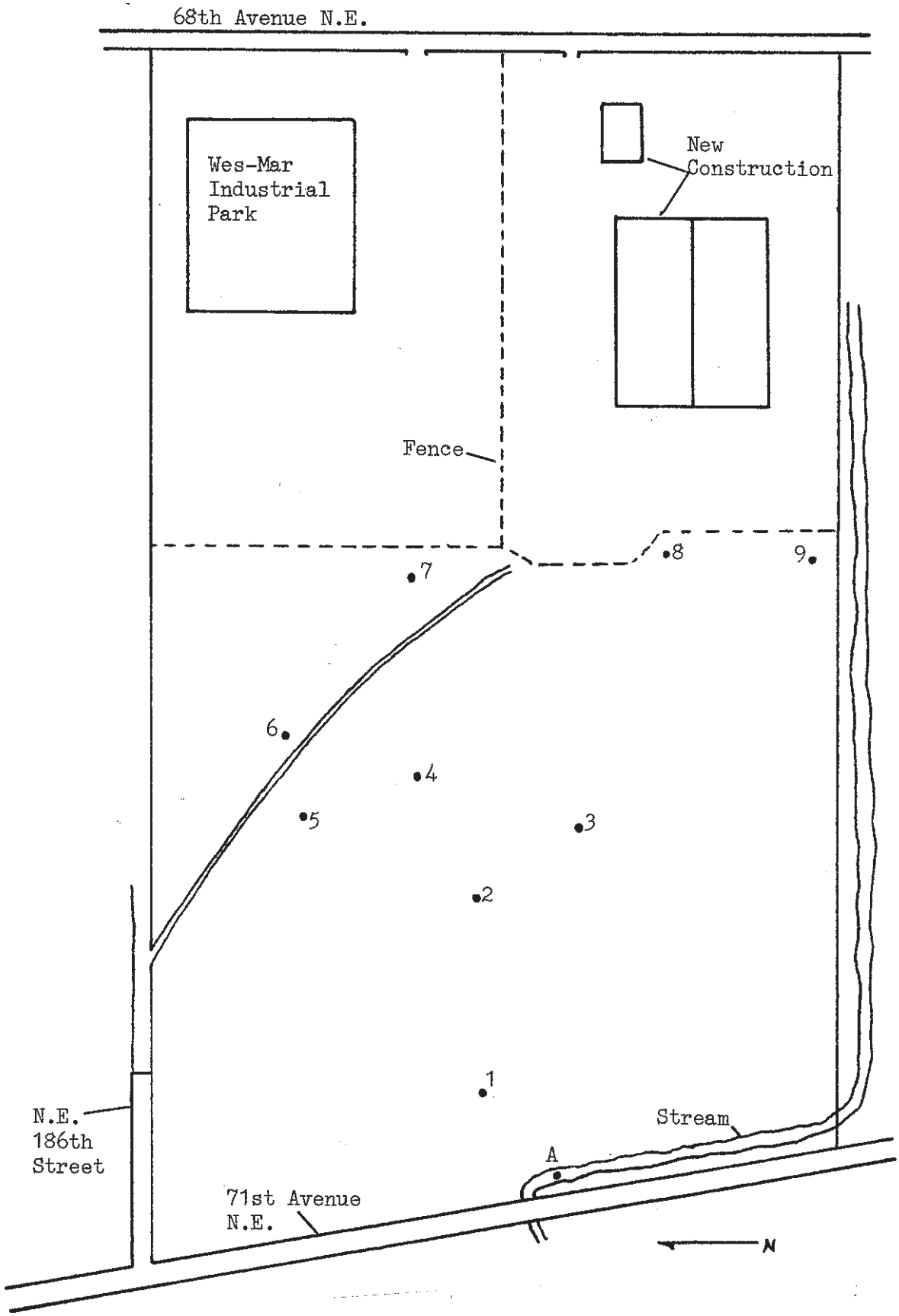


TABLE VI

METHANE AND TRACE GAS CONCENTRATIONS
CARTON & BORTH ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0.1
2	Trace	0
3	Trace	0
4	Trace	0
5	0	0
6	Trace	0
7	5	0
8	1.2	0
9	0	0

*Reading represents change from ambient air level

TABLE VII

SURFACE WATER PARAMETERS
CARTON & BORTH ABANDONED LANDFILL

	Site A (1)
pH	6.1
Temperature °C	9.7
Dissolved Oxygen ppm	7.8
Electrolytic Conductivity m℧/cm	0.2
Turbidity ppm	1

(1) Flowing water from creek

CORLISS LANDFILL

The north end of King County was serviced for several years by a landfill located in the vicinity of 1st Avenue Northeast and Corliss Avenue between approximately Northeast 163rd and Northeast 165th. It operated from the 1940's until closed by the construction of Interstate 5 in June 1959. The landfill site today is divided midway by a fence extending east to west. The northerly half is the site of the Northeast Transfer Station. The southerly half is an undeveloped tract.

PAST AND PRESENT USE

Prior to 1940 the site was essentially rural, undeveloped property. Between about 1946 and 1959 King County used the area for a sanitary landfill. Construction of Interstate 5 necessitated excavation of the earliest part of the waste fill on the southeasterly portion of the site. The freeway now runs over that section. The north transfer station was constructed on the more recently used portion of the landfill. The remaining area consists of the undeveloped McCormick Park at Northeast 165th and Corliss, which the King County Parks Department acquired in 1967. This tract is also currently being considered by Metro as a potential site for their North Operating Base.

SITE/ENGINEERING INFORMATION

Data derived from Washington State Department of Transportation and King County explorations reported in a 1984 EIS prepared by Metro describe the site as an area providing surface drainage for Ronald Bog and perimeter areas north of this site. A large peat bog is found adjacent to the landfill site and was mined about the same time the solid waste operation existed. In addition, peat is found under portions of the landfill site.

Soil studies undertaken in 1977 in this area showed that garbage and rubbish extended from a depth of two feet to fourteen feet. Other soil explorations on site note that the maximum fill recorded is thirty seven feet. Motor oil smell was encountered at three feet in one soil boring reported for the site.

The site soils are characterized as fill, peat, loose sand and soft silt deposit, glacial advance sand and glacial till. The ground water is encountered anywhere from four to seven feet in the recorded borings. Groundwater flows generally to the southwest across the site. An early map of the landfill area characterizes the southeastern portion as a "swamp" and shows the toe of the fill adjacent to a creek - possibly Thornton Creek.

WASTE DISPOSAL PRACTICES

The sanitary fill at Northeast 165th and 1st Avenue Northeast handled about 60,000 cubic yards of refuse annually and was the primary north end disposal site. Over 900 cars and trucks were reported to come to the dump on weekends. The nearest County fill after the closure in June 1959 was the site at Houghton.

The earliest portion of the fill at 1st Northeast was lost to the freeway. Included in this portion, in 1947, at the northeastern edge, was an authorized septic tank dump. Plans were underway by 1960 to use part of the remaining landfill site for a transfer station as it exists today.

SUSPECTED PROBLEMS

Since closure of the landfill site, the land has remained undeveloped except for construction of the transfer station.

Concerns about differential settlement, ground water and the natural drainage in the area have made planners cautious regarding development.

In addition, since the site was one of two that handled the majority of the waste produced in King County for several years, it is possible hazardous materials could have been placed on site. The site is mentioned on the EPA ERRIS listing. However, the 1984 Metro Draft Supplemental Environmental Impact Statement for the North Operating Base notes that, "Municipal waste material samples were collected and analyzed from four borings drilled in the filled area. The chemical analyses indicate that the waste material would not likely be considered hazardous or dangerous."

FIELD RESULTS

The Corliss Abandoned Landfill is divided midway by a fence east to west. Testing of the south sector was conducted on October 11, 1984 for methane and non-specific trace gas (Table VIII). Gas sampling of the north sector and all surface water tests were completed on October 12, 1984.

Methane gas was observed at levels within or above the explosive range for methane gas (4% to 18%) from five of twenty test holes located without pattern throughout the site.

Non-specific trace gas was observed near that of ambient air levels with the exception of test hole #11 (0.8 ppm), #14 (3.8 ppm), #18 (9.2 ppm) and #19 (0.8 ppm).

A stream which runs along the site's westerly perimeter was sampled from locations upstream and downstream from the former fill. Test parameters did not indicate any obvious leachate impact upon the stream. These data appear in Table IX.

FIGURE 6

CORLISS ABANDONED LANDFILL

I-5

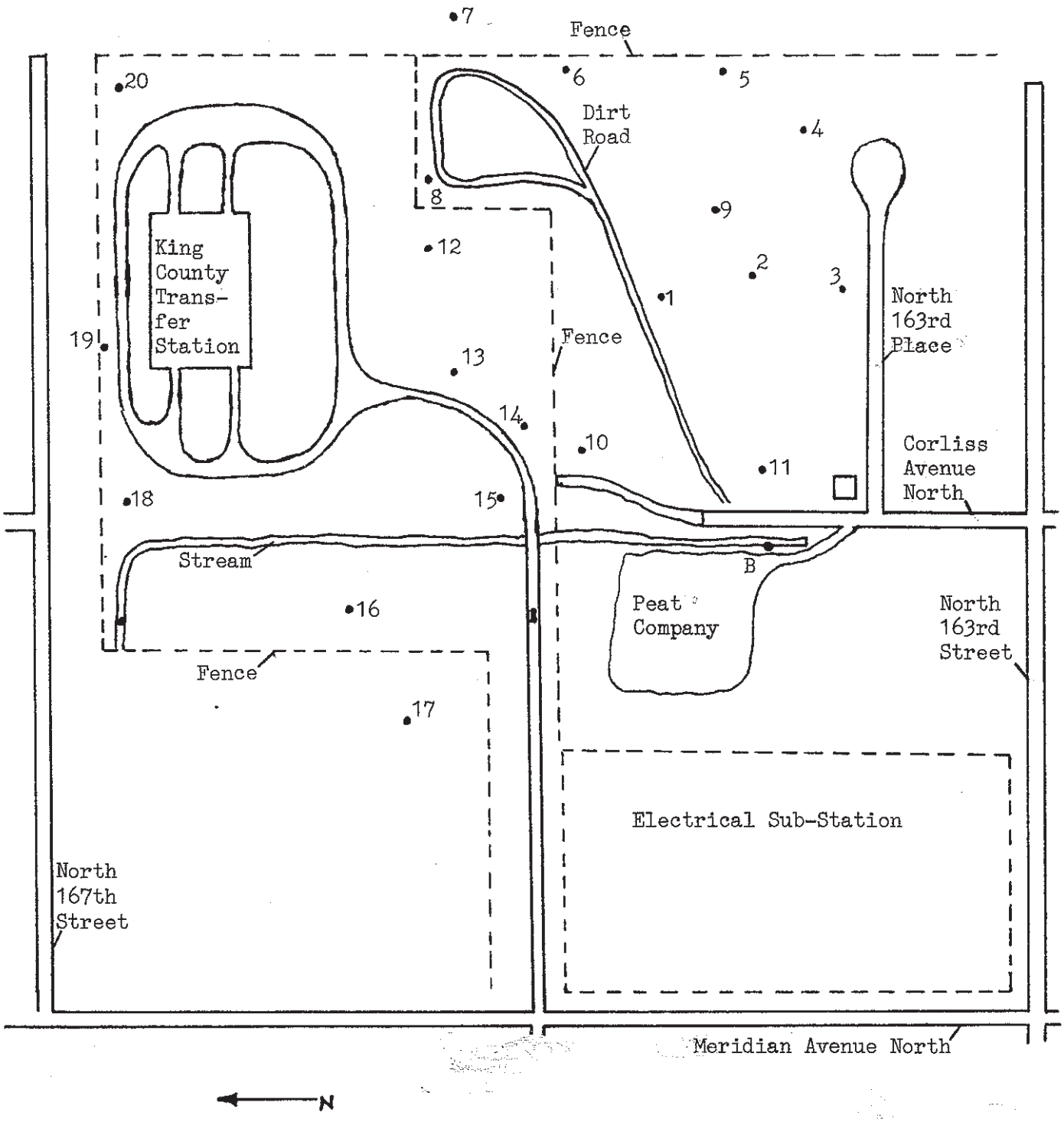


TABLE VIII

METHANE AND TRACE GAS CONCENTRATIONS

CORLISS ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	3.2	0.1
2	Trace	0.2
3	0	0.2
4	0	0.1
5	Trace	0.1
6	30	0.1
7	10	0.2
8	1.2	0.2
9	Trace	0.2
10	0.8	0.2
11	27	0.8
12	Trace	0.1
13	Trace	0
14	42	3.8
15	---	0.1
16	5	0
17	0	0.1
18	3	9.2
19	Trace	0.8
20	Trace	0

* Reading represents change from ambient air level

TABLE IX

SURFACE WATER PARAMETERS
CORLISS ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	6.5	6.6
Temperature ^{o}C	14.9	14.5
Dissolved Oxygen ppm	6.5	6.0
Electrolytic Conductivity m℧/cm	0.1	0.1
Turbidity ppm	4	3

(1) Stream water upstream from landfill
(2) Stream water downstream from landfill

EASTGATE ABANDONED LANDFILL

The north end of the Bellevue Airfield was the site of a former landfill which was closed and covered in 1964. Solid Waste Division files show the landfill operation in this area in 1953 when it was referred to as the Factoria Garbage Dump. It apparently began in about 1951.

Little historical documentation has been found regarding the specific operations of this site. Personal anecdotes reveal that at one time a gravel pit was adjacent to the site.

Very few operational problems were remembered. It was estimated to have been filled to a depth of six to twenty-eight feet. The site was a burn dump and consequently became a problem for the airfield due to smoke reduced visibility.

The general area was purchased by Cabot, Cabat & Forbes and subsequently by Boeing (the current owners) and the Bellevue School District. The site is part of the I-90/Bellevue Business Park.

SUSPECTED PROBLEMS

The site is currently surrounded by controversy. Residents in the Phantom Lake Area north of the old landfill have become concerned about the development of the site and its impact on the lake.

Drainage going through the garbage has caused leachate to be a problem. This has necessitated costly interventions by private owners, including an ongoing methane monitoring program conducted by Boeing. Entranco Engineers recently conducted a study of the landfill leachate to evaluate "whether landfill leachate constitutes significant and dangerous or damaging contamination to Phantom Lake." This was done by assessing priority pollutant data from two sampling stations

located on the I-90 Bellevue Business Park Property. Given the limitations of small sample size, the results included: 1) "Landfill leachate contains certain heavy metal and organic priority pollutants at detectable levels." 2) "Of the organic pollutants measured in the landfill leachate, the insecticide chlordane was the only compound found at concentrations higher than expected." The report cautions that the leachate could have adverse impacts on ground water and that concentrations of the leachate pollutants could vary with higher concentrations possible.

FIELD RESULTS

Nineteen bore holes were tested for methane and non-specific trace gases at the Eastgate Abandoned Landfill on November 20-21, 1984. These data appear in Table X. Methane was observed ranging from 0% to 10% on the site. Only two test holes registered methane in the explosive range (4% to 18%).

Non-specific trace gas levels were low relative to ambient air levels with only one test hole exhibiting a level of +0.6 ppm.

Of note, the Boeing Company, current owners of most of the site property, has installed several off-site methane test wells dug to approximately 30 feet to measure off-site gas migration. It has been their experience to observe dramatic fluctuations in methane levels with changing barometric pressure. High pressure systems have been associated with low methane levels, and low pressure systems with high levels.

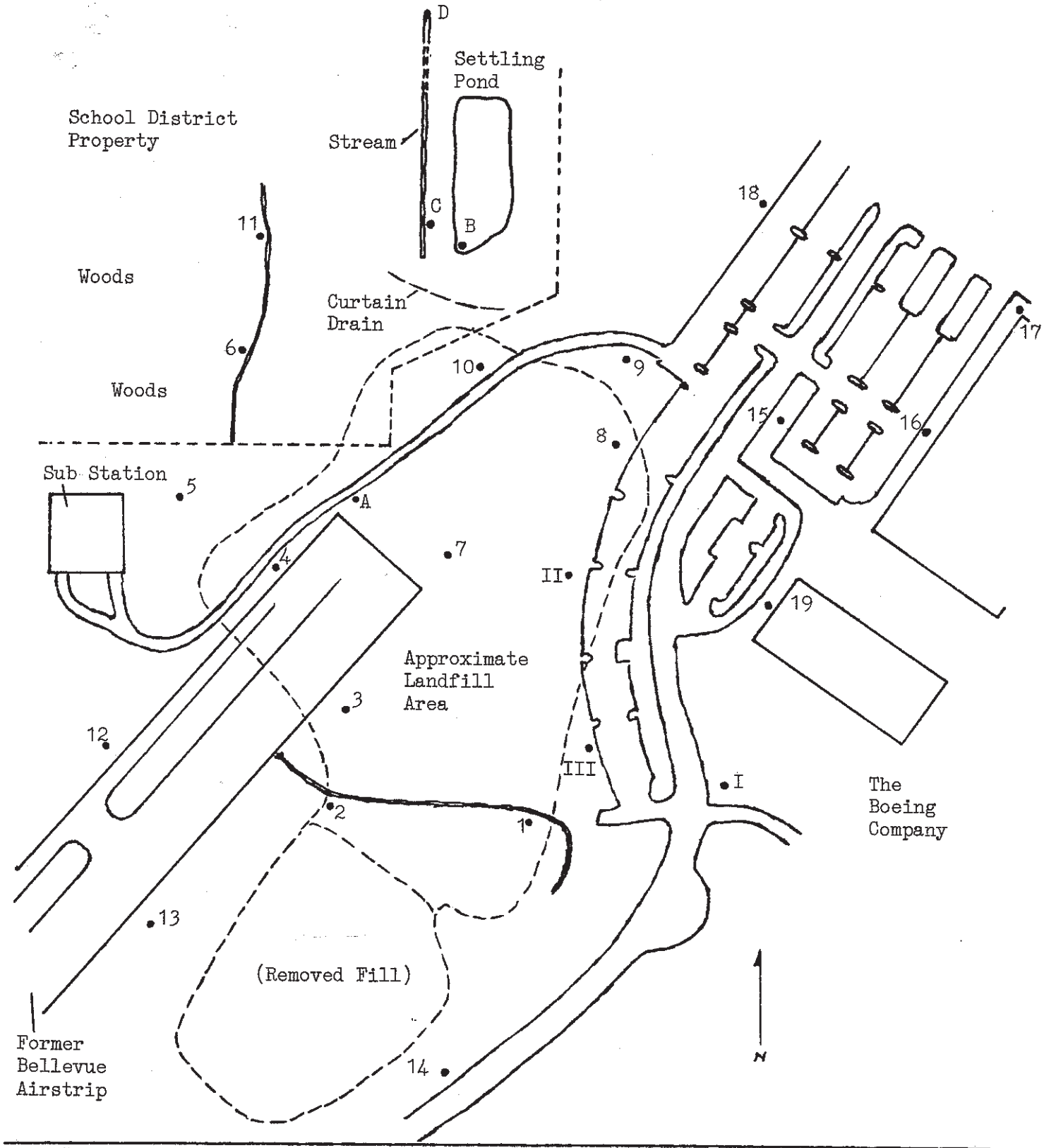
Our observations of this phenomenon appear in Table XI. Two test wells sampled on different days under different barometric conditions yielded dramatically different results. Methane levels were observed fluctuating from trace to 40% from test well A, and 4% to 70% from test well B.

Leachate has historically been a problem with this site. At one time a leachate collection system was installed at the north end of the fill which channeled into a stream and eventually Phantom Lake.

Samples obtained from the settling pond, the leachate recovery stream by the fill and by the lake did not indicate concentrated leachate contamination. Surface water from a run-off stream located directly on the landfill exhibited parameters of good water quality. These data are presented in Table XII.

FIGURE 7

EASTGATE ABANDONED LANDFILL*



*Map dimensions courtesy of the Boeing Company

TABLE X

METHANE AND TRACE GAS CONCENTRATIONS

EASTGATE ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0.2	0
2	0	0
3	0.2	0
4	10	0.1
5	0.2	0
6	0.2	0
7	Trace	0
8	Trace	0
9	5	0
10	Trace	0.6
11	Trace	0
12	Trace	0
13	Trace	0
14	0	0
15	0	0
16	Water Table	Water Table
17	0.2	0
18	0.2	0
19	0.4	0

* Reading represents change from ambient air level

TABLE XI

METHANE CONCENTRATIONS IN TEST WELLS
EASTGATE ABANDONED LANDFILL

Well	Sampling Date	Methane (%)*
I	11-21-84	Trace
	11-29-84	40
II	11-20-84	4
	11-29-84	70
III	11-29-84	24

* Variations due to barometric pressure differences

TABLE XII

SURFACE WATER PARAMETERS

EASTGATE ABANDONED LANDFILL

	Site A(1)	Site B(2)	Site C(3)	Site D(4)
pH	5.7	5.9	6.2	6.9
Temperature . . . °C	8.4	9.7	9.4	9.4
Dissolved . . . . Oxygen ppm	7.5	7.8	2.4	9.6
Electrolytic . . . Conductivity m-℧/cm	.05	.15	.2	.05
Turbidity ppm	2	2	160	1

(1) Drainage ditch on landfill surface
(2) Settling pond
(3) Drainage stream from leachate collection system
(4) Drainage stream from leachate collection system

ENUMCLAW

The current sanitary landfill on Southeast 440th in Enumclaw, operating since 1939, is generally referenced as the "old" landfill. The Sonneson family deeded this area to the City of Enumclaw on January 5, 1939 for the purposes of a garbage dump. However, there was an earlier landfill which was abandoned in 1939 when the Sonneson property became available.

The landfill was located on Roosevelt Avenue to the east of the Farman's Pickle Factory adjacent to the land currently occupied by Pete's Pool at the King County Park. The County leases land to the Enumclaw Golf Course on the site of the old landfill and early maps of the abandoned site show that the fairway parallels the approximate site of the old dump.

Since this dump has been closed nearly fifty years, preliminary data searching revealed no existing records on the site's specific operation.

However, it might be assumed that the old site served the area serviced by the current landfill. This would include the city of Enumclaw as well as some private residents of King County and commercial refuse haulers. The property in the area is primarily residential and Enumclaw itself is a predominantly rural town. It is unlikely that any hazardous material found its way to the landfill unless there could have been wastes from any wood manufacturing existing at that time. The current site is on the EPA ERRIS list, indicating a potential possibility of hazardous waste materials in that site. The earlier site of current concern was closed before the major chemical developments and subsequent waste generation which occurred during and after World War II. Thus, while the existing site may well contain hazardous materials, there is little to suggest the same for the old site.

FIELD RESULTS

On December 8, 1984 nine bore holes were tested at the Enumclaw site for methane gas concentrations. These data appear in Table XIII.

Methane gas levels were observed in low concentrations (trace to 0.2%) from test holes located along the east and west perimeter of the fill, indicating its boundaries.

Non-specific trace gas levels were not monitored at this site.

Surface water was not observed on the site. However, a nearby stream was sampled and exhibited parameters of good water quality (Table XIV).

FIGURE 8

ENUMCLAW ABANDONED LANDFILL

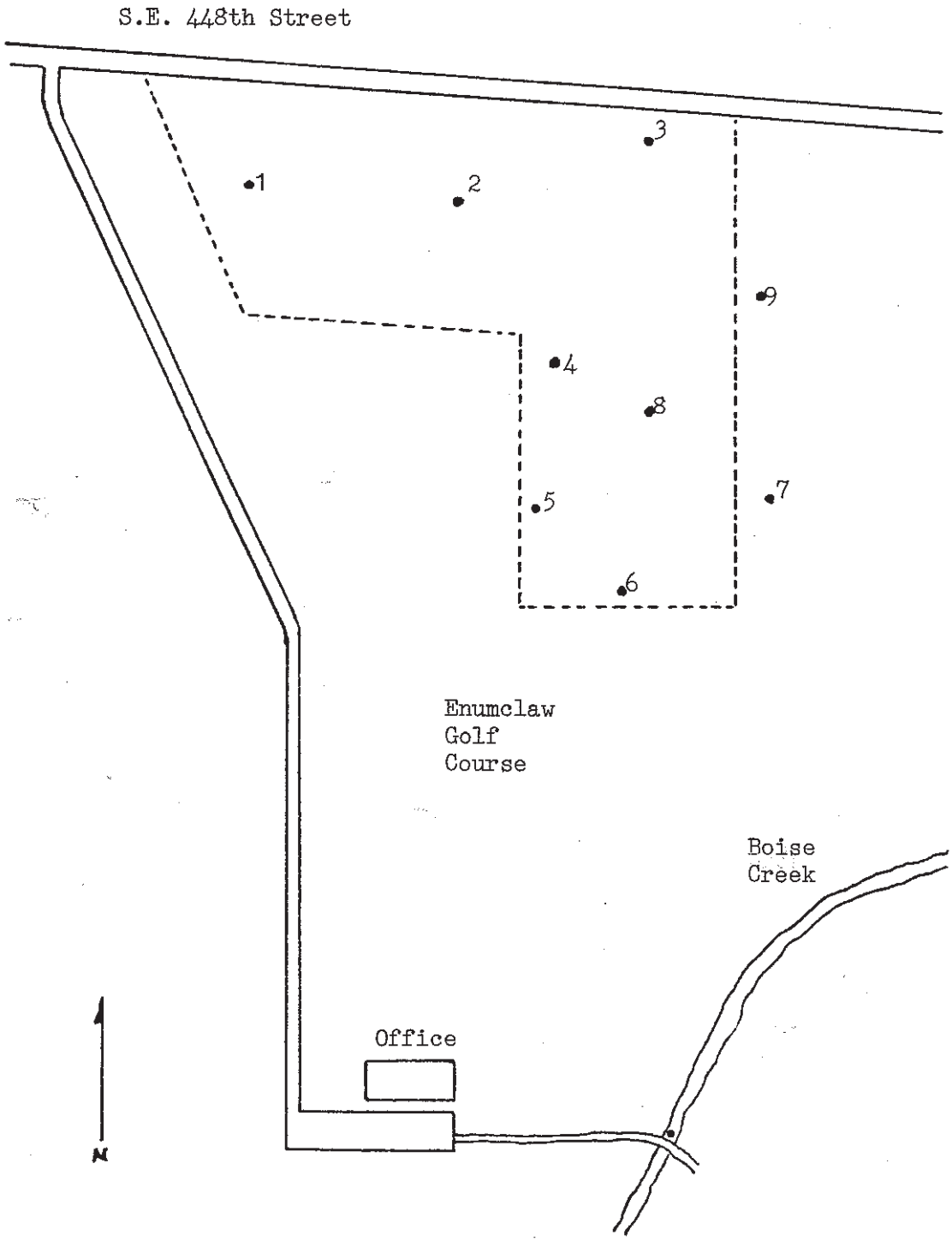


TABLE XIII

METHANE GAS CONCENTRATIONS
ENUMCLAW ABANDONED LANDFILL

Site	Methane (%)
1	0
2	Trace
3	0.2
4	0.2
5	0.2
6	0.2
7	Trace
8	0
9	0

TABLE XIV

SURFACE WATER PARAMETERS
ENUMCLAW ABANDONED LANDFILL

pH	5.8
Temperature ^{o}C	6.5
Dissolved Oxygen ppm	10.2
Electrolytic Conductivity m$\mho$/cm	0.2
Turbidity	42

FACTORIA PIT (SUNSET RAVINE PARK)

South of I-90 on 136th Avenue Southeast is the site of another abandoned landfill in the City of Bellevue. It was closed in about 1951 when operations were moved to the northend of the Bellevue Airfield.

Official information on this site is sketchy. It was apparently the original landfill site in the general area and operated as a burn dump. The site remains undeveloped. It is listed on the EPA ERRIS report.

FIELD RESULTS

On December 1, 1984 eleven bore holes were tested for methane and non-specific trace gases at the Factoria abandoned landfill site. These data appear in Table XV.

Methane was observed ranging from 0% to 0.2% indicating the stability of the site. Trace gas levels were all observed undifferentiated from ambient air levels.

Upstream and downstream water samples obtained from a stream, passing adjacent to the site indicated no change in water quality (Table XVI).

FIGURE 9

FACTORIA ABANDONED LANDFILL

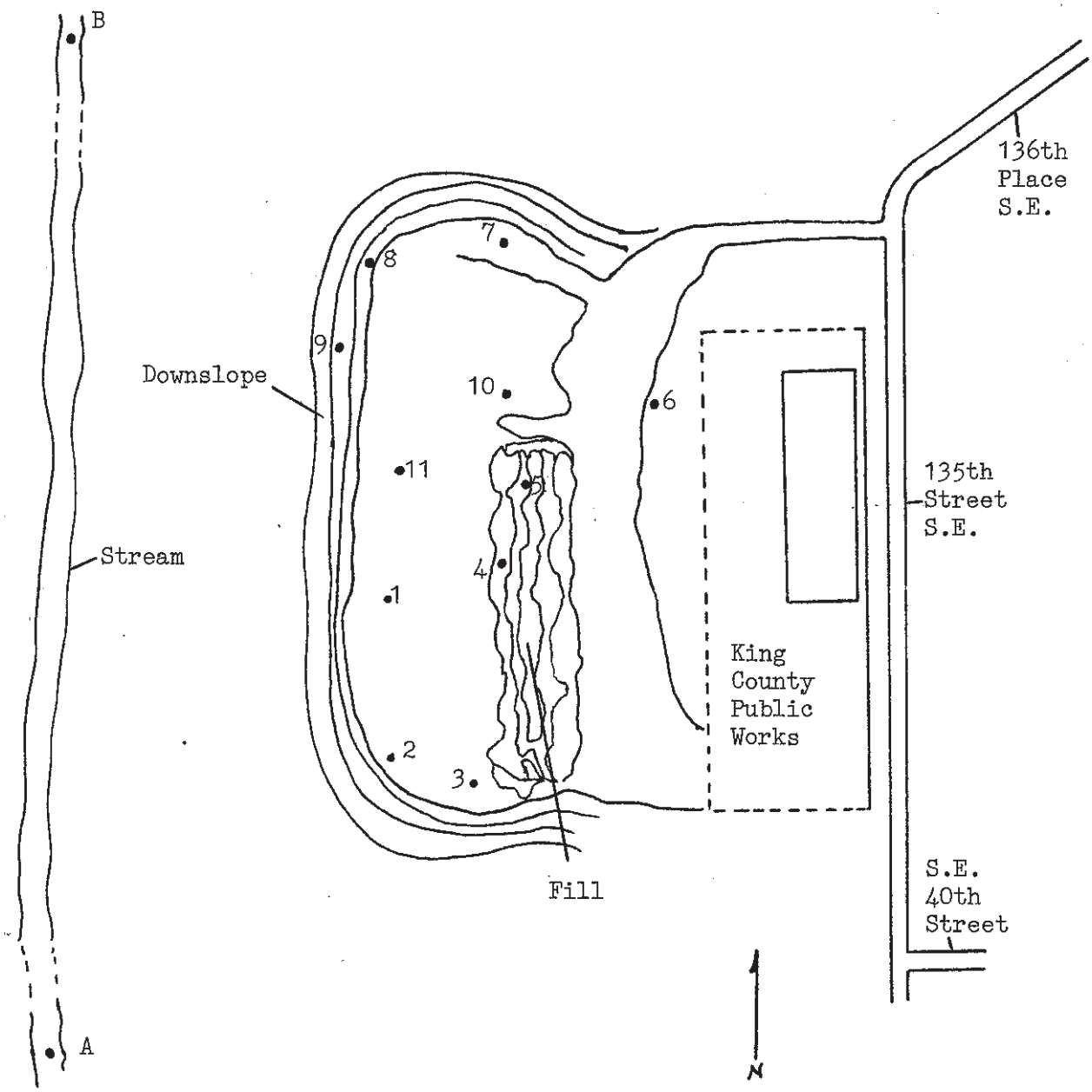


TABLE XV

METHANE AND TRACE GAS CONCENTRATIONS
FACTORIA PIT ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	Trace	0
3	Trace	0
4	0	0
5	Trace	0
6	0.2	0
7	Trace	0
8	Trace	0
9	0.2	0
10	0	0
11	0	0

* Reading represents change from ambient air level

TABLE XVI

SURFACE WATER PARAMETERS
FACTORIA PIT ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	5.9	6.0
Temperature °C	9.4	9.0
Dissolved Oxygen ppm	9.7	10.1
Electrolytic Conductivity m℧/cm	0.15	0.15
Turbidity ppm	3	9

(1) Upstream from landfill
(2) Downstream from landfill

FALL CITY ABANDONED LANDFILL

Located off the Fall City-Duvall Road is a turn to Southeast 39th Place, the "old Dump Road." Following this road about 0.3 mile beyond two gate posts on the road brings one to the site of a small former landfill. This operated several years and was closed sometime in the early 1960's.

The site was located on Weyerhauser property and privately operated. It was approximately three hundred feet deep and one hundred to one hundred fifty feet in width, located above Rutherford Slough on the top of a steep embankment. Vehicles pulled in and dumped material over the hillside. It was a burn dump.

It was predominantly a community dump and being in a very rural part of King County it is doubtful hazardous materials are on site. The one reasonable exception is the potential presence of pesticides in a rural area. In addition, it is suspected that septic tank pumpers may have dumped on site. However, the practice of burning on site has eliminated any pollutants of this nature as a chronic problem.

When it was closed, Weyerhauser was to clean the area up and close it off. Today there is no visual evidence that a landfill once operated here. It is now overgrown with brush and tall grasses and remains vacant.

FIELD RESULTS

On-site gas testing at the Fall City site was run on October 20, 1984 for methane and non-specific trace gases. These data are presented in Table XVII. Methane was observed in only trace concentrations in each of the five test bore holes.

Trace gas levels were neutral to the ambient air with the exception of a low +0.2 ppm reading of hole #3.

No off-site leaching problems were directly observed. Leachate contamination was not indicated by the test parameters of a slough sample, though an oily sheen was observed on the slough surface (Table XVIII).

Recent illegal dumping of household refuse was observed on the site in small quantities.

FIGURE 10

FALL CITY ABANDONED LANDFILL

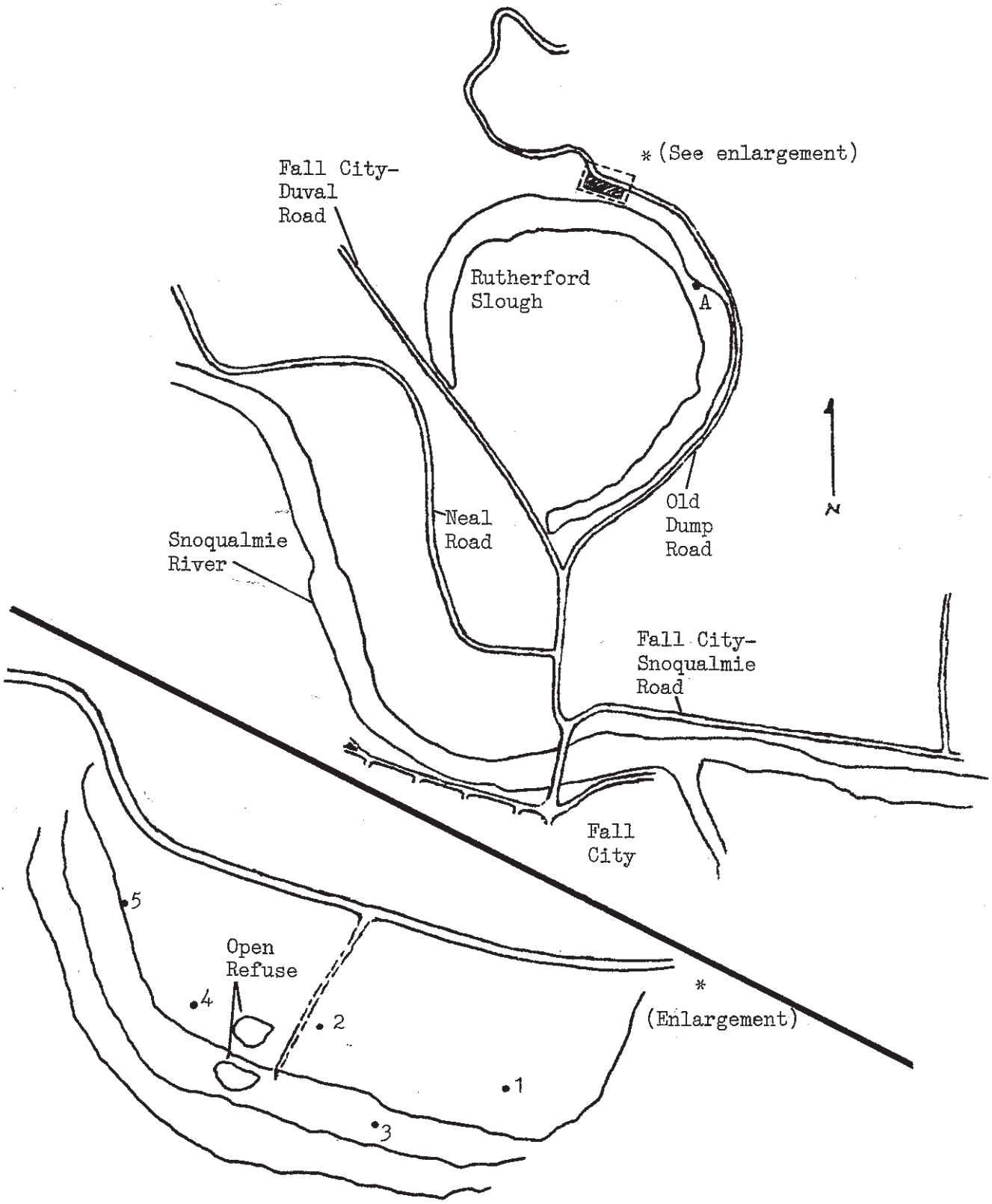


TABLE XVII

METHANE AND TRACE GAS CONCENTRATIONS
FALL CITY ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	Trace	0
3	Trace	0.2
4	Trace	0
5	Trace	0

* Reading represents change from ambient air level

TABLE XVIII

SURFACE WATER PARAMETERS
FALL CITY ABANDONED LANDFILL

pH	6.3
Temperature ^{o}C	7.3
Dissolved Oxygen ppm	8.4
Electrolytic Conductivity m$\mho$/cm	0.1
Turbidity ppm	8

H.H. OLESON

The H.H. Oleson landfill operated from about 1972 until about 1979 as a means of reclaiming an existing abandoned excavation site. It consisted of about 10.8 acres according to the legal description.

PAST AND PRESENT USE

In the early 1970's H.H. Sand and Gravel Company requested the permit to operate a demolition landfill on the site of their former excavation pit. It was primarily a reclamation effort. A time extension for the operation was requested in 1977. At that time the site was described as slightly wooded on the last portion, with the excavation on the west portion currently being filled. Thus the property apparently was filled from east to west.

SITE/ENGINEERING INFORMATION

Maps of the site show that drainage was an anticipated problem. Settling basins were planned along 152nd Avenue Northeast so that drainage swales could have water channeled off property to drains and/or ditch on 152nd Avenue Northeast.

The completed fill was anticipated to change the topography of the site considerably. The final fill slopes gradually to 152nd Northeast (Van Brocklin Road).

WASTE DISPOSAL PRACTICES

According to a S.E.P.A. Application at the time the landfill began, the operation was to follow the standard sanitary fill procedures, alternating layers of sanitary fill and soil. It was estimated that a thirty mile radius around the fill site could be anticipated to contribute waste.

It appears that the fill depth varied from ten to fifteen feet to seventy to seventy five feet in some of the deepest sections.

SUSPECTED PROBLEMS

The type of waste suspected at this site consists of demolition waste. The site is on the EPA ERRIS list.

In addition, it appears that ground and/or surface waters may be subject to leachate.

It was anticipated in the SEPA checklist prepared for this operation that the fill would produce compaction variability, causing some portions of the site to be unsuitable for construction.

FIELD RESULTS

On January 11, 1985 nine bore holes were tested at the former Oleson Landfill for methane and trace gas emissions. These data are presented in Table XIX.

Methane gas levels were not observed above trace levels throughout the site indicating minimal organic decomposition. Trace gas levels were at an equilibrium with ambient air levels.

A water sample was retrieved from a small gravel pit pond located immediately south of the fill. Evidence of leachate contamination was not indicated by the test data (Table XX).

FIGURE 11

OLESON ABANDONED LANDFILL

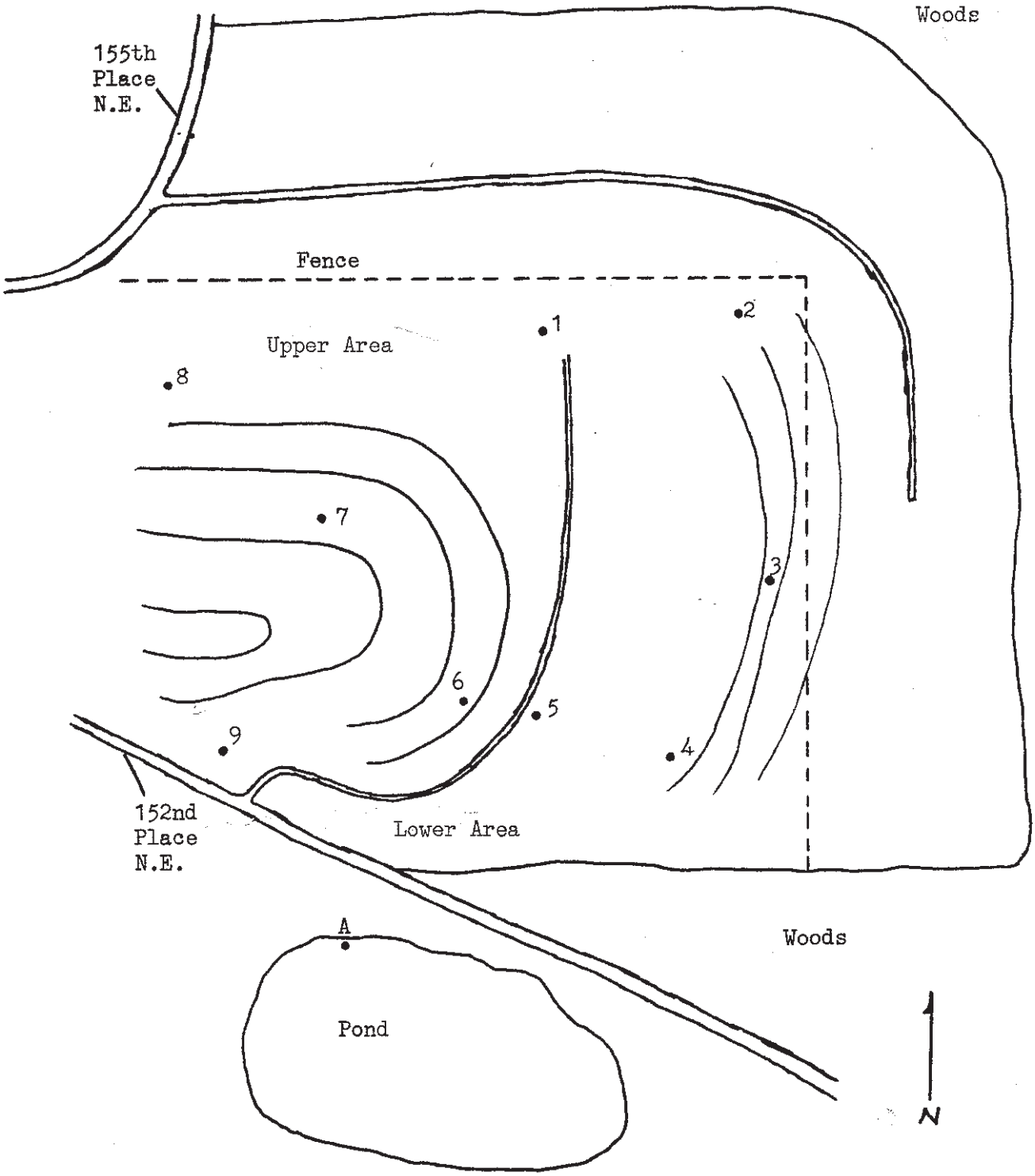


TABLE XIX

METHANE AND TRACE GAS CONCENTRATIONS

OLESON ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)[1,2]
1	0	0
2	Trace	0.1
3	Trace	0.2
4	Trace	0
5	0	0
6	Trace	0
7	Trace	0
8	0	0
9	0	0

(1) Trace gas measurements made using an 11.2 eV HNU probe
(2) Reading represents change from ambient air level

TABLE XX

SURFACE WATER PARMETERS

OLESON ABANDONED LNADFILL

	Site (A) (1)
pH	5.0
Temperature °C	1.8
Dissolved Oxygen (ppm)	13.9
Electrolytic Conductivity mv/cm	0.35
Turbidity (ppm)	34

(1) Gravel pit pond

HOUGHTON

The Houghton Transfer Station located near Bridle Trails State Park is the site of an old abandoned landfill. The landfill operated between approximately Northeast 60th Steet and Northeast 67th bounded by 117th Avenue Northeast and 120th Avenue Northeast. It was used from at least 1945 until closed in 1965.

PAST AND PRESENT USE

As a part of a predominantly rural area, the site was apparently undeveloped until used as a landfill operation beginning in the 1940's. It operated as a landfill until closed in about April 1965. By this time the site was noted to be leveled, harrowed, fertilized and seeded, with a portion of the site adjacent to the current transfer station still being used to dump hot ashes. This transfer station was in operation at the site by 1970 and that operation, plus open space, characterizes the site today.

SITE/ENGINEERING INFORMATION

The site is not perfectly level but is characterized by a gentle slope with the elevations in the general vicinity of the transfer station being greater than those along Northeast 67th. Fill depth varies on site from approximately two feet to over twenty feet. The area around 119th between Northeast 66th and Northeast 67th was characterized as swamp. High water tables and consequent saturated garbage could be anticipated throughout the site.

The final cover consisted of 8,000 cubic yards of top soil brought on site by the Thos. Scalzo Company in 1970. In 1972, due to heavy rains, an additional 2,000 cubic yards of impervious cover material were placed on site and compacted over the area to seal the garbage off from further moisture infiltration. It was replanted with new cover material characterized as having a high transpiration rate.

WASTE DISPOSAL PRACTICES

According to 1963 correspondence, operations at Houghton included garbage dumping, an "old dump area," a salvage operation and an excavation area being used by the State for fill material for highway work.

Burning was practiced in the area of the fill now occupied by the Transfer Station.

After the Corliss/1st Avenue Northeast landfill site was closed in 1959, the refuse was hauled to Houghton for disposal.

The oldest portion of the site, referred to in correspondence as "the old dump area" was east of 119th Northeast and south of Northeast 63rd Street. The site apparently filled from that location northerly toward the area of the existing transfer station.

SUSPECTED PROBLEMS

While Houghton was the receiving site for much King County waste for several years, the characteristics of the waste are not documented. The site is on the EPA ERRIS list.

Problems with impounding water in a low spot in the older section of the landfill have occurred as have leachate problems. Since part of the area has high ground water, it can be anticipated that leachate may be an ongoing problem, as it has been historically.

FIELD RESULTS

On October 8-9, 1984 twenty one bore holes were tested at the Houghton site for methane and non-specific gas. These data are presented in Table XXI.

Methane gas was observed within the explosive concentration range of 4% to 18% in eight of twenty one bore holes tested. Of these, seven were concentrated in the southwest section of the fill.

Trace gas levels ranged between -0.1 to +1.6 ppm relative to ambient air concentrations. Positive trace gas readings generally corresponded with areas of higher methane levels.

Site examination for leachate production, particularly along the west perimeter, were made on October 9, November 8, and December 1, 1984. No leachate or surface water was observed leaving the site.

Water was sampled from a storm run-off stream within the vicinity of the fill's southwest corner on November 8, 1984. Leachate contamination was not indicated. On January 15, 1985 a second water sample was taken from a dug well located along the site's west perimeter. The sample had a strong stagnation off-odor but did not exhibit test parameters indicating heavy leachate contamination. It was noted by the well's owner that the well had a history of containing iron-orange colored water during summer months which would kill grass if used for lawn watering. A third sample was retrieved that day from a swamp located at the west perimeter of the former fill. The influence of leachate was not observed.

FIGURE 12

HOUGHTON ABANDONED LANDFILL

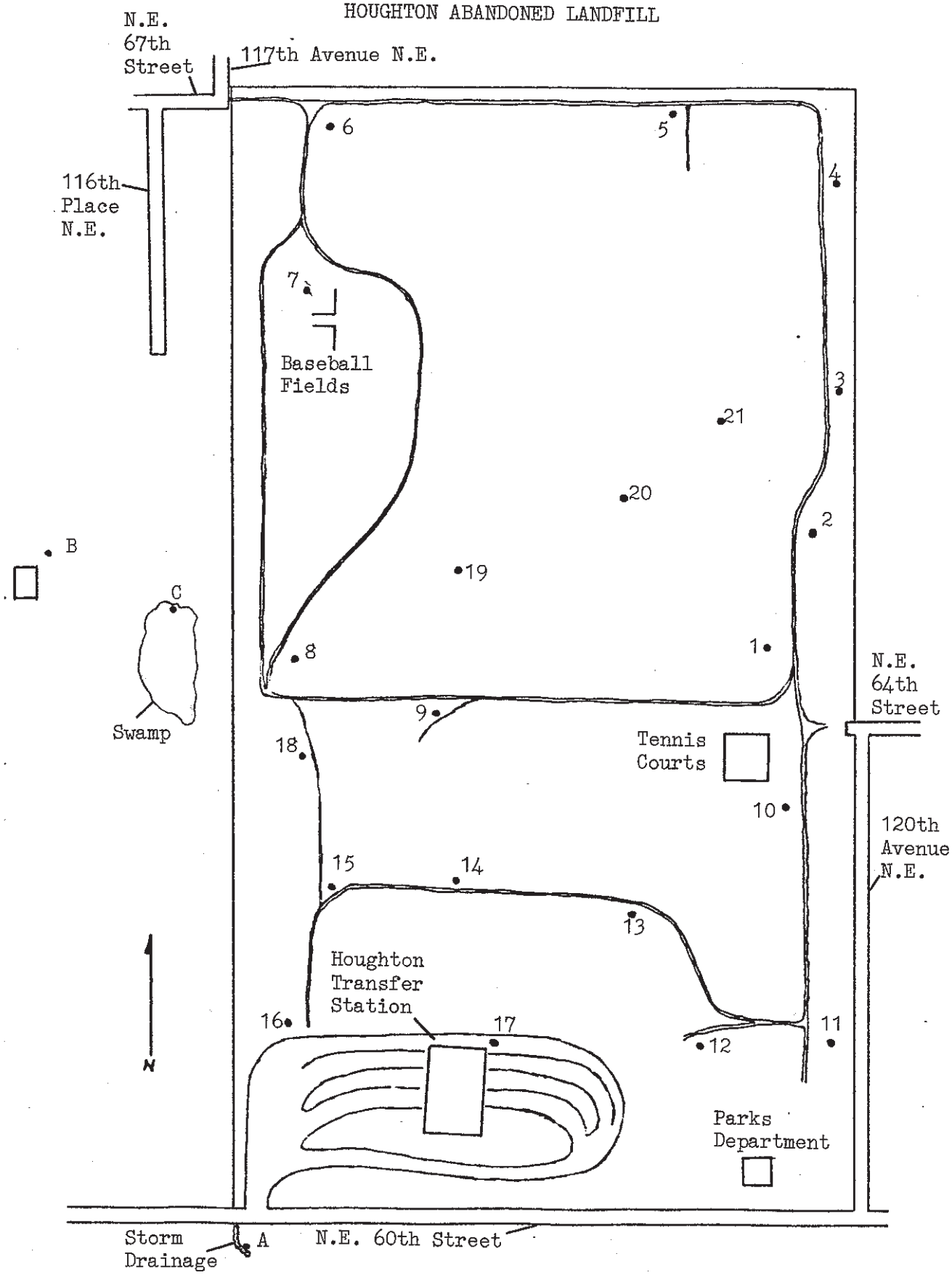


TABLE XXI

METHANE AND TRACE GAS CONCENTRATIONS

HOUGHTON ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0	0
2	Trace	0
3	0	0
4	Trace	0
5	Trace	0.2
6	11	0.8
7	0.4	-0.1
8	18	1.0
9	11	0.4
10	0	0
11	0	0
12	Trace	0
13	1.2	0.2
14	Trace	0
15	12	1.6
16	≥ 4	0.4
17	12	0.8
18	11	0.2
19	≥ 4	0
20	0.4	0
21	0.7	0

* Reading represents change from ambient air level

TABLE XXII

SURFACE WATER PARAMETERS

HOUGHTON ABANDONED LANDFILL

	Site A (1)	Site B (2)	Site C (3)
pH	6.4	6.4	6.3
Temperature °C	10.8	10.7	4.6
Dissolved Oxygen (ppm)	8.5	1.6	5.6
Electrolytic Conductivity mv/cm	0.4	0.4	0.0
Turbidity (ppm)	55	22	29

(1) Water from an off-site culvert
(2) Dug well 45 feet to static water
(3) Swamp surface water

KENT ABANDONED LANDFILL (MILL CREEK CANYON PARK)

The City of Kent operated a landfill at Woodland Way and Maple Street, this was closed in about 1961 with the opening of the Kent-Highlands operation by the City of Seattle. The former landfill stands today as a vacant clearing abutting the steep slopes of Canyon Park.

PAST AND PRESENT USE

There is no indication that the site in question had any major use until it was part of the landfill operation. A portion may have been part of a general pit operation earlier. Since its closure it has been left largely in a natural state and serves the community as a passive park.

SITE/ENGINEERING INFORMATION

Discussions with individuals who were in some way affiliated with the landfill operation provided some infomation regarding conditions on site. The fill on site is apparently deep, characterized as being 200 or more feet high. Cover fill was deep, and described as Class A or Class B bank run. Top soil was probably put on top of that, with the last topping being pit run from a cut about 100 feet deep from the area and hence probably similar to the original site conditions. The site is quite rocky at present.

During closure a berm was put around the site to control drainage.

WASTE DISPOSAL PRACTICES

This site served primarily the City of Kent. Excerpts from a 1956 document entitled Community Report of Kent, Washington, characterize the disposal operation as follows:

"The Kent City dump is an uncontrolled dump with 24 to 48 yards of municipal refuse being dumped daily as well as frequent dumping by individuals and a contractor.

"20 of the 32 persons interviewed having individual disposal use the Kent dump, 2 of the total 32 use other dumps, 1 uses a ravine and the remainder use burial, incineration and/or animal or fowl feeding.

"By using the term 'uncontrolled dump' reference is made to the fact that there is no dumping charge, no controlled burning, irregular burial, very loose supervision and little attempt to control scavenging. The height and width of the dump is only limited by the topography of the area. This dump is a public nuisance to nearby residences by reason of odors and smoke. The Kent dump is a definite health hazard both from the potentials of insect and rodent carriers of disease and direct disease contraction by scavengers. If in the future an air pollution problem should arise, such an open burning dump would contribute to air pollution. It is recommended that:

"'A sanitary method of refuse disposal be used and the Kent dump be closed and covered. Incineration and a sanitary landfill are the two accepted methods of sanitary refuse disposal by a community.'"

The type of waste deposited on site can be surmised from the characteristics of the community served. The above report notes that:

"Kent is a growing community in area and population. Its 1955 census of 3,675 in the incorporated limits has been expanded to well over 4,000 by annexations since that time. The population of the immediate area is considerably greater, however, as evidenced by the unusually large business district for a city of this size. The entire Kent School District has a population of over 12,000 persons in residence. A properous community, Kent has an assessed valuation of over four million dollars.

"The City is surrounded by numerous truck farms that contribute in large part to the economy of the community. Several sizable food processing industries provide seasonal employment for the community, as do the farms themselves. Although other industries are moving into the Kent area, the farms and [dependent] processing plants will continue to make an important contribution to the economy and will provide sanitation problems inherent to food industries."

The "other industries" mentioned are of concern as there began to be a shift in the industry type to manufacturing and non-seasonal industries about this time. New establishments working in plastics, steel, and wood are reported. One plant is noted to discharge acid and neutralizer into a local creek and another is reported as handling a product causing dermatitis among employees. Knowing the general

policy of solid waste disposal typical during that time period, it is likely some potentially hazardous materials found their way to the Kent dump. However, most operators of the time remember the waste as being primarily residential waste.

SUSPECTED PROBLEMS

There are no specific records site characteristics documented which indicate any problems since the site was abandoned. With the exception of the possibility that some small amount of industrial waste may have been deposited there, it is unlikely problems should be anticipated.

FIELD RESULTS

On November 2, 1984 nine bore holes wree tested at the former Kent Landfill for methane and non-specific trace gases. Methane gas was observed only at trace levels. Non-specific trace gas tests were neutral relative to ambient air (Table XXII).

Surface water samples were retrieved from a stream at the bottom of Canyon Park at locations upstream and downstream from the fill site. No changes in water parameters were noted. No characteristics of leachate contamination were observed. These data are presented in Table XXIV.

FIGURE 13

KENT ABANDONED LANDFILL

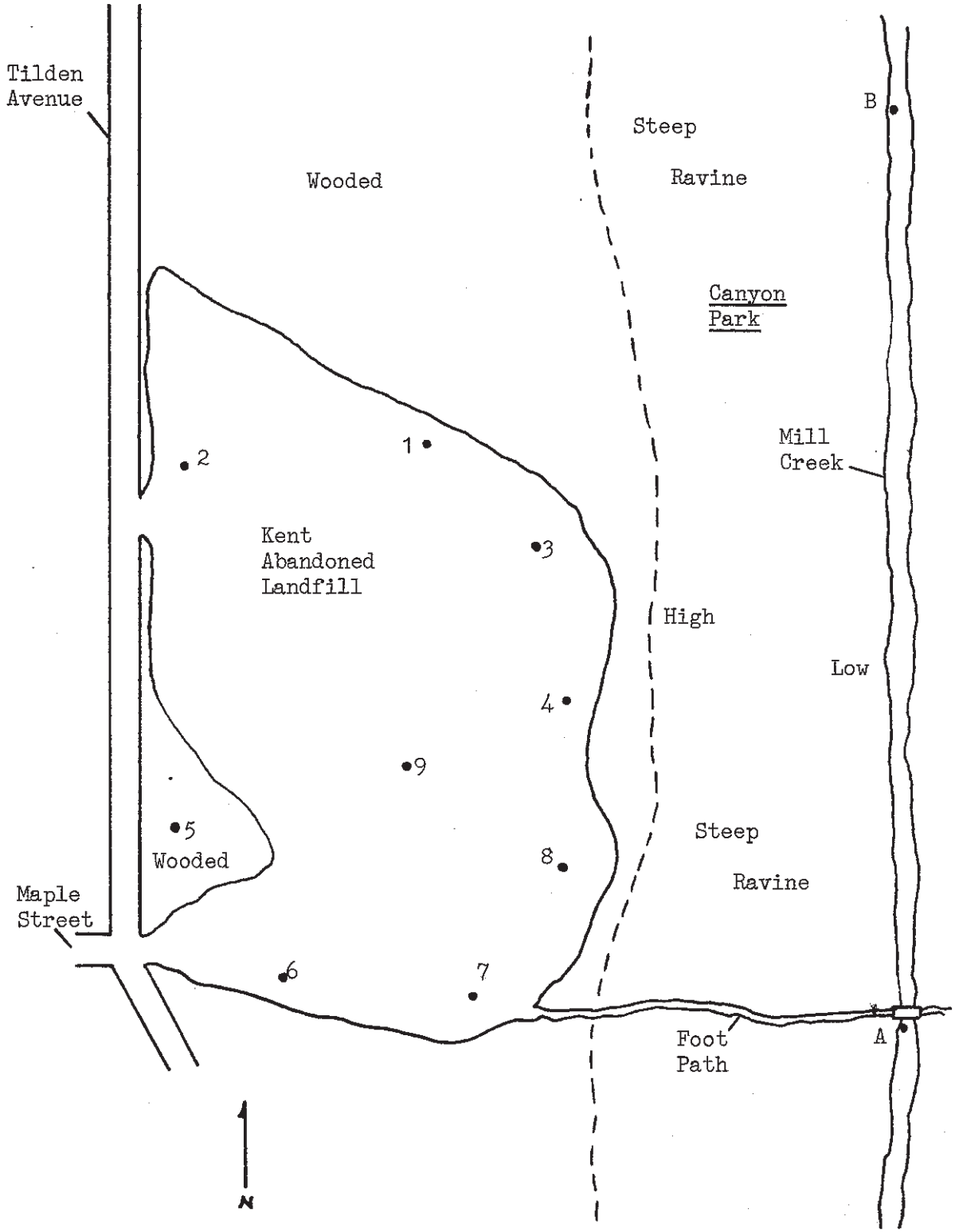


TABLE XXIII

METHANE AND TRACE GAS CONCENTRATIONS
KENT ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	0	0
3	Trace	0
4	0	0
5	0	0
6	---	0
7	Trace	0
8	Trace	0
9	Trace	0

* Reading represents change from ambient air level

TABLE XXIV

SURFACE WATER PARAMETERS

KENT ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	6.2	6.3
Temperature . . . . . ^{o}C	9.5	9.7
Dissolved . . . . . Oxygen ppm	9.3	9.4
Electrolytic . . . . . Conductivity m℧/cm	0.2	0.2
Turbidity . . . . . ppm	65	66

(1) Stream water upstream from landfill
(2) Stream water downstream from landfill

McMICKEN HEIGHTS

In 1942 a garbage disposal site was located in the South King County area on the hillside southwest of the City of Tukwila. Bordered on the west by 51st Avenue South, and the east by the area currently occupied by Interstate 5 at the location of 53rd Avenue South, the south by South 176th and on the north by South 173rd, the site is a steep ravine where the bordering roads deadend.

No documents regarding this site were located with the exception of the old map showing its location. Long time residents of the area do not recall the dump, referred to as the McMicken Heights garbage disposal site.

The site was probably a small residential site which closed sometime in the 1940's and was entered on 51st Avenue South.

Current land use in the area is residential on all sides, exclusive of the freeway. The disposal site itself remains undeveloped except for a trail system through the area. Some residents recall mention of a "gun club" at one time, so it is possible the site may have been used for target practice sometime after the fill closed and before residential development began. Plat maps indicate the site is approximately 13.95 acres and list it as the Castillo Land Co. property. Unauthorized neighborhood dumping of rubbish is still done at the northern edge of the site.

FIELD RESULTS

Nine bore holes were tested at this site for methane and non-specific trace gas concentrations on November 16, 1984. Results appear in Table XXV. Methane levels were low as measured from the nine test sites, ranging between 0% to 0.2% gas. Trace gas levels never exceeded ambient air concentration.

No surface water was observed directly on-site. Surface water run-off streams were sampled at east and west points of the north canyon and displayed no evidence of leachate pollution (Table XXVI).

FIGURE 14

McMICKEN HEIGHTS ABANDONED LANDFILL

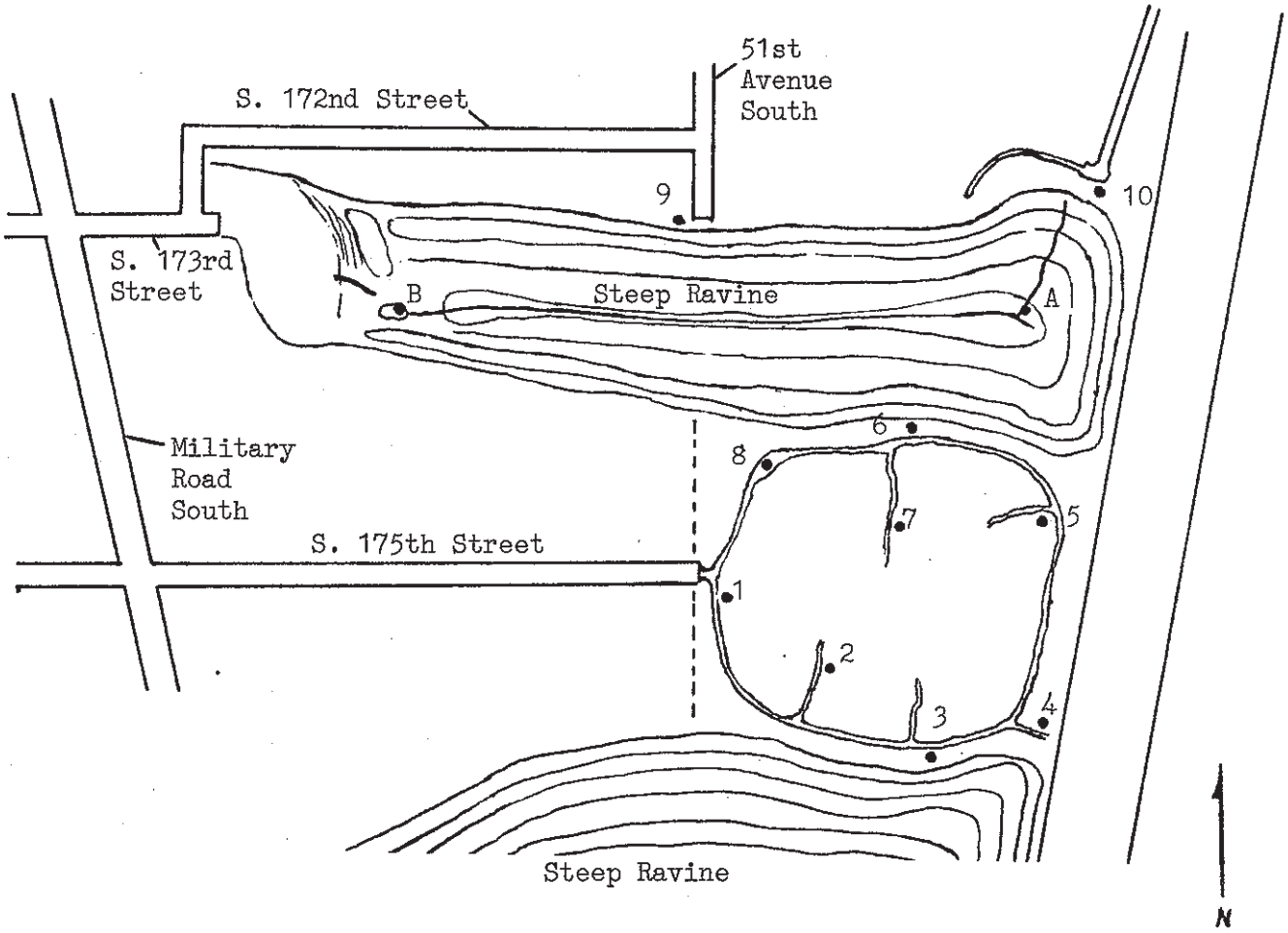


TABLE XXV

METHANE AND TRACE GAS CONCENTRATIONS
McMICKEN HEIGHTS ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0	0
2	Trace	0
3	0	0
4	Trace	0
5	Trace	0
6	Trace	0
7	Trace	0
8	0.2	0
9	Trace	0
10	Trace	0

* Reading represents change from ambient air level

TABLE XXVI

SURFACE WATER PARAMETERS

McMICKEN HEIGHTS ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	5.6	6.1
Temperature . . . . . ^{o}C	10.4	10.3
Dissolved . . . . . Oxygen ppm	10.1	9.9
Electrolytic . . . . . Conductivity m℧/cm	0.2	0.4
Turbidity . . . . . ppm	5	2

(1) Flowing water from storm drain run-off
(2) Pooled water from storm drain run-off

NORTH BEND

The North Bend Abandoned Landfill stands today as a small clearing along the west side of the Middle Fork Road, about one mile north of the "Y" turn from Edgewick Road located on the east side of North Bend. There are several well-defined paths extending into the new-growth woods. A gravel pit is across the road and the Snoqualmie River some distance to the north.

This approximately two acre landfill was city operated during the 1950's. The Seattle-King County Health Department baited the area but did not have any other major responsibilities at the site. Being in a small rural area, disposal of any hazardous material there seems unlikely.

FIELD RESULTS

On October 20, 1984 ten bore holes were tested at this site for methane and non-specific trace gas concentrations. These data appear in Table XXVII.

Methane levels were observed ranging between 0% to 0.4% from the ten test bore holes. All non-specific trace gas readings were neutral relative to ambient air concentrations.

No surface water was observed on or about the site.

FIGURE 15

NORTH BEND ABANDONED LANDFILL

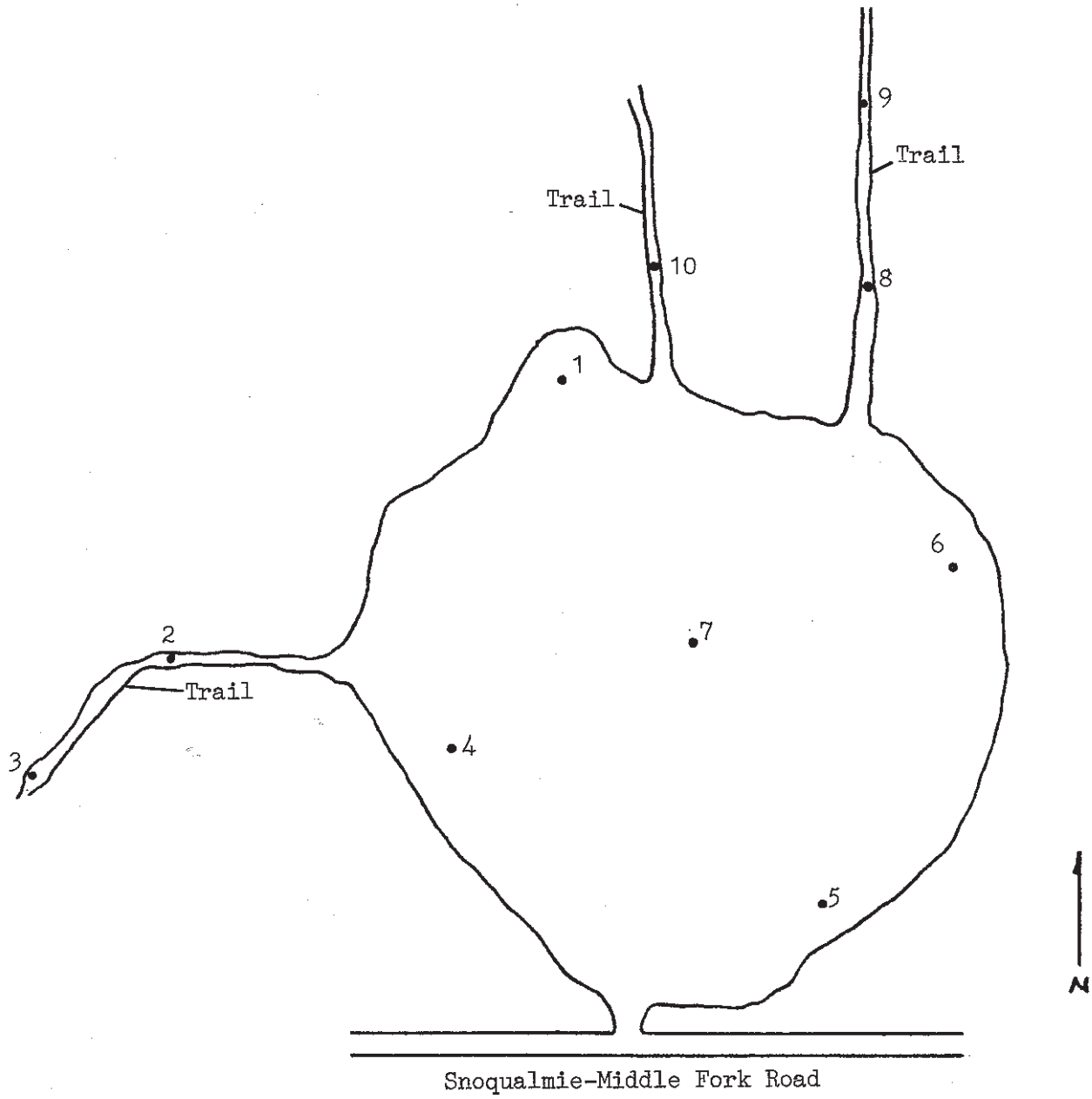


TABLE XXVII

METHANE AND TRACE GAS CONCENTRATIONS
NORTH BEND ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0.1
2	Trace	0
3	Trace	0
4	Trace	0
5	Trace	0
6	Trace	0
7	Trace	0
8	Trace	0
9	Trace	0
10	.4	0

* Reading represents change from ambient air level

PACIFIC CITY

The King County refuse dump in the City of Pacific was located on an approximately seventy two acre site at the location of the present Stuck River Park. Encompassing both sides of the Stuck (White) River the site was large and old. Early maps show "garbage dump" operations as early as 1921 and possibly even in 1914. It was closed about 1961 with refuse being routed to the Puyallup Cutoff landfill.

The legal description of the site is:

> E 495 FEET OF W 660 FEET OF NW 1/4 OF SE 1/4 LESS NORTH 200 FEET OF W 100 FEET AND LESS THE PORTION DEEDED TO KING COUNTY 12/14/14, TAX LOT 40 SECTION 36, TOWNSHIP 21 NORTH, RANGE 4 EAST

PAST AND PRESENT USE

There is no information available on the land use prior to the landfill. Since it is located in the traditional farm belt of South King County it can be assumed it was, as it still is predominantly, rural and agricultural. Apparently flooding from the Stuck River was a chronic problem in the early 1900's. Several documents exist showing deeds transferring lands needed for Stuck River improvements. These included concrete bulkheads and rechanneling the river for the benefit of both King and Pierce Counties.

On March 7, 1966 the City of Pacific was granted permission to use about twenty one acres of the abandoned site for park purposes for a period of twenty five years. The City proceeded with site development and discovered not all of the land contemplated for park development had been properly described in the 1966 King County Resolution No. 31548. Thus on August 1, 1969, King County granted the City the permission to use the land originally intended for park purposes. The "new" city park was developed and dedicated in September 1972.

The remaining area adjacent to the landfill is zoned either multi-family or single family residential or industrial property.

SITE/ENGINEERING INFORMATION AND WASTE DISPOSAL PRACTICES

Nothing regarding the use or type of waste disposed was found in the existing records.

Individuals who remember the operation of the landfill recall that it was ten to twelve feet deep. Water was typically encountered, at least at twelve feet and the toe of the fill appeared to border the river. Most of the refuse was burned.

SUSPECTED PROBLEMS

No major problems are anticipated at this site unless, given the rural character of the region, pesticides or their containers may have been dumped here. No records exist to substantiate that. This landfill is mentioned in the EPA ERRIS list.

FIELD RESULTS

On October 23, 1984 fifteen bore holes were tested at the Pacific site for methane and non-specific trace gas concentrations. These data appear in Table XXVIII.

Methane gas levels were observed only at low levels throughout the site with a peak reading of 0.4%.

Non-specific trace gas levels were also non-significant (Range = -0.1 to +0.3 ppm relative to ambient air) with the exception of the 5.6 ppm reading of hole #5. This test was made within the center of a dead patch of grass. Five test holes (a - e) placed within forty feet of hole #5 yielded non-significant levels of methane or trace gases.

A water sample retrieved from the adjacent White River was not indicative of leachate Table XXIX.

FIGURE 16

PACIFIC ABANDONED LANDFILL

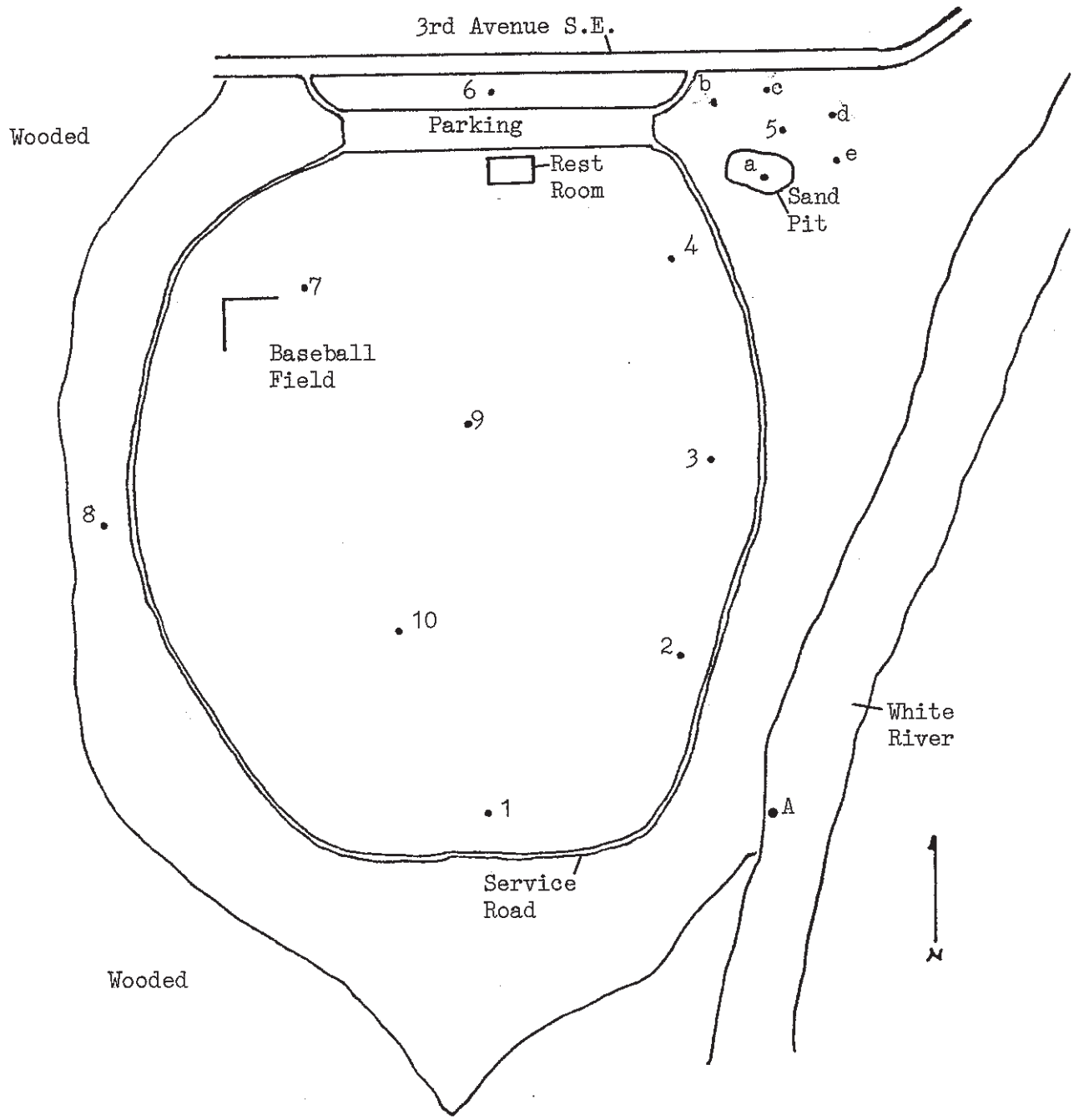


TABLE XXIX

SURFACE WATER PARAMETERS
PACIFIC ABANDONED LANDFILL

	Site A (1)
pH	5.1
Temperature °C	8.5
Dissolved Oxygen ppm	11.6
Electrolytic Conductivity m℧/cm	0.2
Turbidity ppm	5

(1) White River surface water sample

TABLE XXVIII

METHANE AND TRACE GAS CONCENTRATIONS
PACIFIC ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)[1]
1	Trace	0.1
2	0	0.3
3	0	-0.1
4	0	0
5[2]	0.3	6.2
6	0	0
7	0	0
8	0	---
9	---	0
10	0	-0.1
a	0.4	0
b	Trace	0
c	0.2	0
d	Trace	0.1
e	Trace	0

(1) Reading represents change from ambient air level
(2) Test hole centered an area of dead grass

PUYALLUP/KIT CORNER

King County operated a 30.45 acre sanitary landfill in Section 20, T21N, R4E, immediately east of I-5 and one-quarter mile north of South 360th Street.

PAST AND PRESENT USE

This was apparently tax title property deeded to King County for operation of a "garbage dump." Old maps of the section show a King County dump site here in 1947. The original parcel of land consisted of forty acres, but 9.55 acres were deeded to the State of Washington Department of Highways in 1959, reducing the landfill portion to 30.45 acres. Aerial maps of the area taken in May, 1970 show the landfill as closed.

It is currently vacant land being surplused by the County. Brush and high grass cover the site which is returning to its natural state. Bike trails can be seen on site but the original frontage access road to the site has been closed.

SITE/ENGINEERING INFORMATION AND WASTE DISPOSAL PRACTICES

This was one of the larger King County sites. As the Bow Lake, Renton Junction, and Pacific sites closed, refuse was hauled to this site. It operated until shortly after the opening of the Cedar Hills landfill. It is estimated that thirty to forty feet of refuse fill the site.

Operational maps indicate that the borrow site for cover was located at the south edge of the property. This was also one of the last areas filled. The northern edge of the property was also the site of some of the older fill area, but was expanded and raised with new fill in later stages of operation. The same, ie. raising the fill, appears to have occurred in the central portion of the older fill area.

A paved service road fronted the west side of the site and a dirt service road appears to have run around the northern, eastern and southern edges. A drainage ditch was on the southeastern and southern edges of the fill which appear to be the lower elevations.

SUSPECTED PROBLEMS

Since this site received refuse from a large geographic area and operated for about twenty five years, it seems likely that almost anything could be found here. The site is mentioned on the EPA ERRIS list. The landfill's proximity to the major Tacoma industrial area raises some suspicions regarding the possible unauthorized disposal of hazardous materials at some time during its operation. However, the presence of two nearby landfills in Pierce County at that time probably make this a remote possibility.

The cover fill, apparently put on the site when closed with no provisions made for methane release, make likely a potential for methane build up on site and additional land settlement.

FIELD RESULTS

For the purposes of this study, methane gas was tested from twenty-two test areas located throughout the Puyallup/Kit Corner site on October 27, 1984 which was a day of heavy rainfall. These data appear in Table XXX. Non-specific trace gases were not measured at that time because of that test equipment's sensitivity to excessive moisture.

Methane was observed at levels within or above the explosive range for methane gas (4% to 18%) in ten test holes, located throughout the site with peak levels reaching 68% to 72%. Fissures and areas of dead vegetation were frequently

encountered. Methane gas was measured at 50% directly from the fissure at test site #22. Readings at five test holes were confounded by the high water table.

Trace gases were measured from six bore holes on December 1, 1984. Levels were non-significant, ranging from -0.2 to +0.2 ppm relative to the ambient air levels (Table XXXI).

During examination of the site for leachate problems a metal drainage conduit was found along the west side of the site's access road which drained into a surface water collection stream. A discoloration characteristic of leachate was noted on the drainage conduit. Test parameters of the stream water under the conduit on October 27 did not indicate a leachate problem at that time, though a slightly acidic pH (5.3) was noted.

Water was also sampled from an east perimeter stream. Leachate contamination was not indicated at that location. Surface water data are presented in Table XXXII.

FIGURE 17

PUYALLUP/KIT CORNER ABANDONED LANDFILL

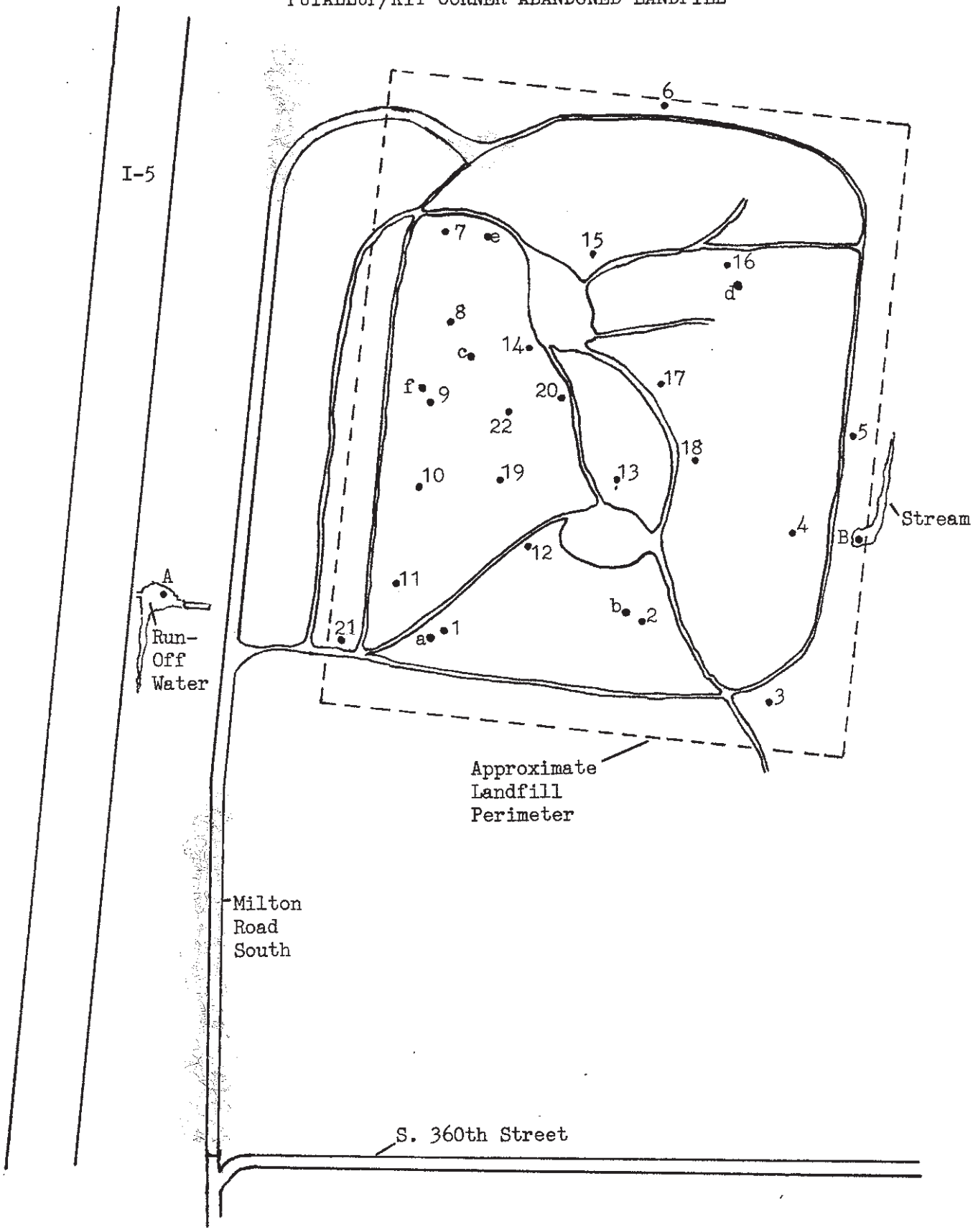


TABLE XXX

METHANE GAS CONCENTRATIONS

PUYALLUP/KIT CORNER ABANDONED LANDFILL

Site	Methane (%)
1	0.8
2	60
3	Trace
4	72
5	25
6	Trace
7	Water Table
8	Water Table
9	70
10	18
11	Water Table
12	Water Table
13	5
14	12
15	68
16	Water Table
17	Trace
18	5
19	3
20	47
21	Trace
22	50

TABLE XXXI

TRACE GAS CONCENTRATIONS
PUYALLUP/KIT CORNER ABANDONED LANDFILL

Site	Trace Gas (ppm)*
a	-0.2
b	0
c	0
d	0.2
e	-0.2
f	0

*Reading represents change from ambient air level

TABLE XXXII

SURFACE WATER PARAMETERS
PUYALLUP/KIT CORNER ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	5.3	6.0
Temperature ^{o}C	8.9	8.2
Dissolved Oxygen ppm	10.2	9.5
Electrolytic Conductivity m$\mho$/cm	0.1	0.1
Turbidity ppm	12	175

(1) Run-off stream surface water
(2) Stream surface water, east perimeter

REDONDO PIT

The Redondo Pit referred to a large gravel pit located at the intersection of the Pacific Highway South and South Dash Point Road a few blocks north of Federal Way High School. It was a nineteen acre site.

The Redondo Pit was operated by the King County Department of Public Works as a gravel pit for several years. During the 1940's the Port of Seattle, the United States Navy, and the County used the site as an oil dump. Bilge oil, crankcase oil, and road oil were dumped there. It was common to burn the oil off until residents and/or regulations curtailed the practice. In 1969, when the gravel pit was exhausted, the land was transferred to the King County Parks for use as a community park site. Final plans for the park were made in 1973 and the current Sacajawea Park was completed.

King County Park Department officials report running into bunker oil during development. They excavated what they could find, using earth fill from the Federal Way School District's Sacajawea Junior High School site. Today the area is a three level athletic/recreational facility with track and football/soccer activities on the lower level, baseball and tennis on the middle, and general playground/picnic area on the upper section.

FIELD RESULTS

This site was tested on November 7, 1984. Methane gas levels were not observed above 0.6% from the twenty bore holes tested. Trace gases were noted with peak readings above ambient air levels of +1.0 ppm in the lower section, +8/8 ppm in the center, and +1.2 ppm in the upper section. A ground water table was observed in test holes located on the lower section (Table XXXIII).

On-site structures (restrooms) exhibited no indication of problematic ground settling due to the fill.

No surface water was observed on or about the fill area. However, water samples were obtained from run-off sewer drains located on the lower tier (site A) and the upper tire (site B). These data are presented in Table XXXIV. Parameters of leachate contamination were not observed in the water samples.

FIGURE 18

REDONDO PIT ABANDONED LANDFILL

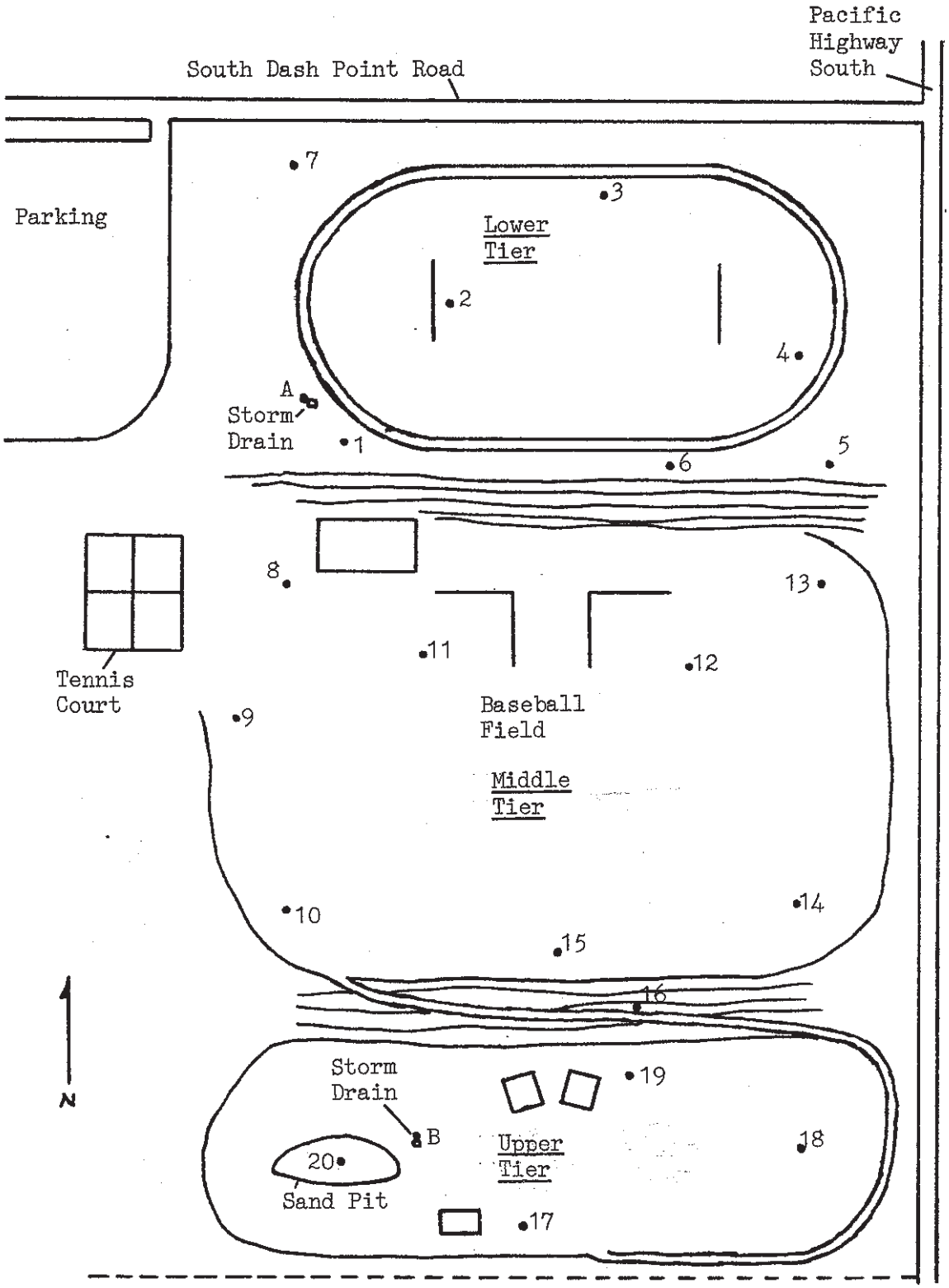


TABLE XXXIII

METHANE AND TRACE GAS CONCENTRATIONS
REDONDO PIT ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0	1.0
2	0	0.8
3	0	0
4	0	0
5	0	1.0
6	Water Table	Water Table
7	0	0
8	0	0
9	0.6	0.8
10	Trace	---
11	0	0
12	0	0
13	Trace	0
14	0	0.4
15	Trace	8.8
16	Trace	---
17	Trace	1.2
18	Trace	1.0
19	Trace	0.8
20	Trace	0.2

* Reading represents change from ambient air level

TABLE XXXIV

SURFACE WATER PARAMETERS
REDONDO PIT ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	5.9	6.0
Temperature . . . . . ^{o}C	8.8	9.7
Dissolved . . . . . Oxygen ppm	8.4	3.5
Electrolytic . . . . . Conductivity m$\mho$/cm	0.1	0.05
Turbidity ppm	13	8

(1) Storm-drain water
(2) Storm-drain water

RENTON HIGHLANDS

The Renton Highlands abandoned landfill was on about 11.2 acres. On the south side of Northeast 3rd Street slightly east of Mt. Olivet Cemetery, and west of the Southeast District Office of the Seattle-King County Health Department.

PAST AND PRESENT USE

Operating since the 1940's, correspondence dated June 7, 1951, described the site as follows:

> "The area of approximately 12 acres, privately owned, lies directly south of the Renton Highland Housing Project and just east of the Renton City limits, a former gravel pit with plenty of cover material. It is 1 1/2 miles from the Renton City Hall, a minimum trucking distance.
>
> "This site appears to be a good one for dumping, is in need of fill to round out a broken area and has a probable expectancy period of 10 to 20 years. It has about the best possible soil condition, good proximity to collection area, but also good visual and wind isolation from thickly settled parts of the city."

Unfortunately, perhaps, in the thirty years since this correspondence the site did not stay "isolated." The Renton Highlands has seen substantial growth in the ensuing years. The dump site was closed by the late 1960's. Today the land is still undeveloped private property.

In addition, it appears that another site operated slightly north of that location. Correspondence dated January 31, 1949 from D.L. Evans, County Road Engineer to the County Commissioners, notes the following:

> "The attached application from the City of Renton to purchase Lots 1, 2, 3, 8, 9 and 10, Section 7, Rainier Acres, to be used for garbage disposal site.... This location is a portion of an old gravel pit which has been worked out and is of no further value to the County for this purpose...."

This area, just west of Renton Vocational Institute is currently used by the Housing Authority for residential dwellings.

SITE/ENGINEERING INFORMATION AND WASTE DISPOSAL PRACTICES

According to the 1951 correspondence noted earlier, "The soil type in this area is Everett gravelly sandy loam, a very deep deposit of gravel, very well drained with little if any possibility of horizontal seepage."

The site was a large, major fill in the area which is remembered as receiving "everything." Fires were common with smoke drifting into the neighborhood adjacent to the site.

It is thought that a portion of Northeast 4th and/or the housing project in that general area may actually be on some of the older fill.

In 1951 it was noted that major material being dumped was ash from the housing project which "has no fumes, smoke, or odor."

SUSPECTED PROBLEMS

Although no records regarding waste disposal are available the existence of several industries, including Boeing and Paccar, in Renton during the life span of this fill raise the question of possible hazardous materials disposal. The site is mentioned in the EPA ERRIS list.

FIELD RESULTS

On November 14, 1984 eight bore holes were tested for methane and non-specific gas at this site along the north side of Northeast 3rd Street. Three bore holes were tested on January 25, 1985 for only methane gas along the south side of Northeast 3rd Street. Methane gas was not observed above trace levels from any of the test holes. Trace gas levels were all observed at equilibrium with ambient air conditions.

A water sample was retrieved from the Mt. Olivet Creek on January 25, 1985. Signs of leachate contamination were not indicated.

FIGURE 19

RENTON HIGHLANDS ABANDONED LANDFILL

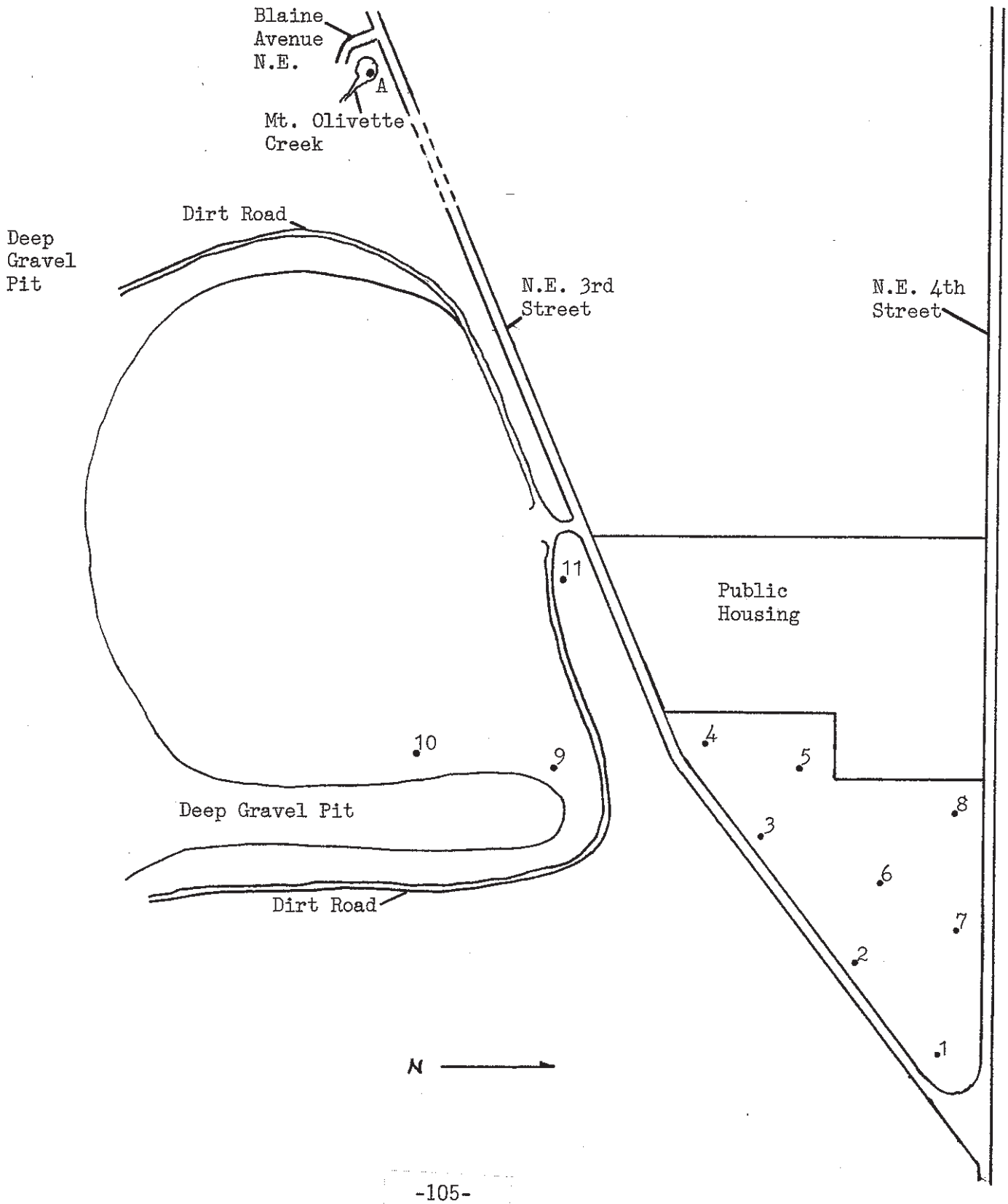


TABLE XXXV

METHANE AND TRACE GAS CONCENTRATIONS

RENTON HIGHLANDS ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm) (1)
1	Trace	0
2	0	0
3	Trace	0
4	0	0
5	0	0
6	Trace	0
7	0	0
8	0	0
9	0	---
10	0	---
11	0	---

(1) Reading represents change from ambient air level

TABLE XXXVI

SURFACE WATER PARAMETERS

RENTON HIGHLANDS ABANDONED LANDFILL

	Site (A)
pH	6.7
Temperature °C	8.3
Dissolved Oxygen (ppm)	9.8
Electrolytic Conductivity mv/cm	0.2
Turbidity (ppm)	4

RENTON JUNCTION (MONSTER ROAD)

King County operated a refuse disposal site at the Renton Junction near Longacres from approximately 1946 to about 1961. It operated on land leased from the Northern Pacific Railway Company described as:

> "Those portions of Lots 31 and 32 of Interurban Addition to Seattle, according to the recorded plat thereof, lying northeasterly of a line parallel with and distant 36 feet northeasterly, measured at right angles, from the center line of the most northeasterly main track as now constructed across said lots; together with the southwesterly one-half of the original channel of the White River which attached thereto when the channel of said river was relocated and constructed along the southwesterly side of the Railway Company's tracks."

Additional land was obtained from Mr. Fred Nelson of Renton for the operation described as: "that portion of government Lot 6, Section 24, Township 23N, Range 4EWM, lying between the westerly right of way line of the Steel Hill County road No. 24-23-4-1 and the centerline of the old channel of the Green River."

PAST AND PRESENT USE

As noted by the legal description, part of this property was once the old river channel which became part of the Northern Pacific Railway right of way and private rural property. After its operation as a sanitary landfill the land was surplused and in 1979 purchased for commercial use. The site is currently used by a decorative rock company and is used for storage of crushed rock and gravel associated with that operation.

Across the Green River lies Fort Dent Park, southwest of the site is the Riverview Nursery and to the east is the Metro Secondary Sewage Treatment Plant.

SITE/ENGINEERING INFORMATION AND WASTE DISPOSAL PRACTICES

No specific geological or hydrological information was found regarding the site other than it was part of the old river channel. It may be surmised that the

base soil is clay, sand and gravel overlain by fill forty to fifty feet deep and topped off with a relatively impermeable layer and topsoil.

Once the landfill operation started there are records showing numerous complaints regarding the site. Nuisance conditions prevailed in the warm weather. Fire and smoke were reported night and day. Inadequate fill dirt for the cover of the operation was noted, as were problems of dumping sewage and oils on site. The County had a contract for the maintenance of this dump with a private concern in effect until December 31, 1957. This contract called for bulldozing and compaction twice weekly with the top side being covered with eighteen inches of dirt. It also required that the garbage be deposited in lifts or layers not to exceed twelve feet in depth after initial compaction. There was no earth available on the site and all cover material had to be brought in by trucks. The only earth available within hauling distance had been of a hardpan type with a heavy clay concentration.

The site was used not only by the County, but according to copies of agreements, also by the City of Renton to dispose of a portion of their garbage and refuse.

The seriousness of the fires at the south end of the dump operations in 1950 prompted correspondence between the King County Fire Marshal and the Health and Sanitation Department, who ran the landfill, to confine burning to the north area of the landfill.

The landfill was closed effective December 27, 1957 with directions for refuse to be taken instead to either the Bow Lake Fill at South 188th and Military or the landfill at South 352nd Street about one-half mile east of the Puyallup cut off highway, both still in operation at that time.

However, the Health Department was requested to continue filling operations as plans to discontinue the fill were described as leaving the fill in an unusable

condition. The fill was reopened, using County equipment to conduct operations, which continued for about two years.

SUSPECTED PROBLEMS

Due to the proximity of the old landfill site to the Green River, it is conceivable that leachate may reach the river.

The site is recorded on the EPA ERRIS list. The site's proximity to several industries in South King County make it possible that some potentially hazardous materials, including oil, were dumped at the site during its years of operation.

FIELD RESULTS

The Renton Junction Abandoned Landfill was tested for methane and trace gas emissions on January 10, 1985. These data are presented in Table XXXVI. Methane gas levels were observed ranging between 17% and 33% from test holes located at the northerly half of the former fill. Lower levels of methane gas (3% to 5%) were observed within the southerly section.

Trace gas levels were observed ranging between -4.8 ppm to 0 ppm relative to the ambient air.

A surface water sample was retrieved along the shoreline of the Green River immediately adjacent to the former landfill. Leachate contamination was not indicated (Table XXXVII).

FIGURE 20

RENTON JUNCTION ABANDONED LANDFILL

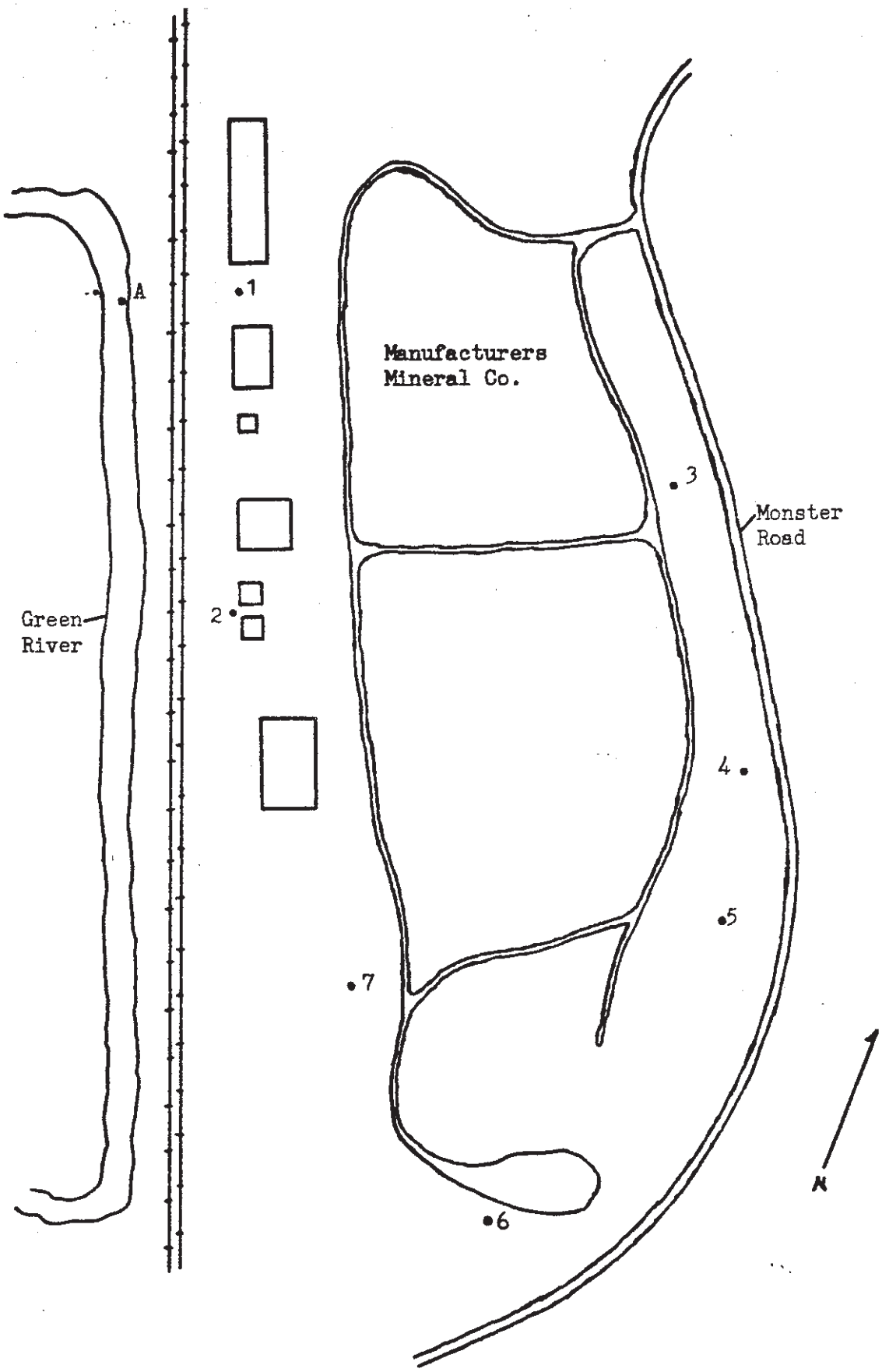


TABLE XXXVII

METHANE AND TRACE GAS CONCENTRATIONS

RENTON JUNCTION ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)
1	33	-2.7
2	30	-4.6
3	17	-4.8
4	4	0
5	3	0
6	3	0
7	5	0

(1) Trace gas measurements made with 11.2 eV HNU probe
(2) Reading represents change from ambient air level

TABLE XXXVIII

SURFACE WATER PARAMETERS

RENTON JUNCTION ABANDONED LANDFILL

	Site (A) (1)
pH	5.6
Temperature °C	5.2
Dissolved Oxygen (ppm)	9.8
Electrolytic Conductivity mv/cm	0.2
Turbidity (ppm)	1

(1) Green River surface water

SKYKOMISH

The town of Skykomish operated a landfill outside the corporated limits of the town between the old Cascade Highway, south of the Railroad right of way east of town from about 1946 until 1979. The parcel of land is described in Sec 25, T 26 N, R11EWM, as Gov't Lot 6 lying E of the W line of # 1/2 of SW 1/4 of Sw 1/4 produced N across Gov't Lot 6 and South of Great Northern Rwy Co. right of way and northerly of the County road, westerly of line in boundary line agreement, King Co. recording #7812070786 EXCEPT portions deeded to King County under record #4627707 and #7503170254.

In 1979 this was transferred to the County for a county operated drop box station.

The waste disposal practices, site conditions and problems of the landfill were discussed in depth in a report entitled "Solid Waste Disposal Alternatives for the Skykomish Area - a Feasibility Study" prepared by the King County Solid Waste Division in May 1978. This assisted in the decision to develop the current transfer station found on site. Excerpts from that report follow.

SITE/ENGINEERING INFORMATION

"Geology data for the Skykomish area is scarce. Soil studies done by the U.S.D.A. - Soil Conservation Service in King County do not cover Skykomish.

"During the winter of 1976-77, the King County Department of Public Works took some soil boring samples in connection with a project to renovate the Old Cascade Highway around Skykomish. The current landfill is located a few hundred feet north of the Old Cascade Highway and one mile east of the Town's business district.

"The samples taken in the general area of the landfill went no deeper than six-plus feet. The soils were composed of sand and gravels with cobbles up to 8 inches in diameter.

"The gravel pit excavations made in former years which now comprise the landfill site, show similar material at all exposed depths (up to 15 feet deep)."

WASTE DISPOSAL PRACTICES

"The town of Skykomish [now] operates an open burning (landfill). This has been the solid waste disposal practice in the Skykomish area for as far back as long-time residents can remember. The property which the Town now uses as a landfill was originally purchased from the Northwestern Improvement Company in 1946. At that time, the Town's landfilling practice consisted of digging a trench with dimensions of about 30' x 100' x 12'. The garbage would be dumped in the trench and burned once or twice a week. Once or twice a year the Town would obtain a backhoe and/or bulldozer and compact the waste in the trench and cover it with about three feet of soil. When one trench was full, they would dig another and repeat the process.

"The Town's current practice is quite similar. They now use an area method of fill rather than digging trenches. The burning of the solid waste is done within the proscriptions of PSAPCA's Resolution No. 353 in that rubber tires, waste oil, asphalt roofing or flooring materials, dead animals or demolition material are not burned. The burned residue is compacted in an area left from a gravel excavation operation. The compacted waste is still covered only at infrequent intervals."

SUSPECTED PROBLEMS

"...Assuming that the problems of inadequate cover material could be solved, the present landfill site would still have a leachate problem...At the Skykomish landfill, leachate is produced when rain or melting snow percolates through the buried waste.

"...The Skykomish landfill is located within 100 yards of the South Fork of the Skykomish River. Thus the possibility of water pollution from leachate exists.

"Visual inspection of the Skykomish River near the landfill reveals no obvious leachate outfall.

"The lack of obvious leachate problems does not however make the Skykomish landfill a conforming site. Leachate is being produced, although it's simply not traceable at present...."

The closure of the site and the development of the drop box station eliminated most of these problems.

FIELD RESULTS

On November 3, 1984 thirteen bore holes were tested for methane and non-specific trace gases at the Skykomish site. These data are presented in Table XXXVIII.

Throughout the site, only low levels of methane gas were observed with a peak reading of 0.8%. Trace gas levels were all neutral relative to the ambient air concentrations with a range of -0.1 to +0.1 ppm.

Heavy intermittent fainfall and a four inch snow cover created surface water pooling on the site which confounded three test hole results.

Surface waters were tested from a pool at the northern base of the fill and from a storm water run-off stream at the southern entrance (Table XXXIX). Leachate contamination was not indicated by the test parameters, although weather conditions may have masked such a problem.

FIGURE 21

SKYKOMISH ABANDONED LANDFILL

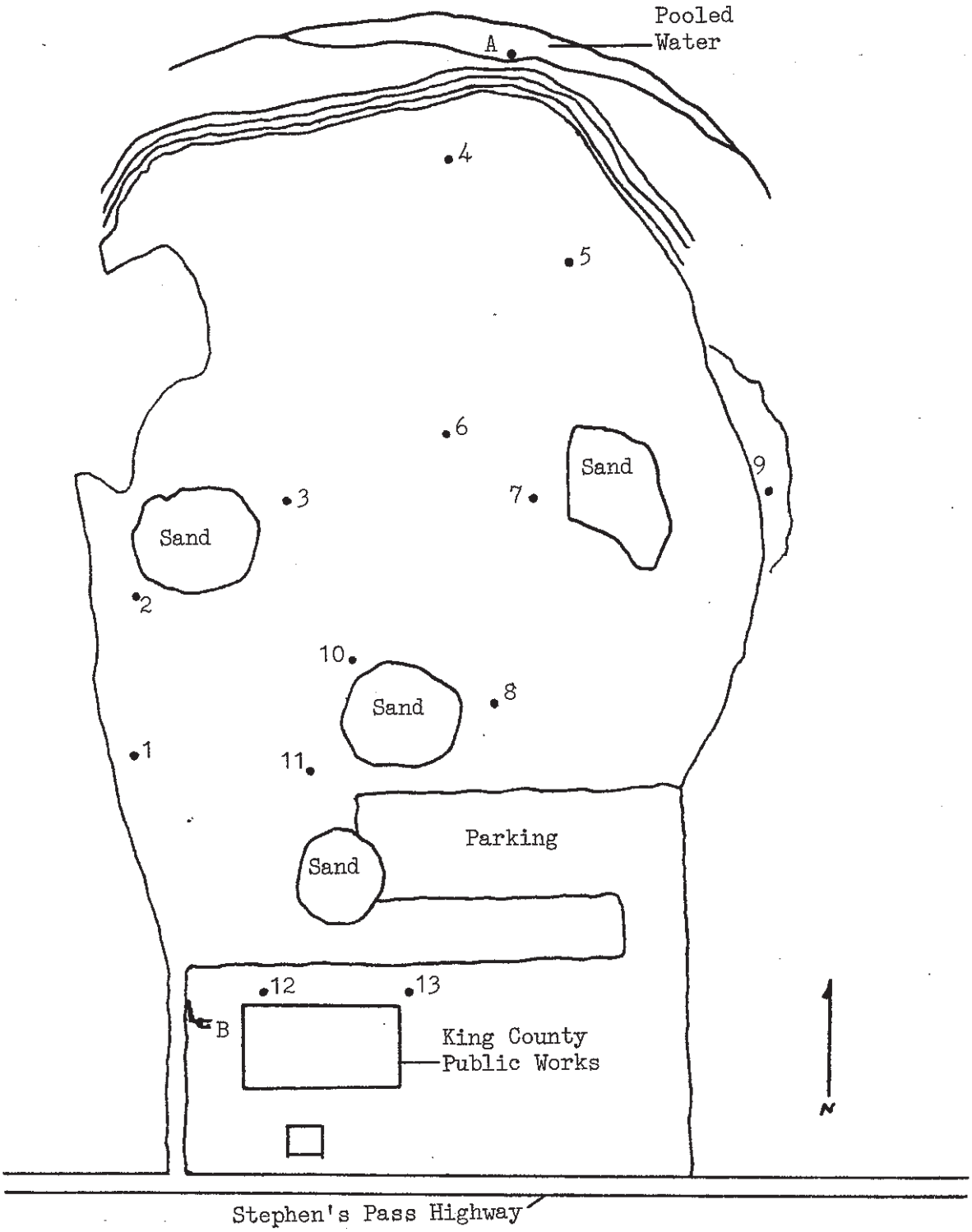


TABLE XXXIX

METHANE AND TRACE GAS CONCENTRATIONS
SKYKOMISH ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	0	0
2	Water Table	Water Table
3	0.8	-0.1
4	0.4	0
5	Trace	0
6	0.4	0
7	Water Table	Water Table
8	Trace	0
9	0	0.1
10	Trace	0.1
11	Trace	0.1
12	0	0
13	Water Table	Water Table

* Reading represents change from ambient air level

TABLE XL

SURFACE WATER PARAMETERS
SKYKOMISH ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	6.6	7.1
Temperature . . . . . ^{o}C	5.1	4.6
Dissolved . . . . . Oxygen ppm	8.1	10.9
Electrolytic . . . . . Conductivity m℧/cm	0.4	0.4
Turbidity . . . . . ppm	13	17

(1) Standing pooled water at north base of landfill
(2) Flowing run-off stream

SUNSET PARK

The southeast corner of Sunset Park at South 140th and 18th Avenue South is the general location of an abandoned oil dump site.

PAST AND PRESENT USE

King County Park and the Sunset Shops of the Public Works Department have facilities on the east edge of the Sunset Park. Directly south of these facilities is the site of the old oil dump. It apparently operated from about 1936 to 1941 or 1942. The Navy and possibly the Port of Seattle are remembered as using the dump facility. The site was two to three acres in size and the dump from ten to twelve feet in depth. Only liquid waste was deposited here and at least 98% of that was oil waste.

A number of precautions have been taken at the site since closure of the site. These have included fencing, storm drainage, and the installation of a skimmer and baffle on the drainage inlet into Tub Lake. Oil problems remain however as the oil bubbles up in Tub Lake. There is a high water table in the area and an oily sheen can at times be seen on high water adjacent to Tub Lake.

SITE/ENGINEERING INFORMATION AND POTENTIAL PROBLEMS

There is some information indicating that this site was originally a gravel pit. A 1980 report detailing the plans for the "North Sea Tac Park" prepared by Jongigan, Gerrard and McNeal, Inc. describes the general geological and hydrological conditions surrounding this area. In that report they note that South Park is part of the Miller Creek Drainage Basin, with Miller Creek itself <u>not</u> being a distinctive stream at this time, but rather characterized as narrow channelizations or shallow murky areas.

That report further notes that there are particular problems at this site including,

> "pollution and debris caused by garbage dumped into the stream channel and fertilizers from playfields...a serious on-site source of pollution is found adjacent to Tub Lake...at present the oil leaches through the soil into the surrounding area. The light oil slick intermittently visible in Tub Lake has been attributed to the abandoned dump."

Soils in the area are poorly drained. As noted in the 1980 study of the area, the soils are derived from glacial deposits with the most common parts being Alderwoods, Everetts, and Indianola.

> "The remainder of the soils at North Sea-Tac Park were formed in glacial depressions or clayey alluvium and are very poorly drained. Derived from vegetation in varying degrees of decomposition, the soils are acidic with a high organic content. Orcas and Seattle Muck (Or and Sk) are characterized by thick layers of peat. Organic soils are inappropriate for construction because of high compressibility. Because the water table is at or near the surfaces of these soils, they are unsuitable for development of any kind."

SUSPECTED PROBLEMS

In essence the site remains of concern due to the oil deposits. Even after forty years, the effects of the oil dump are still visible.

FIELD RESULTS

Sunset Park is geographically divided into two distinct elevations with the northerly two-thirds at a higher elevation than the southerly one-third. These areas are used for recreational/athletic activities. At the south perimeter of hte park encroaches the marsh/swamp lands of Tub Lake. Access to Tub Lake is restricted by fences and "warning/danger" signs.

The Phase I field evaluation of the former landfill at Sunset Park was conducted on October 18, 1984. Sixteen bore holes were examined for methane and non-specific trace gas levels (Table XL). Methane was observed at low concentrations (trace to 0.4%) from all test holes located within the northerly

two-thirds of the park. Higher levels within the explosive range for methane gas were observed from four to six bore holes located within the southerly third of the site.

Non-specific trace gas levels were all non-significant with the exception of a 2.8 ppm level relative to ambient air concentrations at bore hole #2.

Surface water was sampled from a roadside stream at the southeastern corner of the fill and from the marsh water of Tub Lake. These data are presented in Table XLI. The test parameters did not indicate leachate contamination.

FIGURE 22

SUNSET PARK ABANDONED LANDFILL

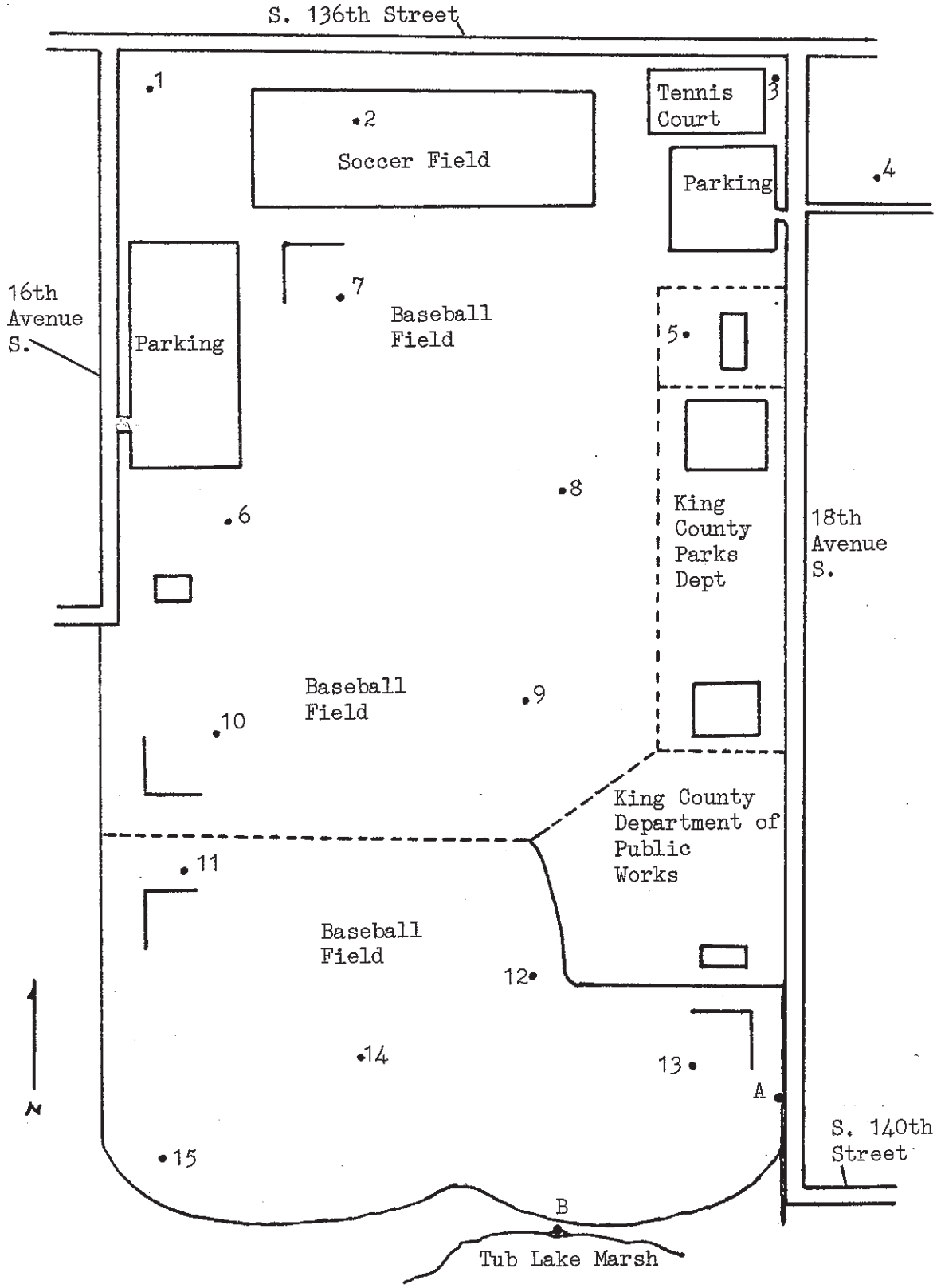


TABLE XLI

METHANE AND TRACE GAS CONCENTRATIONS

SUNSET PARK ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	Trace	2.8
3	0.2	0.1
4	Trace	0
5	0.4	0
6	Trace	0
7	Trace	0
8	Trace	0
9	Trace	0
10	Trace	0
11	Trace	0
12	12	0
13	14	0
14	15	-0.1
15	10	0
16	1.2	0

* Reading represents change from ambient air level

TABLE XLII

SURFACE WATER PARAMETERS
SUNSET PARK ABANDONED LANDFILL

	Site A (1)	Site B (2)
pH	6.1	6.2
Temperature . . . . . ^{o}C	9.8	14
Dissolved . . . . . Oxygen ppm	3.9	10.1
Electrolytic . . . . . Conductivity m℧/cm	0.3	0.5
Turbidity . . . . . ppm	7	4

(1) Flowing water from road ditch
(2) Stagnant water from swamp

TUKWILA

An old abandoned landfill exists at the end of 62nd Avenue South at the turn of South 153rd in Tukwila.

The site is located in the middle of a residential area but at the time of its operation, there was very little housing on the hill. Tukwila was an agricultural region and the landfill is remembered as a disposal site for household trash and garbage. Broken bottles and waste from the dairy which operated in the valley prior to the 1960's were also deposited there. It is thought that the site was discontinued in the mid-1940's. No documents on the site have been found.

FIELD RESULTS

This former landfill was tested for methane and trace-gas levels on October 29, 1984. Because of its small size, only three bore holes were placed for testing. Methane gas was observed only at trace levels indicating the stability of the site. Trace gas levels wer not observed above ambient air levels (Table XLII).

One water sample was retrieved from the swamp adjacent to the former fill. Water stagnation was indicated by a low dissolved oxygen level (1.2 ppm) and a relatively high electrolytic conductivity reading (0.5 milliohm/em). These data appear in Table XLIII. Leachate contamination was not indicated.

FIGURE 23

TUKWILA ABANDONED LANDFILL

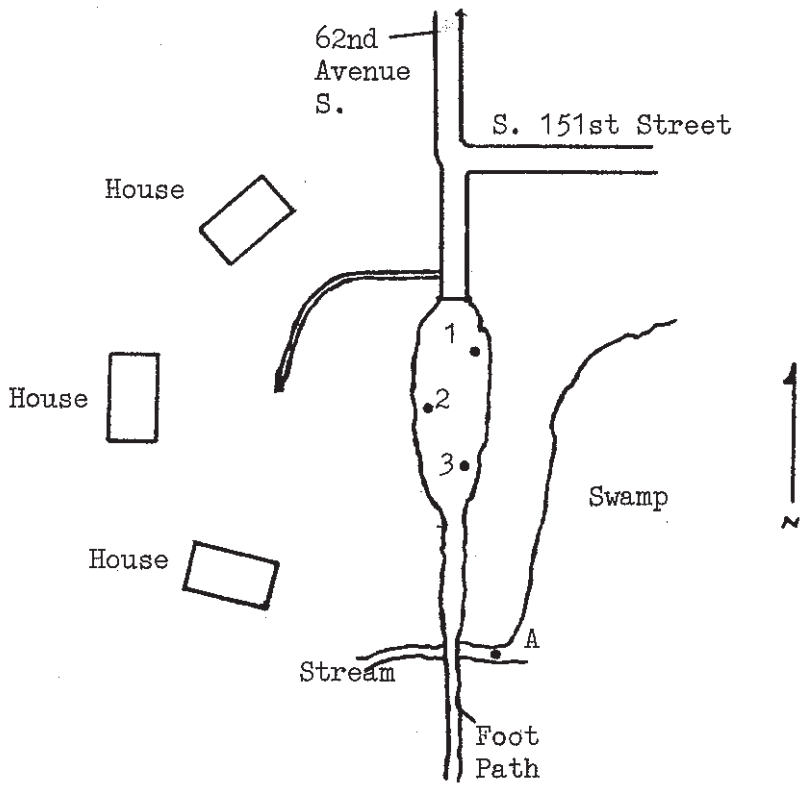


TABLE XLIII

METHANE AND TRACE GAS CONCENTRATIONS

TUKWILA ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	Trace	0
3	Trace	0

* Reading represents change from ambient air level

TABLE XLIV

SURFACE WATER PARAMETERS

TUKWILA ABANDONED LANDFILL

	Site A (1)
pH	6.0
Temperature ^{o}C	7.6
Dissolved Oxygen ppm	1.2
Electrolytic Conductivity m-℧/cm	0.5
Turbidity ppm	17

(1) Marsh/swamp water

VASHON ISLAND

Across the road from the existing Vashon Island disposal site is the location of the original Island garbage dump.

No documents regarding the original site were located. It is believed that this site closed over forty years ago. It is remembered primarily as a site where residents dumped waste "off the bank." Age and location make it an unlikely problem area.

FIELD RESULTS

This site was tested on November 17, 1984 for methane and trace gases. These data are presented in Table XLIV. Methane levels ranged from betwen 0% to trace in the nine bore holes tested indicating the age and stability of the site. Trace gas levels did not differ from the ambient air concentratons. No surface water was evident on or around the site. Of note, the wooded downhill slopes were littered with old bottles and decomposed household refuse.

FIGURE 24

VASHON ISLAND ABANDONED LANDFILL

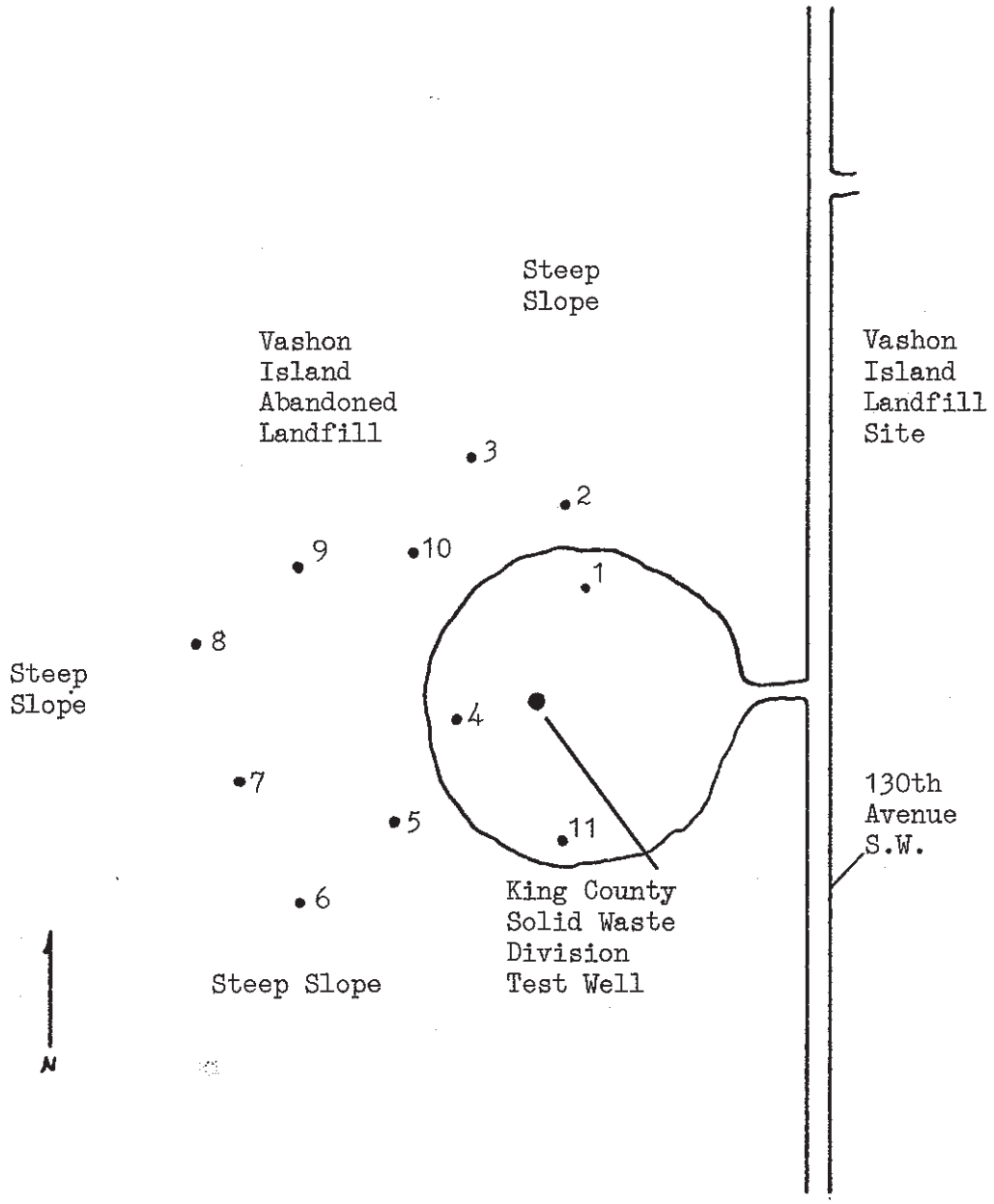


TABLE XLV

METHANE AND TRACE GAS CONCENTRATIONS
VASHON ISLAND ABANDONED LANDFILL

Site	Methane (%)	Trace Gas (ppm)*
1	Trace	0
2	0	0
3	Trace	0
4	Trace	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	Trace	0
11	0	0

* Reading represents change from ambient air level

OTHER SITES

While the preliminary study presented in the previous sections focused on known abandoned sites identified for the Environmental Health Division, during the course of the study the existence of other abandoned sites came to light. One of these, Rotary Park in Auburn, discussed in the previous sections, had operated until the mid-1960's. However, there were no records readily available for the Auburn site. This was also true for the other newly identified sites. Their existence became known either by the passing mention of a private citizen or by seeing a reference made to a site buried in a report which focused on another site or issue. They are mentioned here to demonstrate that this study does focus on the generally known and accepted disposal sites in King County. But there indeed may be others that are lost in time and in the memories of those who lived and worked throughout the County in earlier years.

Some of the sites identified during the course of researching historical references were additional and unsuspected dump sites in Renton. During the 1930's and 1940's a garbage site was in operation in the area of the old Renton Coal Mining Company. It was in the canyon area on the east side of Interstate 405, currently seen as a blackberry-covered hill below Cedar Avenue South, slightly north of South 8th Street. All materials were dumped here and burning was common.

Another site from the 1940's and 1950's is remembered along the Cedar River industrial waterway near where it makes its entrance to Lake Washington, situated between the Boeing Renton Plant and the Renton Airport. The Cedar River tract and river park area are at that location today. Fires were common at this site which reportedly received "all kinds of stuff."

In addition, bottles were found about 1969 when trenches were dug at the site of the Renton City Hall parking lot. The one time existence of a dump at that location was a suggested explanation. However, early historical pictures at the Renton Historical Society's Museum at the Old Renton Fire Station show the presence of a glass and bottle manufacturing operation in the general vicinity. It is possible that the parking lot area may have been the site of that industry's waste.

Another site referenced in some reports is "Bellefield," a third Bellevue site, distinguished from the Factoria and Bellevue Air Field sites. The Bellefield site was located on the area of what is now the parking lot of the Bellefield Office Park located between the Mercer Slough and 112th Southeast in Bellevue. According to the 1974 document, Environmental Management for the Metropolitan Area, Part IV, Solid Waste, this fill accepted rubbish, street sweepings, tires, demolition waste and industrial waste. The King County Solid Waste Management Plan of 1976 reported the Bellefield site had problems with on-site and off-site surface runoff central, leachate and gas venting. It also did not meet the minimum functional standards required for either daily cover or for a clean and sanitary site. The site apparently closed sometime after 1976.

Sites as these have been developed and used to meet community's land use needs. No documented problems have arisen to suggest that they present any existing hazards, but the fact that they, at one time, were landfill sites should be common, not forgotten, consumer knowledge.

CHAPTER IV
CONCLUSIONS AND RECOMMENDATIONS

PREFACE

The Conclusions and Recommendations that follow represent the opinion of the Seattle-King County Department of Public Health. Statements are based on the field and historic data presented earlier in this study.

The Seattle-King County Department of Public Health will submit a budget proposal to the King County Budget Office for a follow-up study of the eight abandoned landfill sites recommended for soil and/or water sampling. This project, if funded, will be conducted by the Health Department in 1986.

AUBURN ABANDONED LANDFILL (M & R STREET SITE)

This site revealed only slight readings of methane and non-specific organic/inorganic off-gasing. No surface water was available for sampling. Settling of streets, sidewalks and building foundations was readily apparent at the site. No significant environmental health problems were observed at the site and no further study is recommended.

AUBURN ABANDONED LANDFILL (ROTARY PARK)

This site exhibited elevated off-gasing of non-specific organic/inorganic gases concentrated in the eastern half of the site. Methane off-gasing was only noted at trace levels. No surface water was readily available for sampling.

It is recommended that soil and water samples be taken and analyzed for primary organics and inorganics that may be toxic to humans.

BOW LAKE ABANDONED LANDFILL

This site exhibited pockets of off-gasing of both methane and non-specific organics/inorganics. The elevated gas levels are consistent with the general type and volume of waste taken at the former landfill. Leachate was observed draining down and off the southeast portion of the property.

It is recommended:

1. The above noted leachate be intercepted and managed in an environmentally sound manner within the confines of the County transfer station property so as to prevent air, soil, and/or water contamination.

2. No further building construction take place on the property until the site has been stabilized.

3. That soil and water samples be taken and analyzed for primary organics and inorganics that may be toxic to humans.

CARTON & BORTH ABANDONED LANDFILL

This site demonstrated virtually no evidence of non-specific organic/-inorganic off-gasing and slight evidence of methane generation within the center of the site.

It is recommended:

- That methane monitoring be periodically conducted in proximity to the commercial structures adjacent to and west of the former landfill to insure that methane migration is not occurring in the building substructures.

CORLISS LANDFILL (McCORMICK PARK)

This site exhibited off-gasing of both methane and non-specific organics/inorganics. Explosive or greater levels of methane were found clustered through the central portions of the former fill. Water samples taken both up and downstream of the site in Thornton Creek revealed no evidence of leachate.

It is recommended:

1. No building construction take place on the property until the site has been stabilized.

2. Gas flaring or similar technology be utilized to reduce high concentrations of trapped methane within the fill.

3. Soil and water samples be taken and analyzed for priority organics and inorganics that may be toxic to humans.

EASTGATE ABANDONED LANDFILL

This site includes the old Bellevue Airfield and a small portion of Bellevue School District property. Little evidence of non-specific organic/inorganic off-gasing was observed. Methane gas was detected both on the former landfill and migrating to the east/northeast of the landfill. Leachate has been historically observed leaving the site via a surface ditch and draining into Phantom Lake.

It is recommended:

1. Gas flaring or similar technology be utilized to reduce high concentrations of trapped methane within the fill.

2. No further building construction take place until the landfill site has been stabilized.

3. Boeing continue methane migration monitoring, including specific checks of buildings in the path of potential migration.

4. The above noted leachate be intercepted and managed in an environmentally sound manner within the confines of the property so as to prevent air, soil, and/or water contamination.

ENUMCLAW ABANDONED LANDFILL

This site exhibited trace levels of methane off-gasing. The down gradient surface stream did not reveal evidence of leachate. Given the field data and the age of the former landfill, no environmental health problems are evidenced and no further study is warranted.

FACTORIA PIT (SUNSET RAVINE PARK)

This site demonstrated little evidence to suggest an environmental health risk. Since surface water revealed no evidence of leachate, and off-gasing was insignificant, no further study is warranted.

FALL CITY ABANDONED LANDFILL

This site revealed no evidence of methane off-gasing and one slightly elevated non-specific organic/inorganic reading. The water sample did not reveal high conductivity but the water had an oily appearance.

No significant environmental health problems were observed at the site and no further study is warranted.

H.H. OLESON

Methane and trace gas levels were observed at low levels throughout the site. The off-site water sample tested did not indicate a leachate contamination problem.

Given the depth of the fill and its relatively recent deposit, further ground settling may be expected. It is therefore recommended that no building construction take place over the fill until the property has settled.

HOUGHTON ABANDONED LANDFILL

This site exhibited elevated levels of methane off-gasing particularly in the southwest section and only low levels of non-specific organic/inorganic gases were observed. Obvious signs of leachate were not observed during site inspections. However, leachate problems have historically been encountered.

It is recommended:

1. No additional building construction take place on the landfill until it has stabilized.

2. Soil and water samples be taken and analyzed for priority organics and inorganics that may be toxic to humans.

3. Gas flaring or similar technology be utilized to reduce high concentrations of trapped methane within the fill.

KENT ABANDONED LANDFILL (MILL CREEK CANYON PARK)

This site revealed no evidence of non-specific organic/inorganic off-gasing and very little evidence of methane off-gasing. The lack of significant environmental health problems at the site make further study unnecessary.

McMICKEN HEIGHTS ABANDONED LANDFILL

This site revealed no evidence of non-specific organic/inorganic off-gasing and very little evidence of methane off-gasing. No significant environmental health problems were observed at the site and it is recommended that no further study be done.

NORTH BEND ABANDONED LANDFILL

This site demonstrated very little evidence to suggest an environmental health risk. Only one methane and one non-specific organic/inorganic reading were even slightly positive. No further study seems warranted.

PACIFIC ABANDONED LANDFILL (PARK SITE)

This site revealed low level readings of methane and non-specific organic/inorganic off-gasing. The water sample from the adjacent White River did not indicate the presence of leachate. No significant environmental health problems were observed at the site and no further study is warranted.

PUYALLUP/KIT CORNER ABANDONED LANDFILL

This site demonstrated consistently elevated levels of methane off-gasing. Although both surface water samples failed to detect leachate parameters. A stained half round corrugated pipe was observed draining from the landfill area into the freeway storm drain.

It is recommended that:

1. No building construction take place until the site has been stabilized.

2. Gas flaring or similar technology be utilized to reduce high concentrations of trapped methane within the fill.

3. Soil and surface/ground water samples be taken and analyzed for priority organics and inorganics that may be toxic to humans.

REDONDO PIT (SACAJAWEA COUNTY PARK)

This site exhibited elevated off-gasing of non-specific organic/inorganic gases, with the peak level observed in the middle terraced portion of the park. No corresponding significant levels of methane gas were noted at the site. This finding is consistent with the understanding that the site was utilized as a waste oil disposal site by the Navy and the Port of Seattle during and before World War II. No leachate was detected in the storm waste water system utilized by the park.

It is recommended that:

- Soil samples be taken and analyzed for priority organics and inorganics that may be toxic to humans.

RENTON HIGHLANDS ABANDONED LANDFILL

This site revealed no evidence of non-specific organic/inorganic off-gasing and only occasional traces of methane off-gasing. Mt. Olivet Creek was sampled and revealed no evidence of leachate. No significant environmental health problems were observed at the site and recommend that no further study is warranted.

RENTON JUNCTION ABANDONED LANDFILL

This site demonstrated relatively high levels of methane off-gasing with five of the seven test holes being within or above the explosive range. No evidence of non-specific organic/inorganic gases were observed exceeding background levels.

It is recommended:

1. That all existing building construction be properly vented and periodically monitored to insure that methane is not accumulating in any substructures.

2. That no further building construction take place over the former landfill site until it has been stabilized.

SKYKOMISH ABANDONED LANDFILL

This site revealed little evidence of methane or non-specific organic/inorganic off-gasing. No significant environmental health problems were observed at the site and no further study is warranted.

SUNSET PARK ABANDONED LANDFILL

This site exhibited active off-gasing of methane in the far southern portion of the park immediately adjacent to the Tub Lake property owned by the Port of Seattle. The non-specific organic/inorganic gases were at background levels in all but three samples and hence were not significant. The surface water sample at the border of the park and the lake property exhibited as slightly elevated specific conductivity.

It is recommended that:

1. No building construction take place at the southern portion of the park property until the site has been stabilized.

2. Water and soil sampling be conducted on Port of Seattle property (Tub Lake) and analyzed for priority organics and inorganics that may be toxic to humans.

TUKWILA ABANDONED LANDFILL

This site revealed no evidence of non-specific organic/inorganic off-gasing and very little evidence of methane off-gasing. Water sample parameters raise questions regarding the quality of on-site water and it is recommended:

- That surface water samples be taken and analyzed for priority organics and inorganics that may be toxic to humans.

VASHON ISLAND ABANDONED LANDFILL

This site exhibited no significant evidence of methane or non-specific organic/inorganic off-gasing. The monitoring well of King County Solid Waste division located on the former landfill was most recently sampled on September 12, 1984. The results indicate elevated conductivity but no corresponding high levels of heavy metals. No significant environmental health problems exist at the site and it is recommended that no further study is warranted.

GLOSSARY AND REFERENCES

GLOSSARY

1. Building Construction: Refers to a dwelling or habitable structure.

2. Stabilized: Refers to the cessation or appropriate control of methane and trace gas generation.

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Personal Discussions With:

Lauren Anderson, City of Bellevue
Maxine Anderson, City of Tukwila
Leonard Chapman, City of Auburn
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A.K. VanDusen, King County Public Works (Retired)
Don Wickstrom, City of Kent
Paul Wolfe, Auburn private citizen

APPENDIX C

Memorandum: Stormwater Quality Sampling Results from the Pacific Right Bank Wetland

King County

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Memorandum

February 18, 2015

TO: Chris Brummer, Senior Engineer, White River Basin, River and Floodplain Management Section (RFMS)

CC: Jeanne Stypula, Supervising Engineer, White River and Technical Services, RFMS

FM: Sarah McCarthy, Senior Ecologist, White River Basin, RFMS
Sevin Bilir, Environmental Scientist III, STSS

RE: Stormwater quality sampling results from the Pacific Right Bank Wetland

Background and Purpose

In 2010 and 2011, we collected stormwater samples from three locations in the vicinity of Pacific City Park, landward of the Pacific City Park Levee (Figure 1). This work was done to support a feasibility study for the future levee setback project on the right bank of the Lower White River. The purpose of this stormwater sampling was twofold:

1. Determine whether the quality of stormwater entering the wetland poses a concern for aquatic life, and
2. Determine whether analytes detected in the wetland indicate impacts from an abandoned dumpsite located in the vicinity of Pacific City Park that was active between ca. 1920 through the late-1960s

Methods

Sample locations were selected by RFMS personnel to identify potential impacts from offsite sources (WRLEV1) and to evaluate water quality conditions in two wetland habitats (WRLEV2 and WRLEV3) within the study area. WRLEV1 is located in a stormwater drainage ditch receiving water from residential properties to the west and north of the wetland. The northern wetland sampling location (WRLEV2) is located south of and adjacent to the Pacific City Park, approximately 300 feet downstream of where the drainage ditch discharges into the wetland. The southern wetland sampling location (WRLEV3) is located in the wetland approximately 1,000 feet south of WRLEV2.

Field parameters, including dissolved oxygen (DO), pH, water temperature, turbidity and conductivity, were measured prior to sample collection at all three sample locations during storm events on December 8, 2010, February 28, 2011, and March 10, 2011. A baseline (non-storm) collection was completed on January 04, 2011 at all three sampling locations.

Field parameters were measured, and surface water samples were collected using standard practice field sampling protocols and equipment, as described in *Standard Operating Procedure for Sampling Methods for Stream and River Water* (SOP #214v3). Samples were transported to the King County Environmental Laboratory (KCEL) in Seattle for analysis of a suite of parameters (Table 1).

Results

Field water quality parameter results and laboratory detected analytes are presented in Tables 2 and 3, respectfully. Laboratory results from the KCEL may be qualified as less than the method detection limit (MDL) or the reporting detection limit (RDL). Values less than the MDL indicate a parameter is not present in the sample above this level. Values greater than the MDL, but less than the RDL indicate confidence that the parameter is present, but at low enough levels to decrease reliability of the numerical result. Values greater than the RDL are considered reliable after undergoing laboratory Quality Assurance/Quality Control (QA/QC). For most of results, the data passed all KCEL internal QA/QC checks for accuracy and completeness with a few exceptions related to exceedances of preservation time limits for TKN, and manganese, semi-volatile organics and zinc detected in blanks.

Discussion

Results from this initial testing should be shared with the consultant preparing the Phase I Environmental Site Assessment (ESA) for the property. This will assist them in providing recommendations for a Phase II ESA for the study area.

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Attachments

Figure 1: Water Quality Sampling Locations
Table 1: Laboratory Methods and Analytes Tested , 2010 and 2011.
Table 2. Field Water Quality Results, 2010 and 2011.
Table 3. Reported Detected Analytes, 2010 and 2011
Appendices: KCEL Analytical Reports attached in FINAL document

White River Countyline Reach

WQPoints — Existing Levee/Revetment

Left Bank Setback Alignment

Right Bank Setback Alignment

N

0 90 180 360 Feet

October 2010

Figure 1: Water quality Sampling Locations

Table 1. Laboratory Methods and Analytes Tested, 2010 and 2011.

	Baseline	Storm Events		
	1/4/2011	12/8/2010	2/28/2011	3/10/2011
CV EPA 351.2				
Total Kjeldahl Nitrogen	√	√	√	√
CV SM4500-NO3-F				
Nitrite + Nitrate Nitrogen	√	√	√	√
CV SM4500-P-B,F				
Total Phosphorus	√	√	√	√
CV SM4500-P-F				
Orthophosphate Phosphorus	√	√	√	√
MT EPA 200.8*SW846 6020A				
Cadmium, Dissolved, ICP-MS	√	√	√	√
Cadmium, Total, ICP-MS	√	√	√	√
Calcium, Total, ICP-MS	√	√	√	√
Chromium, Dissolved, ICP-MS	√	√	√	√
Chromium, Total, ICP-MS	√	√	√	√
Copper, Dissolved, ICP-MS	√	√	√	√
Copper, Total, ICP-MS	√	√	√	√
Iron, Total, ICP-MS				√
Lead, Dissolved, ICP-MS	√	√	√	√
Lead, Total, ICP-MS	√	√	√	√
Magnesium, Total, ICP-MS	√	√	√	√
Zinc, Dissolved, ICP-MS	√	√	√	√
Zinc, Total, ICP-MS	√	√	√	√
MT EPA 200.8/SW846 6020A*SM2340B				
Hardness, Calc	√	√	√	√
OR SW846 3520C*SW846 8270D SIM				
Chlorpyrifos	√	√		
Diazinon	√	√		
Disulfoton	√	√		
Malathion	√	√		
Parathion-Ethyl	√	√		
Parathion-Methyl	√	√		
Phorate	√	√		
OR SW846 3535A/8151A*8270D SIM				
2,4,5-T	√	√		
2,4,5-TP (Silvex)	√	√		
2,4-D	√	√		
2,4-DB	√	√		
Dichloroprop	√	√		
Dinoseb	√	√		
MCPA	√	√		
MCPP	√	√		

Table 1. Laboratory Methods and Analytes Test, 2010 and 2011. ***(continued)***

	Baseline	Storm Events		
	1/4/2011	12/8/2010	2/28/2011	3/10/2011
OR SW846 5030B*SW846 8260C				
1,1,1,2-Tetrachloroethane	√	√		
1,1,1-Trichloroethane	√	√		
1,1,2,2-Tetrachloroethane	√	√		
1,1,2-Trichloroethane	√	√		
1,1,2-Trichloroethylene	√	√		
1,1-Dichloroethane	√	√		
1,1-Dichloroethylene	√	√		
1,2,3-Trichloropropane	√	√		
1,2-Dibromo-3-chloropropane	√	√		
1,2-Dibromoethane	√	√		
1,2-Dichlorobenzene	√	√		
1,2-Dichloroethane	√	√		
1,2-Dichloropropane	√	√		
1,4-Dichlorobenzene	√	√		
2-Butanone (MEK)	√	√		
2-Hexanone	√	√		
4-Methyl-2-Pentanone (MIBK)	√	√		
Acetone	√	√		
Acrylonitrile	√	√		
Benzene	√	√		
Bromochloromethane	√	√		
Bromodichloromethane	√	√		
Bromoform	√	√		
Bromomethane	√	√		
Carbon Disulfide	√	√		
Carbon Tetrachloride	√	√		
Chlorobenzene	√	√		
Chlorodibromomethane	√	√		
Chloroethane	√	√		
Chloroform	√	√		
Chloromethane	√	√		
Cis-1,2-Dichloroethylene	√	√		
Cis-1,3-Dichloropropene	√	√		
Dibromomethane	√	√		
Dichlorodifluoromethane	√	√		
Ethylbenzene	√	√		
Methylene Chloride	√	√		
O-Xylene	√	√		
Styrene	√	√		
Tetrachloroethylene	√	√		
Toluene	√	√		
Trans-1,2-Dichloroethylene	√	√		
Trans-1,3-Dichloropropene	√	√		
Trichlorofluoromethane	√	√		
Vinyl Acetate	√	√		
Vinyl Chloride	√	√		

Table 1. Laboratory Methods and Analytes Tested, 2010 and 2011. ***(continued)***

	Baseline	Storm Events		
	1/4/2011	12/8/2010	2/28/2011	3/10/2011
OR SW846 3520C*SW846 8270D				
1,2,4-Trichlorobenzene	√	√		
1,2-Dichlorobenzene	√	√		
1,2-Diphenylhydrazine	√	√		
1,3-Dichlorobenzene	√	√		
1,4-Dichlorobenzene	√	√		
2,4,5-Trichlorophenol	√	√		
2,4,6-Trichlorophenol	√	√		
2,4-Dichlorophenol	√	√		
2,4-Dimethylphenol	√	√		
2,4-Dinitrophenol	√	√		
2,4-Dinitrotoluene	√	√		
2,6-Dinitrotoluene	√	√		
2-Chloronaphthalene	√	√		
2-Chlorophenol	√	√		
2-Methylnaphthalene	√	√		
2-Methylphenol	√	√		
2-Nitroaniline	√	√		
2-Nitrophenol	√	√		
3,3'-Dichlorobenzidine	√	√		
3-Methylphenol	√	√		
3-Nitroaniline	√	√		
4,6-Dinitro-O-Cresol	√	√		
4-Bromophenyl Phenyl Ether	√	√		
4-Chloro-3-Methylphenol	√	√		
4-Chloroaniline	√	√		
4-Chlorophenyl Phenyl Ether	√	√		
4-Methylphenol	√	√		
4-Nitroaniline	√	√		
4-Nitrophenol	√	√		
Acenaphthene	√	√		
Acenaphthylene	√	√		
Aniline	√	√		
Anthracene	√	√		
Benzo(a)anthracene	√	√		
Benzo(a)pyrene	√	√		
Benzo(b)fluoranthene	√	√		
Benzo(g,h,i)perylene	√	√		
Benzo(k)fluoranthene	√	√		
Benzoic Acid	√	√		
Benzyl Alcohol	√	√		
Benzyl Butyl Phthalate	√	√		
Bis(2-Chloroethoxy)Methane	√	√		
Bis(2-Chloroethyl)Ether	√	√		
Bis(2-Chloroisopropyl)Ether	√	√		
Bis(2-Ethylhexyl)Phthalate	√	√		

Table 1. Laboratory Methods and Analytes Tested, 2010 and 2011. ***(continued)***

	Baseline	Storm Events		
	1/4/2011	12/8/2010	2/28/2011	3/10/2011
OR SW846 3520C*SW846 8270D				
Caffeine	√	√		
Carbazole	√	√		
Chrysene	√	√		
Coprostanol	√	√		
Dibenzo(a,h)anthracene	√	√		
Dibenzofuran	√	√		
Diethyl Phthalate	√	√		
Dimethyl Phthalate	√	√		
Di-N-Butyl Phthalate	√	√		
Di-N-Octyl Phthalate	√	√		
Fluoranthene	√	√		
Fluorene	√	√		
Hexachlorobenzene	√	√		
Hexachlorobutadiene	√	√		
Hexachlorocyclopentadiene	√	√		
Hexachloroethane	√	√		
Indeno(1,2,3-Cd)Pyrene	√	√		
Isophorone	√	√		
Naphthalene	√	√		
Nitrobenzene	√	√		
N-Nitrosodimethylamine	√	√		
N-Nitrosodi-N-Propylamine	√	√		
N-Nitrosodiphenylamine	√	√		
Pentachlorophenol	√	√		
Phenanthrene	√	√		
Phenol	√	√		
Pyrene	√	√		
Pyridine	√	√		

Note: Baseline indicates non-storm collection

Table 2. Field Water Quality Results, 2010 and 2011.

	Baseline	Storm Events		
	1/4/2011*	12/8/2010**	2/28/2011	3/10/2011
WRLEV1 – Drainage Ditch				
Dissolved oxygen	5.86	3.45	3.14	0.7
pH	6.5	6.51	6.48	6.52
Temperature	4.54	8.63	5.11	9.18
Turbidity	2.22	10.2	12.5	7.43
Conductivity	408.9	173.4	238.9	356.3
WRLEV2 – Upstream Wetland				
Dissolved oxygen	1.66	0.95	1.81	2.7
pH	6.35	6.51	6.38	6.41
Temperature	4.89	7.43	5.97	10.1
Turbidity	12.3	2.2	2.41	5.1
Conductivity	102.3	NC	NC	146
WRLEV3 – Downstream Wetland				
Dissolved oxygen	6.01	4.91	5.11	3.63
pH	6.54	6.75	6.66	6.62
Temperature	3.38	8.71	4.45	8.29
Turbidity	30.6	44.8	41.1	4.95
Conductivity	288.3	NC	NC	289.4

Note:

NC not collected

**WRLEV1 Iron oxide odor, orange color and sheen present 1/4/2011*

**WRLEV2 Sulfide odor 1/4/2011*

***WRLEV1 Algae and sheen present, low flow*

***WRLEV2 Sulfur odor, algae present*

***WRLEV3 Orange color, suspended algae, some flow*

Note: Baseline indicates non-storm collection

Table 3. Reported Detected Analytes, 2010 and 2011

			Total Kjeldahl Nitrogen	Nitrite + Nitrate Nitrogen	Total Phosphorus	Orthophosphate Phosphorus	Calcium, Total, ICP-MS	Chromium, Dissolved, ICP-MS	Chromium, Total, ICP-MS	Copper, Dissolved, ICP-MS	Copper, Total, ICP-MS	Iron, Total, ICP-MS	Lead, Dissolved, ICP-MS	Lead, Total, ICP-MS	Magnesium, Total, ICP-MS	Zinc, Dissolved, ICP-MS	Zinc, Total, ICP-MS	Hardness, Calc	2-Methylphenol	4-Methylphenol	Acenaphthene	Acenaphthylene	Benzoic Acid	Benzyl Alcohol	Benzyl Butyl Phthalate	Bis(2-Ethylhexyl)Phthalate	Diethyl Phthalate	Di-N-Butyl Phthalate	Naphthalene	Acetone	Toluene	Vinyl Chloride
		Units	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg CaCO3/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Event	Date																															
WRLEV1 – Drainage Ditch																																
Baseline	1/4/2011	Result	1.58		0.134	0.049	42600	1.12	1.08	0.41	<MDL				8500	4.89	5.2	141					1.9			0.26		0.14	0.0241			0.0371
		Qual	SH	<MDL						<RDL	<MDL		<MDL	<MDL					<MDL	<MDL	<MDL	<MDL		<MDL	<MDL	<RDL,B	<MDL	B		<MDL	<MDL	
Storm	12/8/2010	Result	1.75		0.136	0.019	37900	0.74	0.8						7370	6.72	5.54	125			0.015		1		0.102	0.99		0.176	0.015			0.0308
		Qual		<MDL		<RDL		<RDL	<RDL	<MDL	<MDL		<MDL	<MDL					<MDL	<MDL	<RDL	<MDL		<MDL			<MDL	B	<RDL	<MDL	<MDL	
Storm	2/28/2011	Result	0.997	0.012	0.132	0.0263	25600	0.44	0.5		0.55			0.12	5520	3.07	3.42	86.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<RDL				<RDL	<RDL	<MDL	<RDL		<MDL	<RDL					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Storm	3/10/2011	Result	0.772	0.025	0.134	0.0857	18700	0.35	0.43	0.45	0.91	6850		0.17	4330	3.17	3.35	64.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<RDL				<RDL	<RDL	<RDL	<RDL		<MDL	<RDL					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WRLEV2 – Upstream Wetland																																
Baseline	1/4/2011	Result	0.323		0.142	0.0156	11900	0.33	0.37		0.67		0.13	0.27	2280	1.5	1.4	39	0.307	0.197			0.909	0.21	0.092	0.23		0.14	0.013		0.5	
		Qual	SH	<MDL				<RDL	<RDL	<MDL	<RDL		<RDL	<RDL		<RDL	<RDL				<MDL	<MDL			<RDL	<RDL,B	<MDL	B	<RDL	<MDL		<MDL
Storm	12/8/2010	Result	0.31		0.115	0.00689	14300	0.26	0.32					0.13	2930	0.65	0.6	47.8	0.539	1.55			1.75	0.263		0.488	0.026	0.134			0.551	
		Qual		<MDL				<RDL	<RDL	<MDL	<MDL		<MDL	<RDL		<RDL	<RDL				<MDL	<MDL			<MDL	B2	<RDL	B	<MDL	<MDL		<MDL
Storm	2/28/2011	Result	0.254		0.0699	0.0243	6450	0.2	0.25		0.47		0.21	0.29	1440		0.82	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<MDL				<RDL	<RDL	<MDL	<RDL		<RDL	<RDL		<MDL	<RDL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Storm	3/10/2011	Result	0.202		0.0345	0.0254	7790				1.3	2240	0.11	0.33	1820	2.82	6.48	26.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<MDL				<MDL	<MDL	<MDL	<RDL		<RDL	<RDL					NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WRLEV3 – Downstream Wetland																																
Baseline	1/4/2011	Result	1.63		0.205	0.0139	39900	0.37	0.53						6200	1.5	2.3	125	0.0574				1.55			1.77		0.126	0.0338			0.015
		Qual	SH	<MDL				<RDL	<RDL	<MDL	<MDL		<MDL	<MDL		<RDL	<RDL			<MDL	<MDL	<MDL		<MDL	<MDL	B2	<MDL	B		<MDL	<MDL	<RDL
Storm	12/8/2010	Result	1.48		0.162	0.0036	35400	0.26	0.46						6090	2.5	2.5	113	0.113		0.017		0.35	0.225		0.25	0.027	0.149	0.0231	2.6		
		Qual		<MDL		<RDL		<RDL	<RDL	<MDL	<MDL		<MDL	<MDL			<RDL			<MDL	<RDL	<MDL	<RDL		<MDL	<RDL,B	<RDL	B		<RDL	<MDL	<MDL
Storm	2/28/2011	Result	0.954	0.011	0.17	0.024	28500	0.27	0.41		0.45			0.1	4700	1.3	2	90.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<RDL				<RDL	<RDL	<MDL	<RDL		<MDL	<RDL		<RDL	<RDL		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Storm	3/10/2011	Result	1.04	0.018	0.196	0.0596	26300	0.29	0.42		0.69	8580		0.13	5390	2.1	3.35	88	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Qual	SH	<RDL				<RDL	<RDL	<MDL	<RDL		<MDL	<RDL		<RDL			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: Baseline indicates non-storm collection

NA = not analyzed

MDL - method detection limit

RDL - reporting detection limit

Qual- qualifiers

B - qualifier indicates result is equal to or less than 5 times the concentration found in the method blank.

B2 - qualifier indicates result is greater than 5 times but is equal to or less than 5 times the concentration found in the method blank.

SH - qualifier indicates samples not preserved within 15 minutes of collection of the last sample into the sample composite sampler.

APPENDIX D

Phase II Environmental Site Assessment, Pacific Right Bank Levee Setback Project

This Site Assessment will be provided separately on a flash drive.

APPENDIX E

Pacific Park/Dumpsite Environmental Investigation Report

King County

PACIFIC PARK/DUMPSITE ENVIRONMENTAL INVESTIGATION

600 3RD AVENUE SOUTHEAST, PACIFIC, WASHINGTON

Prepared for
River and Floodplain Management Section
King County Water and Land Resources Division

Prepared by
Herrera Environmental Consultants, Inc.

HERRERA

Note:
Some pages in this document have been purposely skipped or blank pages inserted so that this document will copy correctly when duplexed.

PACIFIC PARK/DUMPSITE ENVIRONMENTAL INVESTIGATION

600 3RD AVENUE SOUTHEAST, KING COUNTY, WASHINGTON

Prepared for
River and Floodplain Management Section
King County Water and Land Resources Division
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September 18, 2017

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CERTIFICATE OF LICENSED HYDROGEOLOGIST

This document has been prepared under the supervision of a licensed hydrogeologist.

Bruce A. Carpenter	September 18, 2017
Signature	Date

INTRODUCTION

This report summarizes field activities, including soil and groundwater sampling results for the Pacific Park/Dumpsite (Site) located at 600 Third Avenue Southeast in Pacific, Washington (Figure 1). The Site consists of 21 acres located along the right bank of the White River. The Site is located on a 43-acre parcel owned by King County since 1921 and used as an informal dumpsite and as a city dump until it was closed in 1965 to refuse dumping. The Site remained abandoned until King County leased the 21-acre portion of the property to the City of Pacific in 1969 for use as a park that opened in 1972 (S&W, 2016). It remains closed for flood control purposes from approximately October through March. A site map is provided in Figure 2.

On February 14, 2017, Herrera Environmental Consultants, Inc., (Herrera) entered into an agreement with the King County River and Floodplain Management Section as part of King County Contract Number E00375E15, Work Order Number E00375-40. Herrera developed a Sampling and Analysis Plan (SAP) describing the field activities to be conducted for this investigation (Herrera 2017). This report focusses on soil and groundwater sampling at the park boundary, outside of the fill area, to evaluate potential offsite impacts.

SITE BACKGROUND CONDITIONS

In 2016, a Phase II Environmental Site Assessment (ESA) was conducted to evaluate conditions across the Site (S&W, 2016). Soil and groundwater samples were collected from 28 push-probes and six monitoring wells constructed from six of the probes. Additionally, four test pits were excavated. Sampling locations were selected based on historical records, including aerial photographs. The report presented the following conclusions for soil and groundwater:

- Contaminants revealed in soil in excess of the Model Toxics control Act (MTCA) regulatory cleanup criteria included the following:
    - Lube oil-range petroleum hydrocarbons were detected in two soil samples at depths of 4.5 and 5.5 feet below ground surface (bgs), above the MTCA Method A cleanup criterion.
    - Three samples, five samples, seven samples, and two samples were detected above the MTCA Method A cleanup criteria for arsenic, cadmium, lead, and mercury, respectively, at depths ranging from 4.5 to 12.5 feet bgs.
    - No volatile organic compounds (VOCs) were detected above the MTCA Method A cleanup criteria.

- Semi-volatile organic compounds (SVOCs), including carcinogenic polycyclic aromatic hydrocarbons (cPAHs), were detected above the MTCA Method A cleanup criterion at 18 soil sample locations. The MTCA Method A cleanup level for cPAHs is based on the total of cPAH compounds. The Toxics Equivalency Factor (TEF) for cPAHs is used to adjust cPAH concentrations to benzo(a)pyrene. If a particular cPAH compound is not detected, one half of the detection limit is used in the TEF calculation. At some locations, no cPAHs were reported detected, but due to a high detection limit, the TEF calculation triggered a MTCA exceedance. If detection limits are higher than normal, the cPAH total could exceed MTCA cleanup levels with no reported detections.

- No polychlorinated biphenyls (PCBs) were detected above the MTCA cleanup criterion.

- Contaminants revealed in groundwater in excess of the MTCA regulatory cleanup criteria included the following:

  - Total arsenic concentrations exceeded the MTCA Method A cleanup criterion at eight locations. Dissolved arsenic exceeded the MTCA Method A cleanup criterion at two locations.

  - Total lead concentrations exceeded the MTCA Method A cleanup criterion at three locations. Dissolved lead was not detected above the MTCA Method A cleanup criterion.

  - No other metals, VOCs or petroleum hydrocarbons were detected above the MTCA Method A cleanup criteria.

- Contaminants appear to be confined to the dumpsite and do not appear to pose a threat to the public, based on current land use. Additional soil and groundwater sampling was recommended around the perimeter of the Site to determine if contamination had migrated off site.

- An operations and maintenance plan should be implemented that would limit ground disturbance to less than 1 foot bgs.

In 2010 and 2011, King County (2015) collected stormwater samples from the ditch near the end of 4th Avenue SE and from two locations in the wetland located 300 feet and 1,000 feet south of 4th Avenue SE. Water was tested for 6020A metals, pesticides, herbicides, and EPA 8260C VOCs and EPA 8270D SVOCs. Results from all three locations found detectable concentrations of VOCs in surface waters. No conclusions regarding the source of the contaminants were made by King County (2015).

SITE CONDITIONS

PHYSICAL SETTING

The Site is located approximately 2,000 feet north of the King/Pierce County line. The property is relatively flat. Ground surface elevation for the Site ranges from 80 to 87 feet (NAVD88), based on 2016 King County Water and Land Resources Division lidar and orthoimagery acquisition completed by Tetra Tech.

The Site is located in an area that historically had been occupied by the White River prior to construction of levees in the 1910s and filling of the site from the 1920s through the 1960s. It is subject to flooding by the White River and seasonal inundation by ponded stormwater and shallow groundwater. According to historical photos and maps, flood-control measures were taken that included construction of a concrete revetment in 1919 as part of the channelization of the White River along the alignment of the former Stuck River (S&W 2016).

The 1936 and 1944 aerial photographs indicate an orchard occupied the area west of the Site. Fill was placed in the 1980s within the area underlain by the four apartments south of 4th Avenue SE, the southeastern half of the area underlain by the four apartments north of 4th Avenue SE, and the extreme southeastern corner of the Megan's Court Apartments.

A stormwater ditch drains south along the western edge of the Site. The ditch receives stormwater from residential properties located along 3rd Avenue SE, Spencer Court, and the apartments west of the ditch and also from the parking lot in the park. The water level in the ditch roughly corresponds to groundwater levels in adjacent wells, so the ditch presumably intercepts groundwater, which intermingles with surface stormwater conveyed by the ditch.

Access to the site is restricted from October through March by a continuous HESCO barrier system installed for flood control purposes along the northern and western property boundaries. A section of the barrier is removed from April to September to allow public access at two locations on the northern portion of the property, along 3rd Avenue SE.

Geology

Regional Geology

The Puget Lowland area has been subjected to six or more major glaciations during the past 2 million years. The last ice covering the Site to a thickness estimated to be 3,000 feet, receded about 13,500 years ago, leaving a series of north-trending ridges and valleys. These deep valleys

were partially or completely filled with recessional glacial deposits and recent Holocene deposits (S&W 2016).

Subsequent to the most recent glaciation, a series of lahars and mudflows associated with volcanism from Mt. Rainier occurred, which contributed to the deposition of sediments in the White River valley. The most significant of these volcanic events was the Osceola mudflow that occurred 5,600 years ago and diverted the White River and initiated the deposition of the White River alluvial fan. During the Sumerland age volcanism approximately 2,500 years ago, the White and Green rivers extended 20 miles north to Elliott Bay. During a large flood that occurred in 1906, the White River was re-diverted to the south and avulsed to the Stuck River.

Site Geology

The Geologic Map of Auburn 1:24,000 Quadrangle (Mullineaux, 1965) maps the Site as artificial fill (af) with the surrounding area as alluvium (Qaw). The map indicates that the alluvium consists of mostly gravel and sand deposits of the White River and boulder-cobble and pebble-cobble gravel and sand in the White River valley.

Shannon and Wilson 2016 Investigation

Fill material was encountered in each of the geoprobe explorations across the Site during the Phase II ESA (S&W 2016). Fill material was identified based on soil with a disturbed appearance and from the presence of unnatural debris such as glass shards and bottles, brick, cement, organics, wood, paper, rubber, and ceramic. Fill consisted of gravelly silt, silty sand, and sandy gravel to gravelly sand. Based on observations from the geoprobes and test pit explorations, fill is generally 2 to 12 feet thick across the Site, with fill being thicker in the central/south central portion of the Site.

The fill is overlain by sandy gravelly fill placed during the period after the dumpsite was closed in order to cover the waste and level out the site for development of a park. Based on the boring and test pit logs, the thickness of this fill ranges from 1.8 to 10 feet.

The fill is underlain by alluvial overbank deposits consisting mostly of poorly graded sand with gravel to sandy gravel interbedded with backwater lacustrine deposits consisting of silt with organics and interbeds of silty sand. Alluvium and lacustrine deposits were encountered from 2 to 12 feet bgs. Large cobbles to small boulders were not observed in the geoprobe explorations due to sampler size limitations, but were encountered in the test pit explorations. Fill material and alluvial deposits were loose, causing caving and collapse that limited excavation depths in some of the test pits. Loose soils and refuse debris limited the recovery of the geoprobe core samples at some locations (S&W 2016).

Site Hydrogeology

Shannon and Wilson 2016 Investigation

Groundwater was encountered in each of the geoprobe and test pit explorations, with the exception of the southernmost test pit and geoprobe that was advanced to characterize the soil mounds in the southern portion of the site. Groundwater depths ranged from 4 to 9 feet bgs at the time of the Phase II investigation, in September 2015. In general, groundwater was encountered between 4 to 6 feet bgs, with deeper groundwater depths encountered in areas of higher relief, such as explorations located on the existing levee and in terraced fill areas in the southern portion of the Site (S&W 2016).

Groundwater observed in test pits was rapid flowing, causing caving and collapse that limited the excavation with the exception of the southernmost test pit. Soils with generally high-permeability were observed in the test pits, which facilitated a rapid movement of groundwater into the excavation (S&W 2016).

A sketch of a water level contour map for the Site was completed by King County, based on October 2015 water level data. Groundwater flow was to the southwest and follows the gradient of the river (Brummer 2017a).

King County completed an animation of groundwater levels, based on measurements from October 2015 through October 2016. The direction of groundwater flow is typically to the southwest for most of the year. When water levels rise in winter with the river stage, the gradient increases, and flow is toward the west (Brummer 2017b).

FIELD INVESTIGATION

Herrera staff collected groundwater samples from the six monitoring wells located across the Site and soil and groundwater samples from nine push-probe borings completed around the perimeter of the Site as part of this investigation. Sampling was performed according to procedures described in the SAP. The locations of the borings were selected to determine whether contamination identified on site during the Phase II ESA has migrated off site.

UTILITY LOCATE

The toll-free underground utility location service ("one call") was contacted prior to conducting probe drilling, and paint markings were made in the public right-of-way to designate water, sewer, gas, electric, and other communication lines. A private locating service (APS of North Bend, Washington) identified underground piping around the perimeter of the property on May 23, 2017.

SAMPLING ACTIVITIES

On May 15, 2017, two Herrera representatives collected water samples from the six existing monitoring wells, MW-1 through MW-6. The water samples were hand delivered to OnSite Environmental, Inc. (OnSite) of Redmond, Washington for the following analyses:

- Gasoline-range total petroleum hydrocarbons (TPH) by method Northwest TPH-Gx
- Diesel-range TPH by Method NWTPH-Dx) with silica gel cleanup
- VOCs by EPA Method 8260C
- PAHs by EPA Method 8270D/SIM
- Total and Dissolved Priority Pollutant Metals by EPA Methods 200.8/7470A

The samples were collected by the low-flow purge method described in the SAP. The dissolved metals samples were filtered in the field through a 0.45-micron filter.

On May 23 and 24, ESN Northwest provided a track mounted Bobcat push-probe rig to complete nine borings (PP1 to PP9) to 15 feet bgs at locations shown on Figure 3. Two soil samples were collected at each location, including one from the 0- to 5-foot depth interval or groundwater interface, and the second from the 10- to 15-foot interval. Groundwater samples also were collected from the borings. Samples were hand delivered to Onsite for analysis.

Soil and groundwater samples were analyzed for the same list of analyses provided above. Soil samples also were analyzed for the entire suite of SVOCs, which includes PAHs and total metals analyses (which includes the Resource Conversation, and Recovery Act (RCRA) metals arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver).

INVESTIGATION RESULTS

Field notes are provided in Appendix A, and probe boring logs are in Appendix B. GPS coordinates for each boring location were recorded and used to produce Figure 3. Photographic documentation of the field investigation is provided in Appendix C. Laboratory reports and chain-of-custody records are provided in Appendix D, and a Data Quality Assurance Review is provided in Appendix E.

SUBSURFACE CONDITIONS

Fill material was encountered at depths ranging from 2 feet bgs in boring PP7, consisting of sandy gravel to 7 feet bgs in borings PP3 and PP4. The fill material was identified by the presence of man-made material, characteristics of the soil core sample material such as layering, and findings from previous borings completed at the site. Concrete was found near ground surface and asphalt was found at 5 feet bgs in boring PP4, a piece of wire was found near ground surface in boring PP5, and a piece of a plastic ball was found at 2 feet bgs in boring PP6. Despite the presence of some man-made material, refuse was not found in any of the nine borings. Additionally, no sheens or petroleum odors were observed during sample collection.

Silt and sand with occasional gravel were encountered predominantly beneath the fill material in the six borings, PP1 through PP6, completed along the western perimeter of the property. A 6-inch zone of peat was observed at 9.5 feet bgs in boring PP1 and at 4.5 feet bgs in boring PP5. Thin layers of peat were found at depths of 9.5 and 14.5 feet bgs in boring PP1 and at 13 feet bgs in boring PP2. Occasional thin zones of organic material also were encountered in borings PP4, PP5, and PP6. Greenish gray silty clay was observed at 12 feet bgs in boring PP2, with some thin peat layers at 12 feet bgs.

Coarse alluvial material, including sand, gravel, and cobbles were observed beneath the levee fill in borings PP7, PP8, and PP9, completed on the levee along the eastern perimeter of the Site. No silt, clay, peat, other organic material, or any man made material was observed beneath the fill.

Groundwater was measured in the nine borings at depths ranging from 1.8 feet bgs in borings PP1, PP2, and PP7 to 4 feet bgs in boring PP9 and from 0.4 feet bgs in well MW-3 to 5.71 feet bgs in well MW-6. Water level contour maps were completed for the highest and lowest water levels observed during the data collection period, which ranged from the date of monitoring well installation in October 2015 to the date of the groundwater sampling event on May 12, 2017. Water level data loggers deployed in monitoring wells MW-2 through MW-6 in October 2015, provided data used to complete Figure 4, representing the lowest water levels measured during the data collection period, which occurred on October 6, 2016. Figure 5 depicts a contour map, based on the highest water level data over the monitoring period, which occurred on

March 19, 2017. Figure 6 depicts a contour map, based on water levels measured during recent groundwater sampling on May 12, 2017.

Water level data fluctuated by approximately 4.5 feet bgs during the data collection period. The groundwater flow direction is toward the southwest during periods of lower flow during the end of the summer and toward the west to southwest during periods of higher flow during the winter.

Analytical Results

Soil Sampling

A summary of soil analytical results is presented in Table 1 and summarized as follows:

- Gasoline-range total petroleum hydrocarbons and diesel-range petroleum hydrocarbons were not detected in any of the 18 samples above reporting limits.

- Lube oil-range petroleum hydrocarbons were detected in shallow soil samples collected from borings PP3, PP4, PP5, PP6, and PP7 at concentrations ranging from 62 to 620 mg/kg, well below MTCA Method A cleanup level 2,000 mg/kg. Lube oil was detected in only one deep sample collected from boring PP4 at a concentration of 570 mg/kg. Fill material was observed in Boring PP4 10 to a depth of 7 feet bgs and a piece of asphalt was observed at 5 feet bgs.

- Six VOC compounds were detected, including acetone, carbon disulfide, 2-butanone, toluene, styrene, and 1,2,4-trimethylbenzene. All of the detections were below MTCA Method A or B cleanup levels. Acetone, carbon disulfide, 2-Butanone, and toluene are common laboratory contaminants and may have been introduced into the samples at the laboratory. Styrene and 1,2,4-trimethylbenzene were detected at one location. Trimethlybenzene was detected in the sample from boring PP4 that contained fill material, including a piece of asphalt.

- Two SVOCs, including benzyl alcohol and bis(2-ethylhexyl)phthalate were detected in fill material from borings PP1 and PP8, respectively, at low concentrations below MTCA Method A or B cleanup levels.

- PAHs were detected in three samples, including the shallow and deep samples from boring PP4 and the shallow sample from boring PP6 at concentrations below the MTCA Method A cleanup level, 0.1 mg/kg total cPAHs. Lube oil was reported at each of these three sample locations.

- Barium, chromium, and lead were the only total metals detected. Barium and chromium were detected in all of the soil samples at concentrations well below MTCA cleanup levels. Chromium concentrations were typical of background conditions reported for

Puget Sound ranging from a minimum of 12 to a maximum of 235 mg/kg and median of 22 mg/kg (Ecology 1994). Lead was detected in five samples all collected from shallow sample locations. With the exception of the shallow sample collected from boring PP4, all of the sample results are typical of background concentrations in Puget Sound ranging from 4.7 to 30 mg/kg and well below the MTCA Method A cleanup level of 250 mg/kg.

- Six samples with reported lube oil detections also were analyzed for PCBs to comply with MTCA sampling requirements. PCBs were often mixed with lube oil prior to the 1976 EPA Toxic Substance Control Act regulation. Only two of the soil samples had reported detections of PCBs, including the shallow samples collected from borings PP4 and PP6. None of the PCBs exceeded the MTCA Method A cleanup level.

Groundwater Sampling

A summary of groundwater sampling analytical results is presented in Table 2, and detected concentrations above MTCA are provided on Figure 7 for metals analyses. The groundwater sampling results are presented according to samples collected from the monitoring wells and from the probe borings.

Monitoring Wells

- Gasoline-range total petroleum hydrocarbons, diesel-range petroleum hydrocarbons, and lube oil-range petroleum hydrocarbons were not detected in any of the six samples above the reporting limits.

- Chlorobenzene was the only VOC detected at a concentration of 1.5 µg/L in well MW-4. It also was the only VOC detected during the previous sampling effort in October 2015.

- No PAHs were detected in any of the six samples.

- Three of the 13 priority pollutant metals sampled in the six monitoring wells were detected, including arsenic, lead, and zinc. In most cases there was correlation between the total and dissolved detected concentrations. Arsenic was the only metal that exceeded the MTCA Method A cleanup level of 5 µg/L with an identical reported detection of 8.3 µg/L for both the total and dissolved sample collected from well MW-4. Arsenic was reported at respective total and dissolved concentrations of 13 and 9.8 µg/L during the October 2015 sampling effort. Total and dissolved arsenic also was detected at respective concentrations of 5.7 and 5.1 µg/L during the October 2015 monitoring effort in well MW-2, but it was not detected in the May 2017.

Probe Borings

- Gasoline-range total petroleum hydrocarbons were detected in samples collected from one of the nine boring locations, PP5, at a concentration of 210 µg/L, less than the MTCA Method A cleanup level of 800 µg/L.

- Diesel-range petroleum hydrocarbons, and lube oil-range petroleum hydrocarbons were not detected in any of the nine probe boring samples.

- Acetone, a common laboratory contaminant was detected in all nine probe boring samples at concentrations well below the MTCA cleanup level. Benzene and other VOCs found in gasoline were detected in the sample collected from PP5, which had a reported gasoline concentration. The reported benzene concentration of 6.4 µg/L slightly exceeds the MTCA Method A cleanup level of 5 µg/L. No gasoline was detected in the six monitoring wells located on the Site or in the three probe water samples collected in 2015. Two other VOCs, toluene and carbon disulfide were detected in the water samples collected from boring PP7, and PP9, respectively, at concentrations well below MTCA cleanup levels.

- Two PAHs, including benzo(b)fluoranthene and dibenz(a,h)anthracene exceeded the MTCA Method B, cancer criteria. No Total PAHs exceeded the MTCA Method A cleanup criterion of 0.100 µg/L.

- Multiple MTCA exceedances occurred for total metals as shown in Table 2 and on Figure 7. Ten of the 13 priority pollutant metals analyzed in the sample collected from boring PP2 exceeded MTCA cleanup levels. The sample collected from PP2 was extremely turbid, the well yield was very slow (it took over 2.5 hours to collect the sample), and much of the sample was suspended sediment that was acidified from the sample preservatives when placed into the sample container most likely resulting in elevated metals concentrations. Only two metals, arsenic and lead were detected in the dissolved sample from PP2, and only arsenic exceeded the MTCA cleanup level. Arsenic was the only MTCA exceedance for the remaining dissolved metals analyses from water samples collected from PP1 and PP4. According to MTCA guidance, 173-340-720 (9) (b), "metals analyses shall be conducted on unfiltered ground water samples, unless it can be demonstrated that a filtered water sample provides a more representative measure of ground water quality." Typically probe samples are used for screening and to guide well installation locations for long-term monitoring. Based on this MTCA guidance, the dissolved sample results are considered more representative of the groundwater quality.

- Arsenic may become sequestered in peat and other organic material from emissions associated with coal burning and other anthropogenic activities (Mikutta and Rothwell 2016). As the peat decays it slowly releases arsenic into groundwater. This phenomenon may be occurring at Pacific Park, based on elevated levels of dissolved arsenic reported in the six probes along the western boundary of the Site, which contain peat and organic material. Dissolved arsenic was not reported in groundwater in the three probes

completed along the eastern boundary of the Site and screened in coarser material that did not contain peat.

- Historically, arsenic use has been associated with orchards. Borings PP2, PP4, PP5, and PP6 were located in an area that was used as an orchard in the 1930s and 1940s. The elevated arsenic concentrations detected in groundwater samples collected from borings PP2, PP4, PP5, and PP6 may be attributed to arsenic used in the orchards.

- A recent publication by Ecology (2016) suggests the MTCA Method A cleanup level for arsenic of 5 µg/L should be raised to 10 or 15 µg/L, based on natural background arsenic concentrations in Washington State. In Puget Sound lowlands, reported background arsenic concentrations ranged from 0.8 to 76 µg/L with an upper tolerance limit (UTL) of 8 µg/L. If the arsenic level is raised from 5 µg/L to 10 µg/L, which is the Federal (EPA) groundwater standard for arsenic, there would be only one dissolved arsenic exceedance.

CONCLUSIONS

The purpose of this Environmental Investigation is to determine if soil and/or groundwater contamination is present outside of the fill area to determine the potential for offsite impacts. Herrera sampled the six existing monitoring wells located on the Site on May 15, 2017, and collected soil and groundwater samples from nine push-probe borings completed at the perimeter of the Site on May 23 and 24. Six probes were completed along the western perimeter of the Site and three along the eastern perimeter.

Herrera's May 2017 Investigation complements the 2015 field effort reported in the 2016 Phase II ESA completed by Shannon and Wilson, which included soil samples collected from 28 push-probe borings and groundwater samples from six probe borings and six monitoring wells across the Site.

SUBSURFACE CONDITIONS

During the 2016 Phase II investigation, fill material was encountered in each of the 28 probe explorations generally 2 to 12 feet thick across the Site. It consisted of silt, sand, and gravel with debris such as glass shards and bottles, brick, cement, organics, wood, paper, rubber, and ceramics. This fill was overlain by sandy gravel ranging from 1.8 to 10 feet thick, placed after the dumpsite was closed to level out the site; this fill was thicker in the central/south central portion of the site.

During the perimeter investigation, fill material was encountered at depths ranging from 2 feet bgs to 7 feet bgs. Despite the presence of some man-made material such as pieces of concrete, asphalt, plastic wire, plastic ball, refuse was not found in any of the nine borings. Typically, the fill consisted of silt, sand, and gravel. Additionally, no sheens or petroleum odors were observed during sample collection.

Groundwater levels fluctuated by approximately 4.5 feet bgs during the data collection period between October 2015 and May 2016 across the Site. Groundwater was measured in the nine probe borings at depths ranging from 1.8 feet bgs to 5.7 feet bgs in May 2017.

The groundwater flow direction is toward the southwest during periods of low flow in the river during the end of the summer and shifts toward the west to southwest during periods of high flow in the river during the winter.

Soil Sampling Results

During the 2016 Phase II investigation, 28 soil samples were collected from the 0- to 10-foot interval and from the 10- to 15-foot interval. Lube oil-range petroleum hydrocarbons were detected above the MTCA Method A cleanup criterion in two soil samples at depths of 4.5 and 5.5 feet bgs,. Three samples, five samples, seven samples, and two samples were detected above the MTCA Method A cleanup criteria for arsenic, cadmium, lead, and mercury, respectively, at depths ranging from 4.5 to 12.5 feet bgs. SVOCs, including cPAHs were detected above MTCA Method A cleanup criterion at 18 sample locations.

During this May 2017 investigation, soil samples were collected at depth intervals of 0 to 5 feet and 10 to 15 feet in each of the nine borings. The samples were analyzed for gasoline and diesel-range total petroleum hydrocarbons, VOCs, SVOCs, and total and dissolved metals. Six soil samples also were analyzed for PCBs based on detection of lube oil. None of the soil sample analyses exceeded MTCA cleanup levels.

Groundwater Sampling Results

Groundwater samples were collected from six existing monitoring wells and each of the nine probe borings. The samples were analyzed for gasoline and diesel-range total petroleum hydrocarbons, VOCs, PAHs, and total and dissolved metals.

Benzene and other VOCs, which are components of gasoline, were detected in the sample collected from PP5, which also had a reported gasoline concentration. The reported benzene concentration of 6.4 µg/L slightly exceeds the MTCA Method A cleanup level of 5 µg/L. No gasoline was detected in the six monitoring wells located on the Site or in the three probe water samples collected in 2015. The presence of benzene and gasoline at this location is likely attributable to an isolated spill not associated with the dumpsite.

Two PAHs, including benzo(b)fluoranthene and dibenz(a,h)anthracene exceeded the MTCA Method B, cancer criteria in the sample collected from PP6. No Total PAHs exceeded the MTCA Method A cleanup criterion of 0.100 µg/L. The reported PAH detections may be attributable to the turbid groundwater sample.

Arsenic was the only metal detected in the groundwater monitoring wells (and only in MW-4) that exceeded the MTCA Method A cleanup level of 5 µg/L. Arsenic also was reported above the MTCA cleanup level during the October 2015 groundwater sampling event in two wells, MW-2 and MW-4.

Multiple MTCA exceedances for total metals occurred in groundwater samples collected from the probe borings due to extremely turbid samples. In addition to sample turbidity, elevated arsenic levels in groundwater may be due to the release of arsenic sequestered in peat (and other organic material) that was derived from emissions associated with historical coal burning and the former Asarco lead and copper smelter in Tacoma. The elevated levels of arsenic may also be attributed to the orchard that historically occupied this area.

RECOMMENDATIONS

Based on a review of previous work and the findings of this investigation, Herrera offers the following recommendations:

- Install two monitoring wells on the east side of the drainage ditch adjacent to PP-2 and PP-4, and one upgradient monitoring well on the north side of the property for purposes of collecting samples for metals analyses from permanent wells that produce less turbid water samples. The upgradient well would provide background water quality conditions.

- Resample monitoring wells during seasonal high and low water level periods, typically in March and October, respectively, to evaluate effects of seasonal changes in groundwater levels and flow directions on ground water quality.

LIMITATIONS

This report has been prepared for exclusive use by King County. The analyses and conclusions included in this report are based on conditions encountered at the time of the field investigation, as well as professional experience and judgment. Herrera cannot be responsible for interpretation by others of the data contained in this report.

Herrera's services were performed with due diligence in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the area. No other warranty, express or implied, is made.

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TABLES

Table 1. Summary of Soil Sample Results, Pacific Park/Dumpsite, Site Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		*MTCA Method A Cleanup Level (mg/kg)*
	PP1		**PP2**		**PP3**		**PP4**		**PP5**		**PP6**		**PP7**		**PP8**		**PP9**		
Sample Date	5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/24/2017		
Depth (feet)	2.0	10	2.5	10	2.5	10	3.0	10	2.5	10	2.0	10	0	10	0.5	10	0	10	
Gasoline Range Organics by NWTPH-Gx (mg/kg)																			
Gasoline	ND (6.9)	ND (8.0)	ND (7.8)	ND (9.0)	ND (6.6)	ND (7.0)	ND (7.4)	ND (7.1)	ND (7.0)	ND (8.1)	ND (5.7)	ND (9.7)	ND (6.6)	ND (7.8)	ND (6.1)	ND (9.6)	ND (5.6)	ND (7.0)	*100*
Diesel Range Organics by NWTPH-Dx (mg/kg)																			
Diesel Range Organics	ND (31)	ND (33)	ND (33)	ND (36)	ND (31)	ND (31)	ND (54)	ND (55)	ND (68)	ND (34)	ND (29)	ND (37)	ND (31)	ND (31)	ND (28)	ND (36)	ND (26)	ND (31)	*2,000*
Lube Oil Range Organics	ND (62)	ND (67)	ND (66)	ND (73)	**140**	ND (62)	**500**	**570**	**620**	ND (67)	**62**	ND (75)	**63**	ND (63)	ND (57)	ND (71)	ND (52)	ND (62)	*2,000*
Volatile Organic Compounds by EPA 8260C (mg/kg)																			
Acetone	ND (0.011)	**0.051**	**0.071**	**0.088**	**0.058**	**0.028**	ND (0.011)	**0.051**	ND (0.012)	**0.046**	**0.011**	**0.10**	ND (0.014)	**0.019**	**0.027**	**0.016**	ND (0.013)	**0.015**	*72,000*[a]
Carbon Disulfide	ND (0.0016)	ND (0.0018)	ND (0.0012)	ND (0.0016)	ND (0.0017)	ND (0.0017)	ND (0.0016)	ND (0.0013)	ND (0.0058)	**0.0024**	ND (0.00090)	ND (0.0015)	ND (0.0014)	ND (0.0013)	ND (0.0013)	ND (0.0014)	ND (0.0013)	ND (0.0012)	*8,000*[a]
2-Butanone	ND (0.0057)	**0.012**	**0.019**	**0.023**	**0.013**	ND (0.0061)	ND (0.0057)	**0.0068**	ND (0.0058)	**0.013**	ND (0.0045)	**0.025**	ND (0.0071)	ND (0.0065)	ND (0.0065)	ND (0.0070)	ND (0.0063)	ND (0.0062)	*48,000*[a]
Toluene	**0.019**	**0.020**	**0.025**	**0.019**	ND (0.0060)	**0.016**	**0.016**	**0.011**	ND (0.0058)	**0.016**	**0.0096**	**0.0083**	ND (0.0071)	**0.022**	**0.014**	**0.021**	**0.014**	**0.015**	*7.00*
Styrene	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.0014)	ND (0.0012)	ND (0.0012)	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.0013)	ND (0.00090)	ND (0.0015)	**0.012**	ND (0.0013)	ND (0.0013)	ND (0.0014)	ND (0.0013)	ND (0.0012)	*16,000*[a]
1,2,4-Trimethylbenzene	ND (0.0011)	ND (0.0013)	ND (0.0012)	ND (0.0014)	ND (0.069)	ND (0.0012)	ND (0.0011)	**0.0024**	ND (0.0012)	ND (0.0013)	ND (0.00090)	ND (0.0015)	ND (0.0014)	ND (0.0013)	ND (0.0013)	ND (0.0014)	ND (0.057)	ND (0.0012)	–
Semivolatile Organic Compounds by EPA8270D (mg/kg)																			
Benzyl Alcohol	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.19)	ND (0.25)	ND (0.20)	ND (0.21)	**0.70**	ND (0.24)	ND (0.17)	ND (0.21)	*800*[a]
Bis(2-ethylhexyl)phthalate	**0.052**	ND (0.045)	ND (0.044)	ND (0.048)	ND (0.042)	ND (0.041)	ND (0.042)	ND (0.041)	ND (0.044)	ND (0.045)	ND (0.039)	ND (0.050)	ND (0.041)	ND (0.042)	ND (0.038)	ND (0.047)	ND (0.035)	ND (0.041)	*1,600*[a]
Polycyclic Aromatic Hydrocarbons by EPA8270D/SIM (mg/kg)																			
2-Methylnaphthalene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.017**	**0.010**	ND (0.0087)	ND (0.0090)	ND (0.0077)	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*320*[a]
Phenanthrene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.028**	**0.011**	ND (0.0087)	ND (0.0090)	ND (0.0077)	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	–
Anthracene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.0089**	ND (0.0082)	ND (0.0087)	ND (0.0090)	ND (0.0077)	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*24,000*[a]
Fluoranthene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.042**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.013**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*3,200*[a]
Pyrene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.046**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.015**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*2,400*[a]
Benzo(a)anthracene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.029**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.0084**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*1.37*[b]
Chrysene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.037**	**0.014**	ND (0.0087)	ND (0.0090)	**0.012**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*137*[b]

Table 1 (continued). Summary of Soil Sample Results, Pacific Park/Dumpsite, Site Investigation, Pacific, Washington.

Analytical Parameter	Sample Location																		MTCA Method A Cleanup Level (mg/kg)
	PP1		PP2		PP3		PP4		PP5		PP6		PP7		PP8		PP9		
Sample Date	5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/23/2017		5/23/2017		5/24/2017		5/24/2017		5/24/2017		
Depth (feet)	2.0	10	2.5	10	2.5	10	3.0	10	2.5	10	2.0	10	0	10	0.5	10	0	10	
Polycyclic Aromatic Hydrocarbons by EPA8270D/SIM (mg/kg) (continued)																			
Benzo(b)fluoranthene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.042**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.016**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*1.37*[b]
Benzo(j,k)fluoranthene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.014**	ND (0.0082)	ND (0.0087)	ND (0.0090)	ND (0.0077)	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*13.7*[b]
Benzo(a)pyrene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.034**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.012**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*0.100*
Indeno(1,2,3-cd)pyrene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.027**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.0092**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	*1.37*[b]
Benzo(g,h,i)perylene	ND (0.0082)	ND (0.0089)	ND (0.0088)	ND (0.0097)	ND (0.0084)	ND (0.0082)	**0.032**	ND (0.0082)	ND (0.0087)	ND (0.0090)	**0.011**	ND (0.0099)	ND (0.0082)	ND (0.0084)	ND (0.0076)	ND (0.0095)	ND (0.0070)	ND (0.0083)	–
Total cPAHs (TEF)[c]	0.0062	0.0067	0.0066	0.0073	0.0063	0.0062	**0.046**	**0.0063**	0.0066	0.0068	**0.016**	0.0075	0.0062	0.0063	0.0057	0.0072	0.0053	0.0063	*0.100*
Total Metals by EPA 6010C/7471B (mg/kg)																			
Arsenic	ND (12)	ND (13)	ND (13)	ND (15)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)	ND (13)	ND (12)	ND (15)	ND (12)	ND (13)	ND (11)	ND (14)	ND (10)	ND (12)	*20*
Barium	**62**	**30**	**31**	**21**	**80**	**26**	**78**	**38**	**47**	**28**	**53**	**34**	**31**	**22**	**22**	**37**	**62**	**28**	*16,000*[a]
Cadmium	ND (0.62)	ND (0.67)	ND (0.66)	ND (0.73)	ND (0.63)	ND (0.62)	ND (0.63)	ND (0.62)	ND (0.65)	ND (0.67)	ND (0.58)	ND (0.74)	ND (0.61)	ND (0.63)	ND (0.57)	ND (0.71)	ND (0.52)	ND (0.62)	*2.00*
Chromium	**20**	**13**	**11**	**11**	**27**	**9.5**	**29**	**13**	**23**	**13**	**29**	**14**	**12**	**11**	**13**	**13**	**25**	**14**	*2,000*
Lead	**8.9**	ND (6.7)	ND (6.6)	ND (7.3)	**25**	ND (6.2)	**84**	ND (6.2)	**27**	ND (6.7)	**9.7**	ND (7.4)	ND (6.1)	ND (6.3)	ND (5.7)	ND (7.1)	ND (5.2)	ND (6.2)	*250*
Mercury	ND (0.31)	ND (0.33)	ND (0.33)	ND (0.36)	ND (0.31)	ND (0.31)	ND (0.32)	ND (0.31)	ND (0.33)	ND (0.34)	ND (0.29)	ND (0.37)	ND (0.31)	ND (0.31)	ND (0.28)	ND (0.36)	ND (0.26)	ND (0.31)	*2.00*
Selenium	ND (12)	ND (13)	ND (13)	ND (15)	ND (13)	ND (12)	ND (13)	ND (12)	ND (13)	ND (13)	ND (12)	ND (15)	ND (12)	ND (13)	ND (11)	ND (14)	ND (10)	ND (12)	*400*[a]
Silver	ND (1.2)	ND (1.3)	ND (1.3)	ND (1.5)	ND (1.3)	ND (1.2)	ND (1.3)	ND (1.2)	ND (1.3)	ND (1.3)	ND (1.2)	ND (1.5)	ND (1.2)	ND (1.3)	ND (1.1)	ND (1.4)	ND (1.0)	ND (1.2)	*400*[a]
Polychlorinated Biphenyls by EPA 8082A (mg/kg)																			
Aroclor 1254	–	–	–	–	ND (0.063)	–	ND (0.063)	ND (0.062)	ND (0.065)	–	**0.12**	–	ND (0.061)	–	–	–	–	–	–
Aroclor 1260	–	–	–	–	ND (0.063)	–	**0.18**	ND (0.062)	ND (0.065)	–	ND (0.058)	–	ND (0.061)	–	–	–	–	–	–
Total PCBs	–	**–**	–	–	ND (0.063)	–	**0.18**	ND (0.062)	ND (0.065)	–	**0.12**	–	ND (0.061)	–	–	–	–	–	*1.00*

BOLD values detected above the reporting limit.

[a] MTCA Method B, non cancer

[b] MTCA Method B, cancer

[c] Total cPAHs (TEF) was calculated using ½ the reporting limit for compounds that were not detected above the reporting limit.

– = not analyzed or not applicable

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

mg/kg = milligrams per kilogram

MTCA = Model Toxic s Control Act (Chapter 173-340 Washington Administrative Code [WAC]).

ND = not detected above laboratory reporting limits shown in parentheses

Table 2. Summary of Groundwater Sample Results, Pacific Park/Dumpsite, Site Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															MTCA Method A Cleanup Level
	Monitoring Well Samples						Push Probe Samples									
	MW1	MW2	MW3	MW4	MW5	MW6	PP1-W	PP2-W	PP3-W	PP4-W	PP5-W	PP6-W	PP7-W	PP8-W	PP9-W	
Sample Date	5/12/2017						5/23-24/2017									
NWTPH-Gx (µg/L)																
Gasoline Range Organics	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	ND (100)	**210**	ND (100)	ND (100)	ND (100)	ND (100)	*800*
NWTPH-Dx (mg/L)																
Diesel Range Organics	ND (0.26)	ND (0.27)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.27)	ND (0.37)	ND (0.26)	ND (0.26)	ND (0.27)	ND (0.26)	ND (0.28)	ND (0.26)	ND (0.28)	*500*
Lube Oil	ND (0.42)	ND (0.44)	ND (0.42)	ND (0.42)	ND (0.41)	ND (0.41)	ND (0.43)	ND (0.60)	ND (0.42)	ND (0.41)	ND (0.43)	ND (0.42)	ND (0.44)	ND (0.41)	ND (0.45)	*500*
Volatile Organic Compounds (µg/L)																
Acetone	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	**6.7**	**75**	**5.3**	**5.6**	**5.5**	**7.9**	**6.1**	**5.2**	**7.2**	*7,200*[a]
Carbon disulfide	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.22**	*800*[a]
Benzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**6.4**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*5.0*
Toluene	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**5.2**	ND (1.0)	ND (1.0)	*1,000*
Chlorobenzene	ND (0.20)	ND (0.20)	ND (0.20)	**1.5**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.43**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*160*[a]
Xylenes[c]	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	**32.57**	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	*1,000*
Isopropylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.45**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*–*
n-Propylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**0.95**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*800*[a]
1,3,5-Trimethylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**3.1**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*80*[a]
1,2,4-Trimethylbenzene	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	**12**	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	*–*
Total Metals (µg/L)																
Antimony	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	**47**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	*6.4*[a]
Arsenic	ND (3.3)	ND (3.3)	ND (3.3)	**8.3**	ND (3.3)	ND (3.3)	**36**	**910**	**18**	**110**	**14**	**14**	**110**	ND (3.3)	**30**	*5.0*
Beryllium	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	**34**	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	*32*[a]
Cadmium	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	**24**	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	ND (4.4)	*5.0*
Chromium	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	**73**	**2,000**	**63**	**240**	**29**	**45**	**210**	ND (11)	**49**	*50*
Copper	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	**80**	**4,200**	**120**	**460**	**50**	**54**	**570**	ND (11)	**110**	*640*[a]
Lead	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	**4.0**	ND (1.1)	**250**	**2,100**	**54**	**2,800**	**32**	**55**	**250**	ND (1.1)	**61**	*15*
Mercury	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	**4.3**	ND (0.50)	**1.2**	ND (0.50)	ND (0.50)	**0.68**	ND (0.50)	ND (0.50)	*2.0*
Nickel	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	ND (22)	**33**	**1,800**	**32**	**190**	ND (22)	**46**	**210**	ND (22)	**44**	*320*[a]
Selenium	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	**53**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	**6.0**	ND (5.6)	ND (5.6)	*80*[a]
Silver	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	ND (11)	*80*[a]
Thallium	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	**9.6**	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	ND (5.6)	*0.16*[a]
Zinc	**160**	**42**	**170**	**80**	**37**	ND (28)	**700**	**5,500**	**130**	**1,000**	**49**	**100**	**520**	**71**	**210**	*4,800*[a]

Table 2 (continued). Summary of Groundwater Sample Results, Pacific Park/Dumpsite, Site Investigation, Pacific, Washington.

Analytical Parameter	Sample Location															MTCA Method A Cleanup Level
	Monitoring Well Samples						Push Probe Samples									
	MW1	MW2	MW3	MW4	MW5	MW6	PP1-W	PP2-W	PP3-W	PP4-W	PP5-W	PP6-W	PP7-W	PP8-W	PP9-W	
Sample Date	5/12/2017						5/23-24/2017									
Dissolved Metals (µg/L) (continued)																
Antimony	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	**7.1**	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*6.4*[a]
Arsenic	ND (3.0)	ND (3.0)	ND (3.0)	**8.3**	ND (3.0)	ND (3.0)	**18**	**28**	**3.5**	**7.1**	**3.3**	**3.6**	ND (3.0)	ND (3.0)	ND (3.0)	*5.0*
Beryllium	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*32*[a]
Cadmium	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	*5.0*
Chromium	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*50*
Copper	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*640*[a]
Lead	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	**3.0**	ND (1.0)	ND (1.0)	**1.2**	ND (1.0)	**3.1**	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	*15*
Mercury	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	*2.0*
Nickel	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	*320*[a]
Selenium	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*80*[a]
Silver	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	*80*[a]
Thallium	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	*0.16*[a]
Zinc	**170**	ND (25)	**140**	**37**	**35**	ND (25)	**39**	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	ND (25)	**62**	ND (25)	*4,800*[a]
Polycyclic Aromatic Hydrocarbons (µg/L)																
Naphthalene	ND (0.095)	ND (0.099)	ND (0.095)	ND (0.096)	ND (0.10)	ND (0.10)	ND (0.096)	ND (0.12)	ND (0.096)	ND (0.10)	**0.18**	ND (0.097)	ND (0.097)	ND (0.095)	ND (0.096)	*160*
Benzo(a)anthracene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.013**	ND (0.0097)	**0.052**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.12*[b]
Chrysene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	**0.012**	ND (0.0096)	**0.021**	ND (0.0097)	**0.080**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*12*[b]
Benzo(b)fluoranthene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	**0.020**	ND (0.0096)	**0.036**	ND (0.0097)	**0.14**	ND (0.0097)	ND (0.0095)	**0.019**	*0.12*[b]
Benzo(j,k)fluoranthene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.011**	ND (0.0097)	**0.042**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*1.2*[b]
Benzo(a)pyrene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.024**	ND (0.0097)	**0.051**	ND (0.0097)	ND (0.0095)	**0.0098**	*0.100*
Indeno(1,2,3-cd)pyrene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	**0.014**	ND (0.0096)	**0.040**	ND (0.0097)	**0.066**	ND (0.0097)	ND (0.0095)	**0.011**	*0.12*[b]
Dibenz(a,h)anthracene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	ND (0.012)	ND (0.0096)	**0.011**	ND (0.0097)	**0.018**	ND (0.0097)	ND (0.0095)	ND (0.0096)	*0.012*[b]
Benzo(g,h,i)perylene	ND (0.0095)	ND (0.0099)	ND (0.0095)	ND (0.0096)	ND (0.010)	ND (0.010)	ND (0.0096)	**0.020**	ND (0.0096)	**0.046**	ND (0.0097)	**0.055**	ND (0.0097)	ND (0.0095)	**0.012**	–
Total cPAHs (TEF)[d]	0.0072	0.0075	0.0072	0.0072	0.0076	0.0076	0.0072	**0.011**	0.0072	**0.039**	0.0073	**0.084**	0.0073	0.0072	**0.014**	*0.100*

BOLD values detected above the reporting limit.

Shaded values exceed MTCA criteria.

a MTCA Method B, non cancer

b MTCA Method B, cancer

c Xylenes is the sum of m-,p-, and o-xylene.

d Total cPAHs (TEF) was calculated using ½ the reporting limit for compounds that were not detected above the reporting limit.

– = not analyzed or not applicable

cPAHs = Carcinogenic polycyclic aromatic hydrocarbons

µg/L = micrograms per liter

mg/L = milligrams per kilogram

MTCA = Model Toxic s Control Act (Chapter 173-340 Washington Administrative Code [WAC]).

ND = not detected above laboratory reporting limits shown in parentheses

FIGURES

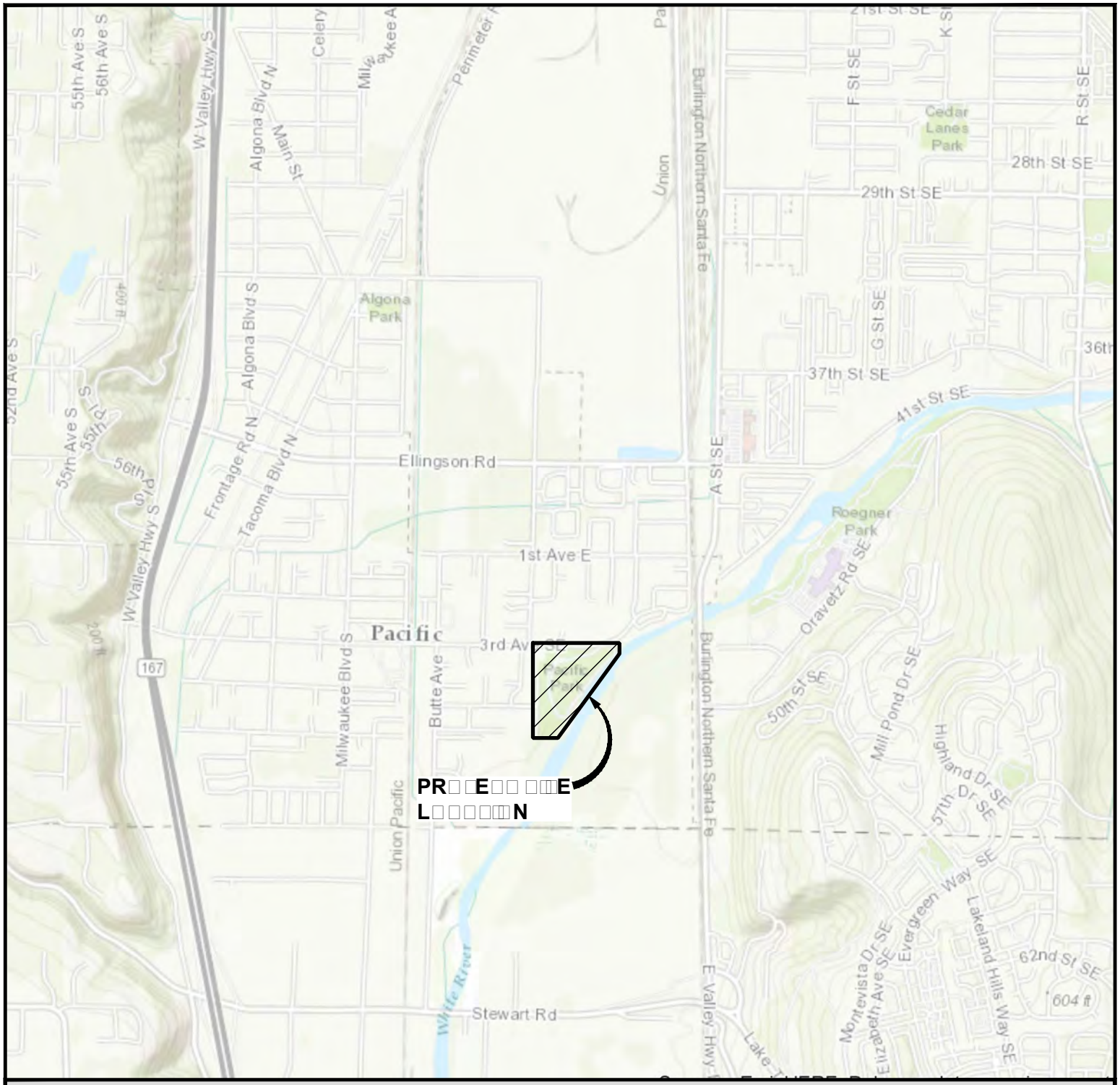

Figure 1.
Vicinity Map, Pacific Park, Pacific, Washington.

N

0 1000 2000 000

Scale in Feet

HERRERA

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LEGEND:

Parcel boundary

Figure 2.
Site Map, Pacific Park,
Pacific, Washington.

N

0 100 200 □00

Scale in Feet

HERRERA

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Legend

- Existing monitoring wells
- Push-probe sample locations
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Parcels

Figure 3.
Sample Location Map, Pacific Park, Pacific, Washington.

N

0 125 250 500 Feet

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Legend

- Estimated direction of groundwater flow
- Groundwater Contour
- Push-probe sample locations
- Existing monitoring wells
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Parcels

Figure 4.
Water Level Contour Map, October 6, 2016, Pacific Park, Pacific, Washington.

N

0 125 250 500 Feet

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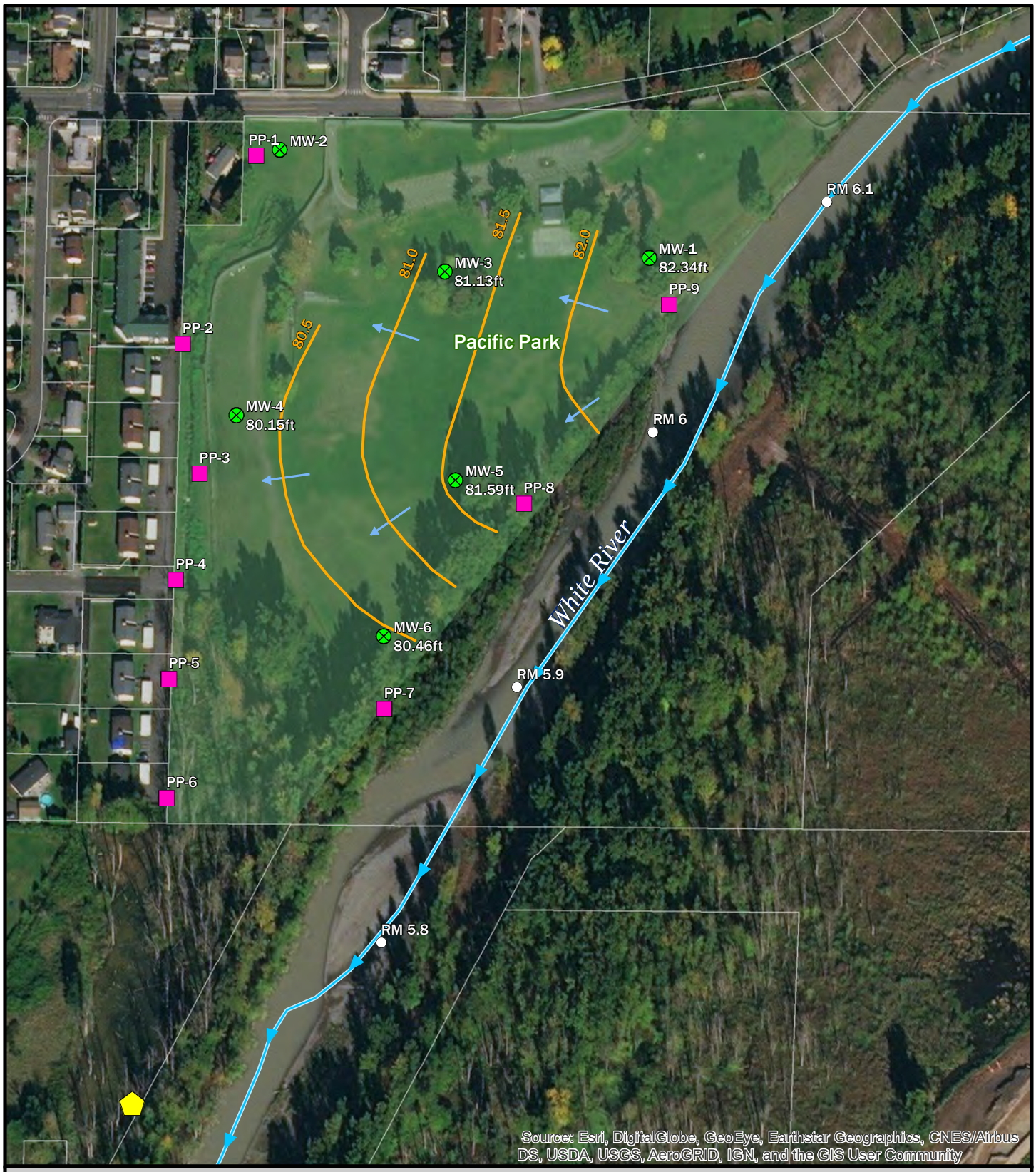

Legend

- Estimated direction of groundwater flow
- Groundwater Contour
- Push-probe sample locations
- Existing monitoring wells
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Parcels

Figure 5.
Water Level Contour Map, March 19, 2016, Pacific Park, Pacific, Washington.

N

0 125 250 500 Feet

HERRERA

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Legend

- Estimated direction of groundwater flow
- Groundwater contour
- Push-probe sample locations
- Existing monitoring wells
- Barometric pressure sensor
- River mile (10th)
- River
- Park
- Parcels

Figure 6.
Water Level Contour Map, May 12, 2017, Pacific Park, Pacific, Washington.

N

0 125 250 500 Feet

HERRERA

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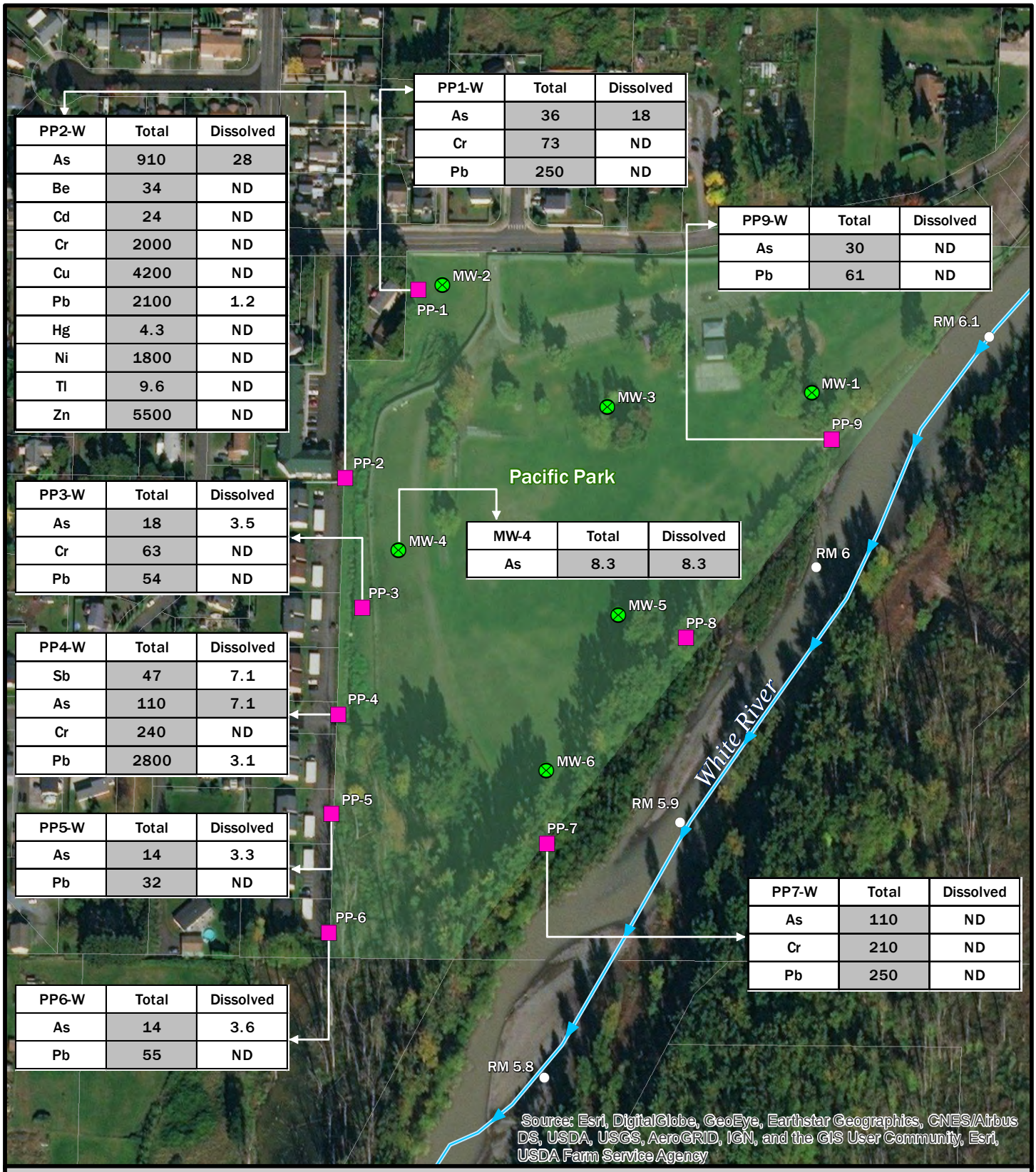

PP1-W	Total	Dissolved
As	36	18
Cr	73	ND
Pb	250	ND

PP2-W	Total	Dissolved
As	910	28
Be	34	ND
Cd	24	ND
Cr	2000	ND
Cu	4200	ND
Pb	2100	1.2
Hg	4.3	ND
Ni	1800	ND
Tl	9.6	ND
Zn	5500	ND

PP3-W	Total	Dissolved
As	18	3.5
Cr	63	ND
Pb	54	ND

PP4-W	Total	Dissolved
Sb	47	7.1
As	110	7.1
Cr	240	ND
Pb	2800	3.1

PP5-W	Total	Dissolved
As	14	3.3
Pb	32	ND

PP6-W	Total	Dissolved
As	14	3.6
Pb	55	ND

PP7-W	Total	Dissolved
As	110	ND
Cr	210	ND
Pb	250	ND

PP9-W	Total	Dissolved
As	30	ND
Pb	61	ND

MW-4	Total	Dissolved
As	8.3	8.3

Legend

- Push-probe sample locations
- Existing monitoring wells
- River mile (10th)
- River
- Park
- Parcels

Notes:
Groundwater values reported in micrograms per liter (µg/L).
Shaded values exceed MTCA cleanup level.

Figure 7.
MTCA Metals Exceedances in Groundwater Sampling Results, Pacific Park, Pacific, Washington.

N

0 125 250 500 Feet

HERRERA

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APPENDIX A

Field Notes

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-0592b-040 Site: Pacific Park Well No.: MW1 Date: 5/12/17

Well Depth: 15 Screen Length: 10 Well Diameter: 2" Casing Type: PVC

Sampling Device: peristaltic Tubing Type: polyethylene Water Level: 2.33

Measuring Point: top of well monument Other Info: flow 0.4 L/m

Sampling Personnel: BB GI

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
11:55			100.8					start	purging WL = 2.20
12:00	7.51	9.4	~~89.3~~	5.99	89.3				
12:05	7.06	9.2	98.5	4.52	42.5				
12:10	6.94	9.1	98.0	3.80	27.2		clear	clearness	odorless
12:15	6.86	9.0	97.7	3.4	14.6				
12:20	6.84	9.0	97.5	3.28	10.0				
12:22								start	sampling
12:35								WL = 2.33	

water levels dropped slightly, but stable as well was purged.

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2x 500 ml Amber Dx, 2x 1L Amber PAHs, 2x 500 ml poly TBD PP metals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-05986-040 Site: Pacific Park ~~MW 2~~ Well No.: MW2 Date: 5/12/17

Well Depth: ~~15.37~~ 15.0 Screen Length: 10.0 Well Diameter: 2.0 Casing Type: PVC

Sampling Device: Peristaltic Tubing Type: ~~teflon~~ polyethylene Water Level: 1.37

Measuring Point: from top of well monument Other Info: Flow 0.4 L/min steel

Sampling Personnel: George L., Brianna

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
10:45								Start purge	
10:47	8.02	11.7	391.4 uS/cm	4.67 mg/L	10.6				
10:50	7.18	11.8	342	3.82	19.0			WL = 1.41	
10:55	6.76	12.0	319	3.04	52.0		clear, colorless, odorless		
11:00	6.66	12.0	306	2.63	980			WL = 1.43	
11:05	6.58	11.9	296	2.47	1352				
11:10							Sample collection		

Water levels dropped slightly, but stable as well was purged.

Duplicate Sample ID = MW DUP @ 10:00 AM

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2x 500 ml Amber Dx, 2x 1L Amber PAHs, 2x 500ml poly T+D RP metals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-05986-040 Site: Pacific Park Well No.: MW3 Date: 5-12-17

Well Depth: 15 Screen Length: 10 Well Diameter: 2" Casing Type: PVC

Sampling Device: peristaltic Tubing Type: polyethylene Water Level: 0.40'

Measuring Point: top of well monument Other Info: Flow 0.4 L/m Brad

Sampling Personnel: BB GI

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
13:15						Start purging	WL=		0.29
13:20	7.43	12.4	291.1	4.25	28.1				
13:25	7.15	12.0	310.4	1.94	20.9	clear	~~odorless~~		odorless
13:30	7.10	11.6	321.3	1.10	16.3		tanins		
13:35	7.08	11.2	328.1	0.79	33.0		throughout		
13:40	7.08	10.9	331.9	0.69	87.1				
13:43						start	sampling		
	Water level dropped slightly, but stable at well was purged.								

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2x 500 ml Amber Dx, 2x 1L Amber PAHs, 2x 500 poly T&D PP metals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-05986-040 Site: Pacific Park Well No.: MW-4 Date: 5/12/17

Well Depth: 15 Screen Length: 10 Well Diameter: 2" Casing Type: PVC

Sampling Device: peristaltic Tubing Type: polyethylene Water Level: 2.73

Measuring Point: top of well monument Other Info: ~~0.4 L/m~~ purge rate 0.4 L/m

Sampling Personnel: BB GI

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
14:27							start purge		
14:30	6.47	11.3	3097	2.19	12.4		WL = 2.79		
14:35	6.53	11.5	3678	0.63	30.2				
14:40	6.58	11.5	3556	0.28	42.7		WL = 2.78		
14:45	6.60	11.5	348.2	0.19	44.9				
14:48							start sampling		
	Water level dropped slightly, but stable as well was purged.								

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2x 500 mL Amber DX, 2x 1L Amber PAHs, 2x 500 mL poly TBD PPmetals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-05986-040 Site: Pacific Park Well No.: MWS Date: 5/12/17

Well Depth: 15 Screen Length: 10 Well Diameter: 2 Casing Type: PVC

Sampling Device: Peristaltic Tubing Type: polyethylene Water Level: 1.60'

Measuring Point: top of well monument Other Info: purging at 0.4 L/m rate

Sampling Personnel: BB GI

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
	SU	°C	~~mS/cm~~ uS/cm	~~mg/L~~ mg/L	NTU				
12:15									Start purge
12:17	7.53	9.5	165	0.87	1.3				
12:20	7.20	9.5	157	0.78	1.0		WL=	1.65'	
12:25	7.12	9.6	156	0.98	1.2				
12:30	7.09	9.6	155	1.03	1.2		WL=	1.65'	
12:35	7.08	9.5	156	1.06	1.1		reading stable		
12:40	Collected sample.								
							clear, colorless, odorless,		

Water level dropped slightly, but stable as well was purged.

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2 x 500 mL Amber Dx, 2 x 1L Amber PAHs, 2 x 500 mL poly T & D PP metals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

HERRERA

GROUNDWATER SAMPLING LOG

Project No.: 15-059860-040 Site: Pacific Park Well No.: MW-6 Date: 5/12/17

Well Depth: 15' Screen Length: 10' Well Diameter: 2" Casing Type: PVC

Sampling Device: peristaltic Tubing Type: polyethylene Water Level: 5.71

Measuring Point: Top of Monument Other Info: water levels have risen w/rain and the river. purge at 0.4 L/min.

Sampling Personnel: BB GI

Time	pH	Temp.	Cond.	Dis.O_2	Turb.	[ ]Conc.			Notes
13:25	su	°C	mS/cm	mg/L	NTU		Start purge		
13:30	6.44	10.6	134	1.04	3.8			0.4	L/m.
13:35	6.29	10.6	134	0.48	2.6	5.85=WL		clear	colorless
13:40	6.26	10.2	133	0.28	0.7			odorless	
13:45	6.25	10.2	133	0.27	0.6	~~Collect~~			
13:50	6.25	10.2	132	0.25	0.6	collected	sample.		

Water level stable as well was purged.

Type of Samples Collected for Laboratory Analysis:

5 VOAs for Gx/VOCs, 2x500 mL Amber Dx, 2x1L Amber PAHs, 2x500 mL poly T&D metals

Well Casing Volumes:

Gal/Ft 1¼" = 0.077 1½" = 0.10 2" = 0.16 2½" = 0.24 3" = 0.37 3½" = 0.50 4" = 0.65 6" = 1.46

5-12-17 PACIFIC PARK

George Eftner + Brianna Blands
8:00 AM onsite
Weather 55° Sunny · rain earlier this morning, occasional showers and periods of heavy rain.
✓ Health + Safety Briefing ✓

✓ label sample containers

✓ Calibrated multi meters

• Pro DSS #1 : 758.6 mmHg
DI : 6.2 µS/cm pH 7: 7.16
1000 : 1003 µS/cm pH 10: 10.11
DO : 104.8 % pH 4: 4.42
• Pro DSS #2 : 759.4 mmHg
DI : 6.3 µS/cm pH 7: 6.99
1000 : 1004 µS/cm pH 10: 9.93
DO : 101.4 % pH 4: 3.89

9:05 Collected water levels at all 6 wells.
Having trouble calibrating pH
10:45 Started purging MW2
11:10 : Sample time MW2
10:00 : Sample time MW DUP 10:00 AM

5-12-17 PACIFIC PARK.

11:55 MW1 start purge
12:22 Collected Sample

12:15 MW5 Start purge
12:40 Collected sample.

13:15 MW3 start purge
13:43 collected sample.

13:25 MW6 Start purge
13:50 Collected sample.

14:27 Start purge MW-4
14:48 Collected sample.

Purge water put in 55-gallon drum by dumpsters. Labeled top of drum w/ the contents and secured the lid.

15:40 Offsite.

Herrera

5/23/17 Sunny 60's Bruce Carpenter

7:20 Arrived at Pacific Park
Calibrated PID
7:30 Met w/ Richard - Driller
and Ryan - APS utility locator.
Walked site and cleared boreholes
for drilling.
8:00 Chris B. and Brianna arrive
at site. Meet w/ Sean KC rel. Vac/HESCO.
8:40 set up drill rig @ PP1.
9:00 APS locator - Ryan left site.
9:20 Soil sample PP1-2 @ 2' depth.
9:45 Soil sample PP1-10 @ 10' depth
10:00 Collected water samples.
10:05 SWL @ 1.8' Screen set 5'-15'
Backfilled borehole w/ bentonite "pvc w/ 105 lbs
10:20 Moved to PP2 location in Megan's
Court
10:35 Collected soil sample PP2-2.5 @ 2.5'
10:50 Collected soil sample PP2-10 @ 10'
11:00 Began collecting water sample,
screen set 5-15' initially, moved screen up
from 3' to 13'. Apt. mgr stopped by doing sampling.
13:30 Very slow to recharge. Completed
collecting water sample @ PP2.

Decomed drill rods and moved to PP6.
14:10 Begin drilling at PP-6
Refusal at 2.5'. Moved N several feet and redrilled.
14:35 Collected soil sample PP6-2.
14:45 Collected soil sample PP6-10
15:00 Collected water sample PP6-W
Backfilled boreholes.
Cleaned downhole equipment.
15:10 Moved North to PP5
15:20 Begin Drilling PP5.
15:40 Collected soil sample PP5-2.5 @ 15:40.
15:50 Collected soil sample PP5-10 @ 15:50
16:00 Collected water sample PP5-W.
Cleaned up site
There are two drums, 1 (20 gal) w/ soil cuttings and 1 (55 gal) w/ Purge water + Decon water by the Dumpsters in park.
16:35 Richard left site
16:45 Brianna and I left site

BAZ

5/24/17 Pacific Park
7:25 Arrive at site
Cloudy, 50's light breeze
7:30 Calibrate PID
7:45 Drive to PP-4.
8:00 Meet Brianna + Richard - ESN Driller.
8:10 Conduct H+S mtg
8:15 Begin drilling @ PP4.
Drilled to 5' - concrete chunks. Moved over 5' and redrilled core.
8:30 Soil Sample PP4-3
8:40 Soil sample PP4-10
9:00 Began collecting water sample.
9:20 Backfilled borehole
9:25 Moved to location PP3.
9:35 Begin drilling @ PP3.
Poor recovery @ 0-5'
Poor recovery @ 10-15'
Set screen from 5'-15'. Began collecting water sample @ 10:00.
Moved over 2' and redrilled to 15' to get additional sample for soil.
10:05 Soil Sample PP3-2.5
10:15 Soil Sample PP3-10
10:30 Moved drilling off site

Decomed drill rods, sampler.
Loaded rig onto trailer and
moved to PP9 location
11:15 Began drilling at PP-9.
Poor recovery due to coarse gravel
Collected two 0-5' core samples and
combined sample into containers
11:50 Soil Sample PP9-0 (composite from
(2) 0-5' core samples w/<20% recovery
12:00 Soil Sample PP9-10
12:10 Began collecting water sample.
12:30 Backfilled borehole, moved to
location PP-8.
12:45 Begin drilling @ PP8.
0-5' 20% recovery drilled second location
and had 30% recovery. Combined
sample. 13:10 Water Sample begin collection
13:20 Soil Sample PP8-0.5
13:30 Soil Sample PP8-10.
13:45 Duplicate Water sample PP10-W collected
from PP8.
14:10 Moved to next location PP7.
14:15 Begin drilling @ PP7
14:30 Collected soil sample PP7-0

Composite sample from three sleeves
from 0-5' @ PP7.
Duplicate sample from PP7-0 labeled
as PP10-0 @ 15:10
14:40 Soil sample PP7-10
Screen set from 0-10'.
14:50 Water Sample.
15:10 Backfilled borehole, left site to
return to parking lot.
15:30 Bruce left site.
15:40 Driller and I left site

APPENDIX B

Probe Logs

SOIL PROBE BORING LOG

HERRERA

Boring ID PP1
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	NW corner of park	Sampling method	5 ft core with plastic liner
Client	King County		~ 50 feet west of MW-2	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20/50	▼ 1.8		ML	Grass/Brown sandy SILT, trace of gravel, FILL, damp
				1		
						Brown SILT, trace of sand, FILL, damp Static water level measured at 1.8 feet. Soil sample PP1-2 collected at 9:20
				2		
				3		
					SM	Brown silty SAND, trace of gravel, FILL,wet
				4		
				5		
0	5-foot core with liner	100			ML	Dark Brown-gray sandy SILT, wet
				6		
				7		
				8		
					SM	Dark Brown-black silty SAND, wet
				9		
				10	PT	Dark Brown-gray PEAT, damp
0	5-foot core with liner	100			SM	Soil sample PP1-10 collected at 9:45 Dark Brown-black silty SAND, wet
				11		
				12		
					ML	8” Dark Brown SILT, trace of sand, wet
				13	SM	Dark Brown-black, silty SAND, wet
				14	ML	Brown-gray SILT, damp
					ML/PT	Brown SILT, and PEAT, damp
				15	ML	Brown-gray SILT, damp
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP1-W at 10:00. Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP2
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SE corner of Megan's Court	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0.1	5-foot core with liner	60	▽ 2.5	1	ML	Grass/Brown gravelly sandy SILT, FILL, damp
				2		Brown sandy SILT, FILL, damp
				3, 4, 5		Soil sample PP2-2.5 collected at 10:35 Groundwater encountered during drilling Dark Brown sandy SILT, wet
0	5-foot core with liner	50		6, 7		
				8, 9	SM	Dark Brown silty SAND, wet
				10	ML	Dark Brown sandy SILT, trace of gravel, wet
0	5-foot core with liner	100		11, 12	SM	Soil sample PP2-10 collected at 10:50 Dark Brown-black silty SAND, wet
				13, 14, 15	MH MH/PT	Greenish-gray silty CLAY, with red-brown mottling, damp Occasional 1-inch peat lenses
						Initially set temporary screen from 5 feet to 15 feet, raised screen to 2 feet to 12 feet. Very slow yielding, took 2.5 hours to collect water Sample. Purged approximately 1-quart prior to sample collection. Began water sample PP2-W collection at 11:00. Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP3
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	East side of ditch	Sampling method	5 ft core with plastic liner
Client	King County		~ 190 feet north of PP4	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40/35	▼ 3.1	1	ML	Grass/Brown gravelly sandy SILT, FILL, damp
				2		Brown gravelly SILT, FILL, damp
				3	ML	Brown gravelly SILT, FILL, wet. Soil sample PP3-2.5 collected at 10:05 Static water level measured at 3.1 feet.
				4		
				5		
0	5-foot core with liner	50/55		6		
				7	ML	Brown sandy SILT, FILL, wet
				8	SP	Dark Brown-black fine to medium SAND, trace of gravel, wet
				9		
				10		
0	5-foot core with liner	0/100		11		Soil sample PP3-10 collected at 10:15
				12		
				13		
				14		
				15		Greenish-gray sandy SILT, wet
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP3-W at 10:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP4
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	East end of 4th Avenue SE in grass	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.2		SM	Grass/Dark Brown gravelly silty SAND, some concrete, FILL, damp
				1		
					SW	4" zone of medium silty SAND, FILL, damp
				2		
				3	ML	Brown gravelly sandy SILT, red-brown mottling, FILL, damp. Soil sample PP4-3 collected at 8:30
				4	SW	Static water level measured at 3.2 feet. Dark Brown-black gravelly SAND, FILL, wet
				5		
0	5-foot core with liner	55			SM	Gray-black gravelly silty SAND, piece of asphalt, FILL, wet
				6		
				7		
					ML	Dark Brown-black sandy SILT, wet
				8		
				9	SP	Dark Brown-black fine to medium SAND, wet
				10		Soil sample PP4-10 collected at 8:40
0	5-foot core with liner	100		11		
				12		
					ML	Dark Brown SILT, wet
				13		
					SM	Dark Brown silty SAND, wet
				14	ML	Dark Brown SILT, organic material, damp
				15		
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP4-W at 9:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP5
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~ 215 feet north of PP6,	Sampling method	5 ft core with plastic liner
Client	King County		east side of HESCOs	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	50	▼ 3.0	1, 2	SM	Grass/Topsoil, Dark Brown gravelly silty SAND, piece of wire, FILL, damp
				3, 4	SW	Soil sample PP5-2.5 collected at 15:40 Dark Brown-gray gravelly SAND, FILL, damp Static water level measured at 3.0 feet.
				5	PT	Brown PEAT, wet
0.3	5-foot core with liner	60		6, 7	ML	Dark Brown-black sandy SILT, wet
				8, 9	SW	Dark Brown-black fine to medium SAND, trace of silt, organic material, wet
				10		Dark Brown-black gravelly fine to coarse SAND, trace of silt, wet
0	5-foot core with liner	40		11, 12, 13, 14	SW	Soil sample PP5-10 collected at 15:50 Dark Brown-black fine to medium SAND, trace of gravel, wet
				15		Dark Brown-black, fine to coarse gravelly SAND, wet
						Set temporary screen from 5 feet to 15 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP5-W at 16:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP6
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SW corner of park, east side	Sampling method	5 ft core with plastic liner
Client	King County		of HESCOs	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 23, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0.1	5-foot core with liner	40	▼ 3.3	1, 2	GW	Grass/Brown sandy GRAVEL, FILL, damp
				3, 4, 5	SM	Soil sample PP6-2 collected at 14:35 Brown gravelly silty SAND, piece of a ball, FILL, damp Static water level measured at 3.3 feet .
0	5-foot core with liner	60		6, 7, 8, 9, 10	SM	Dark Brown-black silty SAND, organic material, wet
0	5-foot core with liner	100		11, 12	ML	Soil sample PP6-10 collected at 14:45 Dark Brown sandy SILT, organic material, wet
				13, 14	SP	Dark Brown-black, medium SAND, trace of silt, wet
				15	ML	Dark Brown sandy SILT, wet
						Set temporary screen from 2 feet to 12 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP6-W at 15:00 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP7
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	SE corner of park, ~ 125 feet	Sampling method	5 ft core with plastic liner
Client	King County		south of MW-6	Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	40/30/30	▼ 1.8	1 2	SM	Dark Brown silty SAND, organic material, FILL, damp Soil sample PP7-0 collected at 14:30 Soil sample PP10-0 (duplicate sample, false time-14:35) Static water level measured at 1.8 feet
				3 4 5	GW	Dark Brown sandy GRAVEL, trace of silt, cobbles, wet .
0	5-foot core with liner	75		6 7 8 9 10	SM	Dark Brown silty gravelly SAND, wet
0	5-foot core with liner	60		11 12 13 14 15		Soil sample PP7-10 collected at 14:40
						Set temporary screen from 0 feet to 10 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP7-W at 14:50 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP8
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~125 feet east-southeast of MW-5	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20/30		1	ML	Dark Brown sandy gravelly SILT, some wood, FILL, damp Soil sample PP8-0.5 collected at 13:20
				2	SM	Brown silty gravelly SAND, FILL, damp
				3	▼ 3.1	wet Static water level measured at 3.1 feet
				4		.
				5		
0	5-foot core with liner	30		6	GW	Dark Gray-black, fine to coarse sandy GRAVEL, wet
				7		
				8		
				9		
				10		
0	5-foot core with liner	40		11		Soil sample PP8-10 collected at 13:30 cobbles
				12		
				13		
				14		
				15		
						Set temporary screen from 0 feet to 10 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP8-W at 13:10 Collected duplicate water sample PP10-W (false time 13:45) Backfilled borehole with bentonite chips.

Photoionization detector (PID)

SOIL PROBE BORING LOG

HERRERA

Boring ID PP9
Total depth 15 feet
Sheet 1 of 1

Project name	Pacific Park	Drilling Contractor	ESN	Drilling method	Push-probe rig
Project number	15-05986-040	Location	~100 feet south-southeast of MW-1	Sampling method	5 ft core with plastic liner
Client	King County			Air monitoring (Y/N)	Yes
HEC rep.	Bruce Carpenter	Date	May 24, 2017	Instrument(s)	Photoionization detector

PID (ppm)	Sample type, interval	% recovery	Water level (feet)	Depth (feet, BGS)	Soil group	Soil description
0	5-foot core with liner	20		1 2 3 4 5	GW ▼ 4.0	Gravel at surface Soil sample PP9-0 collected at 11:50 Brown-dark brown sandy GRAVEL, FILL, damp wet Static water level measured at 4.0 feet
0	5-foot core with liner	20		6 7 8 9 10	GW	Dark Brown fine to coarse sandy GRAVEL, small cobbles, wet
0	5-foot core with liner	80		11	SW	Soil sample PP9-10 collected at 12:00 Dark Red-brown fine to medium SAND, wet
				12 13 14	GW	Dark Red-brown fine to coarse sandy GRAVEL, wet
					SW	Dark Brown-black fine to medium SAND, wet
				15	GW	Dark Brown-black sandy GRAVEL, wet
						Set temporary screen from 3 feet to 13 feet. Purged approximately 1-gallon prior to sample collection. Collected water sample PP9-W at 12:10 Backfilled borehole with bentonite chips.

Photoionization detector (PID)

APPENDIX C

Photographic Log

PACIFIC PARK/DUMPSITE ENVIRONMENTAL INVESTIGATION—PHOTOGRAPHIC LOG

Photo Number	Photo Description
1	PP1, looking northwest
2	PP2, looking south
3	PP3, looking north
4	PP4, looking south
5	PP5, looking east
6	PP5, looking east
7	PP6, looking east
8	PP6, looking east
9	PP7, looking south
10	PP8, looking south
11	PP9, looking south

1 PP1, looking northwest

2 PP2, looking south

3 PP3, looking north

4 PP4, looking south

5 PP5, looking east

6 PP5, looking east

7 PP6, looking east

8 PP6, looking east

9 PP7, looking south

10 PP8, looking south

11 PP9, looking south

APPENDIX D

Laboratory Analytical Reports

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

May 23, 2017

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 15-05986-040
Laboratory Reference No. 1705-184

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on May 12, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

Case Narrative

Samples were collected on May 12, 2017 and received by the laboratory on May 12, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	05-184-01					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*61-118*				
Client ID:	**MW2**					
Laboratory ID:	05-184-02					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*61-118*				
Client ID:	**MW3**					
Laboratory ID:	05-184-03					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*61-118*				
Client ID:	**MW4**					
Laboratory ID:	05-184-04					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*61-118*				
Client ID:	**MW5**					
Laboratory ID:	05-184-05					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*61-118*				
Client ID:	**MW6**					
Laboratory ID:	05-184-06					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*82*	*61-118*				

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Project: 15-05986-040

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW DUP**					
Laboratory ID:	05-184-07					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*61-118*				
Client ID:	**Trip Blank**					
Laboratory ID:	05-184-09					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*61-118*				

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NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0519W1					
Gasoline	**ND**	100	NWTPH-Gx	5-19-17	5-19-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*61-118*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-184-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*92*	*85*	*61-118*			

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Project: 15-05986-040

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	05-184-01					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**MW2**					
Laboratory ID:	05-184-02					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.44	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**MW3**					
Laboratory ID:	05-184-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-15-17	5-18-17	X1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-15-17	5-18-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				
Client ID:	**MW4**					
Laboratory ID:	05-184-04					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**MW5**					
Laboratory ID:	05-184-05					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				
Client ID:	**MW6**					
Laboratory ID:	05-184-06					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW DUP**					
Laboratory ID:	05-184-07					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0515W2					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	5-15-17	5-15-17	X1
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	5-15-17	5-15-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*123*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-197-01										
	ORIG	DUP									
Diesel Fuel #2	**18.9**	**7.28**	NA	NA		NA		NA	89	NA	X1
Lube Oil	**1.31**	**0.688**	NA	NA		NA		NA	62	NA	X1
Surrogate:											
o-Terphenyl						*149*	*94*	*50-150*			

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	05-184-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	05-184-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*115*	*77-129*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*93*	*80-125*				

Date of Report: May 23, 2017
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	05-184-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	05-184-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*110*	*77-129*
Toluene-d8	*107*	*80-127*
4-Bromofluorobenzene	*91*	*80-125*

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	05-184-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	05-184-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*77-129*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*91*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	05-184-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	05-184-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	1.5	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*110*	*77-129*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*91*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	05-184-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	05-184-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*115*	*77-129*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*97*	*80-125*

Date of Report: May 23, 2017
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	05-184-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	05-184-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*110*	*77-129*
Toluene-d8	*104*	*80-127*
4-Bromofluorobenzene	*95*	*80-125*

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW DUP**					
Laboratory ID:	05-184-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW DUP**					
Laboratory ID:	05-184-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*112*	*77-129*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*93*	*80-125*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	05-184-09					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	05-184-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*114*	*77-129*
Toluene-d8	*104*	*80-127*
4-Bromofluorobenzene	*95*	*80-125*

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

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METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0516W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloromethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromomethane	ND	0.40	EPA 8260C	5-16-17	5-16-17	
Chloroethane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Acetone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Iodomethane	ND	2.1	EPA 8260C	5-16-17	5-16-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-16-17	5-16-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Butanone	ND	5.0	EPA 8260C	5-16-17	5-16-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chloroform	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Benzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Trichloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Dibromomethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chloroethyl Vinyl Ether	ND	11	EPA 8260C	5-16-17	5-16-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Toluene	ND	1.0	EPA 8260C	5-16-17	5-16-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Date of Report: May 23, 2017
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VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0516W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Hexanone	ND	2.0	EPA 8260C	5-16-17	5-16-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-16-17	5-16-17	
o-Xylene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Styrene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromoform	ND	1.0	EPA 8260C	5-16-17	5-16-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Bromobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,1,2,2-Tetrachloroethane	ND	0.27	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-16-17	5-16-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-16-17	5-16-17	
Naphthalene	ND	1.3	EPA 8260C	5-16-17	5-16-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-16-17	5-16-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*116*	*77-129*
Toluene-d8	*105*	*80-127*
4-Bromofluorobenzene	*89*	*80-125*

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Project: 15-05986-040

VOLATILES by EPA 8260C
MS/MSD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-176-01										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**9.76**	**9.54**	10.0	10.0	ND	98	95	65-119	2	15	
Benzene	**10.1**	**10.4**	10.0	10.0	ND	101	104	75-117	3	15	
Trichloroethene	**8.95**	**9.04**	10.0	10.0	ND	90	90	66-120	1	15	
Toluene	**10.2**	**10.5**	10.0	10.0	ND	102	105	79-120	3	15	
Chlorobenzene	**9.48**	**9.47**	10.0	10.0	ND	95	95	76-120	0	15	
Surrogate:											
Dibromofluoromethane						*121*	*121*	*77-129*			
Toluene-d8						*102*	*106*	*80-127*			
4-Bromofluorobenzene						*96*	*92*	*80-125*			

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
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Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	05-184-01					
Naphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*46*	*30 - 124*				
Pyrene-d10	*45*	*40 - 143*				
Terphenyl-d14	*47*	*27 - 127*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
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Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	05-184-02					
Naphthalene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.099	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.0099	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*30 - 124*				
Pyrene-d10	*87*	*40 - 143*				
Terphenyl-d14	*105*	*27 - 127*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
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Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	05-184-03					
Naphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
2-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
1-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Acenaphthylene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Acenaphthene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Fluorene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Phenanthrene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Anthracene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Fluoranthene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Pyrene	**ND**	0.095	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270D/SIM	5-16-17	5-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*30 - 124*				
Pyrene-d10	*77*	*40 - 143*				
Terphenyl-d14	*93*	*27 - 127*				

Date of Report: May 23, 2017
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Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	05-184-04					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Fluorene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Anthracene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Pyrene	**ND**	0.096	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	5-16-17	5-18-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*104*	*30 - 124*				
Pyrene-d10	*84*	*40 - 143*				
Terphenyl-d14	*111*	*27 - 127*				

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PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	05-184-05					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*58*	*30 - 124*				
Pyrene-d10	*60*	*40 - 143*				
Terphenyl-d14	*69*	*27 - 127*				

Date of Report: May 23, 2017
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PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	05-184-06					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*30 - 124*				
Pyrene-d10	*79*	*40 - 143*				
Terphenyl-d14	*94*	*27 - 127*				

Date of Report: May 23, 2017
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Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW DUP**					
Laboratory ID:	05-184-07					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*94*	*30 - 124*				
Pyrene-d10	*90*	*40 - 143*				
Terphenyl-d14	*111*	*27 - 127*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0516W2					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Chrysene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	5-16-17	5-17-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*30 - 124*				
Pyrene-d10	*84*	*40 - 143*				
Terphenyl-d14	*99*	*27 - 127*				

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

PAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0516W2									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.402**	**0.392**	0.500	0.500	80	78	29 - 101	3	47	
Acenaphthylene	**0.435**	**0.454**	0.500	0.500	87	91	20 - 117	4	50	
Acenaphthene	**0.479**	**0.461**	0.500	0.500	96	92	37 - 109	4	43	
Fluorene	**0.453**	**0.486**	0.500	0.500	91	97	47 - 108	7	34	
Phenanthrene	**0.451**	**0.476**	0.500	0.500	90	95	49 - 109	5	28	
Anthracene	**0.436**	**0.458**	0.500	0.500	87	92	34 - 140	5	32	
Fluoranthene	**0.477**	**0.488**	0.500	0.500	95	98	45 - 120	2	39	
Pyrene	**0.575**	**0.493**	0.500	0.500	115	99	42 - 133	15	39	
Benzo[a]anthracene	**0.521**	**0.523**	0.500	0.500	104	105	71 - 117	0	28	
Chrysene	**0.495**	**0.493**	0.500	0.500	99	99	53 - 110	0	25	
Benzo[b]fluoranthene	**0.504**	**0.500**	0.500	0.500	101	100	53 - 123	1	37	
Benzo(j,k)fluoranthene	**0.504**	**0.509**	0.500	0.500	101	102	52 - 119	1	41	
Benzo[a]pyrene	**0.462**	**0.466**	0.500	0.500	92	93	37 - 129	1	33	
Indeno(1,2,3-c,d)pyrene	**0.507**	**0.500**	0.500	0.500	101	100	45 - 128	1	31	
Dibenz[a,h]anthracene	**0.511**	**0.498**	0.500	0.500	102	100	54 - 120	3	30	
Benzo[g,h,i]perylene	**0.498**	**0.494**	0.500	0.500	100	99	49 - 117	1	29	
Surrogate:										
2-Fluorobiphenyl					*86*	*81*	*30 - 124*			
Pyrene-d10					*91*	*91*	*40 - 143*			
Terphenyl-d14					*113*	*100*	*27 - 127*			

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-01					
Client ID:	**MW1**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**160**	28	200.8	5-17-17	5-17-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-02					
Client ID:	**MW2**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**42**	28	200.8	5-17-17	5-17-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-03					
Client ID:	**MW3**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**170**	28	200.8	5-17-17	5-17-17	

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Samples Submitted: May 12, 2017
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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-04					
Client ID:	**MW4**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**8.3**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**80**	28	200.8	5-17-17	5-17-17	

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Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-05					
Client ID:	**MW5**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**4.0**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**37**	28	200.8	5-17-17	5-17-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-06					
Client ID:	**MW6**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**ND**	28	200.8	5-17-17	5-17-17	

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Samples Submitted: May 12, 2017
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Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-07					
Client ID:	**MW DUP**					
Antimony	**ND**	5.6	200.8	5-17-17	5-17-17	
Arsenic	**ND**	3.3	200.8	5-17-17	5-17-17	
Beryllium	**ND**	11	200.8	5-17-17	5-17-17	
Cadmium	**ND**	4.4	200.8	5-17-17	5-17-17	
Chromium	**ND**	11	200.8	5-17-17	5-17-17	
Copper	**ND**	11	200.8	5-17-17	5-17-17	
Lead	**ND**	1.1	200.8	5-17-17	5-17-17	
Mercury	**ND**	0.50	7470A	5-16-17	5-16-17	
Nickel	**ND**	22	200.8	5-17-17	5-17-17	
Selenium	**ND**	5.6	200.8	5-17-17	5-17-17	
Silver	**ND**	11	200.8	5-17-17	5-17-17	
Thallium	**ND**	5.6	200.8	5-17-17	5-17-17	
Zinc	**35**	28	200.8	5-17-17	5-17-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

TOTAL METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Extracted: 5-16&17-17
Date Analyzed: 5-16&17-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0516W1&MB0517WM1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.6
Arsenic	200.8	**ND**	3.3
Beryllium	200.8	**ND**	11
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**ND**	11
Copper	200.8	**ND**	11
Lead	200.8	**ND**	1.1
Mercury	7470A	**ND**	0.50
Nickel	200.8	**ND**	22
Selenium	200.8	**ND**	5.6
Silver	200.8	**ND**	11
Thallium	200.8	**ND**	5.6
Zinc	200.8	**ND**	28

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TOTAL METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 5-16&17-17
Date Analyzed: 5-16&17-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-184-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.6	
Arsenic	**ND**	**ND**	NA	3.3	
Beryllium	**ND**	**ND**	NA	11	
Cadmium	**ND**	**ND**	NA	4.4	
Chromium	**ND**	**ND**	NA	11	
Copper	**ND**	**ND**	NA	11	
Lead	**ND**	**ND**	NA	1.1	
Mercury	**ND**	**ND**	NA	0.50	
Nickel	**ND**	**ND**	NA	22	
Selenium	**ND**	**ND**	NA	5.6	
Silver	**ND**	**ND**	NA	11	
Thallium	**ND**	**ND**	NA	5.6	
Zinc	**159**	**155**	3	28	

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TOTAL METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Extracted: 5-16&17-17
Date Analyzed: 5-16&17-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-184-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	222	**225**	101	**222**	100	1	
Arsenic	222	**215**	97	**216**	97	0	
Beryllium	222	**227**	102	**223**	100	2	
Cadmium	222	**223**	100	**214**	97	4	
Chromium	222	**208**	94	**207**	93	0	
Copper	222	**216**	97	**216**	97	0	
Lead	222	**213**	96	**213**	96	0	
Mercury	12.5	**12.5**	100	**11.4**	91	9	
Nickel	222	**209**	94	**204**	92	2	
Selenium	222	**216**	97	**215**	97	1	
Silver	222	**211**	95	**208**	94	2	
Thallium	222	**207**	93	**206**	93	1	
Zinc	222	**367**	94	**371**	95	1	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-01					
Client ID:	**MW1**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**170**	25	200.8		5-16-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-02					
Client ID:	**MW2**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**ND**	25	200.8		5-16-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-03					
Client ID:	**MW3**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**140**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-04					
Client ID:	**MW4**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**8.3**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**37**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-05					
Client ID:	**MW5**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**3.0**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**35**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-06					
Client ID:	**MW6**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**ND**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-07					
Client ID:	**MW DUP**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**ND**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-184-08					
Client ID:	**Filter Blank**					
Antimony	**ND**	5.0	200.8		5-16-17	
Arsenic	**ND**	3.0	200.8		5-16-17	
Beryllium	**ND**	10	200.8		5-16-17	
Cadmium	**ND**	4.0	200.8		5-16-17	
Chromium	**ND**	10	200.8		5-16-17	
Copper	**ND**	10	200.8		5-16-17	
Lead	**ND**	1.0	200.8		5-16-17	
Mercury	**ND**	0.50	7470A		5-16-17	
Nickel	**ND**	20	200.8		5-16-17	
Selenium	**ND**	5.0	200.8		5-16-17	
Silver	**ND**	10	200.8		5-16-17	
Thallium	**ND**	5.0	200.8		5-16-17	
Zinc	**ND**	25	200.8		5-16-17	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A
METHOD BLANK QUALITY CONTROL

Date Analyzed: 5-16-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0516D1&MB0516D2

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Mercury	7470A	**ND**	0.50
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	5.0
Zinc	200.8	**ND**	25

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A
DUPLICATE QUALITY CONTROL

Date Analyzed: 5-16-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-184-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Mercury	**ND**	**ND**	NA	0.5	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	5.0	
Zinc	**172**	**167**	3	25	

Date of Report: May 23, 2017
Samples Submitted: May 12, 2017
Laboratory Reference: 1705-184
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A
MS/MSD QUALITY CONTROL

Date Analyzed: 5-16-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-184-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**197**	99	**209**	105	6	
Arsenic	200	**195**	98	**203**	101	4	
Beryllium	200	**193**	96	**207**	103	7	
Cadmium	200	**198**	99	**208**	104	5	
Chromium	200	**180**	90	**191**	95	6	
Copper	200	**197**	99	**205**	102	4	
Lead	200	**186**	93	**199**	100	7	
Mercury	12.5	**10.9**	87	**10.8**	86	1	
Nickel	200	**184**	92	**195**	97	6	
Selenium	200	**204**	102	**217**	109	6	
Silver	200	**185**	92	**196**	98	6	
Thallium	200	**191**	95	**205**	103	7	
Zinc	200	**365**	97	**376**	102	3	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: ~~206 441 9080~~ 15-05986-040
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: George Ifner, Brianna Blaud

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-184

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☑ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total PP Metals	Dissolved PP Metals			% Moisture
1	MW1	5/12/17	12:22	water	11			X	X	X				X									X	X			
2	MW2	5/12/17	11:10	water	11			X	X	X				X									X	X			
3	MW3	5/12/17	13:43	water	11			X	X	X				X									X	X			
4	MW4	5/12/17	14:48	water	11			X	X	X				X									X	X			
5	MW5	5/12/17	12:40	water	11			X	X	X				X									X	X			
6	MW6	5/12/17	13:50	water	11			X	X	X				X									X	X			
7	MW DUP	5/12/17	10:00	water	11			X	X	X				X									X	X			
8	Filter Blank	5/12/17	16:25	water	1																			X			
9	Trip Blank	5/12/17	—	water	3			X		X																	

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	5/12/17	16:30
Received	[signature]	CORE	5/12/17	1630
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
All dissolved metals were field filtered w/ 45 µm filters

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 13, 2017

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 15-05986-040
Laboratory Reference No. 1705-299

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on May 24, 2017.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

Case Narrative

Samples were collected on May 23 and 24, 2017 and received by the laboratory on May 24, 2017. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH Gx and Volatiles EPA 8260C (soil) Analysis

Per EPA Method 5035A, samples were received by the laboratory in pre-weighed 40 mL VOA vials within 48 hours of sample collection. They were stored in a freezer at between -7°C and -20°C until extraction or analysis.

PAHs EPA 8270D/SIM Analysis

The Spike Blank had one recovery slightly above control limits. Samples PP5-W and PP7-W each had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Please note that any other QA/QC issues associated with these extractions and analyses will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
Gasoline	**ND**	6.9	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*63-124*				
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
Gasoline	**ND**	8.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*63-124*				
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
Gasoline	**ND**	7.8	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*63-124*				
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
Gasoline	**ND**	9.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*63-124*				
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
Gasoline	**ND**	6.6	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*63-124*				
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
Gasoline	**ND**	7.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*63-124*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
Gasoline	**ND**	7.4	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*63-124*				
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
Gasoline	**ND**	7.1	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*63-124*				
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
Gasoline	**ND**	7.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*63-124*				
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
Gasoline	**ND**	8.1	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*101*	*63-124*				
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
Gasoline	**ND**	5.7	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*63-124*				
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
Gasoline	**ND**	9.7	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*111*	*63-124*				
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
Gasoline	**ND**	6.6	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*63-124*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

NWTPH-Gx

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
Gasoline	**ND**	7.8	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*63-124*				
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
Gasoline	**ND**	6.1	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*63-124*				
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
Gasoline	**ND**	9.6	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*113*	*63-124*				
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
Gasoline	**ND**	5.6	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*63-124*				
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
Gasoline	**ND**	7.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*102*	*63-124*				
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
Gasoline	**ND**	6.8	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*63-124*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

NWTPH-Gx
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0531S1					
Gasoline	**ND**	5.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*63-124*				
Laboratory ID:	MB0531S2					
Gasoline	**ND**	5.0	NWTPH-Gx	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*63-124*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-299-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*94*	*92*	*63-124*			
Laboratory ID:	05-299-08										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*92*	*92*	*63-124*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-W**					
Laboratory ID:	05-299-02					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*61-118*				
Client ID:	**PP2-W**					
Laboratory ID:	05-299-06					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*61-118*				
Client ID:	**PP3-W**					
Laboratory ID:	05-299-09					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*61-118*				
Client ID:	**PP4-W**					
Laboratory ID:	05-299-12					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*96*	*61-118*				
Client ID:	**PP5-W**					
Laboratory ID:	05-299-15					
Gasoline	**210**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*95*	*61-118*				
Client ID:	**PP6-W**					
Laboratory ID:	05-299-18					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*61-118*				

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NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-W**					
Laboratory ID:	05-299-21					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*107*	*61-118*				
Client ID:	**PP8-W**					
Laboratory ID:	05-299-24					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*61-118*				
Client ID:	**PP9-W**					
Laboratory ID:	05-299-27					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*97*	*61-118*				
Client ID:	**PP10-W**					
Laboratory ID:	05-299-29					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*61-118*				

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NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0526W2					
Gasoline	**ND**	100	NWTPH-Gx	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*61-118*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-292-02										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*105*	*95*	*61-118*			

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
Diesel Range Organics	**ND**	33	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	67	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
Diesel Range Organics	**ND**	33	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	66	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
Diesel Range Organics	**ND**	36	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	73	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil	**140**	63	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*71*	*50-150*				

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
Diesel Range Organics	**ND**	54	NWTPH-Dx	5-30-17	5-31-17	U1,X1
Lube Oil	**500**	63	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
Diesel Range Organics	**ND**	55	NWTPH-Dx	5-30-17	5-31-17	U1,X1
Lube Oil	**570**	62	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
Diesel Range Organics	**ND**	68	NWTPH-Dx	5-30-17	5-31-17	U1,X1
Lube Oil	**620**	66	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
Diesel Range Organics	**ND**	34	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	67	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
Diesel Range Organics	**ND**	29	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil	**62**	58	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
Diesel Range Organics	**ND**	37	NWTPH-Dx	6-2-17	6-2-17	X1
Lube Oil Range Organics	**ND**	75	NWTPH-Dx	6-2-17	6-2-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil	**63**	61	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	63	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
Diesel Range Organics	**ND**	28	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	57	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*120*	*50-150*				
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
Diesel Range Organics	**ND**	36	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	71	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
Diesel Range Organics	**ND**	26	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	52	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	62	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
Diesel Range Organics	**ND**	31	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				

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NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0530S3					
Diesel Range Organics	**ND**	25	NWTPH-Dx	5-30-17	5-31-17	X1
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	5-30-17	5-31-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*70*	*50-150*				
Laboratory ID:	MB0602S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	6-2-17	6-2-17	X1
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	6-2-17	6-2-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-299-03										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Surrogate:											
o-Terphenyl						*105*	*89*	*50-150*			
Laboratory ID:	05-299-17										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Surrogate:											
o-Terphenyl						*98*	*92*	*50-150*			
Laboratory ID:	05-299-19										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Lube Oil	**51.5**	**ND**	NA	NA		NA		NA	NA	NA	X1
Surrogate:											
o-Terphenyl						*101*	*98*	*50-150*			

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NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-W**					
Laboratory ID:	05-299-02					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				
Client ID:	**PP2-W**					
Laboratory ID:	05-299-06					
Diesel Range Organics	**ND**	0.37	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.60	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**PP3-W**					
Laboratory ID:	05-299-09					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-26-17	5-30-17	X1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-26-17	5-30-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP4-W**					
Laboratory ID:	05-299-12					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**PP5-W**					
Laboratory ID:	05-299-15					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-26-17	5-30-17	X1
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	5-26-17	5-30-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**PP6-W**					
Laboratory ID:	05-299-18					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				

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NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-W**					
Laboratory ID:	05-299-21					
Diesel Range Organics	**ND**	0.28	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.44	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**PP8-W**					
Laboratory ID:	05-299-24					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				
Client ID:	**PP9-W**					
Laboratory ID:	05-299-27					
Diesel Range Organics	**ND**	0.28	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.45	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**PP10-W**					
Laboratory ID:	05-299-29					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

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NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0526W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	5-26-17	5-26-17	X1
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	5-26-17	5-26-17	X1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	05-299-02										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Surrogate:											
o-Terphenyl						*83*	*96*	*50-150*			
Laboratory ID:	05-299-27										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	X1
Surrogate:											
o-Terphenyl						*104*	*88*	*50-150*			

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Acetone	ND	0.011	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0072	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0016	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.011	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Butanone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Toluene	0.019	0.0057	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0023	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*119*	*73-134*				
Toluene-d8	*109*	*81-124*				
4-Bromofluorobenzene	*95*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Acetone	0.051	0.013	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0081	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0018	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
2-Butanone	0.012	0.0064	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Toluene	0.020	0.0064	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	

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Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0026	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0064	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*116*	*73-134*				
Toluene-d8	*109*	*81-124*				
4-Bromofluorobenzene	*104*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Acetone	0.071	0.012	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.012	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Butanone	0.019	0.0062	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0079	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Toluene	0.025	0.0062	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0025	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*96*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Acetone	0.088	0.014	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0087	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0019	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.014	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
2-Butanone	0.023	0.0069	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Toluene	0.019	0.0069	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0028	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0069	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*121*	*73-134*				
Toluene-d8	*114*	*81-124*				
4-Bromofluorobenzene	*108*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Acetone	0.058	0.012	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0076	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0017	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.012	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Butanone	0.013	0.0060	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
Toluene	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	

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Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0024	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0060	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.069	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.34	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.34	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.069	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*73-134*				
Toluene-d8	*96*	*81-124*				
4-Bromofluorobenzene	*80*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Acetone	0.028	0.012	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0077	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0017	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.012	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Butanone	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Toluene	0.016	0.0061	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0025	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0061	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*73-134*				
Toluene-d8	*106*	*81-124*				
4-Bromofluorobenzene	*100*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
Dichlorodifluoromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Acetone	ND	0.011	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0071	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0016	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.011	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Butanone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Toluene	0.016	0.0057	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
1,1,2-Trichloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0023	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0057	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0011	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*107*	*73-134*				
Toluene-d8	*105*	*81-124*				
4-Bromofluorobenzene	*94*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Acetone	0.051	0.013	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Butanone	0.0068	0.0064	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0083	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Toluene	0.011	0.0064	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0026	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	0.0024	0.0013	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
Naphthalene	0.0019	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*73-134*				
Toluene-d8	*99*	*81-124*				
4-Bromofluorobenzene	*94*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	0.012	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.012	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0074	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0023	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*95*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Acetone	0.046	0.013	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	0.0024	0.0013	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Butanone	0.013	0.0065	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0083	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Toluene	0.016	0.0065	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0026	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*92*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
Dichlorodifluoromethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Acetone	0.011	0.0090	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.0090	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0058	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Toluene	0.0096	0.0045	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	

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Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
1,1,2-Trichloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0018	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0045	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.00090	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*108*	*73-134*				
Toluene-d8	*101*	*81-124*				
4-Bromofluorobenzene	*91*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
Dichlorodifluoromethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Acetone	0.10	0.015	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.015	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
2-Butanone	0.025	0.0076	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0097	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Toluene	0.0083	0.0076	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
1,1,2-Trichloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0030	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0076	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0015	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*73-134*				
Toluene-d8	*111*	*81-124*				
4-Bromofluorobenzene	*93*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	0.014	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.014	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0091	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0028	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Styrene	0.012	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0071	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*73-134*				
Toluene-d8	*100*	*81-124*				
4-Bromofluorobenzene	*90*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Acetone	0.019	0.013	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0083	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Toluene	0.022	0.0065	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	

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Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0026	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*105*	*73-134*				
Toluene-d8	*103*	*81-124*				
4-Bromofluorobenzene	*99*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Acetone	0.027	0.013	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0083	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Toluene	0.014	0.0065	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	

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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0026	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0065	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*115*	*73-134*				
Toluene-d8	*108*	*81-124*				
4-Bromofluorobenzene	*102*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Acetone	0.016	0.014	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.014	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0089	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Toluene	0.021	0.0070	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0028	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*73-134*				
Toluene-d8	*102*	*81-124*				
4-Bromofluorobenzene	*95*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
Dichlorodifluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	0.013	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.013	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0080	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Toluene	0.014	0.0063	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
1,1,2-Trichloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0025	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0063	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0013	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.057	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	0.29	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.29	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	0.057	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.057	EPA 8260C	5-30-17	5-30-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*105*	*73-134*
Toluene-d8	*97*	*81-124*
4-Bromofluorobenzene	*98*	*80-131*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
Dichlorodifluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Acetone	0.015	0.012	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.012	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0079	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Toluene	0.015	0.0062	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
1,1,2-Trichloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0025	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0062	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0012	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*106*	*73-134*				
Toluene-d8	*105*	*81-124*				
4-Bromofluorobenzene	*102*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
Dichlorodifluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	0.014	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.014	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0090	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
1,1,2-Trichloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0028	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0070	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0014	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*73-134*				
Toluene-d8	*98*	*81-124*				
4-Bromofluorobenzene	*90*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: ug/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0525S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Chloromethane	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Bromomethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Chloroethane	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Acetone	ND	0.010	EPA 8260C	5-25-17	5-25-17	
Iodomethane	ND	0.0063	EPA 8260C	5-25-17	5-25-17	
Carbon Disulfide	ND	0.0014	EPA 8260C	5-25-17	5-25-17	
Methylene Chloride	ND	0.010	EPA 8260C	5-25-17	5-25-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
2-Butanone	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Bromochloromethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Chloroform	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Benzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Trichloroethene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Dibromomethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Toluene	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0525S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
2-Hexanone	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Chlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Ethylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
m,p-Xylene	ND	0.0020	EPA 8260C	5-25-17	5-25-17	
o-Xylene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Styrene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Bromoform	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Bromobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	5-25-17	5-25-17	
Naphthalene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*109*	*73-134*				
Toluene-d8	*108*	*81-124*				
4-Bromofluorobenzene	*100*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0526S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	0.010	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	0.010	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	0.0064	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0526S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.0020	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*73-134*				
Toluene-d8	*111*	*81-124*				
4-Bromofluorobenzene	*109*	*80-131*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0530S1					
Dichlorodifluoromethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Chloromethane	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Vinyl Chloride	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Bromomethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Chloroethane	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Trichlorofluoromethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Acetone	ND	0.010	EPA 8260C	5-30-17	5-30-17	
Iodomethane	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Carbon Disulfide	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Methylene Chloride	ND	0.010	EPA 8260C	5-30-17	5-30-17	
(trans) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Methyl t-Butyl Ether	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Vinyl Acetate	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
2,2-Dichloropropane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
(cis) 1,2-Dichloroethene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
2-Butanone	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Bromochloromethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Chloroform	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1,1-Trichloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Carbon Tetrachloride	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloropropene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Benzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Trichloroethene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloropropane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Dibromomethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Bromodichloromethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
2-Chloroethyl Vinyl Ether	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
(cis) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Methyl Isobutyl Ketone	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Toluene	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
(trans) 1,3-Dichloropropene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
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VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0530S1					
1,1,2-Trichloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Tetrachloroethene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,3-Dichloropropane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
2-Hexanone	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Dibromochloromethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromoethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Chlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1,1,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Ethylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
m,p-Xylene	ND	0.0020	EPA 8260C	5-30-17	5-30-17	
o-Xylene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Styrene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Bromoform	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Isopropylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Bromobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.0050	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.0010	EPA 8260C	5-30-17	5-30-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*107*	*73-134*
Toluene-d8	*110*	*81-124*
4-Bromofluorobenzene	*104*	*80-131*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0525S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0613**	**0.0591**	0.0500	0.0500	123	118	66-127	4	15	
Benzene	**0.0547**	**0.0554**	0.0500	0.0500	109	111	76-122	1	15	
Trichloroethene	**0.0542**	**0.0536**	0.0500	0.0500	108	107	78-120	1	15	
Toluene	**0.0544**	**0.0552**	0.0500	0.0500	109	110	83-120	1	15	
Chlorobenzene	**0.0509**	**0.0511**	0.0500	0.0500	102	102	81-120	0	15	
Surrogate:										
Dibromofluoromethane					*100*	*102*	*73-134*			
Toluene-d8					*101*	*103*	*81-124*			
4-Bromofluorobenzene					*97*	*99*	*80-131*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0526S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0554**	**0.0593**	0.0500	0.0500	111	119	66-127	7	15	
Benzene	**0.0527**	**0.0554**	0.0500	0.0500	105	111	76-122	5	15	
Trichloroethene	**0.0482**	**0.0511**	0.0500	0.0500	96	102	78-120	6	15	
Toluene	**0.0498**	**0.0534**	0.0500	0.0500	100	107	83-120	7	15	
Chlorobenzene	**0.0478**	**0.0483**	0.0500	0.0500	96	97	81-120	1	15	
Surrogate:										
Dibromofluoromethane					*103*	*104*	*73-134*			
Toluene-d8					*99*	*99*	*81-124*			
4-Bromofluorobenzene					*97*	*97*	*80-131*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0530S1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**0.0613**	**0.0542**	0.0500	0.0500	123	108	66-127	12	15	
Benzene	**0.0567**	**0.0513**	0.0500	0.0500	113	103	76-122	10	15	
Trichloroethene	**0.0551**	**0.0498**	0.0500	0.0500	110	100	78-120	10	15	
Toluene	**0.0560**	**0.0511**	0.0500	0.0500	112	102	83-120	9	15	
Chlorobenzene	**0.0510**	**0.0466**	0.0500	0.0500	102	93	81-120	9	15	
Surrogate:										
Dibromofluoromethane					*98*	*94*	*73-134*			
Toluene-d8					*100*	*98*	*81-124*			
4-Bromofluorobenzene					*94*	*85*	*80-131*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-W**					
Laboratory ID:	05-299-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloromethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Acetone	6.7	5.0	EPA 8260C	5-30-17	5-30-17	
Iodomethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-30-17	5-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Butanone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroform	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Benzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Trichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Dibromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Toluene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-W**					
Laboratory ID:	05-299-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Hexanone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-30-17	5-30-17	
o-Xylene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Styrene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromoform	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*113*	*77-129*				
Toluene-d8	*113*	*80-127*				
4-Bromofluorobenzene	*84*	*80-125*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-W**					
Laboratory ID:	05-299-06					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	75	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-W**					
Laboratory ID:	05-299-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*77-129*				
Toluene-d8	*84*	*80-127*				
4-Bromofluorobenzene	*123*	*80-125*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-W**					
Laboratory ID:	05-299-09					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	5.3	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-W**					
Laboratory ID:	05-299-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*77-129*
Toluene-d8	*83*	*80-127*
4-Bromofluorobenzene	*92*	*80-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-W**					
Laboratory ID:	05-299-12					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	5.6	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-W**					
Laboratory ID:	05-299-12					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*77-129*
Toluene-d8	*81*	*80-127*
4-Bromofluorobenzene	*113*	*80-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-W**					
Laboratory ID:	05-299-15					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	5.5	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	6.4	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-W**					
Laboratory ID:	05-299-15					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	0.43	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	32	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	0.57	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	0.45	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	0.95	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	3.1	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	12	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*77-129*				
Toluene-d8	*90*	*80-127*				
4-Bromofluorobenzene	*101*	*80-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-W**					
Laboratory ID:	05-299-18					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	7.9	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-W**					
Laboratory ID:	05-299-18					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*77-129*
Toluene-d8	*98*	*80-127*
4-Bromofluorobenzene	*117*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-W**					
Laboratory ID:	05-299-21					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	6.1	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	5.2	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

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Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-W**					
Laboratory ID:	05-299-21					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*77-129*
Toluene-d8	*83*	*80-127*
4-Bromofluorobenzene	*94*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-W**					
Laboratory ID:	05-299-24					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	5.2	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-W**					
Laboratory ID:	05-299-24					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*77-129*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*103*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-W**					
Laboratory ID:	05-299-27					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloromethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Acetone	7.2	5.0	EPA 8260C	5-30-17	5-30-17	
Iodomethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Carbon Disulfide	0.22	0.20	EPA 8260C	5-30-17	5-30-17	Y
Methylene Chloride	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-30-17	5-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Butanone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroform	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Benzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Trichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Dibromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Toluene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-W**					
Laboratory ID:	05-299-27					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Hexanone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-30-17	5-30-17	
o-Xylene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Styrene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromoform	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*119*	*77-129*				
Toluene-d8	*116*	*80-127*				
4-Bromofluorobenzene	*89*	*80-125*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-W**					
Laboratory ID:	05-299-29					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
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Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-W**					
Laboratory ID:	05-299-29					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*104*	*77-129*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*105*	*80-125*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	05-299-30					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloromethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Acetone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Iodomethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-30-17	5-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Butanone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroform	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Benzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Trichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Dibromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Toluene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	05-299-30					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Hexanone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-30-17	5-30-17	
o-Xylene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Styrene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromoform	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*126*	*77-129*
Toluene-d8	*118*	*80-127*
4-Bromofluorobenzene	*89*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0526W1					
Dichlorodifluoromethane	ND	0.26	EPA 8260C	5-26-17	5-26-17	
Chloromethane	ND	1.4	EPA 8260C	5-26-17	5-26-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromomethane	ND	0.33	EPA 8260C	5-26-17	5-26-17	
Chloroethane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Acetone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Iodomethane	ND	1.7	EPA 8260C	5-26-17	5-26-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-26-17	5-26-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Butanone	ND	5.0	EPA 8260C	5-26-17	5-26-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chloroform	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Benzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Trichloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Dibromomethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chloroethyl Vinyl Ether	ND	6.6	EPA 8260C	5-26-17	5-26-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Toluene	ND	1.0	EPA 8260C	5-26-17	5-26-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
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Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0526W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Hexanone	ND	2.0	EPA 8260C	5-26-17	5-26-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-26-17	5-26-17	
o-Xylene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Styrene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromoform	ND	1.0	EPA 8260C	5-26-17	5-26-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Bromobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-26-17	5-26-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-26-17	5-26-17	
Naphthalene	ND	1.4	EPA 8260C	5-26-17	5-26-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-26-17	5-26-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*77-129*
Toluene-d8	*90*	*80-127*
4-Bromofluorobenzene	*102*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0530W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloromethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Vinyl Chloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Trichlorofluoromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Acetone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Iodomethane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Carbon Disulfide	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methylene Chloride	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Vinyl Acetate	ND	1.0	EPA 8260C	5-30-17	5-30-17	
2,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Butanone	ND	5.0	EPA 8260C	5-30-17	5-30-17	
Bromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chloroform	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Carbon Tetrachloride	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Benzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Trichloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Dibromomethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromodichloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Toluene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0530W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Tetrachloroethene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Hexanone	ND	2.0	EPA 8260C	5-30-17	5-30-17	
Dibromochloromethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromoethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Chlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Ethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
m,p-Xylene	ND	0.40	EPA 8260C	5-30-17	5-30-17	
o-Xylene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Styrene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromoform	ND	1.0	EPA 8260C	5-30-17	5-30-17	
Isopropylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Bromobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Propylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
2-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
4-Chlorotoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
tert-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
sec-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
p-Isopropyltoluene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
n-Butylbenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Hexachlorobutadiene	ND	0.20	EPA 8260C	5-30-17	5-30-17	
Naphthalene	ND	1.0	EPA 8260C	5-30-17	5-30-17	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	5-30-17	5-30-17	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*120*	*77-129*
Toluene-d8	*121*	*80-127*
4-Bromofluorobenzene	*89*	*80-125*

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
MS/MSD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-274-07										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**10.7**	**10.5**	10.0	10.0	ND	107	105	65-119	2	15	
Benzene	**10.6**	**10.7**	10.0	10.0	ND	106	107	75-117	1	15	
Trichloroethene	**9.44**	**9.58**	10.0	10.0	ND	94	96	66-120	1	15	
Toluene	**10.7**	**10.5**	10.0	10.0	ND	107	105	79-120	2	15	
Chlorobenzene	**9.15**	**9.48**	10.0	10.0	ND	92	95	76-120	4	15	
Surrogate:											
Dibromofluoromethane						*96*	*97*	*77-129*			
Toluene-d8						*93*	*91*	*80-127*			
4-Bromofluorobenzene						*105*	*106*	*80-125*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0530W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.80**	**9.93**	10.0	10.0	98	99	63-127	1	17	
Benzene	**10.7**	**11.0**	10.0	10.0	107	110	76-121	3	12	
Trichloroethene	**9.13**	**9.38**	10.0	10.0	91	94	64-120	3	15	
Toluene	**10.1**	**10.6**	10.0	10.0	101	106	82-120	5	13	
Chlorobenzene	**10.1**	**10.7**	10.0	10.0	101	107	80-120	6	14	
Surrogate:										
Dibromofluoromethane					*118*	*124*	*77-129*			
Toluene-d8					*112*	*113*	*80-127*			
4-Bromofluorobenzene					*89*	*88*	*80-125*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

SEMIVOLATILES EPA 8270D/SIM
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-2**					
Laboratory ID:	05-299-01					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**0.052**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*63*	*18 - 109*				
Phenol-d6	*66*	*25 - 111*				
Nitrobenzene-d5	*66*	*22 - 113*				
2-Fluorobiphenyl	*56*	*30 - 114*				
2,4,6-Tribromophenol	*59*	*22 - 116*				
Terphenyl-d14	*57*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
n-Nitrosodimethylamine	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Pyridine	**ND**	0.45	EPA 8270D	5-31-17	5-31-17	
Phenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Aniline	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroethyl)ether	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Chlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,3-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,4-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Benzyl alcohol	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
1,2-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Methylphenol (o-Cresol)	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroisopropyl)ether	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
n-Nitroso-di-n-propylamine	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Hexachloroethane	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Nitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Isophorone	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Nitrophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,4-Dimethylphenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroethoxy)methane	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,4-Dichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,2,4-Trichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Naphthalene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
Hexachlorobutadiene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
4-Chloro-3-methylphenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Methylnaphthalene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,4,6-Trichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,3-Dichloroaniline	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,4,5-Trichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Chloronaphthalene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,4-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Dimethylphthalate	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,3-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,6-Dinitrotoluene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,2-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Acenaphthylene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

SEMIVOLATILES EPA 8270D/SIM
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-10**					
Laboratory ID:	05-299-03					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
Acenaphthene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,4-Dinitrotoluene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Dibenzofuran	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Diethylphthalate	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
4-Chlorophenyl-phenylether	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
4-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Fluorene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
n-Nitrosodiphenylamine	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
1,2-Diphenylhydrazine	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
4-Bromophenyl-phenylether	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Hexachlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Pentachlorophenol	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
Phenanthrene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
Fluoranthene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.45	EPA 8270D	5-31-17	5-31-17	
Pyrene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
bis-2-Ethylhexyladipate	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	5-31-17	5-31-17	
Benzo[a]anthracene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Di-n-octylphthalate	**ND**	0.045	EPA 8270D	5-31-17	5-31-17	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0089	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*83*	*18 - 109*				
Phenol-d6	*81*	*25 - 111*				
Nitrobenzene-d5	*87*	*22 - 113*				
2-Fluorobiphenyl	*84*	*30 - 114*				
2,4,6-Tribromophenol	*85*	*22 - 116*				
Terphenyl-d14	*87*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
n-Nitrosodimethylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.44	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-2.5**					
Laboratory ID:	05-299-04					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.44	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0088	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*86*	*18 - 109*				
Phenol-d6	*86*	*25 - 111*				
Nitrobenzene-d5	*85*	*22 - 113*				
2-Fluorobiphenyl	*69*	*30 - 114*				
2,4,6-Tribromophenol	*73*	*22 - 116*				
Terphenyl-d14	*66*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
n-Nitrosodimethylamine	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.48	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-10**					
Laboratory ID:	05-299-05					
2,4-Dinitrophenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.48	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.048	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0097	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*75*	*18 - 109*				
Phenol-d6	*72*	*25 - 111*				
Nitrobenzene-d5	*73*	*22 - 113*				
2-Fluorobiphenyl	*61*	*30 - 114*				
2,4,6-Tribromophenol	*61*	*22 - 116*				
Terphenyl-d14	*62*	*33 - 114*				

Date of Report: June 13, 2017
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
n-Nitrosodimethylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*62*	*18 - 109*				
Phenol-d6	*64*	*25 - 111*				
Nitrobenzene-d5	*63*	*22 - 113*				
2-Fluorobiphenyl	*53*	*30 - 114*				
2,4,6-Tribromophenol	*57*	*22 - 116*				
Terphenyl-d14	*55*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-10**					
Laboratory ID:	05-299-08					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*74*	*18 - 109*				
Phenol-d6	*71*	*25 - 111*				
Nitrobenzene-d5	*75*	*22 - 113*				
2-Fluorobiphenyl	*70*	*30 - 114*				
2,4,6-Tribromophenol	*66*	*22 - 116*				
Terphenyl-d14	*72*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
n-Nitrosodimethylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**0.017**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**0.028**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**0.0089**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**0.042**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Pyrene	**0.046**	0.042	EPA 8270D	5-31-17	6-1-17	
Butylbenzylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**0.029**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**0.037**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**0.042**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**0.014**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**0.034**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**0.027**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**0.032**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*65*	*18 - 109*				
Phenol-d6	*66*	*25 - 111*				
Nitrobenzene-d5	*67*	*22 - 113*				
2-Fluorobiphenyl	*58*	*30 - 114*				
2,4,6-Tribromophenol	*61*	*22 - 116*				
Terphenyl-d14	*57*	*33 - 114*				

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**0.010**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**0.011**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**0.014**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*72*	*18 - 109*				
Phenol-d6	*72*	*25 - 111*				
Nitrobenzene-d5	*68*	*22 - 113*				
2-Fluorobiphenyl	*65*	*30 - 114*				
2,4,6-Tribromophenol	*59*	*22 - 116*				
Terphenyl-d14	*67*	*33 - 114*				

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
n-Nitrosodimethylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.44	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.44	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.044	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0087	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*60*	*18 - 109*				
Phenol-d6	*60*	*25 - 111*				
Nitrobenzene-d5	*57*	*22 - 113*				
2-Fluorobiphenyl	*51*	*30 - 114*				
2,4,6-Tribromophenol	*46*	*22 - 116*				
Terphenyl-d14	*45*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
n-Nitrosodimethylamine	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.45	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-10**					
Laboratory ID:	05-299-14					
2,4-Dinitrophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.45	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.22	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.045	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0090	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*67*	*18 - 109*				
Phenol-d6	*67*	*25 - 111*				
Nitrobenzene-d5	*52*	*22 - 113*				
2-Fluorobiphenyl	*56*	*30 - 114*				
2,4,6-Tribromophenol	*55*	*22 - 116*				
Terphenyl-d14	*62*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
n-Nitrosodimethylamine	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.39	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
4-Chloroaniline	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
1-Methylnaphthalene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Hexachlorocyclopentadiene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
3-Nitroaniline	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
4-Nitrophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Anthracene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Carbazole	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**0.013**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Benzidine	**ND**	0.39	EPA 8270D	5-31-17	6-1-17	
Pyrene	**0.015**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Butylbenzylphthalate	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**0.0084**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Chrysene	**0.012**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.039	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**0.016**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[a]pyrene	**0.012**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Indeno[1,2,3-cd]pyrene	**0.0092**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[g,h,i]perylene	**0.011**	0.0077	EPA 8270D/SIM	5-31-17	6-1-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*18 - 109*				
Phenol-d6	*82*	*25 - 111*				
Nitrobenzene-d5	*80*	*22 - 113*				
2-Fluorobiphenyl	*63*	*30 - 114*				
2,4,6-Tribromophenol	*74*	*22 - 116*				
Terphenyl-d14	*63*	*33 - 114*				

Date of Report: June 13, 2017
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Laboratory Reference: 1705-299
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
n-Nitrosodimethylamine	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.50	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-10**					
Laboratory ID:	05-299-17					
2,4-Dinitrophenol	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.50	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.25	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.050	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0099	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*31*	*18 - 109*				
Phenol-d6	*34*	*25 - 111*				
Nitrobenzene-d5	*31*	*22 - 113*				
2-Fluorobiphenyl	*35*	*30 - 114*				
2,4,6-Tribromophenol	*44*	*22 - 116*				
Terphenyl-d14	*41*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
4-Chloroaniline	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
1-Methylnaphthalene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[g,h,i]perylene	**ND**	0.0082	EPA 8270D/SIM	5-31-17	6-1-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*62*	*18 - 109*				
Phenol-d6	*69*	*25 - 111*				
Nitrobenzene-d5	*69*	*22 - 113*				
2-Fluorobiphenyl	*71*	*30 - 114*				
2,4,6-Tribromophenol	*78*	*22 - 116*				
Terphenyl-d14	*76*	*33 - 114*				

Date of Report: June 13, 2017
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Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
n-Nitrosodimethylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-10**					
Laboratory ID:	05-299-20					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.42	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.042	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0084	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*71*	*18 - 109*				
Phenol-d6	*74*	*25 - 111*				
Nitrobenzene-d5	*72*	*22 - 113*				
2-Fluorobiphenyl	*70*	*30 - 114*				
2,4,6-Tribromophenol	*60*	*22 - 116*				
Terphenyl-d14	*64*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
n-Nitrosodimethylamine	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.38	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**0.70**	0.19	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-0.5**					
Laboratory ID:	05-299-22					
2,4-Dinitrophenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.38	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.19	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.038	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0076	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*80*	*18 - 109*				
Phenol-d6	*85*	*25 - 111*				
Nitrobenzene-d5	*85*	*22 - 113*				
2-Fluorobiphenyl	*87*	*30 - 114*				
2,4,6-Tribromophenol	*92*	*22 - 116*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
n-Nitrosodimethylamine	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.47	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-10**					
Laboratory ID:	05-299-23					
2,4-Dinitrophenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.47	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.24	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.047	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*76*	*18 - 109*				
Phenol-d6	*73*	*25 - 111*				
Nitrobenzene-d5	*82*	*22 - 113*				
2-Fluorobiphenyl	*78*	*30 - 114*				
2,4,6-Tribromophenol	*70*	*22 - 116*				
Terphenyl-d14	*70*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
n-Nitrosodimethylamine	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.35	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-0**					
Laboratory ID:	05-299-25					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.35	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.035	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.13	EPA 8270D	5-31-17	6-1-17	U1
Benzo[b]fluoranthene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0070	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*56*	*18 - 109*				
Phenol-d6	*63*	*25 - 111*				
Nitrobenzene-d5	*62*	*22 - 113*				
2-Fluorobiphenyl	*66*	*30 - 114*				
2,4,6-Tribromophenol	*69*	*22 - 116*				
Terphenyl-d14	*69*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-10**					
Laboratory ID:	05-299-26					
2,4-Dinitrophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.21	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0083	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*79*	*18 - 109*				
Phenol-d6	*78*	*25 - 111*				
Nitrobenzene-d5	*80*	*22 - 113*				
2-Fluorobiphenyl	*71*	*30 - 114*				
2,4,6-Tribromophenol	*67*	*22 - 116*				
Terphenyl-d14	*65*	*33 - 114*				

Date of Report: June 13, 2017
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Laboratory Reference: 1705-299
Project: 15-05986-040

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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
n-Nitrosodimethylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pyridine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Phenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Aniline	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzyl alcohol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
1,2-Dichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylphenol (o-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroisopropyl)ether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
n-Nitroso-di-n-propylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachloroethane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Nitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Isophorone	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dimethylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis(2-Chloroethoxy)methane	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2,4-Trichlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Naphthalene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
4-Chloroaniline	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Hexachlorobutadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Chloro-3-methylphenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Methylnaphthalene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
1-Methylnaphthalene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Hexachlorocyclopentadiene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,6-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3-Dichloroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4,5-Trichlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Chloronaphthalene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,4-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dimethylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,3-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,6-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Dinitrobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Acenaphthylene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
3-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-0**					
Laboratory ID:	05-299-28					
2,4-Dinitrophenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Acenaphthene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
4-Nitrophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,4-Dinitrotoluene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Dibenzofuran	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Diethylphthalate	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
4-Chlorophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Nitroaniline	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Fluorene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
4,6-Dinitro-2-methylphenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
n-Nitrosodiphenylamine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
1,2-Diphenylhydrazine	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
4-Bromophenyl-phenylether	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Hexachlorobenzene	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Pentachlorophenol	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Phenanthrene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Anthracene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Carbazole	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-butylphthalate	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Fluoranthene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Benzidine	**ND**	0.41	EPA 8270D	5-31-17	6-1-17	
Pyrene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Butylbenzylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
bis-2-Ethylhexyladipate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
3,3'-Dichlorobenzidine	**ND**	0.20	EPA 8270D	5-31-17	6-1-17	
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Di-n-octylphthalate	**ND**	0.041	EPA 8270D	5-31-17	6-1-17	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Benzo[g,h,i]perylene	**ND**	0.0081	EPA 8270D/SIM	5-31-17	6-1-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*75*	*18 - 109*				
Phenol-d6	*79*	*25 - 111*				
Nitrobenzene-d5	*84*	*22 - 113*				
2-Fluorobiphenyl	*77*	*30 - 114*				
2,4,6-Tribromophenol	*81*	*22 - 116*				
Terphenyl-d14	*78*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0531S1					
n-Nitrosodimethylamine	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Pyridine	**ND**	0.33	EPA 8270D	5-31-17	5-31-17	
Phenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Aniline	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroethyl)ether	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Chlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,3-Dichlorobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,4-Dichlorobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Benzyl alcohol	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
1,2-Dichlorobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Methylphenol (o-Cresol)	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroisopropyl)ether	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
(3+4)-Methylphenol (m,p-Cresol)	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
n-Nitroso-di-n-propylamine	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Hexachloroethane	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Nitrobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Isophorone	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Nitrophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,4-Dimethylphenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
bis(2-Chloroethoxy)methane	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,4-Dichlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,2,4-Trichlorobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Naphthalene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
4-Chloroaniline	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
Hexachlorobutadiene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
4-Chloro-3-methylphenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
1-Methylnaphthalene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Hexachlorocyclopentadiene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,4,6-Trichlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,3-Dichloroaniline	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,4,5-Trichlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Chloronaphthalene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2-Nitroaniline	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,4-Dinitrobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Dimethylphthalate	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,3-Dinitrobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,6-Dinitrotoluene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,2-Dinitrobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Acenaphthylene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
3-Nitroaniline	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

SEMIVOLATILES EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0531S1					
2,4-Dinitrophenol	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
Acenaphthene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
4-Nitrophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,4-Dinitrotoluene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Dibenzofuran	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,3,5,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
2,3,4,6-Tetrachlorophenol	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Diethylphthalate	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
4-Chlorophenyl-phenylether	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
4-Nitroaniline	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Fluorene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
4,6-Dinitro-2-methylphenol	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
n-Nitrosodiphenylamine	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
1,2-Diphenylhydrazine	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
4-Bromophenyl-phenylether	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Hexachlorobenzene	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Pentachlorophenol	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
Phenanthrene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Anthracene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Carbazole	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Di-n-butylphthalate	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
Fluoranthene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Benzidine	**ND**	0.33	EPA 8270D	5-31-17	5-31-17	
Pyrene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Butylbenzylphthalate	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
bis-2-Ethylhexyladipate	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
3,3'-Dichlorobenzidine	**ND**	0.17	EPA 8270D	5-31-17	5-31-17	
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
bis(2-Ethylhexyl)phthalate	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Di-n-octylphthalate	**ND**	0.033	EPA 8270D	5-31-17	5-31-17	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Indeno[1,2,3-cd]pyrene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Benzo[g,h,i]perylene	**ND**	0.0067	EPA 8270D/SIM	5-31-17	5-31-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorophenol	*76*	*18 - 109*				
Phenol-d6	*76*	*25 - 111*				
Nitrobenzene-d5	*78*	*22 - 113*				
2-Fluorobiphenyl	*78*	*30 - 114*				
2,4,6-Tribromophenol	*75*	*22 - 116*				
Terphenyl-d14	*79*	*33 - 114*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

SEMIVOLATILES EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	05-299-03										
	MS	MSD	MS	MSD		MS	MSD				
Phenol	**0.904**	**0.784**	1.33	1.33	ND	68	59	25 - 99	14	36	
2-Chlorophenol	**0.937**	**0.814**	1.33	1.33	ND	70	61	21 - 104	14	38	
1,4-Dichlorobenzene	**0.479**	**0.408**	0.667	0.667	ND	72	61	20 - 110	16	40	
n-Nitroso-di-n-propylamine	**0.436**	**0.371**	0.667	0.667	ND	65	56	24 - 100	16	38	
1,2,4-Trichlorobenzene	**0.469**	**0.401**	0.667	0.667	ND	70	60	21 - 110	16	40	
4-Chloro-3-methylphenol	**0.915**	**0.836**	1.33	1.33	ND	69	63	26 - 109	9	29	
Acenaphthene	**0.422**	**0.359**	0.667	0.667	ND	63	54	33 - 99	16	30	
4-Nitrophenol	**0.980**	**0.840**	1.33	1.33	ND	74	63	21 - 107	15	29	
2,4-Dinitrotoluene	**0.436**	**0.383**	0.667	0.667	ND	65	57	20 - 106	13	30	
Pentachlorophenol	**0.987**	**0.818**	1.33	1.33	ND	74	62	20 - 113	19	31	
Pyrene	**0.462**	**0.409**	0.667	0.667	ND	69	61	24 - 115	12	28	
Surrogate:											
2-Fluorophenol						*76*	*65*	*18 - 109*			
Phenol-d6						*78*	*67*	*25 - 111*			
Nitrobenzene-d5						*74*	*66*	*22 - 113*			
2-Fluorobiphenyl						*77*	*65*	*30 - 114*			
2,4,6-Tribromophenol						*72*	*65*	*22 - 116*			
Terphenyl-d14						*74*	*67*	*33 - 114*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP1-W**					
Laboratory ID:	05-299-02					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Fluorene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Anthracene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Pyrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*46*	*30 - 124*				
Pyrene-d10	*42*	*40 - 143*				
Terphenyl-d14	*45*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP2-W**					
Laboratory ID:	05-299-06					
Naphthalene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
2-Methylnaphthalene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
1-Methylnaphthalene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthylene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Fluorene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Phenanthrene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Anthracene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Fluoranthene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Pyrene	**ND**	0.12	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]anthracene	**ND**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Chrysene	**0.012**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[b]fluoranthene	**0.020**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo(j,k)fluoranthene	**ND**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]pyrene	**ND**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Indeno(1,2,3-c,d)pyrene	**0.014**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Dibenz[a,h]anthracene	**ND**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[g,h,i]perylene	**0.020**	0.012	EPA 8270D/SIM	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*72*	*30 - 124*				
Pyrene-d10	*80*	*40 - 143*				
Terphenyl-d14	*103*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-W**					
Laboratory ID:	05-299-09					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Fluorene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Anthracene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Pyrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*30 - 124*				
Pyrene-d10	*83*	*40 - 143*				
Terphenyl-d14	*109*	*27 - 127*				

Date of Report: June 13, 2017
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Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP4-W**					
Laboratory ID:	05-299-12					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**0.013**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**0.021**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**0.036**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**0.011**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**0.024**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**0.040**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**0.011**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**0.046**	0.010	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*49*	*30 - 124*				
Pyrene-d10	*47*	*40 - 143*				
Terphenyl-d14	*59*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-W**					
Laboratory ID:	05-299-15					
Naphthalene	**0.18**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*35*	*30 - 124*				
Pyrene-d10	*31*	*40 - 143*				Q
Terphenyl-d14	*40*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP6-W**					
Laboratory ID:	05-299-18					
Naphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**0.052**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**0.080**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**0.14**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**0.042**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**0.051**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**0.066**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**0.018**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**0.055**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*66*	*30 - 124*				
Pyrene-d10	*64*	*40 - 143*				
Terphenyl-d14	*78*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP7-W**					
Laboratory ID:	05-299-21					
Naphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**ND**	0.0097	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*63*	*30 - 124*				
Pyrene-d10	*23*	*40 - 143*				Q
Terphenyl-d14	*54*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP8-W**					
Laboratory ID:	05-299-24					
Naphthalene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.095	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**ND**	0.0095	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*75*	*30 - 124*				
Pyrene-d10	*79*	*40 - 143*				
Terphenyl-d14	*108*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP9-W**					
Laboratory ID:	05-299-27					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**0.019**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**0.0098**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**0.011**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**0.012**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*30 - 124*				
Pyrene-d10	*44*	*40 - 143*				
Terphenyl-d14	*67*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-W**					
Laboratory ID:	05-299-29					
Naphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
2-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
1-Methylnaphthalene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthylene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Acenaphthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Fluorene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Phenanthrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Anthracene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Fluoranthene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Pyrene	**ND**	0.096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Benzo[g,h,i]perylene	**ND**	0.0096	EPA 8270D/SIM	5-25-17	5-26-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*44*	*30 - 124*				
Pyrene-d10	*51*	*40 - 143*				
Terphenyl-d14	*61*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0525W1					
Naphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
2-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
1-Methylnaphthalene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthylene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Acenaphthene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Fluorene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Phenanthrene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Anthracene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Fluoranthene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Pyrene	**ND**	0.10	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Chrysene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Benzo[g,h,i]perylene	**ND**	0.010	EPA 8270D/SIM	5-25-17	5-25-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*30 - 124*				
Pyrene-d10	*87*	*40 - 143*				
Terphenyl-d14	*100*	*27 - 127*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0525W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.462**	**0.450**	0.500	0.500	92	90	29 - 101	3	47	
Acenaphthylene	**0.465**	**0.442**	0.500	0.500	93	88	20 - 117	5	50	
Acenaphthene	**0.478**	**0.469**	0.500	0.500	96	94	37 - 109	2	43	
Fluorene	**0.493**	**0.479**	0.500	0.500	99	96	47 - 108	3	34	
Phenanthrene	**0.468**	**0.435**	0.500	0.500	94	87	49 - 109	7	28	
Anthracene	**0.526**	**0.509**	0.500	0.500	105	102	34 - 140	3	32	
Fluoranthene	**0.528**	**0.513**	0.500	0.500	106	103	45 - 120	3	39	
Pyrene	**0.533**	**0.544**	0.500	0.500	107	109	42 - 133	2	39	
Benzo[a]anthracene	**0.550**	**0.523**	0.500	0.500	110	105	71 - 117	5	28	
Chrysene	**0.559**	**0.543**	0.500	0.500	112	109	53 - 110	3	25	I
Benzo[b]fluoranthene	**0.536**	**0.512**	0.500	0.500	107	102	53 - 123	5	37	
Benzo(j,k)fluoranthene	**0.550**	**0.554**	0.500	0.500	110	111	52 - 119	1	41	
Benzo[a]pyrene	**0.512**	**0.508**	0.500	0.500	102	102	37 - 129	1	33	
Indeno(1,2,3-c,d)pyrene	**0.638**	**0.608**	0.500	0.500	128	122	45 - 128	5	31	
Dibenz[a,h]anthracene	**0.513**	**0.486**	0.500	0.500	103	97	54 - 120	5	30	
Benzo[g,h,i]perylene	**0.494**	**0.486**	0.500	0.500	99	97	49 - 117	2	29	
Surrogate:										
2-Fluorobiphenyl					*85*	*81*	*30 - 124*			
Pyrene-d10					*93*	*86*	*40 - 143*			
Terphenyl-d14					*106*	*102*	*27 - 127*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-01					
Client ID:	**PP1-2**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**62**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.62	6010C	6-2-17	6-2-17	
Chromium	**20**	0.62	6010C	6-2-17	6-2-17	
Lead	**8.9**	6.2	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	
Lab ID:	05-299-03					
Client ID:	**PP1-10**					
Arsenic	**ND**	13	6010C	6-2-17	6-5-17	
Barium	**30**	3.3	6010C	6-2-17	6-5-17	
Cadmium	**ND**	0.67	6010C	6-2-17	6-5-17	
Chromium	**13**	0.67	6010C	6-2-17	6-5-17	
Lead	**ND**	6.7	6010C	6-2-17	6-5-17	
Mercury	**ND**	0.33	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-5-17	
Silver	**ND**	1.3	6010C	6-2-17	6-5-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-04					
Client ID:	**PP2-2.5**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**31**	3.3	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.66	6010C	6-2-17	6-2-17	
Chromium	**11**	0.66	6010C	6-2-17	6-2-17	
Lead	**ND**	6.6	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.33	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	
Lab ID:	05-299-05					
Client ID:	**PP2-10**					
Arsenic	**ND**	15	6010C	6-2-17	6-2-17	
Barium	**21**	3.6	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.73	6010C	6-2-17	6-2-17	
Chromium	**11**	0.73	6010C	6-2-17	6-2-17	
Lead	**ND**	7.3	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.36	7471B	5-31-17	5-31-17	
Selenium	**ND**	15	6010C	6-2-17	6-2-17	
Silver	**ND**	1.5	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-07					
Client ID:	**PP3-2.5**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**80**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.63	6010C	6-2-17	6-2-17	
Chromium	**27**	0.63	6010C	6-2-17	6-2-17	
Lead	**25**	6.3	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	
Lab ID:	05-299-08					
Client ID:	**PP3-10**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**26**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.62	6010C	6-2-17	6-2-17	
Chromium	**9.5**	0.62	6010C	6-2-17	6-2-17	
Lead	**ND**	6.2	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-10					
Client ID:	**PP4-3**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**78**	3.2	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.63	6010C	6-2-17	6-2-17	
Chromium	**29**	0.63	6010C	6-2-17	6-2-17	
Lead	**84**	6.3	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.32	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	
Lab ID:	05-299-11					
Client ID:	**PP4-10**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**38**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.62	6010C	6-2-17	6-2-17	
Chromium	**13**	0.62	6010C	6-2-17	6-2-17	
Lead	**ND**	6.2	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-13					
Client ID:	**PP5-2.5**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**47**	3.3	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.65	6010C	6-2-17	6-2-17	
Chromium	**23**	0.65	6010C	6-2-17	6-2-17	
Lead	**27**	6.5	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.33	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	
Lab ID:	05-299-14					
Client ID:	**PP5-10**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**28**	3.4	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.67	6010C	6-2-17	6-2-17	
Chromium	**13**	0.67	6010C	6-2-17	6-2-17	
Lead	**ND**	6.7	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.34	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-16					
Client ID:	**PP6-2**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**53**	2.9	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.58	6010C	6-2-17	6-2-17	
Chromium	**29**	0.58	6010C	6-2-17	6-2-17	
Lead	**9.7**	5.8	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.29	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	
Lab ID:	05-299-17					
Client ID:	**PP6-10**					
Arsenic	**ND**	15	6010C	6-2-17	6-2-17	
Barium	**34**	3.7	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.74	6010C	6-2-17	6-2-17	
Chromium	**14**	0.74	6010C	6-2-17	6-2-17	
Lead	**ND**	7.4	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.37	7471B	5-31-17	5-31-17	
Selenium	**ND**	15	6010C	6-2-17	6-2-17	
Silver	**ND**	1.5	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-19					
Client ID:	**PP7-0**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**31**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.61	6010C	6-2-17	6-2-17	
Chromium	**12**	0.61	6010C	6-2-17	6-2-17	
Lead	**ND**	6.1	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	

Lab ID:	05-299-20					
Client ID:	**PP7-10**					
Arsenic	**ND**	13	6010C	6-2-17	6-2-17	
Barium	**22**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.63	6010C	6-2-17	6-2-17	
Chromium	**11**	0.63	6010C	6-2-17	6-2-17	
Lead	**ND**	6.3	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	13	6010C	6-2-17	6-2-17	
Silver	**ND**	1.3	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-22					
Client ID:	**PP8-0.5**					
Arsenic	**ND**	11	6010C	6-2-17	6-2-17	
Barium	**22**	2.8	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.57	6010C	6-2-17	6-2-17	
Chromium	**13**	0.57	6010C	6-2-17	6-2-17	
Lead	**ND**	5.7	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.28	7471B	5-31-17	5-31-17	
Selenium	**ND**	11	6010C	6-2-17	6-2-17	
Silver	**ND**	1.1	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-23					
Client ID:	**PP8-10**					
Arsenic	**ND**	14	6010C	6-2-17	6-2-17	
Barium	**37**	3.6	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.71	6010C	6-2-17	6-2-17	
Chromium	**13**	0.71	6010C	6-2-17	6-2-17	
Lead	**ND**	7.1	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.36	7471B	5-31-17	5-31-17	
Selenium	**ND**	14	6010C	6-2-17	6-2-17	
Silver	**ND**	1.4	6010C	6-2-17	6-2-17	
Lab ID:	05-299-25					
Client ID:	**PP9-0**					
Arsenic	**ND**	10	6010C	6-2-17	6-2-17	
Barium	**62**	2.6	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.52	6010C	6-2-17	6-2-17	
Chromium	**25**	0.52	6010C	6-2-17	6-2-17	
Lead	**ND**	5.2	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.26	7471B	5-31-17	5-31-17	
Selenium	**ND**	10	6010C	6-2-17	6-2-17	
Silver	**ND**	1.0	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C/7471B

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-26					
Client ID:	**PP9-10**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**28**	3.1	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.62	6010C	6-2-17	6-2-17	
Chromium	**14**	0.62	6010C	6-2-17	6-2-17	
Lead	**ND**	6.2	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.31	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	
Lab ID:	05-299-28					
Client ID:	**PP10-0**					
Arsenic	**ND**	12	6010C	6-2-17	6-2-17	
Barium	**30**	3.0	6010C	6-2-17	6-2-17	
Cadmium	**ND**	0.61	6010C	6-2-17	6-2-17	
Chromium	**13**	0.61	6010C	6-2-17	6-2-17	
Lead	**ND**	6.1	6010C	6-2-17	6-2-17	
Mercury	**ND**	0.30	7471B	5-31-17	5-31-17	
Selenium	**ND**	12	6010C	6-2-17	6-2-17	
Silver	**ND**	1.2	6010C	6-2-17	6-2-17	

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TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 6-2-17
Date Analyzed: 6-2-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0602SM2

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Barium	6010C	**ND**	2.5
Cadmium	6010C	**ND**	0.50
Chromium	6010C	**ND**	0.50
Lead	6010C	**ND**	5.0
Selenium	6010C	**ND**	10
Silver	6010C	**ND**	1.0

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TOTAL MERCURY
EPA 7471B
METHOD BLANK QUALITY CONTROL

Date Extracted:	5-31-17
Date Analyzed:	5-31-17
Matrix:	Soil
Units:	mg/kg (ppm)
Lab ID:	MB0531S2

Analyte	Method	Result	PQL
Mercury	7471B	**ND**	0.25

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TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 6-2-17
Date Analyzed: 6-2-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-299-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Barium	**50.2**	**41.8**	18	2.5	
Cadmium	**ND**	**ND**	NA	0.50	
Chromium	**15.9**	**19.1**	18	0.50	
Lead	**7.20**	**5.45**	28	5.0	C
Selenium	**ND**	**ND**	NA	10	
Silver	**ND**	**ND**	NA	1.0	

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TOTAL MERCURY
EPA 7471B
DUPLICATE QUALITY CONTROL

Date Extracted: 5-31-17
Date Analyzed: 5-31-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-299-03

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.25	

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TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 6-2-17
Date Analyzed: 6-2-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-299-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**98.8**	99	**99.1**	99	0	
Barium	100	**151**	101	**151**	101	0	
Cadmium	50.0	**49.4**	99	**49.6**	99	0	
Chromium	100	**114**	98	**114**	98	0	
Lead	250	**248**	96	**249**	97	1	
Selenium	100	**96.6**	97	**95.2**	95	2	
Silver	25.0	**23.3**	93	**23.5**	94	1	

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TOTAL MERCURY
EPA 7471B
MS/MSD QUALITY CONTROL

Date Extracted: 5-31-17
Date Analyzed: 5-31-17

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 05-299-03

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	0.500	**0.537**	107	**0.543**	109	1	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-02					
Client ID:	**PP1-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**36**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**73**	11	200.8	5-26-17	5-26-17	
Copper	**80**	11	200.8	5-26-17	5-26-17	
Lead	**250**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**33**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**700**	56	200.8	5-26-17	6-1-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-06					
Client ID:	**PP2-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**910**	6.7	200.8	5-26-17	5-26-17	
Beryllium	**34**	22	200.8	5-26-17	5-26-17	
Cadmium	**24**	8.9	200.8	5-26-17	5-26-17	
Chromium	**2000**	110	200.8	5-26-17	6-1-17	
Copper	**4200**	110	200.8	5-26-17	6-1-17	
Lead	**2100**	22	200.8	5-26-17	6-1-17	
Mercury	**4.3**	0.50	7470A	5-25-17	5-25-17	
Nickel	**1800**	220	200.8	5-26-17	6-1-17	
Selenium	**53**	11	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**9.6**	5.6	200.8	5-26-17	6-1-17	
Zinc	**5500**	560	200.8	5-26-17	6-1-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-09					
Client ID:	**PP3-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**18**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**63**	11	200.8	5-26-17	5-26-17	
Copper	**120**	11	200.8	5-26-17	5-26-17	
Lead	**54**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**32**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**130**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-12					
Client ID:	**PP4-W**					
Antimony	**47**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**110**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**240**	11	200.8	5-26-17	5-26-17	
Copper	**460**	11	200.8	5-26-17	5-26-17	
Lead	**2800**	11	200.8	5-26-17	6-1-17	
Mercury	**1.2**	0.50	7470A	5-25-17	5-25-17	
Nickel	**190**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**1000**	280	200.8	5-26-17	6-1-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-15					
Client ID:	**PP5-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**14**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**29**	11	200.8	5-26-17	5-26-17	
Copper	**50**	11	200.8	5-26-17	5-26-17	
Lead	**32**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**ND**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**49**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-18					
Client ID:	**PP6-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**14**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**45**	11	200.8	5-26-17	5-26-17	
Copper	**54**	11	200.8	5-26-17	5-26-17	
Lead	**55**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**46**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**100**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-21					
Client ID:	**PP7-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**110**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**210**	11	200.8	5-26-17	5-26-17	
Copper	**570**	22	200.8	5-26-17	6-1-17	
Lead	**250**	1.1	200.8	5-26-17	5-26-17	
Mercury	**0.68**	0.50	7470A	5-25-17	5-25-17	
Nickel	**210**	22	200.8	5-26-17	5-26-17	
Selenium	**6.0**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**520**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-24					
Client ID:	**PP8-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**ND**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**ND**	11	200.8	5-26-17	5-26-17	
Copper	**ND**	11	200.8	5-26-17	5-26-17	
Lead	**ND**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**ND**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**71**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-27					
Client ID:	**PP9-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**30**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**49**	11	200.8	5-26-17	5-26-17	
Copper	**110**	11	200.8	5-26-17	5-26-17	
Lead	**61**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**44**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**210**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-29					
Client ID:	**PP10-W**					
Antimony	**ND**	5.6	200.8	5-26-17	5-26-17	
Arsenic	**ND**	3.3	200.8	5-26-17	5-26-17	
Beryllium	**ND**	11	200.8	5-26-17	5-26-17	
Cadmium	**ND**	4.4	200.8	5-26-17	5-26-17	
Chromium	**ND**	11	200.8	5-26-17	5-26-17	
Copper	**ND**	11	200.8	5-26-17	5-26-17	
Lead	**ND**	1.1	200.8	5-26-17	5-26-17	
Mercury	**ND**	0.50	7470A	5-25-17	5-25-17	
Nickel	**ND**	22	200.8	5-26-17	5-26-17	
Selenium	**ND**	5.6	200.8	5-26-17	5-26-17	
Silver	**ND**	11	200.8	5-26-17	5-26-17	
Thallium	**ND**	5.6	200.8	5-26-17	5-26-17	
Zinc	**78**	28	200.8	5-26-17	5-26-17	

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TOTAL METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Extracted: 5-26-17
Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0526WM1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.6
Arsenic	200.8	**ND**	3.3
Beryllium	200.8	**ND**	11
Cadmium	200.8	**ND**	4.4
Chromium	200.8	**ND**	11
Copper	200.8	**ND**	11
Lead	200.8	**ND**	1.1
Nickel	200.8	**ND**	22
Selenium	200.8	**ND**	5.6
Silver	200.8	**ND**	11
Thallium	200.8	**ND**	5.6
Zinc	200.8	**ND**	28

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TOTAL MERCURY
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Extracted:	5-25-17
Date Analyzed:	5-25-17
Matrix:	Water
Units:	ug/L (ppb)
Lab ID:	MB0525W1

Analyte	Method	Result	PQL
Mercury	7470A	**ND**	0.50

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Samples Submitted: May 24, 2017
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TOTAL METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Extracted: 5-26-17
Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-29

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.6	
Arsenic	**ND**	**ND**	NA	3.3	
Beryllium	**ND**	**ND**	NA	11	
Cadmium	**ND**	**ND**	NA	4.4	
Chromium	**ND**	**ND**	NA	11	
Copper	**ND**	**ND**	NA	11	
Lead	**ND**	**ND**	NA	1.1	
Nickel	**ND**	**ND**	NA	22	
Selenium	**ND**	**ND**	NA	5.6	
Silver	**ND**	**ND**	NA	11	
Thallium	**ND**	**ND**	NA	5.6	
Zinc	**78.3**	**76.7**	2	28	

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TOTAL MERCURY
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Extracted: 5-25-17
Date Analyzed: 5-25-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.50	

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TOTAL METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Extracted: 5-26-17
Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-29

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	222	**246**	111	**246**	111	0	
Arsenic	222	**247**	111	**247**	111	0	
Beryllium	222	**233**	105	**235**	106	1	
Cadmium	222	**240**	108	**239**	108	0	
Chromium	222	**219**	99	**224**	101	3	
Copper	222	**218**	98	**222**	100	2	
Lead	222	**242**	109	**238**	107	1	
Nickel	222	**221**	99	**225**	101	2	
Selenium	222	**271**	122	**266**	120	2	
Silver	222	**223**	100	**223**	100	0	
Thallium	222	**246**	111	**244**	110	1	
Zinc	222	**317**	108	**329**	113	4	

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TOTAL MERCURY
EPA 7470A
MS/MSD QUALITY CONTROL

Date Extracted: 5-25-17
Date Analyzed: 5-25-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	**13.0**	104	**13.0**	104	0	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-02					
Client ID:	**PP1-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**18**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	5.0	200.8		5-26-17	
Zinc	**39**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-06					
Client ID:	**PP2-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**28**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**1.2**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	5.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-09					
Client ID:	**PP3-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**3.5**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	5.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-12					
Client ID:	**PP4-W**					
Antimony	**7.1**	5.0	200.8		5-26-17	
Arsenic	**7.1**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**3.1**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	1.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-15					
Client ID:	**PP5-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**3.3**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	1.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-18					
Client ID:	**PP6-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**3.6**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	1.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-21					
Client ID:	**PP7-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**ND**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	5.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-24					
Client ID:	**PP8-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**ND**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	5.0	200.8		5-26-17	
Zinc	**62**	25	200.8		5-26-17	

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DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-27					
Client ID:	**PP9-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**ND**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	1.0	200.8		5-26-17	
Zinc	**ND**	25	200.8		5-26-17	

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Project: 15-05986-040

DISSOLVED METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	05-299-29					
Client ID:	**PP10-W**					
Antimony	**ND**	5.0	200.8		5-26-17	
Arsenic	**ND**	3.0	200.8		5-26-17	
Beryllium	**ND**	10	200.8		5-26-17	
Cadmium	**ND**	4.0	200.8		5-26-17	
Chromium	**ND**	10	200.8		5-26-17	
Copper	**ND**	10	200.8		5-26-17	
Lead	**ND**	1.0	200.8		5-26-17	
Mercury	**ND**	0.50	7470A		5-25-17	
Nickel	**ND**	20	200.8		5-26-17	
Selenium	**ND**	5.0	200.8		5-26-17	
Silver	**ND**	10	200.8		5-26-17	
Thallium	**ND**	1.0	200.8		5-26-17	
Zinc	**64**	25	200.8		5-26-17	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL

Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0524F1

Analyte	Method	Result	PQL
Antimony	200.8	**ND**	5.0
Arsenic	200.8	**ND**	3.0
Beryllium	200.8	**ND**	10
Cadmium	200.8	**ND**	4.0
Chromium	200.8	**ND**	10
Copper	200.8	**ND**	10
Lead	200.8	**ND**	1.0
Nickel	200.8	**ND**	20
Selenium	200.8	**ND**	5.0
Silver	200.8	**ND**	10
Thallium	200.8	**ND**	5.0
Zinc	200.8	**ND**	25

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED MERCURY
EPA 7470A
METHOD BLANK QUALITY CONTROL

Date Analyzed: 5-25-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0524F1

Analyte	Method	Result	PQL
Mercury	7470A	**ND**	0.50

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8
DUPLICATE QUALITY CONTROL

Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-29

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Antimony	**ND**	**ND**	NA	5.0	
Arsenic	**ND**	**ND**	NA	3.0	
Beryllium	**ND**	**ND**	NA	10	
Cadmium	**ND**	**ND**	NA	4.0	
Chromium	**ND**	**ND**	NA	10	
Copper	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	1.0	
Nickel	**ND**	**ND**	NA	20	
Selenium	**ND**	**ND**	NA	5.0	
Silver	**ND**	**ND**	NA	10	
Thallium	**ND**	**ND**	NA	5.0	
Zinc	**64.0**	**64.5**	1	25	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED MERCURY
EPA 7470A
DUPLICATE QUALITY CONTROL

Date Analyzed: 5-25-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	**ND**	**ND**	NA	0.5	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED METALS
EPA 200.8
MS/MSD QUALITY CONTROL

Date Analyzed: 5-26-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-29

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Antimony	200	**199**	99	**208**	104	5	
Arsenic	200	**201**	101	**208**	104	3	
Beryllium	200	**191**	95	**200**	100	5	
Cadmium	200	**199**	100	**205**	102	3	
Chromium	200	**183**	92	**188**	94	2	
Copper	200	**182**	91	**184**	92	1	
Lead	200	**194**	97	**200**	100	3	
Nickel	200	**184**	92	**189**	94	3	
Selenium	200	**214**	107	**224**	112	5	
Silver	200	**183**	91	**196**	98	7	
Thallium	200	**185**	93	**204**	102	10	
Zinc	200	**271**	103	**274**	105	1	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

DISSOLVED MERCURY
EPA 7470A
MS/MSD QUALITY CONTROL

Date Analyzed: 5-25-17

Matrix: Water
Units: ug/L (ppb)

Lab ID: 05-299-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	**12.6**	100	**12.4**	99	1	

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP3-2.5**					
Laboratory ID:	05-299-07					
Aroclor 1016	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*90*	*42-139*				
Client ID:	**PP4-3**					
Laboratory ID:	05-299-10					
Aroclor 1016	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.063	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**0.18**	0.063	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*88*	*42-139*				
Client ID:	**PP4-10**					
Laboratory ID:	05-299-11					
Aroclor 1016	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.062	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*91*	*42-139*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PCBs
EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP5-2.5**					
Laboratory ID:	05-299-13					
Aroclor 1016	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.065	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*42-139*				
Client ID:	**PP6-2**					
Laboratory ID:	05-299-16					
Aroclor 1016	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**0.12**	0.058	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.058	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*42-139*				
Client ID:	**PP7-0**					
Laboratory ID:	05-299-19					
Aroclor 1016	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.061	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*42-139*				

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

PCBs
EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0606S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1221	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1232	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1242	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1248	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1254	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Aroclor 1260	**ND**	0.050	EPA 8082A	6-6-17	6-6-17	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*97*	*42-139*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-020-14										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.340**	**0.307**	0.500	0.500	ND	**68**	**61**	26-127	10	22	
Surrogate:											
DCB						*73*	*70*	*42-139*			

Date of Report: June 13, 2017
Samples Submitted: May 24, 2017
Laboratory Reference: 1705-299
Project: 15-05986-040

% MOISTURE

Date Analyzed: 5-25-17

Client ID	Lab ID	% Moisture
PP1-2	05-299-01	19
PP1-10	05-299-03	25
PP2-2.5	05-299-04	24
PP2-10	05-299-05	31
PP3-2.5	05-299-07	20
PP3-10	05-299-08	19
PP4-3	05-299-10	21
PP4-10	05-299-11	19
PP5-2.5	05-299-13	24
PP5-10	05-299-14	26
PP6-2	05-299-16	14
PP6-10	05-299-17	33
PP7-0	05-299-19	18
PP7-10	05-299-20	20
PP8-0.5	05-299-22	12
PP8-10	05-299-23	30
PP9-0	05-299-25	4
PP9-10	05-299-26	19
PP10-0	05-299-28	18

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Laboratory Number: 05-299

Company: Herrera Environmental
Project Number: 15-05986-040
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter/Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☒ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total Priority Pollutant Metals	Dissolved Priority Metals			% Moisture
1	PP1-2	5/23/17	9:20	S	6			X	X	X			X						X								X
2	PP1-W	5/23/17	10:00	W	11			X	X	X				X									X	X			
3	PP1-10	5/23/17	9:45	S	6			X	X	X			X						X								X
4	PP2-2.5	5/23/17	10:35	S	6			X	X	X			X						X								X
5	PP2-10	5/23/17	10:50	S	6			X	X	X			X						X								X
6	PP2-W	5/23/17	11:00	W	9			X	X	X				X									X	X			~~X~~ BK
7	PP3-2.5	5/24/17	10:05	S	6			X	X	X			X		(X)				X								X
8	PP3-10	5/24/17	10:15	S	6			X	X	X			X						X								X
9	PP3-W	5/24/17	10:00	W	11			X	X	X			~~X~~ BK	X					~~X~~ BK				X	X			
10	PP4-3	5/24/17	8:30	S	6			X	X	X			X		(X)				X								X

	Signature	Company	Date	Time
Relinquished	Bruce A. Carpenter	Herrera	5/24/17	17:15
Received	[signature]	OSE	5/24/17	1715
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Perform PCBs analyses if oil-range petroleum hydrocarbons detected in soil sample.
(X) Added 6/2/17. DB (STA)

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

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Chain of Custody

Company: Herrera Environmental
Project Number: 15-05986-040
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter / Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-299

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ☒ Acid / SG Clean-up	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total P.P. Metals	Dissolved P.P. Metals			% Moisture
11	PP4-1B	5/24/17	8:40	S	6			X	X	X			X		X				X								X
12	PP4-W	5/24/17	9:00	W	11			X	X	X				X									X	X			
13	PP5-2.5	5/23/17	15:40	S	6			X	X	X			X		X				X								X
14	PP5-10	5/23/17	15:50	S	6			X	X	X			X						X								X
15	PP5-W	5/23/17	16:00	W	11			X	X	X				X									X	X			
16	PP6-2	5/23/17	14:35	S	6			X	X	X			X		X				X								X
17	PP6-10	5/23/17	14:45	S	6			X	X	X			X						X								X
18	PP6-W	5/23/17	15:00	W	11			X	X	X				X									X	X			
19	PP7-0	5/24/17	14:30	S	6			X	X	X			X		X				X								X
20	PP7-10	5/24/17	14:40	S	6			X	X	X			X						X								X

	Signature	Company	Date	Time
Relinquished	Bruce A Carpenter	Herrera	5/24/17	17:15
Received	[illegible]	OSE	5/24/17	1715
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Perform PCBs analyses if oil range petroleum hydrocarbons detected in soil samples.

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

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Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera Environmental
Project Number: 15-05986-040
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter / Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 05-299

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx ☒ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Total Priority Pollutant Metals	Dissolved PP Metals			% Moisture
21	PP7-W	5/24/17	14:50	W	11			X	X	X			X	X									X	X			
22	PP8-0.5	5/24/17	13:20	S	6			X	X	X			X						X								X
23	PP8-10	5/24/17	13:30	S	6			X	X	X			X						X								X
24	PP8-W	5/24/17	13:10	W	11			X	X	X			X	X									X	X			
25	PP9-0	5/24/17	11:50	S	6			X	X	X			X						X								X
26	PP9-10	5/24/17	12:00	S	6			X	X	X			X						X								X
27	PP9-W	5/24/17	12:10	W	11			X	X	X				X									X	X			
28	PP10-0	5/24/17	15:10	S	6			X	X	X			X						X								X
29	PP10-W	5/24/17	13:45	W	11			X	X	X				X									X	X			
30	Trip Blank	-	-	W	5					X																	

	Signature	Company	Date	Time
Relinquished	Bruce A. Carpenter	Herrera	5/24/17	17:15
Received	[illegible]	OSE	5/24/17	1715
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Perform PCBs analyses if oil-range petroleum hydrocarbons detected in soil samples

Data Package: Standard ☒ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☒

APPENDIX E

Data Quality Assurance Review

Herrera Environmental Consultants, Inc.

Memorandum

To	Project File 15-05986-040
From	Gina Catarra, Herrera Environmental Consultants
Date	July 18, 2017
Subject	Data Quality Assurance Review of the Pacific Park/Dumpsite Data

This memorandum presents a review of data quality for 19 soil samples (including one field duplicate), 17 groundwater samples (including one field duplicate), one filter blank sample, and two trip blank samples collected for the Pacific Park/Dumpsite property between May 12 and 24, 2017. OnSite Environmental, Inc., of Redmond, Washington analyzed the samples for:

- Gasoline-range petroleum hydrocarbons (TPH-G) by Ecology's NWPTH-Gx method
- Diesel- and lube oil-range petroleum hydrocarbons by Ecology's NWTPH-Dx method
- Volatile organic compounds (VOCs) by EPA Method 8260C
- Semivolatile organic compounds (SVOCs) by EPA Method 8270D/SIM (only soil samples)
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D/SIM (only groundwater samples)
- Polychlorinated biphenyls (PCBs) by EPA Method 8082A
- Total Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA 6010C/7471B (soil samples)
- Total and dissolved Priority Pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) by EPA Method 200.8/7470A.

Results for the following samples were validated.

Sample ID	Lab SDG	Date Collected	Matrix	Analyses
MW1	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MW2	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MW3	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MW4	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MW5	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MW6	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
MWDUP[a]	1705-184	5/12/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
Filter Blank[b]	1705-184	5/12/2017	Water	Metals
Trip Blank[c]	1705-184	5/12/2017	Water	TPH-G, VOCs
PP1-2	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP1-W	17-05-299	5/23/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP1-10	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP2-2.5	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP2-10	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP2-W	17-05-299	5/23/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP3-2.5	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP3-10	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP3-W	17-05-299	5/23/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP4-3	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP4-10	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP4-W	17-05-299	5/24/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP5-2.5	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP5-10	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP5-W	17-05-299	5/23/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP6-2	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP6-10	17-05-299	5/23/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP6-W	17-05-299	5/23/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP7-0	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, PCBs, total metals
PP7-10	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP7-W	17-05-299	5/24/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP8-0.5	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP8-10	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP8-W	17-05-299	5/24/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP9-0	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP9-10	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP9-W	17-05-299	5/24/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
PP10-0[d]	17-05-299	5/24/2017	Soil	TPH-G, TPH-D, VOCs, SVOCs, total metals
PP10-W[e]	17-05-299	5/24/2017	Groundwater	TPH-G, TPH-D, VOCs, PAHs, total/dissolved metals
Trip Blank[c]	17-05-299	5/24/2017	Water	TPG-G, VOCs

[a] Field duplicate of MW2
[b] Field filter blank
[c] Trip blank
[d] Field duplicate of PP7-10
[e] Field duplicate of PP7-W

The data were reviewed using guidance and quality control criteria documented in the *Pacific Park/Dumpsite Environmental and Economic Assessment Sampling and Analysis Plan* (SAP) (Herrera 2017), and in accordance with quality control (QC) criteria established by the laboratory and in the specified methods.

Quality control data summaries submitted by the laboratories were reviewed; raw data were not submitted by the laboratories. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by definitions of data qualifiers.

Custody, Preservation, Holding Times, and Completeness—Acceptable

The samples were properly preserved and sample custody was maintained from sample collection to receipt at the laboratories. All samples were analyzed within the required method holding time. The laboratory report was complete and contained results for all samples and tests requested on the chain-of-custody (COC) forms.

Laboratory Reporting Limits—Acceptable

The laboratory reporting limits met those specified in the SAP.

Method Blank Analysis—Acceptable

Method blanks were analyzed at the required frequency for all analyses. Method blanks did not contain levels of target analytes above the laboratory reporting limits.

Trip Blank Analysis—Acceptable

Trip blanks were analyzed for gasoline and VOCs at the required frequency. Trip blanks did not contain levels of target analytes above the laboratory reporting limits.

Filter Blank Analysis—Acceptable

A filter blank was analyzed with the dissolved metals as required by the SAP. The filter blank did not contain levels of target analytes above the laboratory reporting limits

Laboratory Control Sample Analysis—Acceptable with Discussion

Blank spike (BS) or blank spike/blank spike duplicate (BS/BSD) samples were analyzed with project samples for VOCs and PAHs at the required frequency. With the exception noted below, the percent recovery values met the control limits established by the SAP.

The BS percent recovery for chrysene (112 percent) exceeded the upper control limit of 110 percent. Chrysene was detected above the reporting limits in three associated samples (PP2-W, PP4-W, and PP6-W). However, no data were qualified because the exceedance was marginal (2 percent) and the percent recovery in the BSD (109 percent) was within control limits.

Surrogate Analysis—Acceptable

Surrogate compounds were added to all samples as required by the specified methods. The percent recovery values for all surrogate compounds met the criteria established by the laboratory or specified method.

Matrix Spike Analysis—Acceptable

Matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed with groundwater samples for VOCs (batch samples) and total/dissolved metals (sample MW1), and soil samples for SVOCs (sample PP1-10) and metals (sample PP1-0). All percent recovery values met those established in the SAP.

Laboratory Duplicate Analysis—Acceptable

Project-sample laboratory duplicates were analyzed for with groundwater samples for TPH-G, TPH-D, and total/dissolved metals, and with soil samples for TPH-G, TPH-D, and metals. The relative percent difference (RPD) was calculated for each analyte where both duplicate values were greater than five times the reporting limit (RL). The RPD values met the control limits established in the SAP.

Field Duplicate Analysis—Acceptable

Field duplicates were analyzed for groundwater samples MW2 and PP7-W, and soil sample PP7-10. The RPD was calculated for each analyte where both the original sample and duplicate values were greater than five times the reporting limit (RL). The RPD values met the control limits established in the SAP.

Definition of Data Qualifiers

The following data qualifier definitions are taken from *USEPA National Functional Guidelines for Inorganic Superfund Data Review* (USEPA 2014).

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ The material was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. (Note: analyte may or may not be present.)

References

Herrera. 2017. Pacific Park/Dumpsite Environmental and Economic Assessment, Pacific, Washington, Sampling and Analysis Plan. Prepared by Herrera Environmental Consultants for River and Floodplain Management Section, King County Water and Land Resources Division. April.

USEPA. 2014. National functional guidelines for inorganic superfund data review. US Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, D.C. (EPA-540-R-013-001).

APPENDIX F

Geophysical Investigation Report, Pacific Right Bank Project

King County

GEOPHYSICAL INVESTIGATION REPORT

PACIFIC RIGHT BANK PROJECT
PACIFIC, WASHINGTON
Contract E00495E17

FOR

HERRERA ENVIRONMENTAL CONSULTANTS, INC.
SEATTLE, WASHINGTON

SEPTEMBER, 2018

PHILIP H. DUOOS
GEOPHYSICAL CONSULTANT

Philip H. Duoos **Geophysical Consultant**

September 5, 2018 Our Ref.: 1261-18

Mr. George Iftner
Herrera Environmental Consulting, Inc.
2200 Sixth Ave., Suite 1100
Seattle, WA 98121

Report: Geophysical Investigation
Pacific Right Bank Project
Pacific, Washington
Contract E00495E17

Dear Mr. Iftner:

This report describes the methodology and results of the geophysical investigation that I performed at the site as a subcontractor to Herrera in support of your Contract E00495E17 for the King County Department of Natural Resources and Parks, Water and Land Resources Division. The contract is to prepare an Environmental Impact Statement (EIS) and provide design services for the Pacific Right Bank project. The ultimate goal at the site is to design and construct a permanent flood facility, which requires a knowledge of the environmental and geotechnical conditions at the site.

The purpose of the geophysical investigation was to preliminarily characterize the lateral and vertical extent of buried waste to aid in targeting geotechnical and environmental explorations. The geophysical results also provide additional information between the numerous intrusive explorations (monitoring wells, push probes, etc.) and will help to refine waste volume estimates.

INTRODUCTION

The Pacific Right Bank project is located on the right (west) bank of the White River in the City of Pacific between the A Street and BNSF bridges (RM 6.3) and the King-Pierce county boundary line (RM 5.5). Downstream of the BNSF bridge abutment to about RM 5.9, the existing right bank consists of a levee and concrete revetment constructed in 1919. Filling of the former channel landward of the levee with municipal waste and dredge spoils occurred from the early-1920s through the late-1960s, when the area was developed into a park. (As stated in the Contract Request for Proposal).

Based on the history of the site, it was determined that the use of geophysical methods may be helpful in determining the lateral and vertical extent of buried waste at the site. The presence of municipal waste typically contains ferrous and non-ferrous metal debris. Dredge spoils often contain a greater amount of finer-grained materials (such as silt) which can increase the electrical conductivity of the subsurface. Several types of contamination such as total metals, salts and nitrates will also increase the electrical conductivity.

The Phase II Environmental Site Assessment, Pacific Right Bank Levee Setback Project, prepared for King County by Shannon & Wilson, Inc., May 2016 was reviewed prior to the geophysical field work. The report identified areas with debris that includes concrete and brick, burnt wood, metal debris, wire, porcelain, glass and plastic. Most of the debris was observed at depths less than about 20 feet. The presence of elevated levels of metals (such as lead, chromium and cadmium) and other contaminants were also detected.

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The geophysical survey was performed during the period of January 30 – 31, 2018. Draft results were provided to Herrera on February 20 prior to your additional explorations at the site using push probes. The area of investigation was the open area of the park, and did not extend into the wooded area to the south. The site is relatively flat and contained large areas of ponded water during the survey. Several buildings, playground structures, metal benches, reinforced concrete slabs and other metal features are concentrated in the northern portion of the area. A baseball field near the west side of the park is bordered by a metal fence and bleachers to the west.

METHODOLOGY

Electromagnetic (EM) and magnetic geophysical methods were used to primarily determine the general lateral extent of buried debris. An Electromagnetic (EM) system was used to measure the electrical properties of the subsurface to an effective depth of about 18 feet. The electrical conductivity of the subsurface can be affected by various properties such as soil type, moisture content, and the presence of certain contaminants such as total metals, nitrates, etc. The data is also affected by the presence of buried ferrous metal and non-ferrous metal objects.

A magnetometer was also use to search for buried ferrous metal – the magnetometer is more sensitive to smaller amounts of ferrous material than the EM system. A brief description of the methods are provided in **Appendix A**.

My proposal recommended that electrical resistivity imaging (ERI) be used along one long line across the site to help determine the vertical extent of buried debris. However, upon obtaining more information regarding the site conditions, the ERI method as proposed would not have been able to provide the required resolution of the shallow subsurface conditions (less than 20 feet), and therefore was not used.

Reference Baselines

The geophysical surveys were referenced to numerous baselines that were marked using 300-foot tape measures, wood stakes and wire pin flags. The initial reference line runs along the levee and is labelled 100W and runs grid south to grid north (henceforth called south and north). True north is approximately 37 degrees west of grid north. Line 100W was marked with wood stakes placed at 100-foot intervals. Reference baselines were then established heading to the west, and spaced approximately 300 feet apart, and marked with wire pin flags at 50-foot intervals.

Additional north-south baselines were established along the west side of the site. A primary reference baseline was located along Line 650W between the Hesco barrier wall and the baseball field. Numerous shorter baselines oriented north-south were established in the northern portion of the site due to the angle of the property boundary.

Numerous reference baseline locations and visible reference features were located using a sub-meter GPS system for fairly accurate plotting of the baselines on the air photo used for Figure 5. Field measurements were also made to buildings and other features.

Electromagnetic Survey

The electromagnetic survey was performed using a DualEM Conductivity meter. Data were digitally recorded at one-second intervals while walking each line, with data recorded at about 3 to 4 foot intervals along each line. Transect lines were oriented east-west and typically spaced 100 feet apart as per the original scope of work. However, in the southern portion of the site a closer

line spacing of 50 feet was used as time allowed, and to provide more detail in an area with large changes in the EM conductivity data observed in the field. One short line was oriented north-south along Line 650W.

Magnetometer Survey

Magnetometer data were recorded with an EG&G Geometrics G-858 Cesium Magnetometer primarily along lines oriented east-west and spaced 100 feet apart as per the scope of work. While additional EM data were being recorded in the southern portion of the site, a second operator gathered additional magnetic data in the northern portion of the site at 50-foot line spacing. One long magnetic line was run north-south along Line 200W. The magnetic data was recorded at a faster data-collection rate resulting in data sampling at about 1 to 2 foot intervals along each line.

Both total field and vertical gradient magnetic data were obtained. The total magnetic field is affected by large amounts of ferrous material to a greater depth. The vertical gradient data is more sensitive to shallow buried ferrous material.

INTERPRETATION RESULTS

The interpretation considered all of the geophysical data. The data were also affected by the various structures and the wire mesh in the HESCO barrier wall around the western perimeter of the site. The locations of these various sources of interference were noted in our field notes and taken into consideration during the data analysis. The locations of major cultural interferences are shown on the data contour maps.

Electromagnetic Data

Both EM conductivity data (measured in milli-Siemens/meter – mS/m) and the inphase component of the primary field (measured in parts/thousand – ppt) were recorded. **Figure 1** is a contour map of the conductivity data which responds both to buried metal and changes in the electrical properties of the soil to a depth of about 18 feet. The southwestern portion of the site has elevated subsurface conductivities over fairly broad areas. These elevated values may indicate increased amounts, and/or shallower depths of conductive materials such as scattered amounts of small metal debris, possible conductive soil contamination such as elevated levels of total metals contamination, salts, nitrates, etc., an increase in finer-grained materials such as clay and silt. The smooth nature of the contours would indicate that the high conductivities are not caused by large buried metal objects.

The negative EM conductivity values near coordinate 350W, 700E is classified as a high metal anomaly. These values are typical of larger amounts of buried metal, and may indicate a denser mass of smaller objects or a cluster of larger metal objects (both ferrous and non-ferrous).

Several other locations along the eastern portion of the site also have conductivity values that are slightly negative. One area near 160W, 1300N is classified as a moderate metal anomalous zone, and indicates a buried metal objects with less mass than in the high metal anomalous zone. Negative values were also recorded along the western edge of the existing dike, and may indicate a linear metal feature such as a buried wire fence or a small-diameter pipe.

Figure 2 is a contour map of the EM inphase data which responds primarily to large concentrations of buried metal to a depth of about 18 feet. However, in areas with highly conductive soils the inphase values can also be affected. Elevated inphase values (above 4 ppt) are associated with the two southern areas with increased conductivity. The very low inphase values near 350W, 700N indicate large amounts of buried metal. Smaller and more scattered inphase anomalies are

observed over much of the eastern portion of the site and are interpreted to indicate scattered buried metal debris.

Magnetic Data

Both total field and vertical gradient magnetic data were obtained. **Figure 3** is a contour map of the total magnetic field data which is affected by ferrous material, and is more effective at detecting large amounts at a greater depth. Typical total field anomalies are indicated by high values to the south of the ferrous mass and low values to the north.

The interpreted buried metal near 350W, 700N shows such a response. A large magnitude total field anomaly is also located near 520W, 600N but is limited in areal extent. A smaller anomaly is located near 160W, 700N. The linear feature along the west side of the dike (near Line 100W) is very pronounced in the total field data.

The magnetic data were affected by the structures and playground equipment in a similar manner as the EM data. The magnetic data was also affected by the baseball backstop and nearby metal bleachers to a greater extent than the EM data.

Figure 4 is a contour map of the vertical gradient data which is more sensitive to smaller amounts of ferrous material and at shallower depths. The high values in the central portion of the site near 350W, 700N are very prominent and correlate well with the very low EM data values. The anomaly near 520W, 600N near the baseball field fence is also apparent. The vertical gradient data does not show a large anomaly near 160W, 700N where the total field data does. This may indicate that the object is deeper than some of the other features. The total field data is also more affected by permanent and/or remnant magnetization of some metal objects such as pipes.

The linear feature along the west side of the dike is also apparent. The scattered anomalies in the vertical gradient magnetic data are similar in distribution as the EM inphase anomalies. The vertical gradient data is much more sensitive to small amounts of buried ferrous material than the EM inphase data.

Combined Electromagnetic and Magnetic Interpretation

Figure 5 shows the interpretation results of the geophysical data. Areas interpreted to have buried debris with metal are categorized into three types of anomalous zones based on both the EM and magnetic data. The rankings (High, Moderate and Low Anomalous Zones) are based on the magnitude and character of the EM and magnetic data. The High anomalous zones are interpreted to have large amounts of buried metal. The Moderate zones are interpreted to have a lesser concentration of metal objects, or they may not extend as deep (so less amount of buried metal). The Low Anomalous zones are interpreted to contain low amounts of metal. Areas outside the anomalous zones may contain minor amounts of scattered buried metal that was not interpreted from the data.

The magnitude of an anomaly can also be affected by the depth of burial of the feature. However, the depth is difficult to determine at sites such as this with general waste and numerous sources of anomalies.

The two questionable high metal anomalies indicate a strong total field magnetic anomaly (see Figure 3), but there is no corresponding EM response (Figures 1 and 2). One is located near 170W, 700N, the other near 520W, 600N. These types of anomalies may occur over a vertical pipe (such as an old steel well casing, or a vertical metal post). It may also indicate a deeper depth of burial. The EM tool has an effective depth of 18 feet, and the magnetometer can detect large amounts of metal at greater depths.

The linear feature that is near the western edge of the levee, and runs along about Line 100W is observed on both the EM and magnetic data. It may be an old metal or wire fence now buried, a small diameter buried pipe, or perhaps some metal structure used in the construction of the levee.

Selected EM conductivity contour lines are also shown on Figure 5 and indicate areas with higher electrical conductivity. The elevated values may be caused by scattered metal debris as the magnetic data is also elevated in the general areas where the EM values are greater. The EM contours may also show fill material with higher electrical conductivity due to finer-grained materials such as silt, or various types of possible contamination including metals, salts and nitrates. The increase in conductivity values may be related to the concentration of the higher conductivity material and/or a greater thickness of the material.

These results were interpreted based on the geophysical data. Upon completion of the numerous push probes advanced at the site after the geophysical survey, the exploration logs were reviewed. Additionally, the earlier results from previous test pits, wells and geoprobe investigations were also reviewed in greater detail.

The various logs of the intrusive investigations were summarized into seven categories based on subsurface conditions that may affect the EM conductivity and/or magnetic data. The locations of the explorations (test pits, probes, etc.) are shown on Figure 5. I have added the following colored symbols indicating the general categories based on my notes of the logs as follows:

Large Red Hexagon:	Buried metal debris observed
Brown Circle:	Elevated Shallow Metals Contamination (S&W, 2016 results only)
Dark Green Circle:	Debris and silty fill material
Light Green Circle:	Debris with little silt fill material
Yellow Circle:	Silt fill material with no debris
Light Blue Circle:	Fill material with little silt
Dark Blue Circle:	Little fill material

Explorations with observed debris also have the depth range of the debris noted. Some explorations detected traces of small pieces of glass at depths that I did not include in my notes as indicating primary layers of debris for the purposes of correlating to the geophysical data.

The results of the test pits are probably more reliable for categorizing the fill material for debris and the type of debris. Several probes that did not encounter metal debris were located in areas interpreted to contain buried metal based on very strong anomalies in the geophysical data. However, a small diameter probe could easily miss a discrete buried metal object. At most waste sites there is always some percentage of metal debris mixed in with the non-metal waste.

The explorations generally agree with the geophysical interpretation. Most of the explorations with observed debris are within anomalous zones. Several explorations outside the anomalous zones detected debris including buried metal. However, other nearby explorations indicated no debris, so the detected debris is not interpreted to be wide spread.

Areas with higher EM conductivity values (shown by the data contours) were interpreted to be related to areas with thicker and/or deeper zones of debris, or increased amounts of metal. The summarized exploration results do not seem to relate to either of these initial possible interpretations. The increased conductivities also do not seem to be related to higher silt content. Water content can increase the conductivity, but most of the site was water-saturated at the time of the survey. Additionally, the higher conductivity values (20 mS/m) near 400W, 600N are in a low area with standing water, while the higher values (20 mS/m) near 300W, 400N are in an area with higher ground elevations. This would seem to indicate that the depth to water (and percentage of the material that is saturated) is not a significant factor.

Review of the existing lab results from earlier explorations seems to indicate a possible correlation of the total metals contamination of the shallow soils to the geophysical results. At the time of this report, the results from the Shannon and Wilson Phase II Environmental Site Assessment (May, 2016) and results for push probes PP-1 through PP-10 from June, 2017 (Herrera) were available. The Shannon and Wilson report indicated numerous locations with total metals contamination at shallow soil depths (generally between 0 and 5 feet deep) that exceed the Washington state Model Toxics Control Act (MTCA) levels. These locations are shown on Figure 5 with a brown circle. The majority of these locations are within an anomalous zone indicating metal debris or an area with elevated EM conductivity. The Herrera push probes PP-1 through PP-10 did not indicate high levels of total metals contamination of the soil. The lab results from the most recent round of push probe explorations was not available.

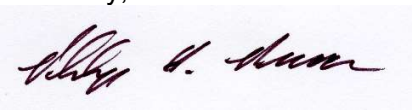
The higher conductivity zones may also be related to other factors not observed in the boring logs such as the mineralogy of the sediments. Iron-rich sediments from mafic materials may cause elevated conductivity values.

CONCLUSIONS

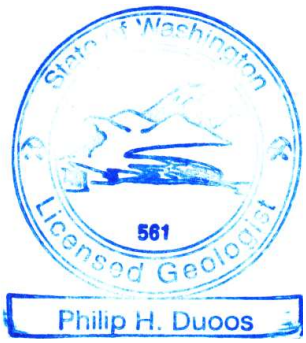
The use of these geophysical techniques provided a rapid and non-intrusive means of investigating the area of interest for large zones of buried debris containing metal and possible soil contamination to provide a broad overview of the site conditions. However, because of the numerous variables involved in geophysical investigations, there is a possibility that some features may not have been detected.

Please contact me if you have any questions or comments regarding this information, or if you require further assistance. I appreciated the opportunity to work with you on this project and look forward to providing you with geophysical services in the future.

Sincerely,



Philip H. Duoos
Geophysical Consultant



Attachments:

- Description of Methods
- Figure 1: EM Conductivity Data Contour Map
- Figure 2: EM Inphase Data Contour Map
- Figure 3: Total Magnetic Field Contour Map
- Figure 4: Vertical Gradient Magnetic Field Contour Map
- Figure 5: Geophysical Results Map

ATTACHMENT A

DESCRIPTION OF METHODS

ELECTROMAGNETICS (DualEM)

The DualEM instrument measures subsurface conductance using the principles of electromagnetic induction to depths of about 18 feet, and can detect large amounts of metal at greater depths. The DualEM is portable, rapid and non-destructive. It has a fixed boom containing the transmitter and receiver coils so that handling and data gathering is easily achieved by one operator.

Factors which may increase subsurface conductivities (measured in milli-Siemens/meter – mS/m) include higher moisture content, greater amounts of finer materials, increased clay and/or silt content, soil contamination and/or ground water contamination. The presence of buried metal can also affect the conductivity data. The detectability of metal objects (buried pipes, drums, etc.) can be enhanced by measuring the change in the magnitude of the primary field (in-phase component, measured in parts/thousand – ppt) of the induced magnetic field.

Several factors can limit the effectiveness of the EM method including the proximity of cultural interferences (such as buildings, fences and reinforced concrete) the presence of highly conductive materials (such as clays and water), and the size, depth and conductivity contrast of the target.

EG&G 858 CESIUM MAGNETOMETER/GRADIOMETER

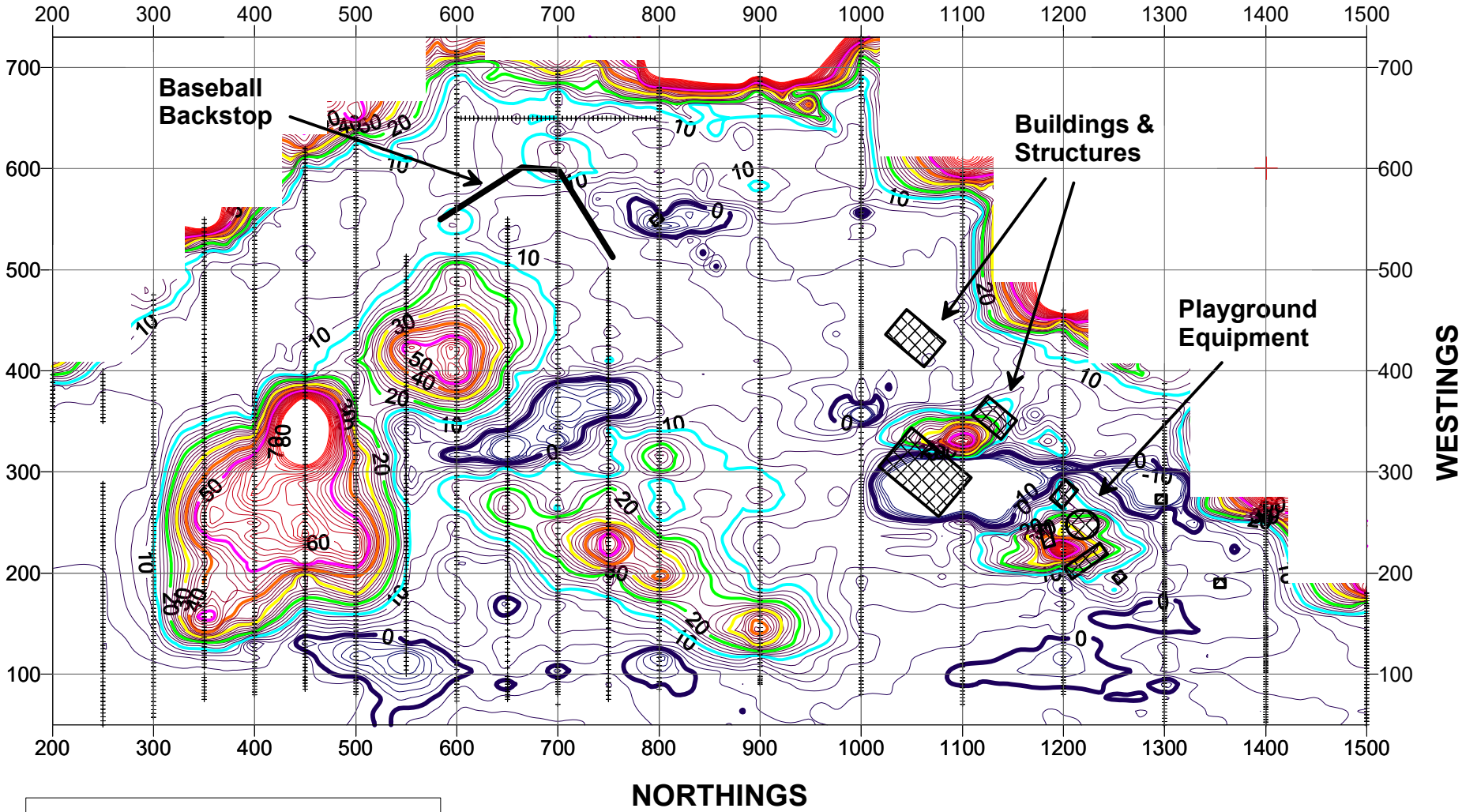
The EG&G 858 magnetometer/gradiometer is a rapid, effective and non-destructive instrument used to locate buried ferrous material (drums, pipes, mineral deposits, archaeological objects, etc.). The gradiometer consists of two sensors (one at a height of six feet, the other at a height of three feet) and a digital recording unit carried in a harness by one operator. Data are recorded and later downloaded to a computer.

Two types of measurements are recorded during a gradiometer survey: the total field and vertical gradient. The total field measurement (measured in nanoTeslas – nT) recorded using the top sensor as it is farther from the ground and less susceptible to small amounts of scattered ferrous material). The total field measurement can detect large ferrous metal objects to a great depth. The total field data is also affected by regional geology and naturally occurring changes in the earth's magnetic field during the day.

The vertical gradient data is the difference in the earth's magnetic field measured between the two magnetometer sensors. The vertical gradient data (nT/meter) are more affected by near-surface sources and provides better resolution of shallow buried objects. The gradient data is less affected by cultural interferences such as fences and vehicles, and is also not affected by the naturally occurring changes in the earth's total field throughout the day.

The magnetic data may also detect disturbances in the native soils due to trenching and grading activities. These activities disturb the original remnant magnetic orientation of the soil particles when they were deposited. Natural changes in the soils due to different materials (zones of gravels or cobbles) or natural erosion may also be the source of these minor disturbances in the gradient data.

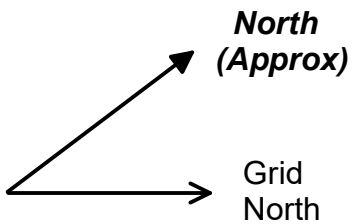
Several factors can limit the effectiveness of the magnetometry method including the proximity of cultural interferences (such as buildings, fences and reinforced concrete), and the size, depth and magnetic susceptibility of the target.



Electromagnetic Conductivity Data

-10 to 80 mS/m at 2 mS/m intervals

0:	dark blue
10:	light blue
20:	green
30:	yellow
40:	orange
50:	magenta



1 inch = 150 feet

Electromagnetic Conductivity Data

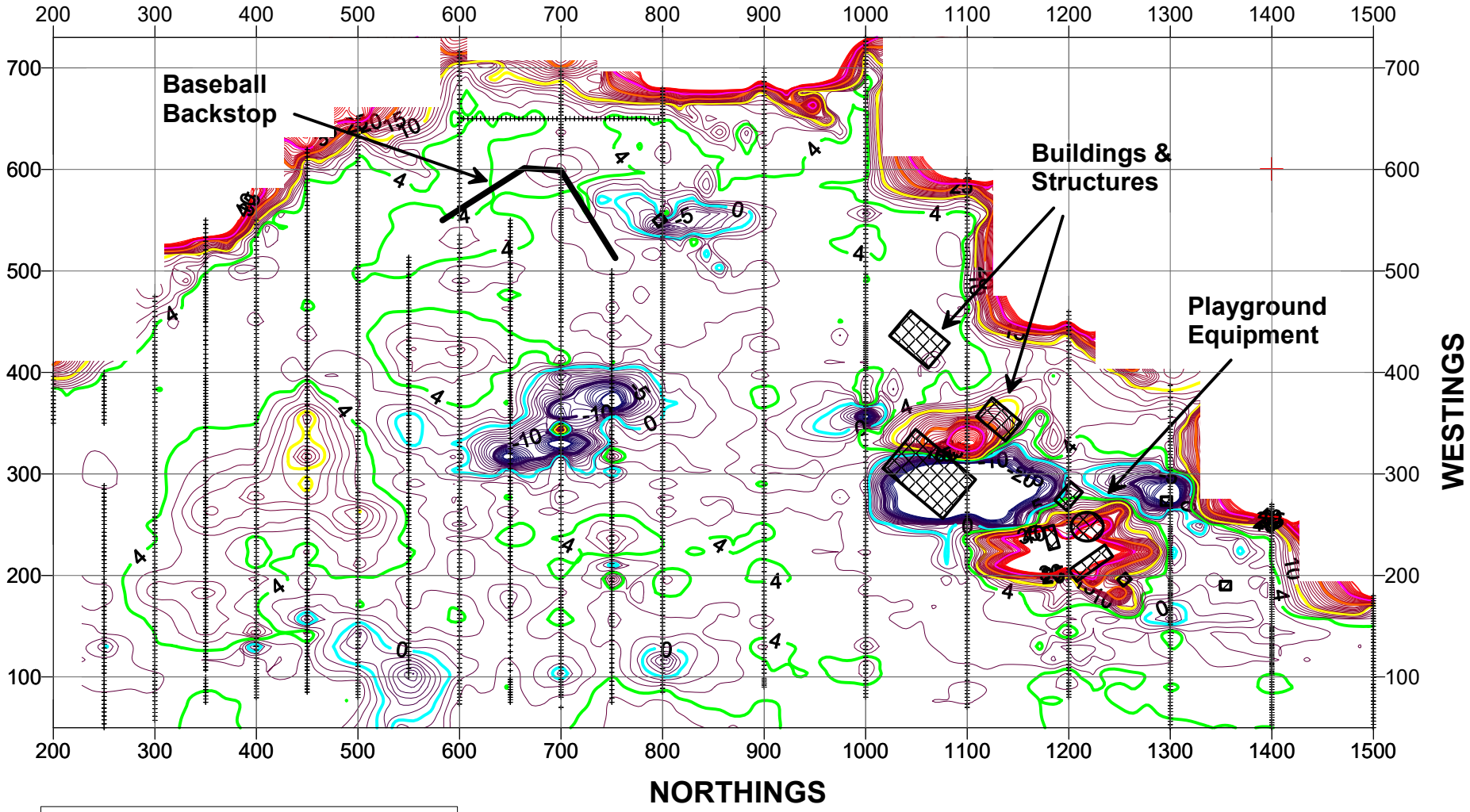
Pacific Right Bank Project
Pacific, Washington

Contract E00495E17

9/5/2018

FIG. 1

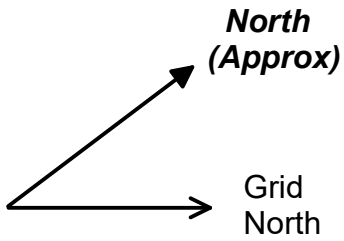
Philip H. Duoos, Geophysical Consultant for Herrera, Inc.
Duoos Project No. 1261-18



Electromagnetic Inphase Data

-20 to 40 ppt at 1 ppt intervals

-10:	dark blue
0:	light blue
4:	green
10:	yellow
20:	orange
30:	magenta



1 inch = 150 feet

Electromagnetic Inphase Data

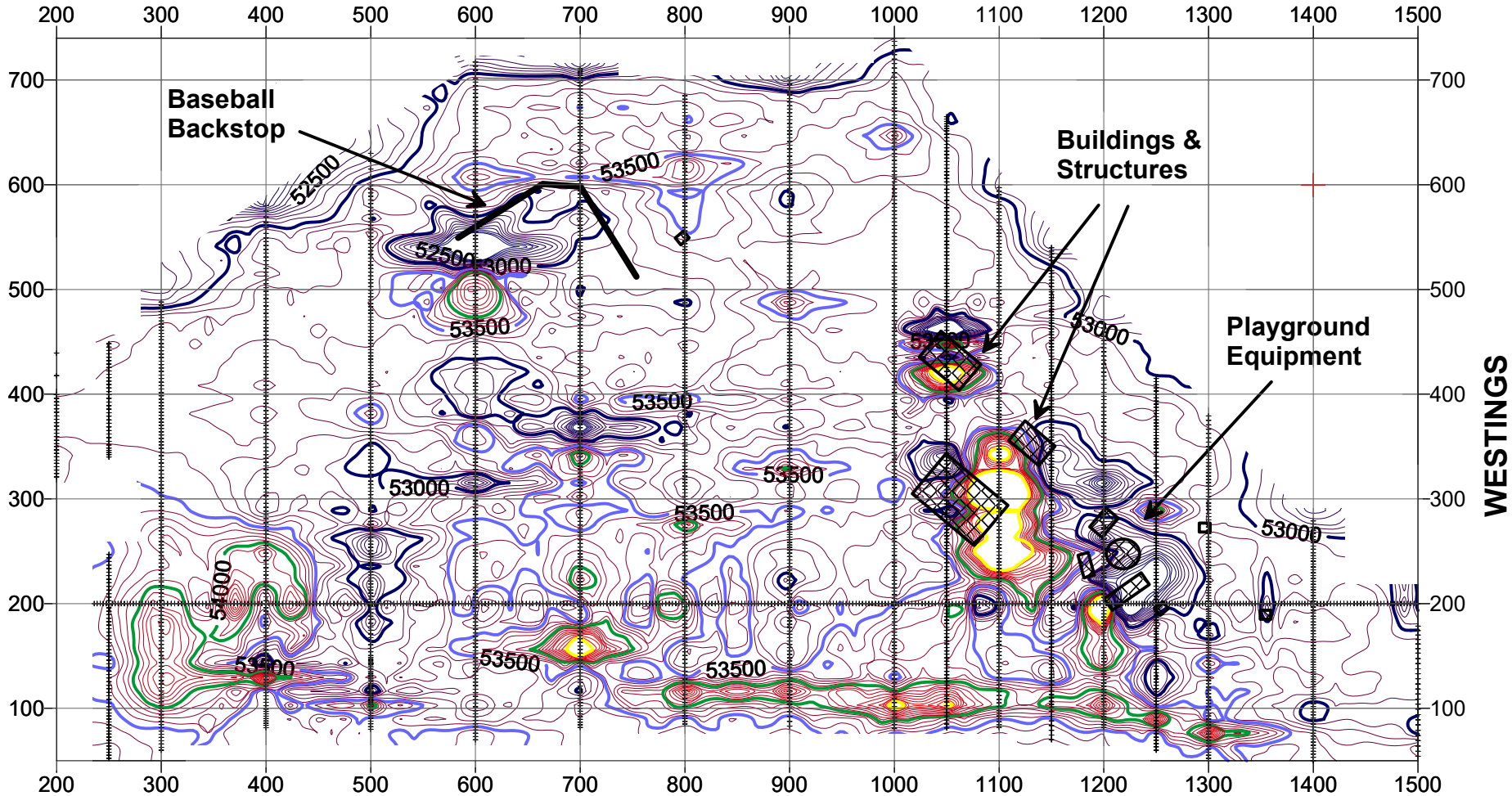
Pacific Right Bank Project
Pacific, Washington

Contract E00495E17

9/5/2018

FIG. 2

Philip H. Duoos, Geophysical Consultant for Herrera, Inc.
Duoos Project No. 1261-18



Total Magnetic Field Data

52,000 to 56,000 nT at 100 nT intervals

53,000: dark blue
53,500: light blue
54,000: green
55,000: yellow

North (Approx)

Grid North

1 inch = 150 feet

Total Magnetic Field Data

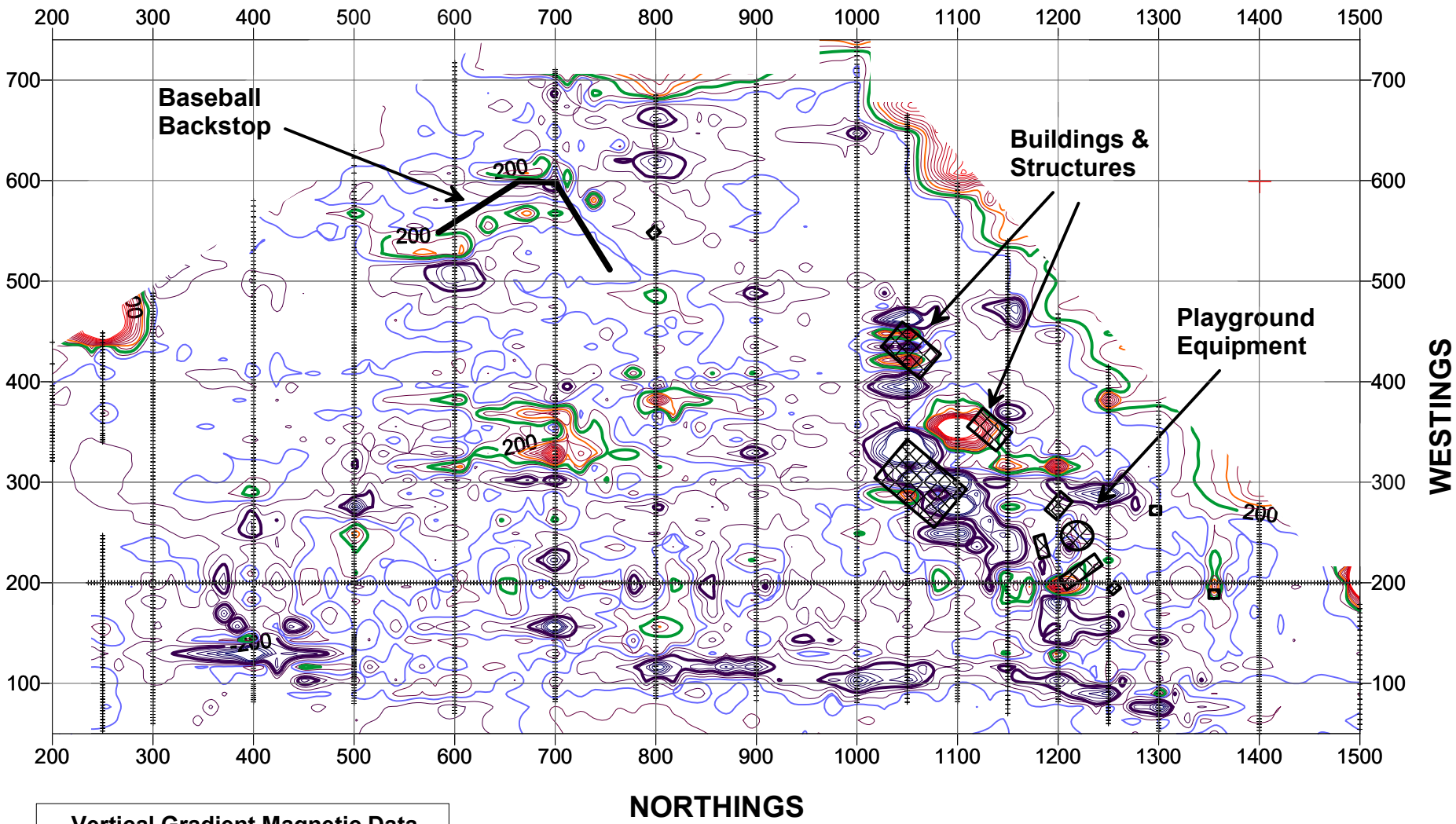
Pacific Right Bank Project
Pacific, Washington

Contract E00495E17

9/5/2018

FIG. 3

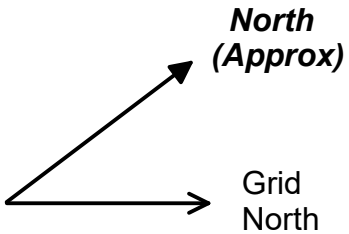
Philip H. Duoos, Geophysical Consultant for Herrera, Inc.
Duoos Project No. 1261-18



Vertical Gradient Magnetic Data

-600 to 1160 nT/m at 80 nT/m intervals

-200:	dark blue
40:	light blue (thin)
200:	green
360:	orange (thin)



1 inch = 150 feet

Vertical Gradient Magnetic Data

Pacific Right Bank Project
Pacific, Washington

Contract E00495E17

9/5/2018

FIG. 4

Philip H. Duoos, Geophysical Consultant for Herrera, Inc.
Duoos Project No. 1261-18

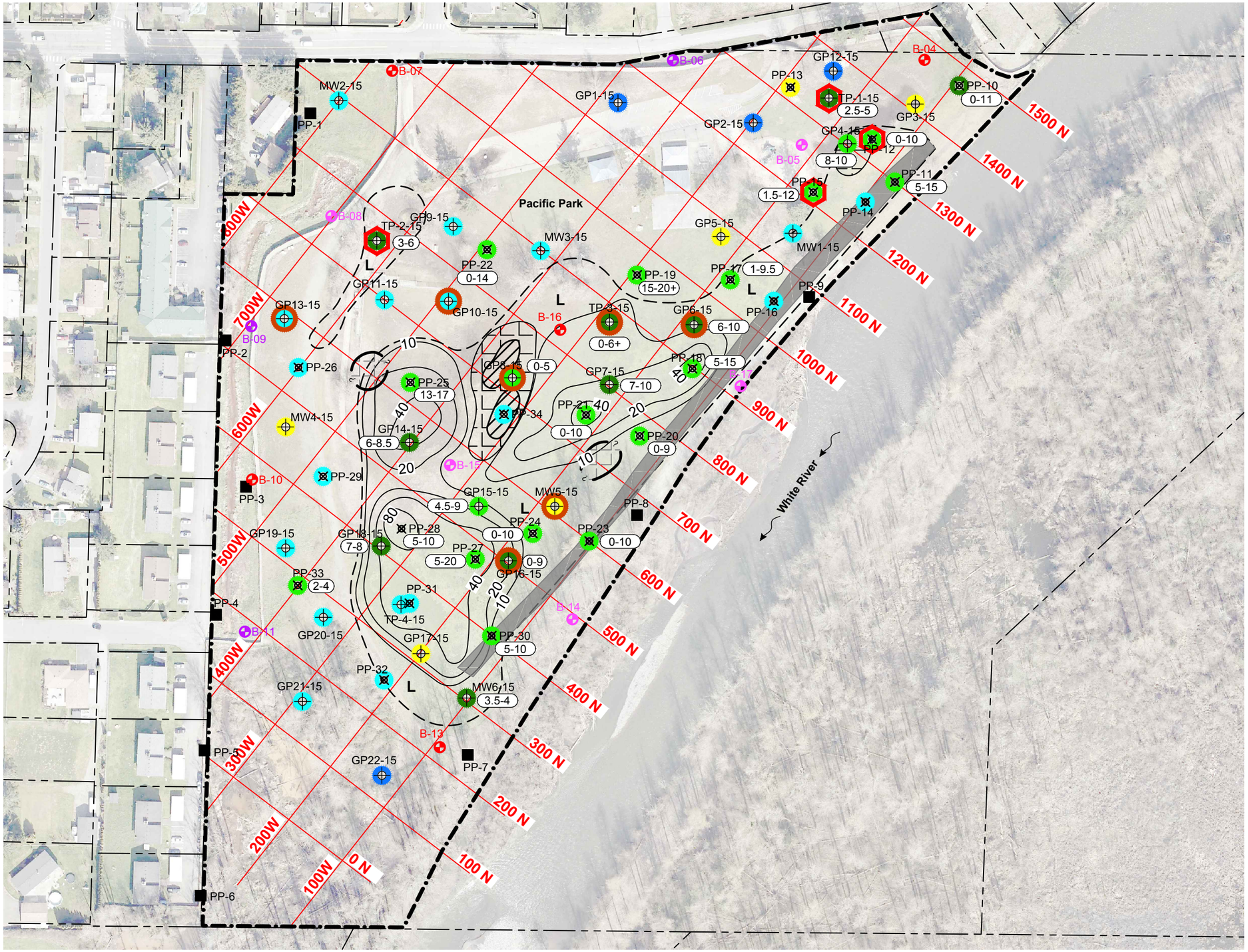


Figure 5.
Geophysical Interpretation Results Map, Pacific Park, Pacific, Washington.

LEGEND:

- Parcel boundary
- Study area
- Probe locations (Herrera, 5-2017)
- Probe/well/test pit locations (Shannon & Wilson, 9-2015)
- Test pit locations (Aspect, 7-2017)
- Monitoring well locations (Aspect, 6-2017)
- 15' monitoring well with SPTs (Aspect)
- 30' geotech boring (Aspect)
- 60' geotech boring (Aspect)
- Geotech boring with environmental sampling
- Push probe environmental boring (Herrera)
- 20 — EM conductivity contour (mS/m)
- L — Low metal anomalous zone
- Moderate metal anomalous zone
- High metal anomalous zone
- Questionable high metal anomaly
- Linear feature - possible metal
- Buried metal debris
- Shallow metals contamination in soil (S&W)
- Debris and silty fill material
- Debris with little silt
- Silt fill with no debris
- Fill material with little silt, no debris
- Little fill material
- 5-9 — Debris depth range (feet)

0 75 150 300
Scale in Feet

N

King County

September 5, 2018

O:\proj\Y2017\17-06520-000\CAD\Dwg\RI Figures\Fig_Geophysical results.dwg

APPENDIX G

Laboratory Analytical Reports

King County

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 16, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1802-233

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on February 22, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

Case Narrative

Samples were collected on February 20 and 21, 2018 and received by the laboratory on February 22, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Total Metals EPA 6010D/7471B Analysis

The Matrix Spike/ Matrix Spike Duplicate recoveries for Chromium are outside control limits due to matrix inhomogeneity. The samples were re-extracted and re-analyzed with similar results. The Spike Blank recovery was 99%.

The Matrix Spike/Matrix Spike Duplicate RPD for Chromium is outside control limits due to matrix inhomogeneity. The samples were re-extracted and re-analyzed with similar results.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15_5**					
Laboratory ID:	02-233-13					
Gasoline Range Organics	**ND**	35	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	87	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	170	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**B-15_7.5**					
Laboratory ID:	02-233-14					
Gasoline Range Organics	**ND**	30	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	76	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**B-15_15**					
Laboratory ID:	02-233-15					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	67	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0223S3					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-04_12.5**					
Laboratory ID:	02-233-03					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	64	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**Detected**	60	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**Detected**	120	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**B-05_12.5**					
Laboratory ID:	02-233-07					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	63	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**B-14_5**					
Laboratory ID:	02-233-09					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	68	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**B-14_10**					
Laboratory ID:	02-233-10					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17_10**					
Laboratory ID:	02-233-18					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**B-17_15**					
Laboratory ID:	02-233-19					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	54	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0226S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Diesel Range Organics	**440**	30	NWTPH-Dx	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	220	NWTPH-Dx	3-1-18	3-1-18	U1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0301S2					
Diesel Range Organics	**ND**	25	NWTPH-Dx	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				

Analyte	Result		Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE									
Laboratory ID:	03-003-06								
	ORIG	DUP							
Mineral Oil	**ND**	**ND**	NA	NA	NA	NA	NA	NA	
Surrogate:									
o-Terphenyl					*90*	*70*	*50-150*		

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15_5**					
Laboratory ID:	02-233-13					
Benzo[a]anthracene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**0.014**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*89*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15_7.5**					
Laboratory ID:	02-233-14					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*94*	*35 - 129*				
Terphenyl-d14	*96*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15_15**					
Laboratory ID:	02-233-15					
Benzo[a]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*85*	*35 - 129*				
Terphenyl-d14	*91*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-04_12.5**					
Laboratory ID:	02-233-03					
Benzo[a]anthracene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0085	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*97*	*35 - 129*				
Terphenyl-d14	*105*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Benzo[a]anthracene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Chrysene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270D/SIM	3-1-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*109*	*35 - 129*				
Terphenyl-d14	*110*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-05_12.5**					
Laboratory ID:	02-233-07					
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*87*	*32 - 115*				
Pyrene-d10	*93*	*35 - 129*				
Terphenyl-d14	*100*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14_5**					
Laboratory ID:	02-233-09					
Benzo[a]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Chrysene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-1-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*96*	*35 - 129*				
Terphenyl-d14	*102*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14_10**					
Laboratory ID:	02-233-10					
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*91*	*32 - 115*				
Pyrene-d10	*91*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

Date of Report: March 16, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17_10**					
Laboratory ID:	02-233-18					
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*87*	*32 - 115*				
Pyrene-d10	*93*	*35 - 129*				
Terphenyl-d14	*103*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-17_15**					
Laboratory ID:	02-233-19					
Benzo[a]anthracene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0072	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*90*	*32 - 115*				
Pyrene-d10	*100*	*35 - 129*				
Terphenyl-d14	*108*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0301S2					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*92*	*32 - 115*				
Pyrene-d10	*97*	*35 - 129*				
Terphenyl-d14	*104*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

cPAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-234-04										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.172**	**0.183**	0.167	0.167	ND	103	110	27 - 143	6	23	
Chrysene	**0.161**	**0.170**	0.167	0.167	ND	96	102	22 - 130	5	24	
Benzo[b]fluoranthene	**0.160**	**0.169**	0.167	0.167	ND	96	101	15 - 141	5	26	
Benzo(j,k)fluoranthene	**0.161**	**0.168**	0.167	0.167	ND	96	101	42 - 112	4	24	
Benzo[a]pyrene	**0.161**	**0.168**	0.167	0.167	ND	96	101	33 - 126	4	26	
Indeno(1,2,3-c,d)pyrene	**0.154**	**0.157**	0.167	0.167	ND	92	94	30 - 125	2	25	
Dibenz[a,h]anthracene	**0.156**	**0.159**	0.167	0.167	ND	93	95	31 - 124	2	22	
Surrogate:											
2-Fluorobiphenyl						*81*	*88*	*32 - 115*			
Pyrene-d10						*93*	*95*	*35 - 129*			
Terphenyl-d14						*97*	*97*	*33 - 114*			

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Aroclor 1016	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.060	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*40-134*				

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Laboratory Reference: 1802-233
Project: 17-06520-000

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0301S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*40-134*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-230-02										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.408**	**0.443**	0.500	0.500	ND	**82**	**89**	34-126	8	16	
Surrogate:											
DCB						*74*	*81*	*40-134*			

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-15_5**					
Laboratory ID:	02-233-13					
Arsenic	**ND**	17	EPA 6010D	2-26-18	2-27-18	
Cadmium	**1.3**	0.87	EPA 6010D	2-26-18	2-27-18	
Chromium	**35**	0.87	EPA 6010D	2-26-18	2-27-18	
Lead	**75**	8.7	EPA 6010D	2-26-18	2-27-18	
Mercury	**ND**	0.43	EPA 7471B	2-23-18	2-23-18	
Client ID:	**B-15_7.5**					
Laboratory ID:	02-233-14					
Arsenic	**ND**	15	EPA 6010D	2-26-18	2-27-18	
Cadmium	**ND**	0.76	EPA 6010D	2-26-18	2-27-18	
Chromium	**31**	0.76	EPA 6010D	2-26-18	2-27-18	
Lead	**49**	7.6	EPA 6010D	2-26-18	2-27-18	
Mercury	**ND**	0.38	EPA 7471B	2-23-18	2-23-18	
Client ID:	**B-15_15**					
Laboratory ID:	02-233-15					
Arsenic	**ND**	13	EPA 6010D	2-26-18	2-27-18	
Cadmium	**ND**	0.67	EPA 6010D	2-26-18	2-27-18	
Chromium	**17**	0.67	EPA 6010D	2-26-18	2-27-18	
Lead	**ND**	6.7	EPA 6010D	2-26-18	2-27-18	
Mercury	**ND**	0.34	EPA 7471B	2-23-18	2-23-18	

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TOTAL METAL
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0226SM1					
Arsenic	**ND**	10	EPA 6010D	2-26-18	2-27-18	
Cadmium	**ND**	0.50	EPA 6010D	2-26-18	2-27-18	
Chromium	**ND**	0.50	EPA 6010D	2-26-18	2-27-18	
Lead	**ND**	5.0	EPA 6010D	2-26-18	2-27-18	
Laboratory ID:	MB0223S1					
Mercury	**ND**	0.25	EPA 7471B	2-23-18	2-23-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-255-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**262**	**241**	NA	NA		NA		NA	8	20	
Lead	**9.60**	**9.45**	NA	NA		NA		NA	2	20	
Laboratory ID:	02-217-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-255-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**96.4**	**95.2**	100	100	ND	**96**	**95**	75-125	1	20	
Cadmium	**45.5**	**46.3**	50.0	50.0	ND	**91**	**93**	75-125	2	20	
Chromium	**186**	**479**	100	100	262	**-76**	**218**	75-125	88	20	
Lead	**231**	**235**	250	250	9.60	**89**	**90**	75-125	2	20	
Laboratory ID:	02-217-01										
Mercury	**0.540**	**0.571**	0.500	0.500	ND	**108**	**114**	80-120	6	20	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-04_12.5**					
Laboratory ID:	02-233-03					
Arsenic	**ND**	13	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.64	EPA 6010D	2-28-18	2-28-18	
Chromium	**16**	0.64	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	6.4	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.32	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Arsenic	**ND**	12	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.60	EPA 6010D	2-28-18	2-28-18	
Chromium	**430**	3.0	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	6.0	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.30	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-05_12.5**					
Laboratory ID:	02-233-07					
Arsenic	**ND**	13	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.63	EPA 6010D	2-28-18	2-28-18	
Chromium	**11**	0.63	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	6.3	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.32	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-14_5**					
Laboratory ID:	02-233-09					
Arsenic	**ND**	13	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.67	EPA 6010D	2-28-18	2-28-18	
Chromium	**23**	0.67	EPA 6010D	2-28-18	2-28-18	
Lead	**31**	6.7	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.34	EPA 7471B	2-28-18	2-28-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-14_10**					
Laboratory ID:	02-233-10					
Arsenic	**ND**	12	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.62	EPA 6010D	2-28-18	2-28-18	
Chromium	**17**	0.62	EPA 6010D	2-28-18	2-28-18	
Lead	**33**	6.2	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.31	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-17_10**					
Laboratory ID:	02-233-18					
Arsenic	**ND**	12	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.61	EPA 6010D	2-28-18	2-28-18	
Chromium	**23**	0.61	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	6.1	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.31	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-17_15**					
Laboratory ID:	02-233-19					
Arsenic	**ND**	11	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.54	EPA 6010D	2-28-18	2-28-18	
Chromium	**9.6**	0.54	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	5.4	EPA 6010D	2-28-18	2-28-18	
Mercury	**ND**	0.27	EPA 7471B	2-28-18	2-28-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0228SM1					
Arsenic	**ND**	10	EPA 6010D	2-28-18	2-28-18	
Cadmium	**ND**	0.50	EPA 6010D	2-28-18	2-28-18	
Chromium	**ND**	0.50	EPA 6010D	2-28-18	2-28-18	
Lead	**ND**	5.0	EPA 6010D	2-28-18	2-28-18	
Laboratory ID:	MB0228S1					
Mercury	**ND**	0.25	EPA 7471B	2-28-18	2-28-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-230-03										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**56.1**	**67.8**	NA	NA		NA		NA	19	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	02-249-03										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-230-03										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**95.9**	**94.6**	100	100	ND	**96**	**95**	75-125	1	20	
Cadmium	**44.7**	**44.6**	50.0	50.0	ND	**89**	**89**	75-125	0	20	
Chromium	**143**	**137**	100	100	56.1	**87**	**81**	75-125	4	20	
Lead	**215**	**217**	250	250	ND	**86**	**87**	75-125	1	20	
Laboratory ID:	02-249-03										
Mercury	**0.551**	**0.567**	0.500	0.500	0.00670	**109**	**112**	80-120	3	20	

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

TCLP CHROMIUM
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-05_7.5**					
Laboratory ID:	02-233-06					
Chromium	**ND**	0.020	EPA 6010D	3-14-18	3-14-18	

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

TCLP CHROMIUM
EPA 1311/6010D
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0314TM1					
Chromium	**ND**	0.020	EPA 6010D	3-14-18	3-14-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-151-15										
	ORIG	DUP									
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-151-15										
	MS	MSD	MS	MSD		MS	MSD				
Chromium	**3.82**	**3.80**	4.00	4.00	ND	**96**	**95**	75-125	1	20	

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-233
Project: 17-06520-000

% MOISTURE

Date Analyzed: 2-23,26&27-18

Client ID	Lab ID	% Moisture
B-04_12.5	02-233-03	21
B-05_7.5	02-233-06	16
B-05_12.5	02-233-07	21
B-14_5	02-233-09	26
B-14_10	02-233-10	19
B-15_5	02-233-13	42
B-15_7.5	02-233-14	34
B-15_15	02-233-15	26
B-17_10	02-233-18	18
B-17_15	02-233-19	7

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Aspect Consulting
Project Number: 17006520-000
Project Name: Pacific Right Bank
Project Manager: Bruce Carpenter
Sampled by: JGF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-233

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A		TCLP Cr			% Moisture
1	B-04_2.5	2/20/18 21	1420 +300	Soil	2	~~A~~	A		A				DB ~~A~~	A	A					A ~~A~~ DB							X
2	B-04_7.5	2/20/18 21	1425 1305		2	A	A		A					A	A					A							X
3	B-04_12.5	2/21/18	1430		2	●	A		A					●	A					●							●
4	B-04_17.5	2/21/18	1450		2	A	A		A					A	A					A							X
5	B-05_2.5	2/20/18	1300		2	~~A~~	A		A					A	A					A							X
6	B-05_7.5	2/20/18	1305		2	●	A		⊗					●	⊗					●				X			●
7	B-05_12.5	2/20/18	1310		2	●	A		A					●	A					●							●
8	B-05_17.5	2/20/18	1315		2	A	A		A					A	A					A							X
9	B-14_5	2/21/2018	900		2	●	A		A					●	A					●							●
10	B-14_10	2/21/18	905		2	●	A		A					●	A					●							●

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	2/22/18	1505
Received	[signature]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

A - ARCHIVE 30 DAYS

● Added 2/23/18. DB (STA)
⊗ Added 2/28/18. DB (STA)
X - Added 3/8/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Aspect Consulting
Project Number: 1706520-000
Project Name: Pacific Right Bank
Project Manager: Bruce Carpenter
Sampled by: JGF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-233

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
11	B-14_15	2/21/18	9:15	Soil	2	A	A		A					A	A					A						X
12	B-14_20	2/21/18	9:20		2	A	A		A					A	A					A						X
13	B-15_5	2/21/18	~~1300~~ 12:30		2	X	A		A					X	A					X						X
14	B-15_7.5	2/21/18	12:35		2	X	A		A					X	A					X						X
15	B-15_15	2/21/18	1300		2	X	A		A					X	A					X						X
16	B-15_18.5	2/21/18	1305		2	A	A		A					A	A					A						X
17	B-17_7.5	2/20/18	14:35		2	A	A		A					A	A					A						X
18	B-17_10	2/20/18	14:40		2	●	A		A					●	A					●						●
19	B-17_15	2/20/18	14:45		2	●	A		A					●	A					●						●
20	B-17_20	2/20/18	14:50		2	A	A		A					A	A					A						X

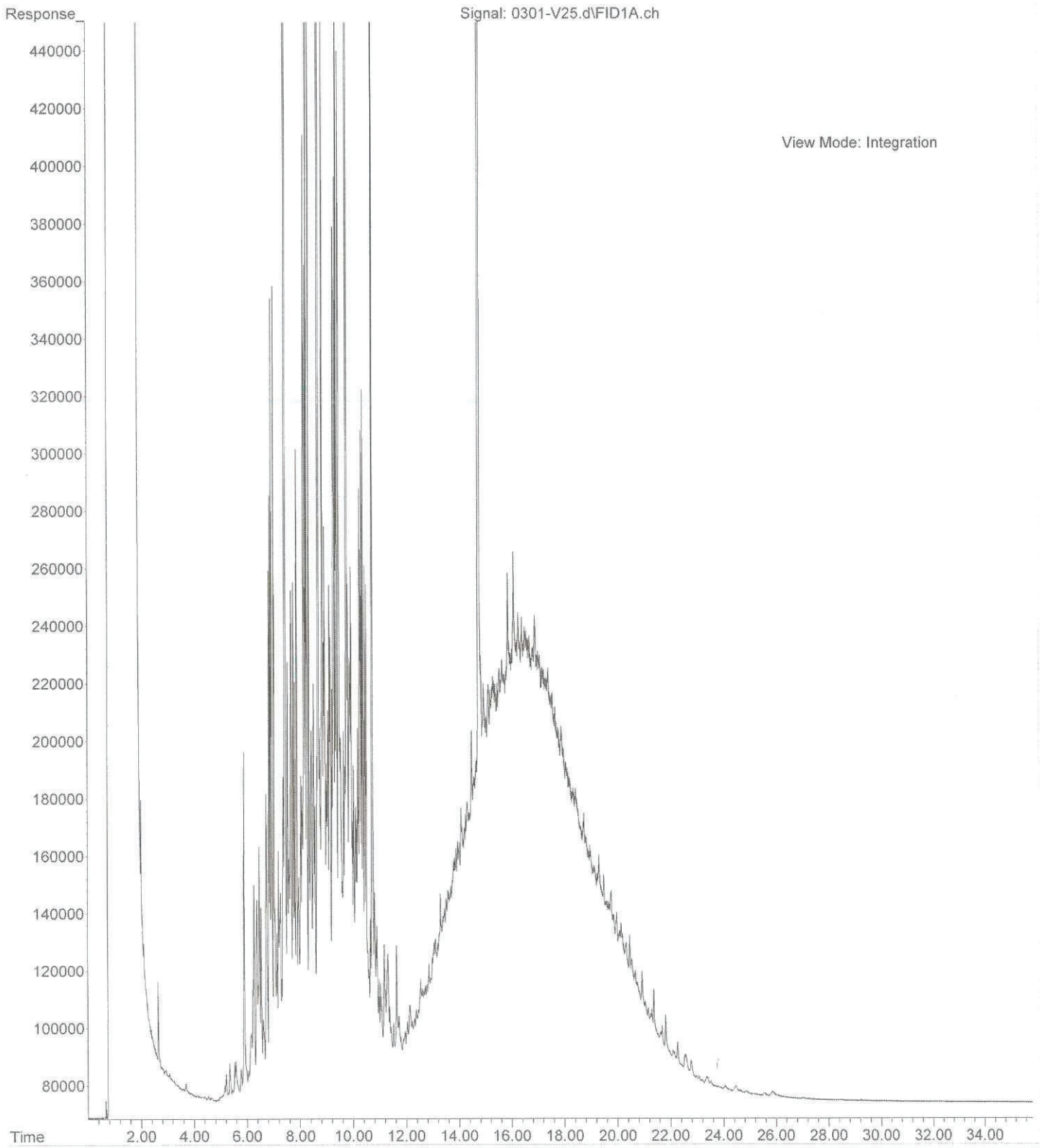
	Signature	Company	Date	Time
Relinquished	Miriam Herrera	Herrera	2/22/18	1505
Received	[illegible]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

File :X:\DIESELS\VIGO\DATA\V180301\0301-V25.d
Operator : JT
Acquired : 1 Mar 2018 22:59 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-233-06
Misc Info :
Vial Number: 25



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 8, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1802-249

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on February 26, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

Case Narrative

Samples were collected on February 22 and 23, 2018 and received by the laboratory on February 26, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_2.5**					
Laboratory ID:	02-249-01					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil	**Detected**	120	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**B-06_12.5**					
Laboratory ID:	02-249-03					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	78	NWTPH-HCID	2-26-18	2-26-18	U1
Lube Oil	**Detected**	130	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**B-09_5**					
Laboratory ID:	02-249-04					
Gasoline Range Organics	**ND**	31	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	78	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	160	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**B-09_15**					
Laboratory ID:	02-249-06					
Gasoline Range Organics	**ND**	31	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	78	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	160	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				
Client ID:	**B-13_7.5**					
Laboratory ID:	02-249-07					
Gasoline Range Organics	**ND**	34	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	84	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	170	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13_15**					
Laboratory ID:	02-249-09					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	66	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**B-16_2.5**					
Laboratory ID:	02-249-11					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	71	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**B-16_7.5**					
Laboratory ID:	02-249-12					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**B-16_17.5**					
Laboratory ID:	02-249-14					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	66	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0226S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-26-18	2-26-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-26-18	2-26-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_2.5**					
Laboratory ID:	02-249-01					
Diesel Range Organics	**ND**	31	NWTPH-Dx	3-2-18	3-2-18	
Lube Oil	**150**	62	NWTPH-Dx	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**B-06_10**					
Laboratory ID:	02-249-02					
Diesel Range Organics	**ND**	31	NWTPH-Dx	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	61	NWTPH-Dx	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				
Client ID:	**B-06_12.5**					
Laboratory ID:	02-249-03					
Diesel Range Organics	**ND**	32	NWTPH-Dx	3-2-18	3-2-18	
Lube Oil	**130**	64	NWTPH-Dx	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0302S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-249-02										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*85*	*86*	*50-150*			

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_2.5**					
Laboratory ID:	02-249-01					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*32 - 115*				
Pyrene-d10	*68*	*35 - 129*				
Terphenyl-d14	*64*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_12.5**					
Laboratory ID:	02-249-03					
Benzo[a]anthracene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Chrysene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	2-28-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*91*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-09_5**					
Laboratory ID:	02-249-04					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Chrysene	**0.012**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[b]fluoranthene	**0.011**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*39*	*32 - 115*				
Pyrene-d10	*45*	*35 - 129*				
Terphenyl-d14	*42*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-09_15**					
Laboratory ID:	02-249-06					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	2-28-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*94*	*32 - 115*				
Pyrene-d10	*97*	*35 - 129*				
Terphenyl-d14	*106*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13_7.5**					
Laboratory ID:	02-249-07					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Chrysene	**0.016**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[b]fluoranthene	**0.014**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*47*	*32 - 115*				
Pyrene-d10	*57*	*35 - 129*				
Terphenyl-d14	*55*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13_15**					
Laboratory ID:	02-249-09					
Benzo[a]anthracene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Chrysene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270D/SIM	2-28-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*32 - 115*				
Pyrene-d10	*85*	*35 - 129*				
Terphenyl-d14	*91*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16_2.5**					
Laboratory ID:	02-249-11					
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	2-28-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*32 - 115*				
Pyrene-d10	*74*	*35 - 129*				
Terphenyl-d14	*77*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16_7.5**					
Laboratory ID:	02-249-12					
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-28-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*86*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16_17.5**					
Laboratory ID:	02-249-14					
Benzo[a]anthracene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Chrysene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270D/SIM	2-28-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*32 - 115*				
Pyrene-d10	*95*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
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PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0228S2					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*32 - 115*				
Pyrene-d10	*76*	*35 - 129*				
Terphenyl-d14	*75*	*33 - 114*				

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Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-249-11										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.156**	**0.161**	0.167	0.167	ND	93	96	27 - 143	3	23	
Chrysene	**0.146**	**0.151**	0.167	0.167	ND	87	90	22 - 130	3	24	
Benzo[b]fluoranthene	**0.163**	**0.169**	0.167	0.167	ND	98	101	15 - 141	4	26	
Benzo(j,k)fluoranthene	**0.142**	**0.148**	0.167	0.167	ND	85	89	42 - 112	4	24	
Benzo[a]pyrene	**0.141**	**0.145**	0.167	0.167	ND	84	87	33 - 126	3	26	
Indeno(1,2,3-c,d)pyrene	**0.133**	**0.139**	0.167	0.167	ND	80	83	30 - 125	4	25	
Dibenz[a,h]anthracene	**0.134**	**0.139**	0.167	0.167	ND	80	83	31 - 124	4	22	
Surrogate:											
2-Fluorobiphenyl						*67*	*73*	*32 - 115*			
Pyrene-d10						*84*	*87*	*35 - 129*			
Terphenyl-d14						*86*	*89*	*33 - 114*			

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_10**					
Laboratory ID:	02-249-02					
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*32 - 115*				
Pyrene-d10	*78*	*35 - 129*				
Terphenyl-d14	*82*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0305S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*94*	*35 - 129*				
Terphenyl-d14	*102*	*33 - 114*				

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

PAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0305S1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.0878**	**0.0851**	0.0833	0.0833	105	102	64 - 135	3	15	
Chrysene	**0.0869**	**0.0844**	0.0833	0.0833	104	101	70 - 119	3	15	
Benzo[b]fluoranthene	**0.0826**	**0.0807**	0.0833	0.0833	99	97	54 - 135	2	15	
Benzo(j,k)fluoranthene	**0.0872**	**0.0839**	0.0833	0.0833	105	101	66 - 122	4	15	
Benzo[a]pyrene	**0.0816**	**0.0789**	0.0833	0.0833	98	95	62 - 125	3	15	
Indeno(1,2,3-c,d)pyrene	**0.0752**	**0.0724**	0.0833	0.0833	90	87	55 - 129	4	15	
Dibenz[a,h]anthracene	**0.0769**	**0.0756**	0.0833	0.0833	92	91	58 - 125	2	15	
Surrogate:										
2-Fluorobiphenyl					*88*	*87*	*32 - 115*			
Pyrene-d10					*99*	*96*	*35 - 129*			
Terphenyl-d14					*105*	*102*	*33 - 114*			

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PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_2.5**					
Laboratory ID:	02-249-01					
Aroclor 1016	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1221	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1232	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1242	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1248	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1254	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Aroclor 1260	**ND**	0.062	EPA 8082A	3-6-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*79*	*40-134*				
Client ID:	**B-06_12.5**					
Laboratory ID:	02-249-03					
Aroclor 1016	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1221	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1232	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1242	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1248	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1254	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Aroclor 1260	**ND**	0.064	EPA 8082A	3-6-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*40-134*				

Date of Report: March 8, 2018
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Project: 17-06520-000

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0306S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1221	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1232	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1242	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1248	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1254	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Aroclor 1260	**ND**	0.050	EPA 8082A	3-6-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*93*	*40-134*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-249-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.384**	**0.388**	0.500	0.500	ND	**77**	**78**	34-126	1	16	
Surrogate:											
DCB						*73*	*74*	*40-134*			

Date of Report: March 8, 2018
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Laboratory Reference: 1802-249
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_2.5**					
Laboratory ID:	02-249-01					
Arsenic	**ND**	12	EPA 6010D	3-6-18	3-6-18	
Cadmium	**0.75**	0.62	EPA 6010D	3-6-18	3-6-18	
Chromium	**13**	0.62	EPA 6010D	3-6-18	3-6-18	
Lead	**20**	6.2	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.31	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-06_12.5**					
Laboratory ID:	02-249-03					
Arsenic	**ND**	13	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.64	EPA 6010D	3-6-18	3-6-18	
Chromium	**11**	0.64	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	6.4	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.32	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-09_5**					
Laboratory ID:	02-249-04					
Arsenic	**ND**	15	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.77	EPA 6010D	3-6-18	3-6-18	
Chromium	**16**	0.77	EPA 6010D	3-6-18	3-6-18	
Lead	**20**	7.7	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.39	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-09_15**					
Laboratory ID:	02-249-06					
Arsenic	**ND**	16	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.78	EPA 6010D	3-6-18	3-6-18	
Chromium	**24**	0.78	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	7.8	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.39	EPA 7471B	2-28-18	2-28-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-13_7.5**					
Laboratory ID:	02-249-07					
Arsenic	**ND**	17	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.84	EPA 6010D	3-6-18	3-6-18	
Chromium	**24**	0.84	EPA 6010D	3-6-18	3-6-18	
Lead	**12**	8.4	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.42	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-13_15**					
Laboratory ID:	02-249-09					
Arsenic	**ND**	13	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.66	EPA 6010D	3-6-18	3-6-18	
Chromium	**8.9**	0.66	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	6.6	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.33	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-16_2.5**					
Laboratory ID:	02-249-11					
Arsenic	**ND**	14	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.71	EPA 6010D	3-6-18	3-6-18	
Chromium	**18**	0.71	EPA 6010D	3-6-18	3-6-18	
Lead	**9.2**	7.1	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.36	EPA 7471B	2-28-18	2-28-18	
Client ID:	**B-16_7.5**					
Laboratory ID:	02-249-12					
Arsenic	**ND**	12	EPA 6010D	3-6-18	3-6-18	
Cadmium	**1.6**	0.58	EPA 6010D	3-6-18	3-6-18	
Chromium	**28**	0.58	EPA 6010D	3-6-18	3-6-18	
Lead	**68**	5.8	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.29	EPA 7471B	2-28-18	2-28-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-16_17.5**					
Laboratory ID:	02-249-14					
Arsenic	**ND**	13	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.66	EPA 6010D	3-6-18	3-6-18	
Chromium	**16**	0.66	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	6.6	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.33	EPA 7471B	2-28-18	2-28-18	

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0306SM1					
Arsenic	**ND**	10	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.50	EPA 6010D	3-6-18	3-6-18	
Chromium	**ND**	0.50	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	5.0	EPA 6010D	3-6-18	3-6-18	
Laboratory ID:	MB0228S1					
Mercury	**ND**	0.25	EPA 7471B	2-28-18	2-28-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-264-89										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**27.7**	**26.3**	NA	NA		NA		NA	5	20	
Lead	**11.2**	**7.15**	NA	NA		NA		NA	44	20	
Laboratory ID:	02-249-03										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-264-89										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**95.3**	**97.2**	100	100	ND	**95**	**97**	75-125	2	20	
Cadmium	**44.6**	**45.3**	50.0	50.0	ND	**89**	**91**	75-125	1	20	
Chromium	**124**	**114**	100	100	27.7	**97**	**86**	75-125	9	20	
Lead	**226**	**230**	250	250	11.2	**86**	**87**	75-125	1	20	
Laboratory ID:	02-249-03										
Mercury	**0.551**	**0.567**	0.500	0.500	0.00670	**109**	**112**	80-120	3	20	

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06_10**					
Laboratory ID:	02-249-02					
Arsenic	**ND**	12	EPA 6010D	3-6-18	3-6-18	
Cadmium	**ND**	0.61	EPA 6010D	3-6-18	3-6-18	
Chromium	**13**	0.61	EPA 6010D	3-6-18	3-6-18	
Lead	**ND**	6.1	EPA 6010D	3-6-18	3-6-18	
Mercury	**ND**	0.31	EPA 7471B	3-7-18	3-7-18	

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0306SM1					
Arsenic	**ND**	10	EPA 6010D	3-5-18	3-5-18	
Cadmium	**ND**	0.50	EPA 6010D	3-5-18	3-5-18	
Chromium	**ND**	0.50	EPA 6010D	3-5-18	3-5-18	
Lead	**ND**	5.0	EPA 6010D	3-5-18	3-5-18	
Laboratory ID:	MB0307S2					
Mercury	**ND**	0.25	EPA 7471B	3-7-18	3-7-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-264-89										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**27.7**	**26.3**	NA	NA		NA		NA	5	20	
Lead	**11.2**	**7.15**	NA	NA		NA		NA	44	20	
Laboratory ID:	02-271-21										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-264-89										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**95.5**	**97.0**	100	100	ND	**96**	**97**	75-125	2	20	
Cadmium	**44.6**	**45.3**	50.0	50.0	ND	**89**	**91**	75-125	1	20	
Chromium	**125**	**114**	100	100	27.7	**97**	**86**	75-125	9	20	
Lead	**226**	**230**	250	250	11.2	**86**	**87**	75-125	2	20	
Laboratory ID:	02-271-21										
Mercury	**0.605**	**0.590**	0.500	0.500	0.0364	**114**	**111**	80-120	3	20	

Date of Report: March 8, 2018
Samples Submitted: February 26, 2018
Laboratory Reference: 1802-249
Project: 17-06520-000

% MOISTURE

Date Analyzed: 2-26&3-2-18

Client ID	Lab ID	% Moisture
B-06_2.5	02-249-01	19
B-06_10	02-249-02	19
B-06_12.5	02-249-03	22
B-09_5	02-249-04	35
B-09_15	02-249-06	36
B-13_7.5	02-249-07	40
B-13_15	02-249-09	24
B-16_2.5	02-249-11	30
B-16_7.5	02-249-12	14
B-16_17.5	02-249-14	25

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Aspect Consulting
Project Number: 170520-000
Project Name: Pacific Right Bank
Project Manager: Bruce Carpenter
Sampled by: JGF / BAF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
● Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-249

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) c PAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
1	B-06_2.5	2/22/18	12:10	S	2	●			(X)					●	(X)					●						●
2	B-06_10	2/22/18	12:20	S	2				(X)					(X)						(X)						(X)
3	B-06_12.5	2/22/18	12:35	S	2	●			(X)					●	(X)					●						●
4	B-09_5	2/22/18	14:05	S	2	●								●						●						●
5	B-09_10	2/22/18	14:15	S	2																					
6	B-09_15	2/22/18	14:30	S	2	●								●						●						●

	Signature	Company	Date	Time
Relinquished	[signature]	Aspect Consulting	2/23	16:40
Received	[signature]	OSE	2/23/18	1640
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

● Added 2/26/18. DB (STA)
(X) Added 2/28/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: ASPECT CONSULTING
Project Number: 1706520-000
Project Name: PACIFIC RIGHT BANK
Project Manager: BRUCE CARPENTER
Sampled by: AAF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
● Standard (7 Days) (TPH analysis 5 Days)
☒ _____ (other)

Laboratory Number: 02-249

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
7	B-13_7.5	2/23	9:15	S	2	●								●						●							●
8	B-13_12.5	2/23	9:30	S	2																						
9	B-13_15	2/23	9:36	S	2	●								●						●							●
10	B-13_17.5	2/23	9:43	S	2																						
11	B-16_2.5	2/23	1:00	S	2	●								●						●							●
12	B-16_7.5	2/23	1:10	S	2	●								●						●							●
13	B-16_12.5	2/23	1:25	S	2																						
14	B-16_17.5	2/23	1:33	S	2	●								●						●							●

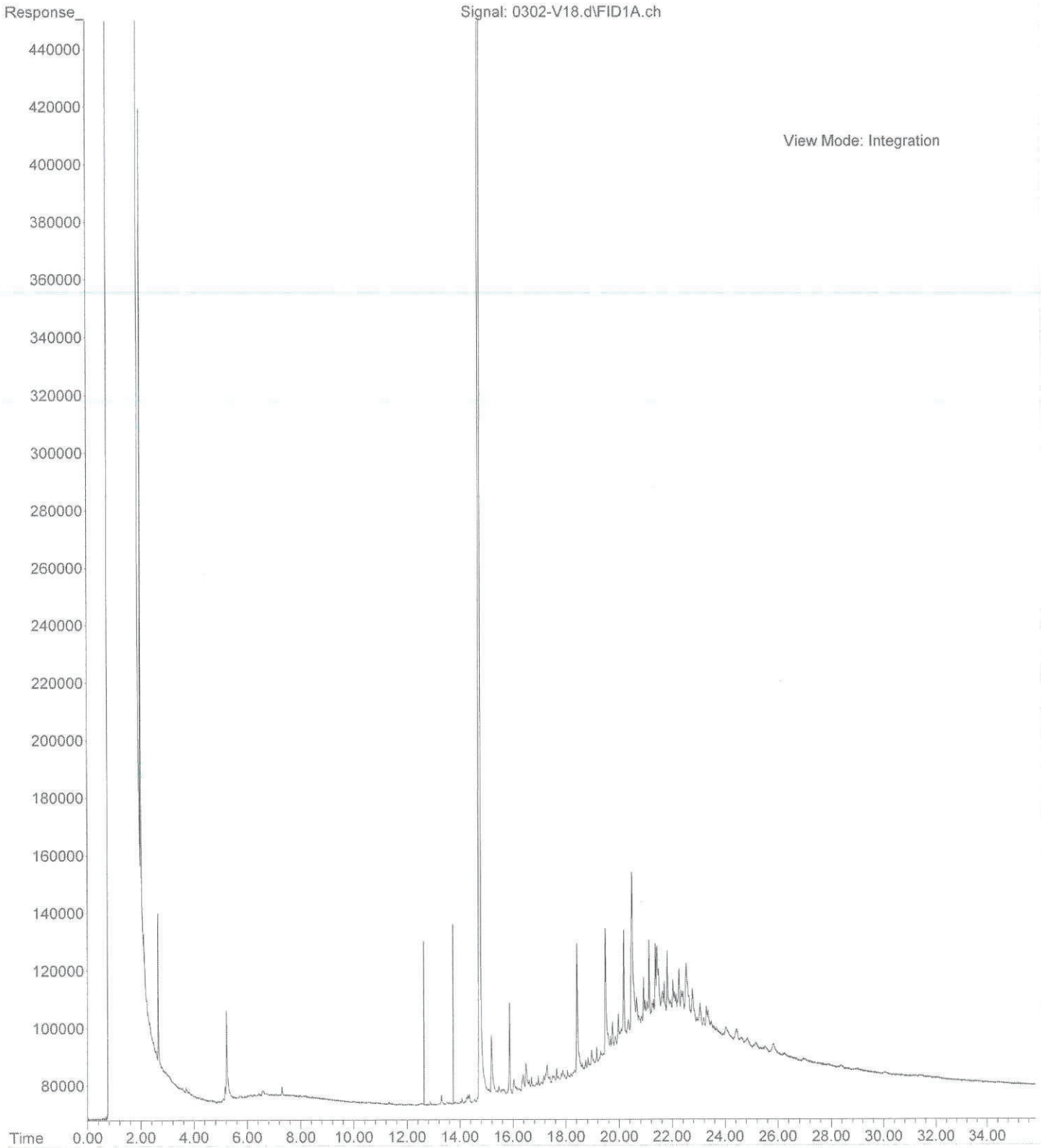
	Signature	Company	Date	Time
Relinquished	[signature]	ASPECT CONSULTING	2/23	16:40
Received	[signature]	OSE	2/23/18	1640
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

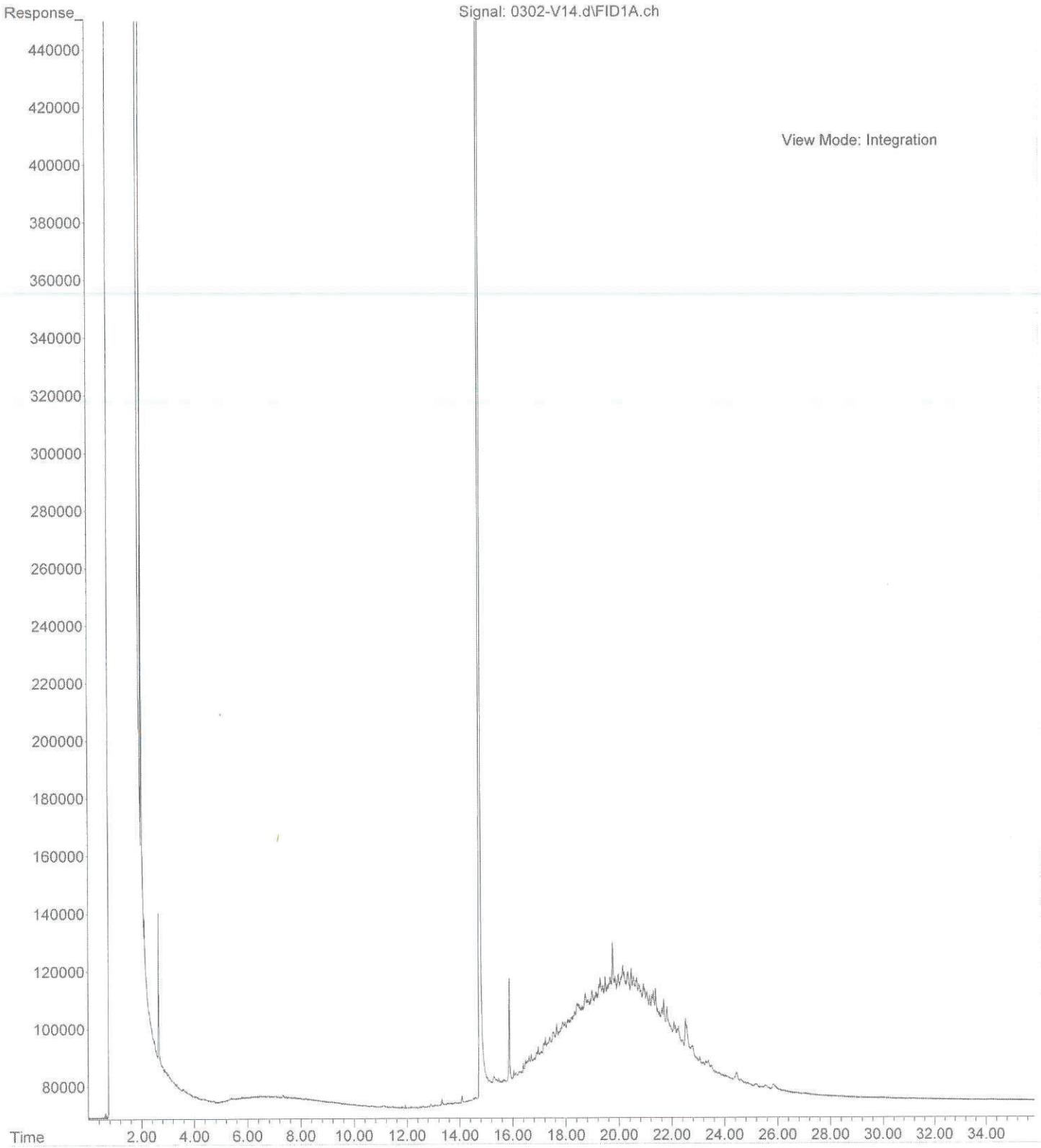
Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

File :X:\DIESELS\VIGO\DATA\V180302\0302-V18.d
Operator : JT
Acquired : 2 Mar 2018 19:17 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-249-01
Misc Info :
Vial Number: 18



File :X:\DIESELS\VIGO\DATA\V180302\0302-V14.d
Operator : JT
Acquired : 2 Mar 2018 16:37 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-249-03
Misc Info :
Vial Number: 14



OnSite Environmental Inc.
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March 16, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1802-234

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on February 22, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

Case Narrative

Samples were collected on February 21, 2018 and received by the laboratory on February 22, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-2**					
Laboratory ID:	02-234-02					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	65	NWTPH-HCID	2-23-18	2-23-18	U1
Lube Oil	**Detected**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*100*	*50-150*				
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	U1
Lube Oil	**Detected**	150	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**PP13-10**					
Laboratory ID:	02-234-08					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**PP15-6**					
Laboratory ID:	02-234-11					
Gasoline Range Organics	**ND**	31	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**Detected**	76	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**Detected**	150	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				
Client ID:	**PP15-12**					
Laboratory ID:	02-234-12					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	59	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP19-7**					
Laboratory ID:	02-234-15					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**Detected**	63	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**PP19-10**					
Laboratory ID:	02-234-16					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	59	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				
Client ID:	**PP19-15**					
Laboratory ID:	02-234-17					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	60	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				
Client ID:	**PP22-4**					
Laboratory ID:	02-234-18					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	64	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**PP22-9**					
Laboratory ID:	02-234-19					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP22-13**					
Laboratory ID:	02-234-20					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**PP25-7**					
Laboratory ID:	02-234-23					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	69	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*117*	*50-150*				
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Gasoline Range Organics	**Detected**	34	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**Detected**	85	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**Detected**	170	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**PP26-11**					
Laboratory ID:	02-234-28					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				
Client ID:	**PP26-17**					
Laboratory ID:	02-234-29					
Gasoline Range Organics	**ND**	31	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	77	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP34-8**					
Laboratory ID:	02-234-31					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0223S3					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	2-23-18	2-23-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	2-23-18	2-23-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	2-23-18	2-23-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Benzene	**ND**	0.026	EPA 8021B	2-28-18	3-1-18	
Toluene	**ND**	0.13	EPA 8021B	2-28-18	3-1-18	
Ethyl Benzene	**ND**	0.13	EPA 8021B	2-28-18	3-1-18	
m,p-Xylene	**ND**	0.13	EPA 8021B	2-28-18	3-1-18	
o-Xylene	**ND**	0.13	EPA 8021B	2-28-18	3-1-18	
Gasoline	**400**	13	NWTPH-Gx	2-28-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*79*	*66-130*				
Client ID:	**PP25-17**					
Laboratory ID:	02-234-25					
Benzene	**ND**	0.030	EPA 8021B	2-28-18	3-1-18	
Toluene	**ND**	0.15	EPA 8021B	2-28-18	3-1-18	
Ethyl Benzene	**ND**	0.15	EPA 8021B	2-28-18	3-1-18	
m,p-Xylene	**ND**	0.15	EPA 8021B	2-28-18	3-1-18	
o-Xylene	**ND**	0.15	EPA 8021B	2-28-18	3-1-18	
Gasoline	**ND**	15	NWTPH-Gx	2-28-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*82*	*66-130*				

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NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0228S2					
Benzene	**ND**	0.020	EPA 8021B	2-28-18	2-28-18	
Toluene	**ND**	0.050	EPA 8021B	2-28-18	2-28-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	2-28-18	2-28-18	
m,p-Xylene	**ND**	0.050	EPA 8021B	2-28-18	2-28-18	
o-Xylene	**ND**	0.050	EPA 8021B	2-28-18	2-28-18	
Gasoline	**ND**	5.0	NWTPH-Gx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*86*	*66-130*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-265-02										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*103*	*96*	*66-130*			
SPIKE BLANKS											
Laboratory ID:	SB0228S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.859**	**0.879**	1.00	1.00		**86**	**88**	70-120	2	11	
Toluene	**0.871**	**0.894**	1.00	1.00		**87**	**89**	73-121	3	14	
Ethyl Benzene	**0.881**	**0.902**	1.00	1.00		**88**	**90**	74-121	2	11	
m,p-Xylene	**0.881**	**0.903**	1.00	1.00		**88**	**90**	75-124	2	13	
o-Xylene	**0.899**	**0.924**	1.00	1.00		**90**	**92**	75-121	3	12	
Surrogate:											
Fluorobenzene						*85*	*86*	*66-130*			

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-2**					
Laboratory ID:	02-234-02					
Diesel Range Organics	**ND**	31	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil	**69**	62	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*50*	*50-150*				
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Diesel Range Organics	**ND**	130	NWTPH-Dx	2-28-18	2-28-18	U1
Lube Oil	**800**	74	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**PP12-10**					
Laboratory ID:	02-234-04					
Diesel Range Organics	**ND**	32	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil	**82**	64	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**PP15-6**					
Laboratory ID:	02-234-11					
Diesel Range Organics	**81**	38	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**550**	76	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				
Client ID:	**PP19-7**					
Laboratory ID:	02-234-15					
Diesel Range Organics	**400**	32	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**370**	63	NWTPH-Dx	2-28-18	2-28-18	N1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Diesel Range Organics	**1400**	43	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**1200**	85	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-17**					
Laboratory ID:	02-234-25					
Diesel Range Organics	**49**	47	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**130**	93	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*71*	*50-150*				

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NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0228S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	2-28-18	2-28-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	2-28-18	2-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*109*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-234-04										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil	**63.8**	**61.5**	NA	NA		NA		NA	4	NA	
Surrogate:											
o-Terphenyl						*87*	*88*	*50-150*			

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Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-2**					
Laboratory ID:	02-234-02					
Benzo[a]anthracene	**0.0084**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**0.014**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**0.016**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**0.015**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**0.012**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*80*	*35 - 129*				
Terphenyl-d14	*77*	*33 - 114*				

Date of Report: March 16, 2018
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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Benzo[a]anthracene	**0.010**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**0.013**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**0.014**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**0.011**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*83*	*35 - 129*				
Terphenyl-d14	*81*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP13-10**					
Laboratory ID:	02-234-08					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*85*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP15-6**					
Laboratory ID:	02-234-11					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*83*	*32 - 115*				
Pyrene-d10	*84*	*35 - 129*				
Terphenyl-d14	*83*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP15-12**					
Laboratory ID:	02-234-12					
Benzo[a]anthracene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0079	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*91*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*92*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP19-7**					
Laboratory ID:	02-234-15					
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*98*	*35 - 129*				
Terphenyl-d14	*88*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP19-10**					
Laboratory ID:	02-234-16					
Benzo[a]anthracene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0078	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*88*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP19-15**					
Laboratory ID:	02-234-17					
Benzo[a]anthracene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0080	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*32 - 115*				
Pyrene-d10	*93*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP22-4**					
Laboratory ID:	02-234-18					
Benzo[a]anthracene	**0.056**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**0.086**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**0.088**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**0.029**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**0.064**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**0.051**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**0.017**	0.0086	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*91*	*35 - 129*				
Terphenyl-d14	*78*	*33 - 114*				

Date of Report: March 16, 2018
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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP22-9**					
Laboratory ID:	02-234-19					
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*84*	*35 - 129*				
Terphenyl-d14	*86*	*33 - 114*				

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PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP22-13**					
Laboratory ID:	02-234-20					
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*86*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-7**					
Laboratory ID:	02-234-23					
Benzo[a]anthracene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0091	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*91*	*32 - 115*				
Pyrene-d10	*86*	*35 - 129*				
Terphenyl-d14	*86*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**0.012**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*81*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP26-11**					
Laboratory ID:	02-234-28					
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*86*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*88*	*33 - 114*				

Date of Report: March 16, 2018
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Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP26-17**					
Laboratory ID:	02-234-29					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*32 - 115*				
Pyrene-d10	*82*	*35 - 129*				
Terphenyl-d14	*84*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP34-8**					
Laboratory ID:	02-234-31					
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*87*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0226S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	2-26-18	2-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*96*	*32 - 115*				
Pyrene-d10	*91*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-234-19										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.0813**	**0.0814**	0.0833	0.0833	ND	98	98	27 - 143	0	23	
Chrysene	**0.0831**	**0.0829**	0.0833	0.0833	ND	100	100	22 - 130	0	24	
Benzo[b]fluoranthene	**0.0727**	**0.0737**	0.0833	0.0833	ND	87	88	15 - 141	1	26	
Benzo(j,k)fluoranthene	**0.0856**	**0.0857**	0.0833	0.0833	ND	103	103	42 - 112	0	24	
Benzo[a]pyrene	**0.0761**	**0.0761**	0.0833	0.0833	ND	91	91	33 - 126	0	26	
Indeno(1,2,3-c,d)pyrene	**0.0917**	**0.0912**	0.0833	0.0833	ND	110	109	30 - 125	1	25	
Dibenz[a,h]anthracene	**0.0747**	**0.0756**	0.0833	0.0833	ND	90	91	31 - 124	1	22	
Surrogate:											
2-Fluorobiphenyl						*93*	*90*	*32 - 115*			
Pyrene-d10						*88*	*88*	*35 - 129*			
Terphenyl-d14						*90*	*89*	*33 - 114*			

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-10**					
Laboratory ID:	02-234-04					
Benzo[a]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*86*	*32 - 115*				
Pyrene-d10	*97*	*35 - 129*				
Terphenyl-d14	*103*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-17**					
Laboratory ID:	02-234-25					
Benzo[a]anthracene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.012	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*81*	*35 - 129*				
Terphenyl-d14	*87*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP34-15**					
Laboratory ID:	02-234-33					
Benzo[a]anthracene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Chrysene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[b]fluoranthene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo(j,k)fluoranthene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Benzo[a]pyrene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Dibenz[a,h]anthracene	**ND**	0.0093	EPA 8270D/SIM	3-1-18	3-4-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*72*	*32 - 115*				
Pyrene-d10	*74*	*35 - 129*				
Terphenyl-d14	*80*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0301S2					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*92*	*32 - 115*				
Pyrene-d10	*97*	*35 - 129*				
Terphenyl-d14	*104*	*33 - 114*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-234-04										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.172**	**0.183**	0.167	0.167	ND	103	110	27 - 143	6	23	
Chrysene	**0.161**	**0.170**	0.167	0.167	ND	96	102	22 - 130	5	24	
Benzo[b]fluoranthene	**0.160**	**0.169**	0.167	0.167	ND	96	101	15 - 141	5	26	
Benzo(j,k)fluoranthene	**0.161**	**0.168**	0.167	0.167	ND	96	101	42 - 112	4	24	
Benzo[a]pyrene	**0.161**	**0.168**	0.167	0.167	ND	96	101	33 - 126	4	26	
Indeno(1,2,3-c,d)pyrene	**0.154**	**0.157**	0.167	0.167	ND	92	94	30 - 125	2	25	
Dibenz[a,h]anthracene	**0.156**	**0.159**	0.167	0.167	ND	93	95	31 - 124	2	22	
Surrogate:											
2-Fluorobiphenyl						*81*	*88*	*32 - 115*			
Pyrene-d10						*93*	*95*	*35 - 129*			
Terphenyl-d14						*97*	*97*	*33 - 114*			

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-2**					
Laboratory ID:	02-234-02					
Aroclor 1016	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.062	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*40-134*				
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Aroclor 1016	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**0.29**	0.073	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.073	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*72*	*40-134*				
Client ID:	**PP12-10**					
Laboratory ID:	02-234-04					
Aroclor 1016	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.064	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*40-134*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP15-6**					
Laboratory ID:	02-234-11					
Aroclor 1016	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.076	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*77*	*40-134*				
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Aroclor 1016	**ND**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1221	**ND**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1232	**ND**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1242	**0.58**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1248	**ND**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1254	**ND**	0.085	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1260	**0.78**	0.085	EPA 8082A	3-1-18	3-7-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*82*	*40-134*				
Client ID:	**PP25-17**					
Laboratory ID:	02-234-25					
Aroclor 1016	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1221	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1232	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1242	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1248	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1254	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Aroclor 1260	**ND**	0.093	EPA 8082A	3-1-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*40-134*				

Date of Report: March 16, 2018
Samples Submitted: February 22, 2018
Laboratory Reference: 1802-234
Project: 17-06520-000

PCBs EPA 8082A
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0301S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1221	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1232	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1242	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1248	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1254	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Aroclor 1260	**ND**	0.050	EPA 8082A	3-1-18	3-7-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*92*	*40-134*				

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0301S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1221	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1232	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1242	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1248	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1254	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Aroclor 1260	**ND**	0.050	EPA 8082A	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*84*	*40-134*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	02-230-02										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.408**	**0.443**	0.500	0.500	ND	**82**	**89**	34-126	8	16	
Surrogate:											
DCB						*74*	*81*	*40-134*			

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-2**					
Laboratory ID:	02-234-02					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.62	EPA 6010D	2-27-18	2-27-18	
Chromium	**15**	0.62	EPA 6010D	2-27-18	2-27-18	
Lead	**8.8**	6.2	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.31	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Arsenic	**16**	15	EPA 6010D	2-27-18	2-27-18	
Cadmium	**4.1**	0.73	EPA 6010D	2-27-18	2-27-18	
Chromium	**31**	0.73	EPA 6010D	2-27-18	2-27-18	
Lead	**500**	7.3	EPA 6010D	2-27-18	2-27-18	
Mercury	**0.76**	0.37	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP13-10**					
Laboratory ID:	02-234-08					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**3.5**	0.62	EPA 6010D	2-27-18	2-27-18	
Chromium	**29**	0.62	EPA 6010D	2-27-18	2-27-18	
Lead	**330**	6.2	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.31	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP15-6**					
Laboratory ID:	02-234-11					
Arsenic	**ND**	15	EPA 6010D	2-27-18	2-27-18	
Cadmium	**0.79**	0.76	EPA 6010D	2-27-18	2-27-18	
Chromium	**22**	0.76	EPA 6010D	2-27-18	2-27-18	
Lead	**75**	7.6	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.38	EPA 7471B	2-27-18	2-27-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP15-12**					
Laboratory ID:	02-234-12					
Arsenic	**24**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**1.0**	0.59	EPA 6010D	2-27-18	2-27-18	
Chromium	**34**	0.59	EPA 6010D	2-27-18	2-27-18	
Lead	**270**	5.9	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.30	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP19-7**					
Laboratory ID:	02-234-15					
Arsenic	**ND**	13	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.63	EPA 6010D	2-27-18	2-27-18	
Chromium	**17**	0.63	EPA 6010D	2-27-18	2-27-18	
Lead	**82**	6.3	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.32	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP19-10**					
Laboratory ID:	02-234-16					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**0.95**	0.59	EPA 6010D	2-27-18	2-27-18	
Chromium	**30**	0.59	EPA 6010D	2-27-18	2-27-18	
Lead	**340**	5.9	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.29	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP19-15**					
Laboratory ID:	02-234-17					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**3.2**	0.60	EPA 6010D	2-27-18	2-27-18	
Chromium	**17**	0.60	EPA 6010D	2-27-18	2-27-18	
Lead	**96**	6.0	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.30	EPA 7471B	2-27-18	2-27-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP22-4**					
Laboratory ID:	02-234-18					
Arsenic	**ND**	13	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.64	EPA 6010D	2-27-18	2-27-18	
Chromium	**9.9**	0.64	EPA 6010D	2-27-18	2-27-18	
Lead	**ND**	6.4	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.32	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP22-9**					
Laboratory ID:	02-234-19					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.61	EPA 6010D	2-27-18	2-27-18	
Chromium	**9.9**	0.61	EPA 6010D	2-27-18	2-27-18	
Lead	**ND**	6.1	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.31	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP22-13**					
Laboratory ID:	02-234-20					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**2.4**	0.58	EPA 6010D	2-27-18	2-27-18	
Chromium	**36**	0.58	EPA 6010D	2-27-18	2-27-18	
Lead	**270**	5.8	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.29	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP25-7**					
Laboratory ID:	02-234-23					
Arsenic	**ND**	14	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.68	EPA 6010D	2-27-18	2-27-18	
Chromium	**13**	0.68	EPA 6010D	2-27-18	2-27-18	
Lead	**8.8**	6.8	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.34	EPA 7471B	2-27-18	2-27-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Arsenic	**ND**	17	EPA 6010D	2-27-18	2-27-18	
Cadmium	**1.9**	0.85	EPA 6010D	2-27-18	2-27-18	
Chromium	**38**	0.85	EPA 6010D	2-27-18	2-27-18	
Lead	**140**	8.5	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.42	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP26-11**					
Laboratory ID:	02-234-28					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.58	EPA 6010D	2-27-18	2-27-18	
Chromium	**21**	0.58	EPA 6010D	2-27-18	2-27-18	
Lead	**ND**	5.8	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.29	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP26-17**					
Laboratory ID:	02-234-29					
Arsenic	**ND**	15	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.77	EPA 6010D	2-27-18	2-27-18	
Chromium	**15**	0.77	EPA 6010D	2-27-18	2-27-18	
Lead	**ND**	7.7	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.39	EPA 7471B	2-27-18	2-27-18	
Client ID:	**PP34-8**					
Laboratory ID:	02-234-31					
Arsenic	**ND**	12	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.61	EPA 6010D	2-27-18	2-27-18	
Chromium	**12**	0.61	EPA 6010D	2-27-18	2-27-18	
Lead	**6.1**	6.1	EPA 6010D	2-27-18	2-27-18	
Mercury	**ND**	0.30	EPA 7471B	2-27-18	2-27-18	

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Laboratory Reference: 1802-234
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0227SM2					
Arsenic	**ND**	10	EPA 6010D	2-27-18	2-27-18	
Cadmium	**ND**	0.50	EPA 6010D	2-27-18	2-27-18	
Chromium	**ND**	0.50	EPA 6010D	2-27-18	2-27-18	
Lead	**ND**	5.0	EPA 6010D	2-27-18	2-27-18	
Laboratory ID:	MB0227S1					
Mercury	**ND**	0.25	EPA 7471B	2-27-18	2-27-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-234-29										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**9.55**	**9.05**	NA	NA		NA		NA	5	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	02-234-29										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-234-29										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**97.5**	**96.8**	100	100	ND	**98**	**97**	75-125	1	20	
Cadmium	**46.1**	**46.0**	50.0	50.0	ND	**92**	**92**	75-125	0	20	
Chromium	**104**	**105**	100	100	9.55	**95**	**95**	75-125	0	20	
Lead	**227**	**229**	250	250	ND	**91**	**92**	75-125	1	20	
Laboratory ID:	02-234-29										
Mercury	**0.575**	**0.571**	0.500	0.500	0.00680	**114**	**113**	80-120	1	20	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-10**					
Laboratory ID:	02-234-04					
Arsenic	**ND**	13	EPA 6010D	3-2-18	3-2-18	
Cadmium	**ND**	0.64	EPA 6010D	3-2-18	3-2-18	
Chromium	**25**	0.64	EPA 6010D	3-2-18	3-2-18	
Lead	**30**	6.4	EPA 6010D	3-2-18	3-2-18	
Mercury	**ND**	0.32	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP25-17**					
Laboratory ID:	02-234-25					
Arsenic	**ND**	19	EPA 6010D	3-2-18	3-2-18	
Cadmium	**ND**	0.93	EPA 6010D	3-2-18	3-2-18	
Chromium	**28**	0.93	EPA 6010D	3-2-18	3-2-18	
Lead	**ND**	9.3	EPA 6010D	3-2-18	3-2-18	
Mercury	**ND**	0.47	EPA 7471B	3-7-18	3-7-18	

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TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0302SM2					
Arsenic	**ND**	10	EPA 6010D	3-2-18	3-2-18	
Cadmium	**ND**	0.50	EPA 6010D	3-2-18	3-2-18	
Chromium	**ND**	0.50	EPA 6010D	3-2-18	3-2-18	
Lead	**ND**	5.0	EPA 6010D	3-2-18	3-2-18	
.	MB0307S2					
Mercury	**ND**	0.25	EPA 7471B	3-7-18	3-7-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-265-04										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**67.5**	**67.5**	NA	NA		NA		NA	0	20	
Lead	**8.25**	**6.70**	NA	NA		NA		NA	21	20	C
Laboratory ID:	02-271-21										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-265-04										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**90.0**	**89.4**	100	100	ND	**90**	**89**	75-125	1	20	
Cadmium	**44.5**	**43.9**	50.0	50.0	ND	**89**	**88**	75-125	1	20	
Chromium	**156**	**153**	100	100	67.5	**88**	**85**	75-125	2	20	
Lead	**219**	**219**	250	250	8.25	**84**	**84**	75-125	0	20	
Laboratory ID:	02-271-21										
Mercury	**0.605**	**0.590**	0.500	0.500	0.0364	**114**	**111**	80-120	3	20	

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Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP12-7**					
Laboratory ID:	02-234-03					
Lead	**0.23**	0.20	EPA 6010D	3-16-18	3-16-18	
Client ID:	**PP13-10**					
Laboratory ID:	02-234-08					
Lead	**ND**	0.20	EPA 6010D	3-16-18	3-16-18	
Client ID:	**PP15-12**					
Laboratory ID:	02-234-12					
Lead	**3.8**	0.20	EPA 6010D	3-16-18	3-16-18	
Client ID:	**PP19-10**					
Laboratory ID:	02-234-16					
Lead	**1.3**	0.20	EPA 6010D	3-16-18	3-16-18	
Client ID:	**PP22-13**					
Laboratory ID:	02-234-20					
Lead	**ND**	0.20	EPA 6010D	3-16-18	3-16-18	
Client ID:	**PP25-13**					
Laboratory ID:	02-234-24					
Lead	**ND**	0.20	EPA 6010D	3-16-18	3-16-18	

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Samples Submitted: February 22, 2018
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Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0316TM1					
Lead	**ND**	0.20	EPA 6010D	3-16-18	3-16-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	02-234-03										
	ORIG	DUP									
Lead	**0.228**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	02-234-03										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**9.06**	**9.12**	10.0	10.0	0.228	**88**	**89**	75-125	1	20	

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% MOISTURE

Date Analyzed: 2-23&28&3-5-18

Client ID	Lab ID	% Moisture
PP12-2	02-234-02	19
PP12-7	02-234-03	32
PP12-10	02-234-04	22
PP13-10	02-234-08	20
PP15-6	02-234-11	34
PP15-12	02-234-12	16
PP19-7	02-234-15	21
PP19-10	02-234-16	15
PP19-15	02-234-17	16
PP22-4	02-234-18	22
PP22-9	02-234-19	19
PP22-13	02-234-20	14
PP25-7	02-234-23	27
PP25-13	02-234-24	41
PP25-17	02-234-25	46
PP26-11	02-234-28	14
PP26-17	02-234-29	35
PP34-8	02-234-31	18
PP34-15	02-234-33	28

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-234

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals LEAD only	HEM (oil and grease) 1664A					% Moisture
1	PP*10-6	2.21.18	9:40	soil	2	A	A		A					A	A					A							X
2	PP12-2		9:50		2	X	A	●						X	●					X							X
3	PP12-7		10:00		2	X	A	●						X	●					X	O						X
4	PP12-10		10:10		2	A	A	●						●	●					●							●
5	PP12-16		10:20		2	A	A	A						A	A					A							X
6	PP13-2		10:30		2	A	A	A						A	A					A							X
7	PP13-6		10:40		2	A	A	A						A	A					A							X
8	PP13-10		10:50		2	X	A	A						X	A					X	O						X
9	PP13-15		11:00		2	A	A	A						A	A					A							X
10	PP15-4	✓	11:40	✓	2	A	A	A						A	A					A							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	2/22/18	1505
Received	[signature]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
A - Archive for 30 Days
● Added 2/27/18. DB (STA)
O Added 3/8/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-234

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals LEAD ONLY	HEM (oil and grease) 1664A					% Moisture
11	PP15-6	2-21-18	11:55	soil	2	X	A		●					X	●					X							X
12	PP15-12		12:05		2	X	A		A					X	A					X	O						X
13	PP15-16		12:15		2	A	A		A					A	A					A							X
14	PP19-3		12:20		2	A	A		A					A	A					A							X
15	PP19-7		12:30		2	X	A		●					X	A					X							X
16	PP19-10		12:40		2	X	A		A					X	A					X	O						X
17	PP19-15		12:50		2	X	A		A					X	A					X							X
18	PP22-4		1340		2	X	A		A					X	A					X							X
19	PP22-9		1350		2	X	A		A					X	A					X							X
20	PP22-13		1355		2	X	A		A					X	A					X	O						X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	2/22/18	1505
Received	[signature]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Analytical Laboratory Testing Services
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Chain of Custody

Company: Herrera
Project Number: 17-06520-600
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-234

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals LEAD ONLY	HEM (oil and grease) 1664A					% Moisture
21	PP22-17	2-21-18	1405	Soil	2	A	A		A					A	A					A							X
22	PP25-3		1420		2	A	A		A					A	A					A							X
23	PP25-7		1425		2	X	A		A					X	A					X							X
24	PP25-13		1430		2	X	●		●					X	●					X	O						X
25	PP25-17		1445		2	A	●		●					●	●					●							●
26	PP26-3		1455		2	A	A		A					A	A					A							X
27	PP26-7		1505		2	A	A		A					A	A					A							X
28	PP26-11		1510		2	X	A		A					X	A					X							X
29	PP26-17		1515		2	X	A		A					X	A					X							X
30	PP34-4		1540		2	A	A		A					A	A					A							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	2/22/18	1505
Received	[signature]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Bruce Carpenter

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-234

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	cPAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
31	PP 34-8	2-21-18	1550	Soil	2	X	A		A					X	A					~~X~~ YES						X
32	PP 34-13	↓	1600	↓	2	~~A~~	A		A					A	A					A						X
33	PP 34-15	↓	1605	↓	2	A	A		A					●	A					A						●

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	2/22/18	1505
Received	[signature]	OSE	2/22/18	1505
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 15, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1802-278

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on February 28, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

Case Narrative

Samples were collected on February 26 and 27, 2018 and received by the laboratory on February 28, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_2.5**					
Laboratory ID:	02-278-01					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	65	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil	**Detected**	130	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				
Client ID:	**B-11_12.5**					
Laboratory ID:	02-278-04					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	60	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				
Client ID:	**B-10_7.5**					
Laboratory ID:	02-278-06					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	59	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil	**Detected**	120	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**B-08_5**					
Laboratory ID:	02-278-09					
Gasoline Range Organics	**ND**	28	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	69	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	140	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**B-08_12.5**					
Laboratory ID:	02-278-11					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	67	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_2.5**					
Laboratory ID:	02-278-13					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	180	NWTPH-HCID	3-1-18	3-1-18	U1
Lube Oil	**Detected**	120	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*118*	*50-150*				
Client ID:	**B-07_7.5**					
Laboratory ID:	02-278-14					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	290	NWTPH-HCID	3-1-18	3-1-18	U1
Lube Oil	**Detected**	120	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0301S1					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-1-18	3-1-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-1-18	3-1-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-1-18	3-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*116*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_2.5**					
Laboratory ID:	02-278-01					
Diesel Range Organics	**nd**	33	NWTPH-Dx	3-9-18	3-9-18	U1
Lube Oil Range Organics	**380**	65	NWTPH-Dx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**B-10_7.5**					
Laboratory ID:	02-278-06					
Diesel Range Organics	**ND**	30	NWTPH-Dx	3-9-18	3-12-18	
Lube Oil	**88**	59	NWTPH-Dx	3-9-18	3-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*51*	*50-150*				
Client ID:	**B-07_2.5**					
Laboratory ID:	02-278-13					
Diesel Range Organics	**ND**	150	NWTPH-Dx	3-9-18	3-9-18	U1
Lube Oil	**4400**	290	NWTPH-Dx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**B-07_7.5**					
Laboratory ID:	02-278-14					
Diesel Range Organics	**ND**	310	NWTPH-Dx	3-9-18	3-9-18	
Lube Oil	**1800**	620	NWTPH-Dx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**B-07_12.5**					
Laboratory ID:	02-278-15					
Diesel Range Organics	**ND**	33	NWTPH-Dx	3-9-18	3-9-18	
Lube Oil	**180**	66	NWTPH-Dx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	3-9-18	3-9-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	02-278-15									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	
Lube Oil	**137**	**93.2**	NA	NA		NA	NA	38	NA	
Surrogate:										
o-Terphenyl						*106*	*75*	*50-150*		

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_2.5**					
Laboratory ID:	02-278-01					
Benzo[a]anthracene	**0.016**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**0.035**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**0.053**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**0.014**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**0.019**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**0.017**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*70*	*32 - 115*				
Pyrene-d10	*85*	*35 - 129*				
Terphenyl-d14	*88*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_12.5**					
Laboratory ID:	02-278-04					
Benzo[a]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*32 - 115*				
Pyrene-d10	*77*	*35 - 129*				
Terphenyl-d14	*80*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-10_7.5**					
Laboratory ID:	02-278-06					
Benzo[a]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*73*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*92*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-08_5**					
Laboratory ID:	02-278-09					
Benzo[a]anthracene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0092	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*90*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-08_12.5**					
Laboratory ID:	02-278-11					
Benzo[a]anthracene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_2.5**					
Laboratory ID:	02-278-13					
Benzo[a]anthracene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.039	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*32 - 115*				
Pyrene-d10	*89*	*35 - 129*				
Terphenyl-d14	*81*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_7.5**					
Laboratory ID:	02-278-14					
Benzo[a]anthracene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.041	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*93*	*35 - 129*				
Terphenyl-d14	*92*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0305S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*94*	*35 - 129*				
Terphenyl-d14	*102*	*33 - 114*				

Date of Report: March 15, 2018
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Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0305S1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.0878**	**0.0851**	0.0833	0.0833	105	102	64 - 135	3	15	
Chrysene	**0.0869**	**0.0844**	0.0833	0.0833	104	101	70 - 119	3	15	
Benzo[b]fluoranthene	**0.0826**	**0.0807**	0.0833	0.0833	99	97	54 - 135	2	15	
Benzo(j,k)fluoranthene	**0.0872**	**0.0839**	0.0833	0.0833	105	101	66 - 122	4	15	
Benzo[a]pyrene	**0.0816**	**0.0789**	0.0833	0.0833	98	95	62 - 125	3	15	
Indeno(1,2,3-c,d)pyrene	**0.0752**	**0.0724**	0.0833	0.0833	90	87	55 - 129	4	15	
Dibenz[a,h]anthracene	**0.0769**	**0.0756**	0.0833	0.0833	92	91	58 - 125	2	15	
Surrogate:										
2-Fluorobiphenyl					*88*	*87*	*32 - 115*			
Pyrene-d10					*99*	*96*	*35 - 129*			
Terphenyl-d14					*105*	*102*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_12.5**					
Laboratory ID:	02-278-15					
Benzo[a]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Chrysene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo(j,k)fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-12-18	3-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*32 - 115*				
Pyrene-d10	*68*	*35 - 129*				
Terphenyl-d14	*73*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0312S2					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-12-18	3-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*32 - 115*				
Pyrene-d10	*71*	*35 - 129*				
Terphenyl-d14	*77*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-078-01										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.0626**	**0.0696**	0.0833	0.0833	ND	75	84	27 - 143	11	23	
Chrysene	**0.0626**	**0.0678**	0.0833	0.0833	0.00705	67	73	22 - 130	8	24	
Benzo[b]fluoranthene	**0.0610**	**0.0687**	0.0833	0.0833	0.00792	64	73	15 - 141	12	26	
Benzo(j,k)fluoranthene	**0.0517**	**0.0547**	0.0833	0.0833	ND	62	66	42 - 112	6	24	
Benzo[a]pyrene	**0.0579**	**0.0645**	0.0833	0.0833	ND	70	77	33 - 126	11	26	
Indeno(1,2,3-c,d)pyrene	**0.0607**	**0.0657**	0.0833	0.0833	ND	73	79	30 - 125	8	25	
Dibenz[a,h]anthracene	**0.0543**	**0.0584**	0.0833	0.0833	ND	65	70	31 - 124	7	22	
Surrogate:											
2-Fluorobiphenyl						*58*	*61*	*32 - 115*			
Pyrene-d10						*73*	*76*	*35 - 129*			
Terphenyl-d14						*62*	*64*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PCBs by EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_2.5**					
Laboratory ID:	02-278-01					
Aroclor 1016	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.26	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*91*	*40-134*				
Client ID:	**B-10_7.5**					
Laboratory ID:	02-278-06					
Aroclor 1016	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.059	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*87*	*40-134*				
Client ID:	**B-07_2.5**					
Laboratory ID:	02-278-13					
Aroclor 1016	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.058	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*73*	*40-134*				

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

PCBs by EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_7.5**					
Laboratory ID:	02-278-14					
Aroclor 1016	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.062	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*40-134*				
Client ID:	**B-07_12.5**					
Laboratory ID:	02-278-15					
Aroclor 1016	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.066	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*40-134*				

Date of Report: March 15, 2018
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Project: 17-06520-000

PCBs by EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1221	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1232	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1242	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1248	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1254	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Aroclor 1260	**ND**	0.050	EPA 8082A	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*80*	*40-134*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-036-01										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.373**	**0.385**	0.500	0.500	ND	**75**	**77**	34-126	3	16	
Surrogate:											
DCB						*75*	*73*	*40-134*			

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11_2.5**					
Laboratory ID:	02-278-01					
Arsenic	**ND**	13	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.65	EPA 6010D	3-7-18	3-7-18	
Chromium	**16**	0.65	EPA 6010D	3-7-18	3-7-18	
Lead	**15**	6.5	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.32	EPA 7471B	3-2-18	3-2-18	
Client ID:	**B-11_12.5**					
Laboratory ID:	02-278-04					
Arsenic	**ND**	12	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.60	EPA 6010D	3-7-18	3-7-18	
Chromium	**13**	0.60	EPA 6010D	3-7-18	3-7-18	
Lead	**ND**	6.0	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.30	EPA 7471B	3-2-18	3-2-18	
Client ID:	**B-10_7.5**					
Laboratory ID:	02-278-06					
Arsenic	**ND**	12	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.59	EPA 6010D	3-7-18	3-7-18	
Chromium	**8.0**	0.59	EPA 6010D	3-7-18	3-7-18	
Lead	**ND**	5.9	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.29	EPA 7471B	3-2-18	3-2-18	
Client ID:	**B-08_5**					
Laboratory ID:	02-278-09					
Arsenic	**ND**	14	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.69	EPA 6010D	3-7-18	3-7-18	
Chromium	**16**	0.69	EPA 6010D	3-7-18	3-7-18	
Lead	**6.9**	6.9	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.35	EPA 7471B	3-2-18	3-2-18	

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Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-08_12.5**					
Laboratory ID:	02-278-11					
Arsenic	**ND**	13	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.67	EPA 6010D	3-7-18	3-7-18	
Chromium	**18**	0.67	EPA 6010D	3-7-18	3-7-18	
Lead	**ND**	6.7	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.34	EPA 7471B	3-2-18	3-2-18	
Client ID:	**B-07_2.5**					
Laboratory ID:	02-278-13					
Arsenic	**ND**	12	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.58	EPA 6010D	3-7-18	3-7-18	
Chromium	**15**	0.58	EPA 6010D	3-7-18	3-7-18	
Lead	**6.0**	5.8	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.29	EPA 7471B	3-2-18	3-2-18	
Client ID:	**B-07_7.5**					
Laboratory ID:	02-278-14					
Arsenic	**ND**	12	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.62	EPA 6010D	3-7-18	3-7-18	
Chromium	**14**	0.62	EPA 6010D	3-7-18	3-7-18	
Lead	**ND**	6.2	EPA 6010D	3-7-18	3-7-18	
Mercury	**ND**	0.31	EPA 7471B	3-2-18	3-2-18	

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0307S2					
Arsenic	**ND**	10	EPA 6010D	3-7-18	3-7-18	
Cadmium	**ND**	0.50	EPA 6010D	3-7-18	3-7-18	
Chromium	**ND**	0.50	EPA 6010D	3-7-18	3-7-18	
Lead	**ND**	5.0	EPA 6010D	3-7-18	3-7-18	
Laboratory ID:	MB0302S1					
Mercury	**ND**	0.25	EPA 7471B	3-2-18	3-2-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-036-07										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**20.8**	**18.0**	NA	NA		NA		NA	14	20	
Lead	**8.15**	**7.35**	NA	NA		NA		NA	10	20	
Laboratory ID:	02-265-04										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-036-07										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**92.5**	**96.0**	100	100	ND	**93**	**96**	75-125	4	20	
Cadmium	**44.8**	**46.3**	50.0	50.0	ND	**90**	**93**	75-125	3	20	
Chromium	**108**	**113**	100	100	20.8	**87**	**92**	75-125	5	20	
Lead	**226**	**233**	250	250	8.15	**87**	**90**	75-125	3	20	
Laboratory ID:	02-265-04										
Mercury	**0.548**	**0.546**	0.500	0.500	0.0400	**102**	**101**	80-120	0	20	

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-07_12.5**					
Laboratory ID:	02-278-15					
Arsenic	**ND**	13	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.66	EPA 6010D	3-9-18	3-9-18	
Chromium	**10**	0.66	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	6.6	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.33	EPA 7471B	3-12-18	3-12-18	

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309SM1					
Arsenic	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Chromium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Laboratory ID:	MB0312S1					
Mercury	**ND**	0.25	EPA 7471B	3-12-18	3-12-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-007-11										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**16.5**	**15.5**	NA	NA		NA		NA	6	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	03-075-02										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-007-11										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**101**	**99.5**	100	100	ND	**101**	**100**	75-125	1	20	
Cadmium	**46.0**	**46.9**	50.0	50.0	ND	**92**	**94**	75-125	2	20	
Chromium	**109**	**115**	100	100	16.5	**93**	**98**	75-125	5	20	
Lead	**230**	**236**	250	250	ND	**92**	**94**	75-125	2	20	
Laboratory ID:	03-075-02										
Mercury	**0.545**	**0.547**	0.500	0.500	0.0159	**106**	**106**	80-120	0	20	

Date of Report: March 15, 2018
Samples Submitted: February 28, 2018
Laboratory Reference: 1802-278
Project: 17-06520-000

% MOISTURE

Date Analyzed: 3-1&9-18

Client ID	Lab ID	% Moisture
B-11_2.5	02-278-01	23
B-11_12.5	02-278-04	16
B-10_7.5	02-278-06	15
B-08_5	02-278-09	28
B-08_12.5	02-278-11	25
B-07_2.5	02-278-13	14
B-07_7.5	02-278-14	19
B-07_12.5	02-278-15	24

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Aspect Consulting
Project Number: 170520-000
Project Name: Pacific Right Bank
Project Manager: Bruce Carpenter
Sampled by: JGF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-278

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	B-11_2.5	2/26/18	8:56	Soil	2	●			⊗					●	⊗					●							●
2	B-11_7.5	2/26/18	9:04			A														A							
3	B-11_10	2/26/18	9:20			A														A							
4	B-11_12.5	2/26/18	9:25			●								●						●							●
5	B-10_2.5	2/26/18	10:34			A														A							
6	B-10_7.5	2/26/18	10:55			●			⊗					●	⊗					●							●
7	B-10_12.5	2/26/18	11:15			A														A							
8	B-10_17.5	2/26/18	11:30			A														A							
9	B-08_5	2/26/18	15:10			●								●						●							●
10	B-08_7.5	2/26/18	15:15			●								●						●							●

	Signature	Company	Date	Time
Relinquished	[signature]	Aspect Consulting	2/28/18	8:15
Received	[signature]	OnSite Env	2/28/18	8:15
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
● Added 2/28/18. DB (STA)
⊗ Added 3/8/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Aspect Consulting
Project Number: 1706520-006
Project Name: Pacific Right Bank
Project Manager: Bruce Carpenter
Sampled by: JGF

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 02-278

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
11	B-08_12.5	2/26/18	15:20	Soil	2	●								●						●						●
12	B-08_17.5	2/26/18	15:25			A														A						
13	B-07_2.5	2/27/18	8:50			●			X					●	X					●						●
14	B-07_7.5	2/27/18	8:55			●			X					●	X					●						●
15	B-07_12.5	2/27/18	9:05			A			X					X	X					X	-yes					X
16	B-07_17.5	2/27/18	9:10			A														A						

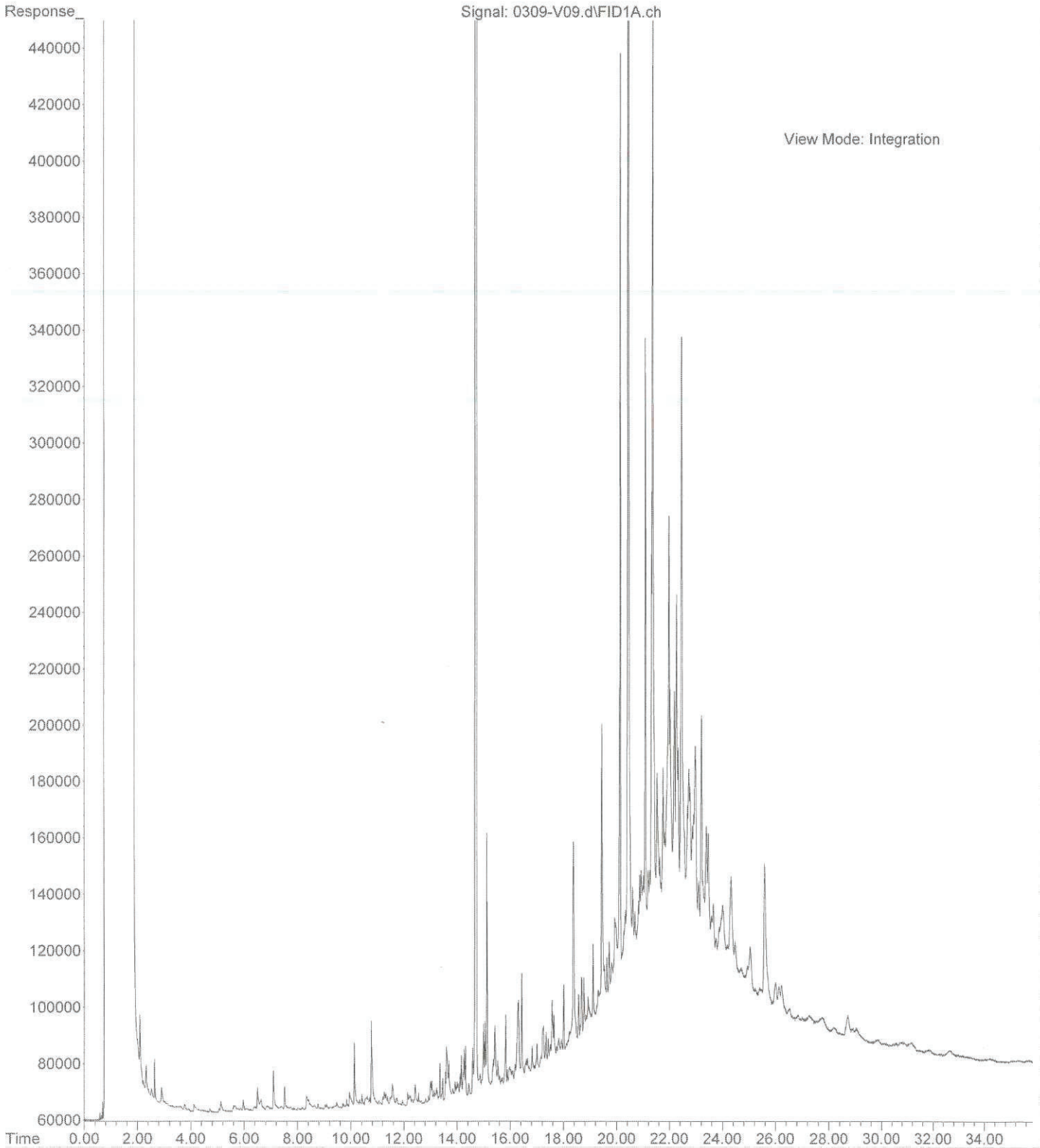
	Signature	Company	Date	Time
Relinquished	[signature]	Aspect Consulting	2/28/18	8:15
Received	[signature]	Cascade Tech	2/28/18	8:15
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

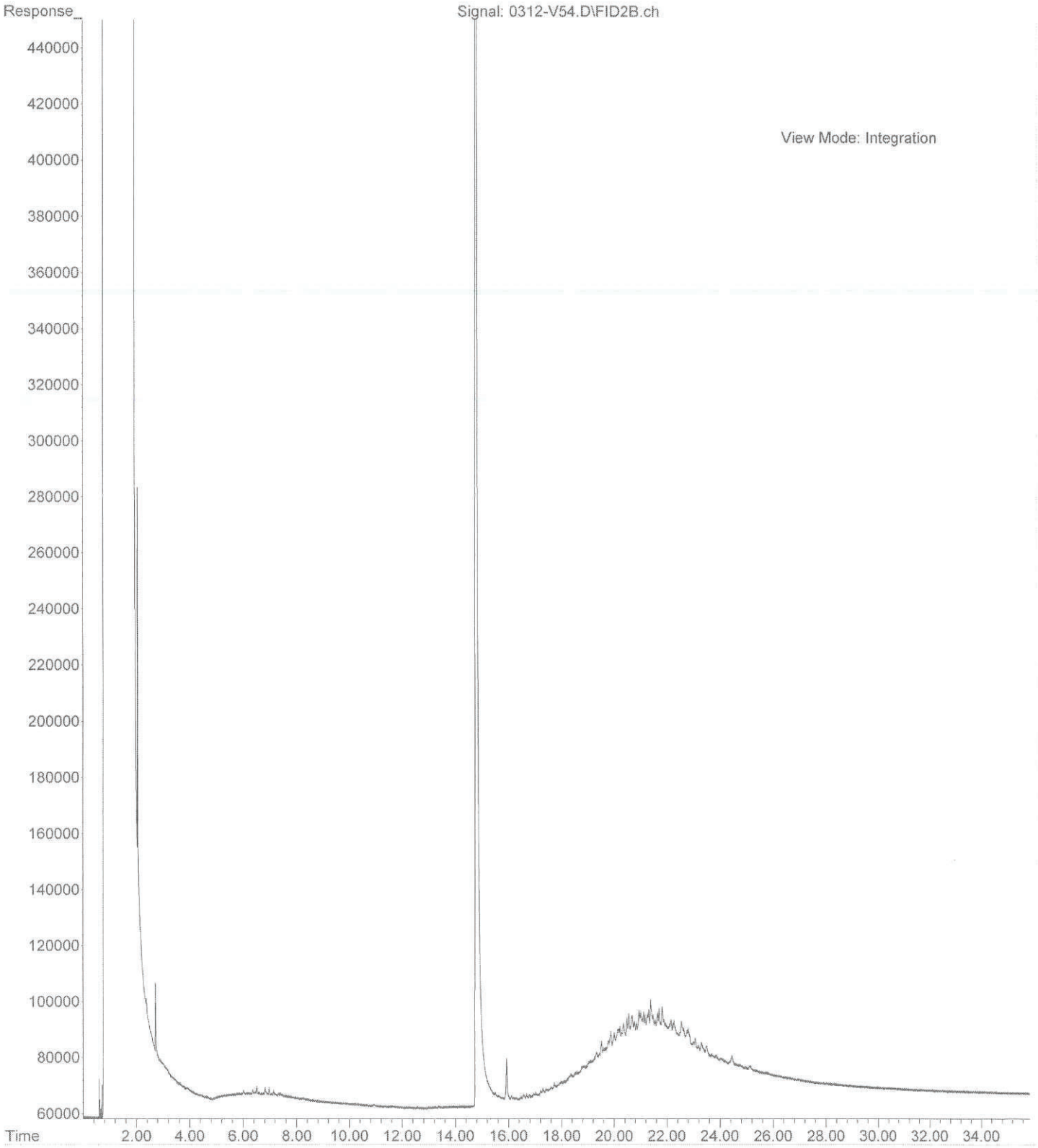
Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

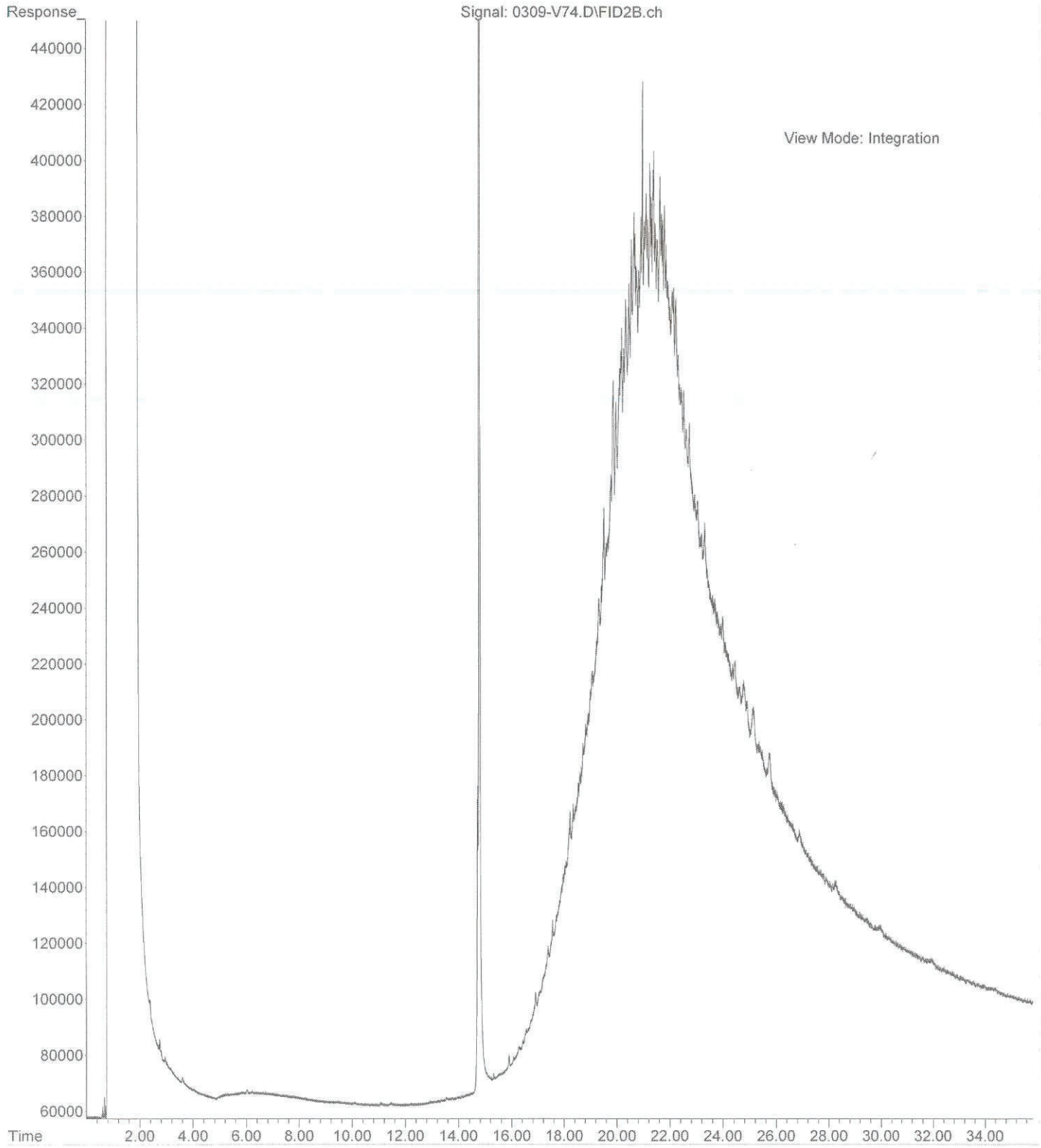
File :X:\DIESELS\VIGO\DATA\V180309\0309-V09.d
Operator : JT
Acquired : 9 Mar 2018 13:12 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-278-01
Misc Info :
Vial Number: 9



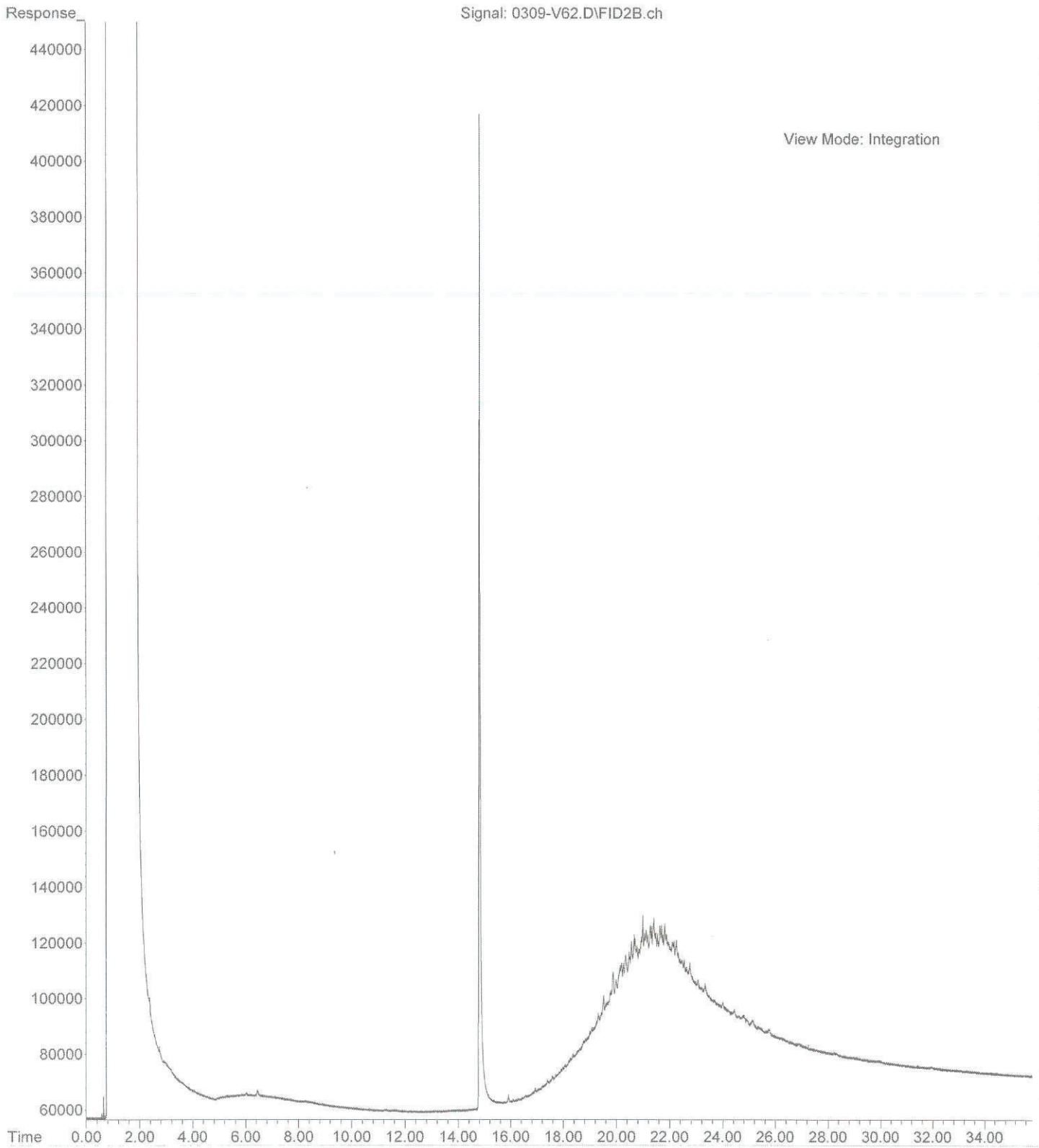
File :X:\DIESELS\VIGO\DATA\V180312.SEC\0312-V54.D
Operator : JT
Acquired : 12 Mar 2018 9:44 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-278-06 RR
Misc Info :
Vial Number: 54



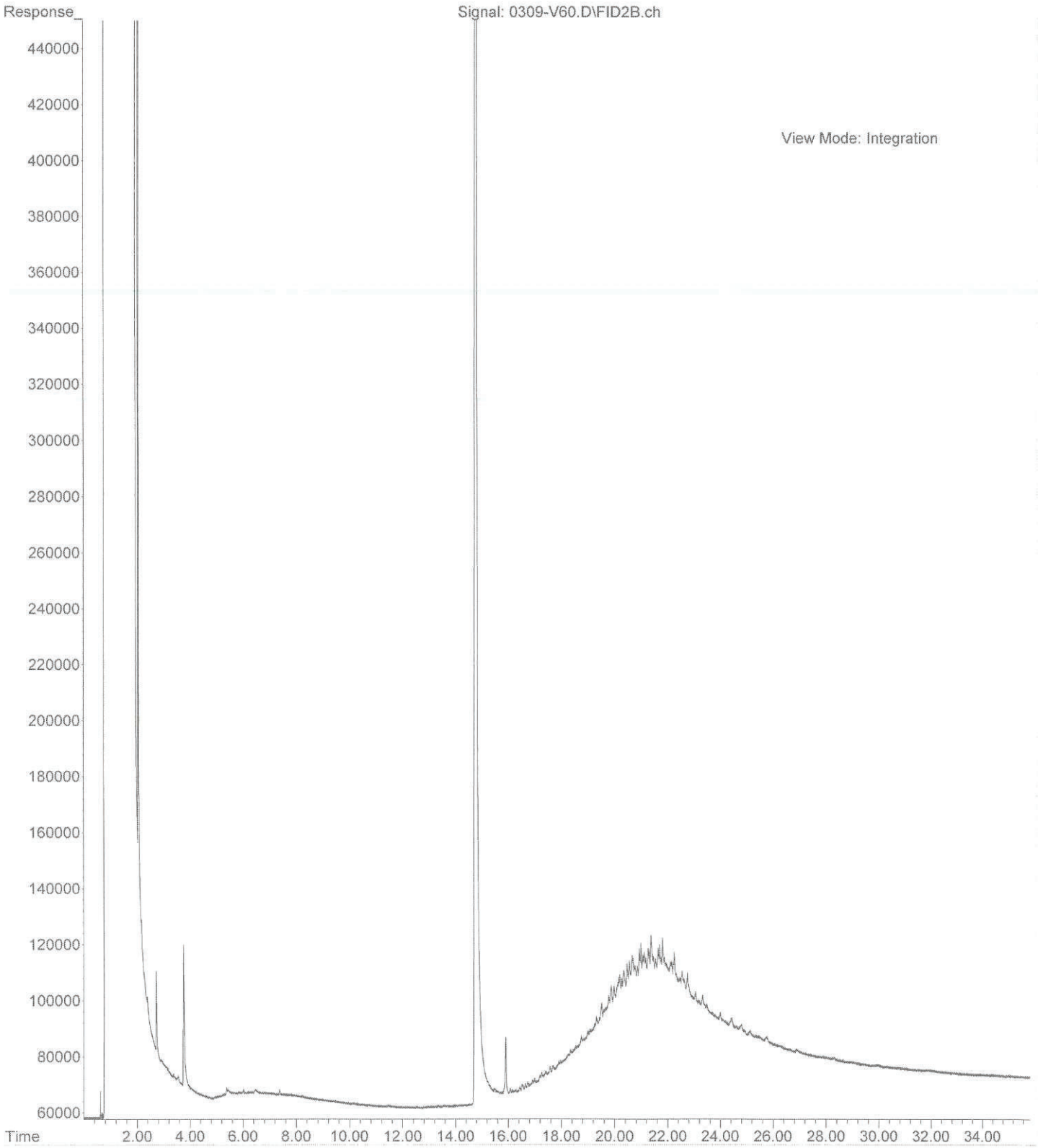
File :X:\DIESELS\VIGO\DATA\V180309.SEC\0309-V74.D
Operator : JT
Acquired : 9 Mar 2018 23:29 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-278-13 5X
Misc Info :
Vial Number: 74



File :X:\DIESELS\VIGO\DATA\V180309.SEC\0309-V62.D
Operator : JT
Acquired : 9 Mar 2018 15:32 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-278-14 10X
Misc Info :
Vial Number: 62



File :X:\DIESELS\VIGO\DATA\V180309.SEC\0309-V60.D
Operator : JT
Acquired : 9 Mar 2018 13:52 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 02-278-15 ~~DUP~~
Misc Info :
Vial Number: 60



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 15, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1803-007

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on March 1, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

Case Narrative

Samples were collected on February 28 and March 1, 2018 and received by the laboratory on March 1, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP28-8**					
Laboratory ID:	03-007-02					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	63	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**PP28-10**					
Laboratory ID:	03-007-03					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**PP29-3**					
Laboratory ID:	03-007-05					
Gasoline Range Organics	**ND**	450	NWTPH-HCID	3-2-18	3-5-18	
Diesel Range Organics	**ND**	1100	NWTPH-HCID	3-2-18	3-5-18	
Lube Oil	**Detected**	2300	NWTPH-HCID	3-2-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP29-5**					
Laboratory ID:	03-007-06					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	65	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP29-10**					
Laboratory ID:	03-007-07					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	66	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-4**					
Laboratory ID:	03-007-09					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**PP32-7**					
Laboratory ID:	03-007-10					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	68	NWTPH-HCID	3-2-18	3-2-18	U1
Lube Oil	**Detected**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*113*	*50-150*				
Client ID:	**PP31-3**					
Laboratory ID:	03-007-13					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	57	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**PP31-11**					
Laboratory ID:	03-007-15					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*112*	*50-150*				
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Gasoline Range Organics	**ND**	450	NWTPH-HCID	3-2-18	3-5-18	
Diesel Range Organics	**ND**	1100	NWTPH-HCID	3-2-18	3-5-18	
Lube Oil	**Detected**	2300	NWTPH-HCID	3-2-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP33-5**					
Laboratory ID:	03-007-18					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	59	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*114*	*50-150*				
Client ID:	**PP33-10**					
Laboratory ID:	03-007-19					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	67	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Gasoline Range Organics	**Detected**	24	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**Detected**	59	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil	**Detected**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*115*	*50-150*				
Client ID:	**PP23-5**					
Laboratory ID:	03-007-22					
Gasoline Range Organics	**ND**	22	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	55	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP23-10**					
Laboratory ID:	03-007-23					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	67	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-15**					
Laboratory ID:	03-007-24					
Gasoline Range Organics	**ND**	31	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	76	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	66	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil	**Detected**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Gasoline Range Organics	**ND**	41	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	100	NWTPH-HCID	3-2-18	3-2-18	U1
Lube Oil	**Detected**	210	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Gasoline Range Organics	**ND**	330	NWTPH-HCID	3-2-18	3-5-18	
Diesel Range Organics	**ND**	810	NWTPH-HCID	3-2-18	3-5-18	
Lube Oil	**Detected**	1600	NWTPH-HCID	3-2-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP20-2**					
Laboratory ID:	03-007-29					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil	**Detected**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

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NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	86	NWTPH-HCID	3-2-18	3-2-18	U1
Lube Oil	**Detected**	150	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*110*	*50-150*				
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	64	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil	**Detected**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*111*	*50-150*				
Client ID:	**PP18-3**					
Laboratory ID:	03-007-33					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**PP18-5**					
Laboratory ID:	03-007-34					
Gasoline Range Organics	**ND**	40	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	99	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	200	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**PP18-10**					
Laboratory ID:	03-007-35					
Gasoline Range Organics	**ND**	27	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	67	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP17-1**					
Laboratory ID:	03-007-37					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	64	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP17-5**					
Laboratory ID:	03-007-38					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP17-10**					
Laboratory ID:	03-007-39					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Gasoline Range Organics	**ND**	210	NWTPH-HCID	3-2-18	3-5-18	
Diesel Range Organics	**ND**	530	NWTPH-HCID	3-2-18	3-5-18	
Lube Oil	**Detected**	1100	NWTPH-HCID	3-2-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP16-11**					
Laboratory ID:	03-007-42					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

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NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP14-5**					
Laboratory ID:	03-007-45					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**PP14-12**					
Laboratory ID:	03-007-46					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	65	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**PP11-5**					
Laboratory ID:	03-007-49					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	66	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				
Client ID:	**PP11-10**					
Laboratory ID:	03-007-50					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	63	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP10-11**					
Laboratory ID:	03-007-52					
Gasoline Range Organics	**ND**	33	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	82	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	170	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

Date of Report: March 15, 2018
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NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-17**					
Laboratory ID:	03-007-53					
Gasoline Range Organics	**ND**	25	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	62	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				
Client ID:	**PP27-7**					
Laboratory ID:	03-007-55					
Gasoline Range Organics	**ND**	29	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	73	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	150	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Client ID:	**PP27-10**					
Laboratory ID:	03-007-56					
Gasoline Range Organics	**ND**	24	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	61	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*102*	*50-150*				
Client ID:	**PP30-5**					
Laboratory ID:	03-007-59					
Gasoline Range Organics	**ND**	26	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	64	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**Detected**	130	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**PP30-10**					
Laboratory ID:	03-007-60					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	57	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	110	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*101*	*50-150*				

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NWTPH-HCID

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Gasoline Range Organics	**Detected**	280	NWTPH-HCID	3-2-18	3-5-18	
Diesel Range Organics	**ND**	690	NWTPH-HCID	3-2-18	3-5-18	
Lube Oil	**Detected**	1400	NWTPH-HCID	3-2-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	---	*50-150*				S

Client ID:	**PP24-10**					
Laboratory ID:	03-007-64					
Gasoline Range Organics	**ND**	23	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	58	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	120	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*104*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0302S2					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*106*	*50-150*				
Laboratory ID:	MB0302S3					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*105*	*50-150*				
Laboratory ID:	MB0302S4					
Gasoline Range Organics	**ND**	20	NWTPH-HCID	3-2-18	3-2-18	
Diesel Range Organics	**ND**	50	NWTPH-HCID	3-2-18	3-2-18	
Lube Oil Range Organics	**ND**	100	NWTPH-HCID	3-2-18	3-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				

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NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-10**					
Laboratory ID:	03-007-11					
Benzene	**ND**	0.026	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.26	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	13	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*66-130*				
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Benzene	**ND**	0.024	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.24	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	12	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*85*	*66-130*				
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Benzene	**ND**	0.025	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.25	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.13	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	13	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*104*	*66-130*				

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NWTPH-Gx/BTEX

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Benzene	**ND**	0.024	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.24	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.12	EPA 8021B	3-9-18	3-9-18	
Gasoline	**39**	12	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*66-130*				
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Benzene	**ND**	0.020	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.053	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.053	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.11	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.053	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	5.3	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*84*	*66-130*				
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Benzene	**ND**	0.020	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.075	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.075	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.15	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.075	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	7.5	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*103*	*66-130*				

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NWTPH-Gx/BTEX
QUALITY CONTROL

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309S1					
Benzene	**ND**	0.020	EPA 8021B	3-9-18	3-9-18	
Toluene	**ND**	0.050	EPA 8021B	3-9-18	3-9-18	
Ethyl Benzene	**ND**	0.050	EPA 8021B	3-9-18	3-9-18	
m,p-Xylene	**ND**	0.10	EPA 8021B	3-9-18	3-9-18	
o-Xylene	**ND**	0.050	EPA 8021B	3-9-18	3-9-18	
Gasoline	**ND**	5.0	NWTPH-Gx	3-9-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*87*	*66-130*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-073-01										
	ORIG	DUP									
Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Toluene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Ethyl Benzene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
m,p-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
o-Xylene	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*97*	*94*	*66-130*			
SPIKE BLANKS											
Laboratory ID:	SB0309S1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**0.961**	**0.980**	1.00	1.00		**96**	**98**	70-120	2	11	
Toluene	**0.980**	**0.991**	1.00	1.00		**98**	**99**	73-121	1	14	
Ethyl Benzene	**0.983**	**0.999**	1.00	1.00		**98**	**100**	74-121	2	11	
m,p-Xylene	**1.01**	**1.02**	1.00	1.00		**101**	**102**	75-124	1	13	
o-Xylene	**0.959**	**0.974**	1.00	1.00		**96**	**97**	75-121	2	12	
Surrogate:											
Fluorobenzene						*93*	*94*	*66-130*			

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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-3**					
Laboratory ID:	03-007-05					
Diesel Range Organics	**ND**	280	NWTPH-Dx	3-8-18	3-9-18	
Lube Oil	**5900**	560	NWTPH-Dx	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP32-7**					
Laboratory ID:	03-007-10					
Diesel Range Organics	**ND**	60	NWTPH-Dx	3-8-18	3-8-18	U1
Lube Oil	**650**	61	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Diesel Range Organics	**ND**	750	NWTPH-Dx	3-8-18	3-9-18	U1
Lube Oil	**12000**	1100	NWTPH-Dx	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Diesel Range Organics	**ND**	29	NWTPH-Dx	3-8-18	3-8-18	
Lube Oil Range Organics	**200**	59	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Diesel Range Organics	**57**	33	NWTPH-Dx	3-8-18	3-8-18	N
Lube Oil Range Organics	**540**	66	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*108*	*50-150*				
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Diesel Range Organics	**150**	51	NWTPH-Dx	3-8-18	3-8-18	N
Lube Oil Range Organics	**960**	100	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				

Date of Report: March 15, 2018
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NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Diesel Range Organics	**1800**	410	NWTPH-Dx	3-8-18	3-9-18	
Lube Oil Range Organics	**10000**	810	NWTPH-Dx	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP21-15**					
Laboratory ID:	03-007-28					
Diesel Range Organics	**110**	68	NWTPH-Dx	3-8-18	3-8-18	
Lube Oil Range Organics	**1200**	140	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*107*	*50-150*				
Client ID:	**PP20-2**					
Laboratory ID:	03-007-29					
Diesel Range Organics	**ND**	29	NWTPH-Dx	3-8-18	3-8-18	
Lube Oil	**380**	58	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Diesel Range Organics	**ND**	200	NWTPH-Dx	3-8-18	3-9-18	U1
Lube Oil	**1300**	370	NWTPH-Dx	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Diesel Range Organics	**ND**	32	NWTPH-Dx	3-8-18	3-8-18	
Lube Oil	**95**	64	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**PP20-15**					
Laboratory ID:	03-007-32					
Diesel Range Organics	**ND**	58	NWTPH-Dx	3-8-18	3-13-18	U1
Lube Oil	**320**	70	NWTPH-Dx	3-8-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*97*	*50-150*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
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Project: 17-06520-000

NWTPH-Dx

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Diesel Range Organics	**ND**	320	NWTPH-Dx	3-8-18	3-9-18	U1
Lube Oil	**3200**	530	NWTPH-Dx	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*---*	*50-150*				S
Client ID:	**PP30-5**					
Laboratory ID:	03-007-59					
Diesel Range Organics	**71**	32	NWTPH-Dx	3-8-18	3-8-18	N
Lube Oil	**630**	64	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Diesel Range Organics	**ND**	35	NWTPH-Dx	3-8-18	3-12-18	
Lube Oil	**130**	69	NWTPH-Dx	3-8-18	3-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*91*	*50-150*				

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NWTPH-Dx
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0308S1					
Diesel Range Organics	**ND**	25	NWTPH-Dx	3-8-18	3-8-18	
Lube Oil Range Organics	**ND**	50	NWTPH-Dx	3-8-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*99*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	03-007-25									
	ORIG	DUP								
Diesel Range Organics	**43.0**	**29.9**	NA	NA		NA	NA	36	NA	N
Lube Oil Range Organics	**406**	**369**	NA	NA		NA	NA	10	NA	
Surrogate:										
o-Terphenyl						*108 86*	*50-150*			
Laboratory ID:	03-007-32									
	ORIG	DUP								
Diesel Range	**ND**	**ND**	NA	NA		NA	NA	NA	NA	U1
Lube Oil	**230**	**203**	NA	NA		NA	NA	12	NA	
Surrogate:										
o-Terphenyl						*97 79*	*50-150*			

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP28-8**					
Laboratory ID:	03-007-02					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: March 15, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP28-10**					
Laboratory ID:	03-007-03					
Benzo[a]anthracene	**0.011**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**0.011**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.0084**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**0.010**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*90*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-3**					
Laboratory ID:	03-007-05					
Benzo[a]anthracene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.038	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*32 - 115*				
Pyrene-d10	*77*	*35 - 129*				
Terphenyl-d14	*72*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-5**					
Laboratory ID:	03-007-06					
Benzo[a]anthracene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0087	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-10**					
Laboratory ID:	03-007-07					
Benzo[a]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*92*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-4**					
Laboratory ID:	03-007-09					
Benzo[a]anthracene	**0.010**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**0.015**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.024**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**0.011**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**0.0095**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*81*	*35 - 129*				
Terphenyl-d14	*83*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-7**					
Laboratory ID:	03-007-10					
Benzo[a]anthracene	**0.038**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.055**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.051**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**0.013**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.036**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.025**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**0.0091**	0.0082	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*32 - 115*				
Pyrene-d10	*91*	*35 - 129*				
Terphenyl-d14	*86*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP31-3**					
Laboratory ID:	03-007-13					
Benzo[a]anthracene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.0093**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0075	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*83*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*92*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP31-11**					
Laboratory ID:	03-007-15					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*95*	*35 - 129*				
Terphenyl-d14	*100*	*33 - 114*				

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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Benzo[a]anthracene	**ND**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.19**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.14**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**ND**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.075	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*32 - 115*				
Pyrene-d10	*94*	*35 - 129*				
Terphenyl-d14	*82*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP33-5**					
Laboratory ID:	03-007-18					
Benzo[a]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0079	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*75*	*32 - 115*				
Pyrene-d10	*84*	*35 - 129*				
Terphenyl-d14	*81*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP33-10**					
Laboratory ID:	03-007-19					
Benzo[a]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Benzo[a]anthracene	**0.012**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**0.017**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.017**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**0.011**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**0.0082**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0078	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*75*	*32 - 115*				
Pyrene-d10	*85*	*35 - 129*				
Terphenyl-d14	*85*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-5**					
Laboratory ID:	03-007-22					
Benzo[a]anthracene	**0.18**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.044**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.10**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.044**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.026**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**0.019**	0.015	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*98*	*35 - 129*				
Terphenyl-d14	*79*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-10**					
Laboratory ID:	03-007-23					
Benzo[a]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0090	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*32 - 115*				
Pyrene-d10	*83*	*35 - 129*				
Terphenyl-d14	*87*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-15**					
Laboratory ID:	03-007-24					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Benzo[a]anthracene	**0.076**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.097**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.11**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**0.033**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.062**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.040**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**0.0097**	0.0089	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*32 - 115*				
Pyrene-d10	*95*	*35 - 129*				
Terphenyl-d14	*87*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Benzo[a]anthracene	**0.14**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.18**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.22**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**0.077**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.13**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.11**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**0.024**	0.014	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*72*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*82*	*33 - 114*				

Date of Report: March 15, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Benzo[a]anthracene	**0.90**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**1.0**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**1.3**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**0.30**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.85**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.71**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**0.19**	0.011	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*32 - 115*				
Pyrene-d10	*98*	*35 - 129*				
Terphenyl-d14	*77*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-2**					
Laboratory ID:	03-007-29					
Benzo[a]anthracene	**0.0080**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**0.019**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.023**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**0.013**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**0.013**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*78*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Benzo[a]anthracene	**0.23**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.37**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.20**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.22**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.12**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.098	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*98*	*35 - 129*				
Terphenyl-d14	*85*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Benzo[a]anthracene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.043	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*89*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP18-3**					
Laboratory ID:	03-007-33					
Benzo[a]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*73*	*32 - 115*				
Pyrene-d10	*79*	*35 - 129*				
Terphenyl-d14	*83*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP18-5**					
Laboratory ID:	03-007-34					
Benzo[a]anthracene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.013	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*90*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP18-10**					
Laboratory ID:	03-007-35					
Benzo[a]anthracene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0089	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*93*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP17-1**					
Laboratory ID:	03-007-37					
Benzo[a]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*82*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*91*	*33 - 114*				

Date of Report: March 15, 2018
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Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP17-5**					
Laboratory ID:	03-007-38					
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*79*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP17-10**					
Laboratory ID:	03-007-39					
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*86*	*32 - 115*				
Pyrene-d10	*96*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

Date of Report: March 15, 2018
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cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Benzo[a]anthracene	**0.20**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Chrysene	**0.060**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[b]fluoranthene	**0.086**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Benzo[a]pyrene	**0.058**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**0.036**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.036	EPA 8270D/SIM	3-5-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*75*	*32 - 115*				
Pyrene-d10	*95*	*35 - 129*				
Terphenyl-d14	*76*	*33 - 114*				

Date of Report: March 15, 2018
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Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP16-11**					
Laboratory ID:	03-007-42					
Benzo[a]anthracene	**0.12**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**0.11**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**0.15**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**0.049**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**0.10**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**0.069**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**0.015**	0.0082	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*83*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*91*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP14-5**					
Laboratory ID:	03-007-45					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*93*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP14-12**					
Laboratory ID:	03-007-46					
Benzo[a]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Chrysene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[b]fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo(j,k)fluoranthene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Benzo[a]pyrene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Indeno(1,2,3-c,d)pyrene	**0.0089**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Dibenz[a,h]anthracene	**ND**	0.0086	EPA 8270D/SIM	3-5-18	3-6-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*32 - 115*				
Pyrene-d10	*96*	*35 - 129*				
Terphenyl-d14	*98*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP11-5**					
Laboratory ID:	03-007-49					
Benzo[a]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Chrysene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[b]fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[a]pyrene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.0088	EPA 8270D/SIM	3-7-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*90*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*96*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP11-10**					
Laboratory ID:	03-007-50					
Benzo[a]anthracene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Chrysene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[b]fluoranthene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[a]pyrene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.0084	EPA 8270D/SIM	3-7-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-11**					
Laboratory ID:	03-007-52					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Chrysene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	3-7-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*70*	*32 - 115*				
Pyrene-d10	*79*	*35 - 129*				
Terphenyl-d14	*85*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP10-17**					
Laboratory ID:	03-007-53					
Benzo[a]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Chrysene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[b]fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[a]pyrene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.0083	EPA 8270D/SIM	3-7-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*72*	*32 - 115*				
Pyrene-d10	*86*	*35 - 129*				
Terphenyl-d14	*96*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP27-7**					
Laboratory ID:	03-007-55					
Benzo[a]anthracene	**0.036**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Chrysene	**0.051**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[b]fluoranthene	**0.049**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo(j,k)fluoranthene	**0.014**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[a]pyrene	**0.038**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Indeno(1,2,3-c,d)pyrene	**0.025**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	3-7-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*61*	*32 - 115*				
Pyrene-d10	*71*	*35 - 129*				
Terphenyl-d14	*75*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP27-10**					
Laboratory ID:	03-007-56					
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-7-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*32 - 115*				
Pyrene-d10	*87*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP30-5**					
Laboratory ID:	03-007-59					
Benzo[a]anthracene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Chrysene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[b]fluoranthene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[a]pyrene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.085	EPA 8270D/SIM	3-7-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*76*	*32 - 115*				
Pyrene-d10	*85*	*35 - 129*				
Terphenyl-d14	*83*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP30-10**					
Laboratory ID:	03-007-60					
Benzo[a]anthracene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Chrysene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[b]fluoranthene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo(j,k)fluoranthene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[a]pyrene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Dibenz[a,h]anthracene	**ND**	0.0076	EPA 8270D/SIM	3-7-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*88*	*32 - 115*				
Pyrene-d10	*90*	*35 - 129*				
Terphenyl-d14	*95*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Benzo[a]anthracene	**ND**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Chrysene	**0.035**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[b]fluoranthene	**0.031**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Benzo[a]pyrene	**ND**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.018	EPA 8270D/SIM	3-7-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*32 - 115*				
Pyrene-d10	*86*	*35 - 129*				
Terphenyl-d14	*84*	*33 - 114*				

Date of Report: March 15, 2018
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Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-10**					
Laboratory ID:	03-007-64					
Benzo[a]anthracene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Chrysene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[b]fluoranthene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo(j,k)fluoranthene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Benzo[a]pyrene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Dibenz[a,h]anthracene	**ND**	0.0077	EPA 8270D/SIM	3-7-18	3-8-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*85*	*32 - 115*				
Pyrene-d10	*88*	*35 - 129*				
Terphenyl-d14	*94*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0305S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*84*	*32 - 115*				
Pyrene-d10	*94*	*35 - 129*				
Terphenyl-d14	*102*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0305S2					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-5-18	3-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*91*	*32 - 115*				
Pyrene-d10	*103*	*35 - 129*				
Terphenyl-d14	*108*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0307S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-7-18	3-7-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*80*	*32 - 115*				
Pyrene-d10	*92*	*35 - 129*				
Terphenyl-d14	*90*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0305S1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.0878**	**0.0851**	0.0833	0.0833	105	102	64 - 135	3	15	
Chrysene	**0.0869**	**0.0844**	0.0833	0.0833	104	101	70 - 119	3	15	
Benzo[b]fluoranthene	**0.0826**	**0.0807**	0.0833	0.0833	99	97	54 - 135	2	15	
Benzo(j,k)fluoranthene	**0.0872**	**0.0839**	0.0833	0.0833	105	101	66 - 122	4	15	
Benzo[a]pyrene	**0.0816**	**0.0789**	0.0833	0.0833	98	95	62 - 125	3	15	
Indeno(1,2,3-c,d)pyrene	**0.0752**	**0.0724**	0.0833	0.0833	90	87	55 - 129	4	15	
Dibenz[a,h]anthracene	**0.0769**	**0.0756**	0.0833	0.0833	92	91	58 - 125	2	15	
Surrogate:										
2-Fluorobiphenyl					*88*	*87*	*32 - 115*			
Pyrene-d10					*99*	*96*	*35 - 129*			
Terphenyl-d14					*105*	*102*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-007-31										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.0785**	**0.0813**	0.0833	0.0833	ND	94	98	27 - 143	4	23	
Chrysene	**0.0770**	**0.0834**	0.0833	0.0833	ND	92	100	22 - 130	8	24	
Benzo[b]fluoranthene	**0.0753**	**0.0798**	0.0833	0.0833	ND	90	96	15 - 141	6	26	
Benzo(j,k)fluoranthene	**0.0700**	**0.0742**	0.0833	0.0833	ND	84	89	42 - 112	6	24	
Benzo[a]pyrene	**0.0718**	**0.0759**	0.0833	0.0833	ND	86	91	33 - 126	6	26	
Indeno(1,2,3-c,d)pyrene	**0.0683**	**0.0752**	0.0833	0.0833	ND	82	90	30 - 125	10	25	
Dibenz[a,h]anthracene	**0.0684**	**0.0734**	0.0833	0.0833	ND	82	88	31 - 124	7	22	
Surrogate:											
2-Fluorobiphenyl						*77*	*81*	*32 - 115*			
Pyrene-d10						*85*	*90*	*35 - 129*			
Terphenyl-d14						*86*	*91*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-036-01										
	MS	MSD	MS	MSD		MS	MSD				
Benzo[a]anthracene	**0.0816**	**0.0895**	0.0833	0.0833	0.00697	90	99	27 - 143	9	23	
Chrysene	**0.0782**	**0.0842**	0.0833	0.0833	0.00958	82	90	22 - 130	7	24	
Benzo[b]fluoranthene	**0.0811**	**0.0890**	0.0833	0.0833	0.0122	83	92	15 - 141	9	26	
Benzo(j,k)fluoranthene	**0.0729**	**0.0791**	0.0833	0.0833	ND	88	95	42 - 112	8	24	
Benzo[a]pyrene	**0.0746**	**0.0820**	0.0833	0.0833	ND	90	98	33 - 126	9	26	
Indeno(1,2,3-c,d)pyrene	**0.0768**	**0.0876**	0.0833	0.0833	ND	92	105	30 - 125	13	25	
Dibenz[a,h]anthracene	**0.0664**	**0.0774**	0.0833	0.0833	ND	80	93	31 - 124	15	22	
Surrogate:											
2-Fluorobiphenyl						*70*	*77*	*32 - 115*			
Pyrene-d10						*81*	*90*	*35 - 129*			
Terphenyl-d14						*84*	*93*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-10**					
Laboratory ID:	03-007-11					
Benzo[a]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Chrysene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[b]fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[a]pyrene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.0081	EPA 8270D/SIM	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*68*	*32 - 115*				
Pyrene-d10	*70*	*35 - 129*				
Terphenyl-d14	*75*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-15**					
Laboratory ID:	03-007-28					
Benzo[a]anthracene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Chrysene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Benzo[b]fluoranthene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Benzo(j,k)fluoranthene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Benzo[a]pyrene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Dibenz[a,h]anthracene	**ND**	0.018	EPA 8270D/SIM	3-12-18	3-15-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*74*	*32 - 115*				
Pyrene-d10	*89*	*35 - 129*				
Terphenyl-d14	*89*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-15**					
Laboratory ID:	03-007-32					
Benzo[a]anthracene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Chrysene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[b]fluoranthene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[a]pyrene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.046	EPA 8270D/SIM	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*32 - 115*				
Pyrene-d10	*72*	*35 - 129*				
Terphenyl-d14	*76*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0308S1					
Benzo[a]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Chrysene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[b]fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo(j,k)fluoranthene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Benzo[a]pyrene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Dibenz[a,h]anthracene	**ND**	0.0067	EPA 8270D/SIM	3-8-18	3-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*70*	*32 - 115*				
Pyrene-d10	*83*	*35 - 129*				
Terphenyl-d14	*83*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0312S1					
Benzo[a]anthracene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Chrysene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[b]fluoranthene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo(j,k)fluoranthene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Benzo[a]pyrene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Dibenz[a,h]anthracene	**ND**	0.0040	EPA 8270D/SIM	3-12-18	3-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*63*	*32 - 115*				
Pyrene-d10	*75*	*35 - 129*				
Terphenyl-d14	*81*	*33 - 114*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0308S1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.0694**	**0.0713**	0.0833	0.0833	83	86	64 - 135	3	15	
Chrysene	**0.0645**	**0.0662**	0.0833	0.0833	77	79	70 - 119	3	15	
Benzo[b]fluoranthene	**0.0653**	**0.0677**	0.0833	0.0833	78	81	54 - 135	4	15	
Benzo(j,k)fluoranthene	**0.0658**	**0.0688**	0.0833	0.0833	79	83	66 - 122	4	15	
Benzo[a]pyrene	**0.0641**	**0.0667**	0.0833	0.0833	77	80	62 - 125	4	15	
Indeno(1,2,3-c,d)pyrene	**0.0637**	**0.0675**	0.0833	0.0833	76	81	55 - 129	6	15	
Dibenz[a,h]anthracene	**0.0623**	**0.0640**	0.0833	0.0833	75	77	58 - 125	3	15	
Surrogate:										
2-Fluorobiphenyl					*73*	*69*	*32 - 115*			
Pyrene-d10					*76*	*75*	*35 - 129*			
Terphenyl-d14					*83*	*82*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0312S1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.0397**	**0.0412**	0.0500	0.0500	79	82	64 - 135	4	15	
Chrysene	**0.0372**	**0.0391**	0.0500	0.0500	74	78	70 - 119	5	15	
Benzo[b]fluoranthene	**0.0375**	**0.0399**	0.0500	0.0500	75	80	54 - 135	6	15	
Benzo(j,k)fluoranthene	**0.0381**	**0.0389**	0.0500	0.0500	76	78	66 - 122	2	15	
Benzo[a]pyrene	**0.0334**	**0.0344**	0.0500	0.0500	67	69	62 - 125	3	15	
Indeno(1,2,3-c,d)pyrene	**0.0382**	**0.0396**	0.0500	0.0500	76	79	55 - 129	4	15	
Dibenz[a,h]anthracene	**0.0371**	**0.0384**	0.0500	0.0500	74	77	58 - 125	3	15	
Surrogate:										
2-Fluorobiphenyl					*63*	*64*	*32 - 115*			
Pyrene-d10					*74*	*75*	*35 - 129*			
Terphenyl-d14					*79*	*80*	*33 - 114*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-3**					
Laboratory ID:	03-007-05					
Aroclor 1016	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*40-134*				
Client ID:	**PP32-7**					
Laboratory ID:	03-007-10					
Aroclor 1016	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*85*	*40-134*				
Client ID:	**PP32-10**					
Laboratory ID:	03-007-11					
Aroclor 1016	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.061	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*40-134*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Aroclor 1016	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.056	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*72*	*40-134*				
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Aroclor 1016	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.059	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*70*	*40-134*				
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Aroclor 1016	**ND**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**0.42**	0.066	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**0.10**	0.066	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*74*	*40-134*				

Date of Report: March 15, 2018
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Laboratory Reference: 1803-007
Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Aroclor 1016	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1221	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1232	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1242	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1248	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1254	**0.27**	0.10	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1260	**ND**	0.10	EPA 8082A	3-12-18	3-14-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*76*	*40-134*				
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Aroclor 1016	**ND**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1221	**ND**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1232	**ND**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1242	**0.11**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1248	**ND**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1254	**0.99**	0.081	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1260	**0.23**	0.081	EPA 8082A	3-12-18	3-14-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*87*	*40-134*				
Client ID:	**PP21-15**					
Laboratory ID:	03-007-28					
Aroclor 1016	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.14	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*68*	*40-134*				

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Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-2**					
Laboratory ID:	03-007-29					
Aroclor 1016	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.058	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*83*	*40-134*				
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Aroclor 1016	**ND**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1221	**ND**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1232	**ND**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1242	**0.16**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1248	**ND**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1254	**0.48**	0.073	EPA 8082A	3-12-18	3-14-18	X
Aroclor 1260	**0.10**	0.073	EPA 8082A	3-12-18	3-14-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*123*	*40-134*				
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Aroclor 1016	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*93*	*40-134*				

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Project: 17-06520-000

PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-15**					
Laboratory ID:	03-007-32					
Aroclor 1016	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.070	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*67*	*40-134*				
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Aroclor 1016	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.053	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*59*	*40-134*				
Client ID:	**PP30-5**					
Laboratory ID:	03-007-59					
Aroclor 1016	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.064	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*65*	*40-134*				

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PCBs EPA 8082A

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Aroclor 1016	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.069	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*75*	*40-134*				

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
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PCBs EPA 8082A
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0312S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1221	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1232	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1242	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1248	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1254	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Aroclor 1260	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*81*	*40-134*				

Laboratory ID:	MB0312S1					
Aroclor 1016	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1221	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1232	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1242	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1248	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1254	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Aroclor 1260	**ND**	0.050	EPA 8082A	3-12-18	3-13-18	X
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*78*	*40-134*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-075-05										
	MS	MSD	MS	MSD		MS	MSD				
Aroclor 1260	**0.422**	**0.372**	0.500	0.500	ND	**84**	**74**	34-126	13	16	
Surrogate:											
DCB						*86*	*76*	*40-134*			

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP28-8**					
Laboratory ID:	03-007-02					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.63	EPA 6010D	3-8-18	3-8-18	
Chromium	**25**	0.63	EPA 6010D	3-8-18	3-8-18	
Lead	**49**	6.3	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP28-10**					
Laboratory ID:	03-007-03					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.62	EPA 6010D	3-8-18	3-8-18	
Chromium	**23**	0.62	EPA 6010D	3-8-18	3-8-18	
Lead	**6.8**	6.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP29-3**					
Laboratory ID:	03-007-05					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.56	EPA 6010D	3-8-18	3-8-18	
Chromium	**25**	0.56	EPA 6010D	3-8-18	3-8-18	
Lead	**8.8**	5.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.28	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP29-5**					
Laboratory ID:	03-007-06					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.65	EPA 6010D	3-8-18	3-8-18	
Chromium	**15**	0.65	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.5	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.32	EPA 7471B	3-5-18	3-5-18	

Date of Report: March 15, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007
Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP29-10**					
Laboratory ID:	03-007-07					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.66	EPA 6010D	3-8-18	3-8-18	
Chromium	**16**	0.66	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.33	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP32-4**					
Laboratory ID:	03-007-09					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.62	EPA 6010D	3-8-18	3-8-18	
Chromium	**16**	0.62	EPA 6010D	3-8-18	3-8-18	
Lead	**12**	6.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP32-7**					
Laboratory ID:	03-007-10					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.61	EPA 6010D	3-8-18	3-8-18	
Chromium	**15**	0.61	EPA 6010D	3-8-18	3-8-18	
Lead	**15**	6.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP31-3**					
Laboratory ID:	03-007-13					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.56	EPA 6010D	3-8-18	3-8-18	
Chromium	**21**	0.56	EPA 6010D	3-8-18	3-8-18	
Lead	**12**	5.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.28	EPA 7471B	3-5-18	3-5-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP31-11**					
Laboratory ID:	03-007-15					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.62	EPA 6010D	3-8-18	3-8-18	
Chromium	**12**	0.62	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP33-3**					
Laboratory ID:	03-007-17					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.56	EPA 6010D	3-8-18	3-8-18	
Chromium	**17**	0.56	EPA 6010D	3-8-18	3-8-18	
Lead	**8.1**	5.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.28	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP33-5**					
Laboratory ID:	03-007-18					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.59	EPA 6010D	3-8-18	3-8-18	
Chromium	**19**	0.59	EPA 6010D	3-8-18	3-8-18	
Lead	**7.3**	5.9	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.30	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP33-10**					
Laboratory ID:	03-007-19					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.67	EPA 6010D	3-8-18	3-8-18	
Chromium	**13**	0.67	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.7	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.34	EPA 7471B	3-5-18	3-5-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.59	EPA 6010D	3-8-18	3-8-18	
Chromium	**19**	0.59	EPA 6010D	3-8-18	3-8-18	
Lead	**460**	5.9	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.29	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP23-5**					
Laboratory ID:	03-007-22					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.55	EPA 6010D	3-8-18	3-8-18	
Chromium	**15**	0.55	EPA 6010D	3-8-18	3-8-18	
Lead	**97**	5.5	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.27	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP23-10**					
Laboratory ID:	03-007-23					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.67	EPA 6010D	3-8-18	3-8-18	
Chromium	**13**	0.67	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.7	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.34	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP23-15**					
Laboratory ID:	03-007-24					
Arsenic	**ND**	15	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.76	EPA 6010D	3-8-18	3-8-18	
Chromium	**18**	0.76	EPA 6010D	3-8-18	3-8-18	
Lead	**220**	7.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.38	EPA 7471B	3-5-18	3-5-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-9-18	
Cadmium	**0.90**	0.66	EPA 6010D	3-8-18	3-9-18	
Chromium	**30**	0.66	EPA 6010D	3-8-18	3-9-18	
Lead	**740**	6.6	EPA 6010D	3-8-18	3-9-18	
Mercury	**0.87**	0.33	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Arsenic	**17**	10	EPA 6010D	3-8-18	3-8-18	
Cadmium	**27**	1.0	EPA 6010D	3-8-18	3-8-18	
Chromium	**74**	1.0	EPA 6010D	3-8-18	3-8-18	
Lead	**2800**	10	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.51	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Arsenic	**ND**	16	EPA 6010D	3-8-18	3-8-18	
Cadmium	**6.2**	0.81	EPA 6010D	3-8-18	3-8-18	
Chromium	**23**	0.81	EPA 6010D	3-8-18	3-8-18	
Lead	**180**	8.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.41	EPA 7471B	3-5-18	3-5-18	
Client ID:	**PP20-2**					
Laboratory ID:	03-007-29					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.58	EPA 6010D	3-8-18	3-8-18	
Chromium	**15**	0.58	EPA 6010D	3-8-18	3-8-18	
Lead	**28**	5.8	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.29	EPA 7471B	3-5-18	3-5-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Arsenic	**ND**	15	EPA 6010D	3-8-18	3-8-18	
Cadmium	**3.7**	0.73	EPA 6010D	3-8-18	3-8-18	
Chromium	**53**	0.73	EPA 6010D	3-8-18	3-8-18	
Lead	**630**	7.3	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.37	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.64	EPA 6010D	3-8-18	3-8-18	
Chromium	**22**	0.64	EPA 6010D	3-8-18	3-8-18	
Lead	**270**	6.4	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.32	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP18-3**					
Laboratory ID:	03-007-33					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**2.4**	0.61	EPA 6010D	3-8-18	3-8-18	
Chromium	**63**	0.61	EPA 6010D	3-8-18	3-8-18	
Lead	**130**	6.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP18-5**					
Laboratory ID:	03-007-34					
Arsenic	**ND**	20	EPA 6010D	3-8-18	3-8-18	
Cadmium	**3.1**	0.99	EPA 6010D	3-8-18	3-8-18	
Chromium	**39**	0.99	EPA 6010D	3-8-18	3-8-18	
Lead	**230**	9.9	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.49	EPA 7471B	3-7-18	3-7-18	

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Project: 17-06520-000

TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP18-10**					
Laboratory ID:	03-007-35					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**1.2**	0.67	EPA 6010D	3-8-18	3-8-18	
Chromium	**40**	0.67	EPA 6010D	3-8-18	3-8-18	
Lead	**97**	6.7	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.33	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP17-1**					
Laboratory ID:	03-007-37					
Arsenic	**19**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**4.0**	0.64	EPA 6010D	3-8-18	3-8-18	
Chromium	**57**	0.64	EPA 6010D	3-8-18	3-8-18	
Lead	**7300**	32	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.32	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP17-5**					
Laboratory ID:	03-007-38					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**4.5**	0.61	EPA 6010D	3-8-18	3-8-18	
Chromium	**59**	0.61	EPA 6010D	3-8-18	3-8-18	
Lead	**380**	6.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.30	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP17-10**					
Laboratory ID:	03-007-39					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**1.6**	0.58	EPA 6010D	3-8-18	3-8-18	
Chromium	**24**	0.58	EPA 6010D	3-8-18	3-8-18	
Lead	**29**	5.8	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.29	EPA 7471B	3-7-18	3-7-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP16-1**					
Laboratory ID:	03-007-41					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.53	EPA 6010D	3-8-18	3-8-18	
Chromium	**20**	0.53	EPA 6010D	3-8-18	3-8-18	
Lead	**17**	5.3	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.27	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP16-11**					
Laboratory ID:	03-007-42					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**1.2**	0.61	EPA 6010D	3-8-18	3-8-18	
Chromium	**24**	0.61	EPA 6010D	3-8-18	3-8-18	
Lead	**200**	6.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP14-5**					
Laboratory ID:	03-007-45					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.62	EPA 6010D	3-8-18	3-8-18	
Chromium	**12**	0.62	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-7-18	3-7-18	
Client ID:	**PP14-12**					
Laboratory ID:	03-007-46					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.65	EPA 6010D	3-8-18	3-8-18	
Chromium	**11**	0.65	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.5	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.32	EPA 7471B	3-9-18	3-9-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP11-5**					
Laboratory ID:	03-007-49					
Arsenic	**19**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**1.7**	0.66	EPA 6010D	3-8-18	3-8-18	
Chromium	**39**	0.66	EPA 6010D	3-8-18	3-8-18	
Lead	**840**	6.6	EPA 6010D	3-8-18	3-8-18	
Mercury	**0.41**	0.33	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP11-10**					
Laboratory ID:	03-007-50					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**0.72**	0.63	EPA 6010D	3-8-18	3-8-18	
Chromium	**36**	0.63	EPA 6010D	3-8-18	3-8-18	
Lead	**480**	6.3	EPA 6010D	3-8-18	3-8-18	
Mercury	**1.2**	0.31	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP10-11**					
Laboratory ID:	03-007-52					
Arsenic	**ND**	16	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.82	EPA 6010D	3-8-18	3-8-18	
Chromium	**22**	0.82	EPA 6010D	3-8-18	3-8-18	
Lead	**15**	8.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.41	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP10-17**					
Laboratory ID:	03-007-53					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.62	EPA 6010D	3-8-18	3-8-18	
Chromium	**15**	0.62	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.2	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.31	EPA 7471B	3-9-18	3-9-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP27-7**					
Laboratory ID:	03-007-55					
Arsenic	**ND**	15	EPA 6010D	3-8-18	3-8-18	
Cadmium	**0.88**	0.73	EPA 6010D	3-8-18	3-8-18	
Chromium	**28**	0.73	EPA 6010D	3-8-18	3-8-18	
Lead	**180**	7.3	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.36	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP27-10**					
Laboratory ID:	03-007-56					
Arsenic	**ND**	12	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.61	EPA 6010D	3-8-18	3-8-18	
Chromium	**12**	0.61	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	6.1	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.30	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP30-5**					
Laboratory ID:	03-007-59					
Arsenic	**ND**	13	EPA 6010D	3-8-18	3-8-18	
Cadmium	**0.83**	0.64	EPA 6010D	3-8-18	3-8-18	
Chromium	**16**	0.64	EPA 6010D	3-8-18	3-8-18	
Lead	**31**	6.4	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.32	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP30-10**					
Laboratory ID:	03-007-60					
Arsenic	**ND**	11	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.57	EPA 6010D	3-8-18	3-8-18	
Chromium	**14**	0.57	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	5.7	EPA 6010D	3-8-18	3-8-18	
Mercury	**ND**	0.28	EPA 7471B	3-9-18	3-9-18	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Arsenic	**ND**	14	EPA 6010D	3-9-18	3-9-18	
Cadmium	**2.3**	0.69	EPA 6010D	3-9-18	3-9-18	
Chromium	**18**	0.69	EPA 6010D	3-9-18	3-9-18	
Lead	**480**	6.9	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.35	EPA 7471B	3-9-18	3-9-18	
Client ID:	**PP24-10**					
Laboratory ID:	03-007-64					
Arsenic	**ND**	12	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.58	EPA 6010D	3-9-18	3-9-18	
Chromium	**10**	0.58	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	5.8	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.29	EPA 7471B	3-9-18	3-9-18	

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TOTAL METALS
EPA 6010D/7471B
METHOD BLANK QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309SM1					
Arsenic	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Chromium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Laboratory ID:	MB0309S1					
Mercury	**ND**	0.25	EPA 7471B	3-9-18	3-9-18	
Laboratory ID:	MB0308SM2					
Arsenic	**ND**	10	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.50	EPA 6010D	3-8-18	3-8-18	
Chromium	**ND**	0.50	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	5.0	EPA 6010D	3-8-18	3-8-18	
Laboratory ID:	MB0307S2					
Mercury	**ND**	0.25	EPA 7471B	3-7-18	3-7-18	
Laboratory ID:	MB0308SM1					
Arsenic	**ND**	5.0	EPA 6010D	3-8-18	3-8-18	
Cadmium	**ND**	0.50	EPA 6010D	3-8-18	3-8-18	
Chromium	**ND**	0.50	EPA 6010D	3-8-18	3-8-18	
Lead	**ND**	5.0	EPA 6010D	3-8-18	3-8-18	
Laboratory ID:	MB0305S1					
Mercury	**ND**	0.25	EPA 7471B	3-5-18	3-5-18	

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TOTAL METALS
EPA 6010D/7471B
DUPLICATE QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE										
Laboratory ID:	03-007-11									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**16.5**	**15.5**	NA	NA		NA	NA	6	20	
Lead	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	03-036-07									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	03-007-41									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**18.8**	**19.3**	NA	NA		NA	NA	2	20	
Lead	**15.8**	**12.9**	NA	NA		NA	NA	20	20	
Laboratory ID:	02-271-21									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Laboratory ID:	03-007-09									
	ORIG	DUP								
Arsenic	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA	NA	NA	20	
Chromium	**12.6**	**13.0**	NA	NA		NA	NA	4	20	
Lead	**9.65**	**10.9**	NA	NA		NA	NA	12	20	
Laboratory ID:	03-007-09									
Mercury	**ND**	**ND**	NA	NA		NA	NA	NA	20	

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TOTAL METALS
EPA 6010D/7471B
MS/MSD QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-007-11										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**101**	**99.5**	100	100	ND	**101**	**100**	75-125	1	20	
Cadmium	**46.0**	**46.9**	50.0	50.0	ND	**92**	**94**	75-125	2	20	
Chromium	**109**	**115**	100	100	16.5	**93**	**98**	75-125	5	20	
Lead	**230**	**236**	250	250	ND	**92**	**94**	75-125	2	20	
Laboratory ID:	03-036-07										
Mercury	**0.564**	**0.529**	0.500	0.500	0.0553	**102**	**95**	80-120	6	20	
Laboratory ID:	03-007-41										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**99.5**	**101**	100	100	ND	**100**	**101**	75-125	1	20	
Cadmium	**48.4**	**48.2**	50.0	50.0	ND	**97**	**96**	75-125	1	20	
Chromium	**115**	**117**	100	100	18.8	**96**	**98**	75-125	1	20	
Lead	**250**	**249**	250	250	15.8	**94**	**93**	75-125	0	20	
Laboratory ID:	02-272-21										
Mercury	**0.605**	**0.590**	0.500	0.500	0.0364	**114**	**111**	80-120	3	20	
Laboratory ID:	03-007-09										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**98.0**	**99.0**	100	100	ND	**98**	**99**	75-125	1	20	
Cadmium	**45.8**	**45.7**	50.0	50.0	ND	**92**	**91**	75-125	0	20	
Chromium	**107**	**107**	100	100	12.6	**95**	**94**	75-125	0	20	
Lead	**234**	**236**	250	250	9.65	**90**	**90**	75-125	1	20	
Laboratory ID:	03-007-09										
Mercury	**0.568**	**0.575**	0.500	0.500	0.0317	**107**	**109**	80-120	1	20	

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TOTAL METALS
EPA 6010D/7471B

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP32-10**					
Laboratory ID:	03-007-11					
Arsenic	**ND**	12	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.61	EPA 6010D	3-9-18	3-9-18	
Chromium	**20**	0.61	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	6.1	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.31	EPA 7471B	3-12-18	3-12-18	
Client ID:	**PP21-15**					
Laboratory ID:	03-007-28					
Arsenic	**ND**	14	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	1.4	EPA 6010D	3-9-18	3-9-18	
Chromium	**20**	1.4	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	14	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.68	EPA 7471B	3-12-18	3-12-18	
Client ID:	**PP20-15**					
Laboratory ID:	03-007-32					
Arsenic	**ND**	14	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.70	EPA 6010D	3-9-18	3-9-18	
Chromium	**15**	0.70	EPA 6010D	3-9-18	3-9-18	
Lead	**330**	7.0	EPA 6010D	3-9-18	3-9-18	
Mercury	**ND**	0.35	EPA 7471B	3-12-18	3-12-18	

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TOTAL METALS
EPA 6010D/7471B
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309SM1					
Arsenic	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Cadmium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Chromium	**ND**	0.50	EPA 6010D	3-9-18	3-9-18	
Lead	**ND**	5.0	EPA 6010D	3-9-18	3-9-18	
Laboratory ID:	MB0312S1					
Mercury	**ND**	0.25	EPA 7471B	3-12-18	3-12-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-007-11										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**16.5**	**15.5**	NA	NA		NA		NA	6	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	03-075-02										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-007-11										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**101**	**99.5**	100	100	ND	**101**	**100**	75-125	1	20	
Cadmium	**46.0**	**46.9**	50.0	50.0	ND	**92**	**94**	75-125	2	20	
Chromium	**109**	**115**	100	100	16.5	**93**	**98**	75-125	5	20	
Lead	**230**	**236**	250	250	ND	**92**	**94**	75-125	2	20	
Laboratory ID:	03-075-02										
Mercury	**0.545**	**0.547**	0.500	0.500	0.0159	**106**	**106**	80-120	0	20	

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% MOISTURE

Date Analyzed: 3-2&7-18

Client ID	Lab ID	% Moisture
PP28-8	03-007-02	20
PP28-10	03-007-03	19
PP29-3	03-007-05	11
PP29-5	03-007-06	23
PP29-10	03-007-07	25
PP32-4	03-007-09	20
PP32-7	03-007-10	19
PP32-10	03-007-11	18
PP31-3	03-007-13	11
PP31-11	03-007-15	20
PP33-3	03-007-17	11
PP33-5	03-007-18	16
PP33-10	03-007-19	26
PP23-2	03-007-21	15
PP23-5	03-007-22	9
PP23-10	03-007-23	26
PP23-15	03-007-24	34
PP21-2	03-007-25	25
PP21-6	03-007-26	51
PP21-10	03-007-27	39
PP21-15	03-007-28	63
PP20-2	03-007-29	13
PP20-5	03-007-30	32
PP20-10	03-007-31	22
PP20-15	03-007-32	28
PP18-3	03-007-33	19
PP18-5	03-007-34	49

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% MOISTURE

Date Analyzed: 3-2&7-18

Client ID	Lab ID	% Moisture
PP18-10	03-007-35	25
PP17-1	03-007-37	22
PP17-5	03-007-38	18
PP17-10	03-007-39	14
PP16-1	03-007-41	6
PP16-11	03-007-42	19
PP14-5	03-007-45	20
PP14-12	03-007-46	23
PP11-5	03-007-49	24
PP11-10	03-007-50	20
PP10-11	03-007-52	39
PP10-17	03-007-53	20
PP27-7	03-007-55	31
PP27-10	03-007-56	17
PP30-5	03-007-59	22
PP30-10	03-007-60	12
PP24-7	03-007-63	28
PP24-10	03-007-64	14

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Paulic Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs~~ 8270D/SIM (low-level) CPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	PP28-3	3.1.18	1030	Soil	2																						
2	PP28-8		1035		2	X								X						X							X
3	PP28-10		1040		2	X								X						X							X
4	PP28-15		1045		2																						
5	PP29-3		1140		2	X			(X)					X	(X)					X							X
6	PP29-5		1145		2	X								X						X							X
7	PP29-10		1150		2	X								X						X							X
8	PP29-15		1155		2																						
9	PP32-4		9:20		2	X								X						X							X
10	PP32-7		9:30		2	X			(X)					X	(X)					X							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
(X) Added 3/6/18. DB

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	cPAHs	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
11	PP32-10	3.1.18	9:35	soil	2		X								X	X					X							X
12	PP32-15		940		2																	NO						
13	PP31-3		1000		2	X									X						X	X						X
14	PP31-5		1005		2																							
15	PP31-11		1010		2	X									X						X							X
16	PP31-15		1015		2																	NO						
17	PP33-3		1105		2	X	X		X						X	X					X	X						X
18	PP33-5		1110		2	X									X						X	X						X
19	PP33-10		1115		2	X									X						X	X						X
20	PP33-15		1120		2																							

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	~~1340~~ 3/1/18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-01520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs 8270D/SIM (low-level)~~ CPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
21	PP23-2	2.28.18	1400	soil	2	X	X		X					X	X					X							X
22	PP23-5		1405		2	X								X						X							X
23	PP23-10		1415		2	X								X						X							X
24	PP23-15		1420		2	X								X						X							X
25	PP21-2		1330		2	X			X					X	X					X							X
26	PP21-6		1335		2	X			X					X	X					X							X
27	PP21-10		1345		2	X	X		X					X	X					X							X
28	PP21-15		1350		2				X					X	X					X							X
29	PP20-2		1250		2	X			X					X	X					X							X
30	PP20-5		1255		2	X			X					X	X					X							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-01520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
31	PP20-10	2.28.18	1305	Soil	2	X			X					+	X					X						X
32	PP20-15		1310		2				X					X	X					X						X
33	PP18-3		1150		2	X								X						X						X
34	PP18-5		1200		2	X								X						X						X
35	PP18-10		1205		2	X								X						X						X
36	PP18-15		1210		2																					
37	PP17-1		1100		2	X								X						X						X
38	PP17-5		1110		2	X								X						X						X
39	PP17-10		1120		2	X								X						X						X
40	PP17-18		1128		2																					

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	3.1.18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pauilic Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) CPAH	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
41	PP16-1	2.28.18	1030	Soil	2	X	X		X					X	X					X							X
42	PP16-11		1045		2	X								X						X							X
43	PP16-15		1050		2																						
44	PP14-1		950		2																						
45	PP14-5		955		2	X								X						X							X
46	PP14-12		1000		2	X								X						X							X
47	PP14-16		1005		2																						
48	PP11-2		915		2																						
49	PP11-5		920		2	X								X						X							X
50	PP11-10	✓	925	✓	2	X								X						X							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bryce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) SPAHS	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
S1	PP11-15	2.28.18	935	soil	2																					
S2	PP10-11		840		2	X								X						X						X
S3	PP10-17		~~840~~ 808		2	X								X						X						X
S4	PP27-4		1545		2																					
S5	PP27-7		1550		2	X								X						X						X
S6	PP27-10		1600		2	X								X						X						X
S7	PP27-15		1610		2																					
S8	PP30-3		1505		2																					
S9	PP30-5		1510		2	X			X					X	X					X						X
S10	PP30-10		1520		2	X								X						X						X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-00520-000
Project Name: Public Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs 8270D/SIM (low-level)~~	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
61	PP30-15	2.28.18	1525	soil	2																						
62	PP24-2	↓	1430	↓	2																						
63	PP24-7	↓	1435	↓	2	X	X		X					X	X					X							X
64	PP24-10	↓	1445	↓	2	X								X						X							X

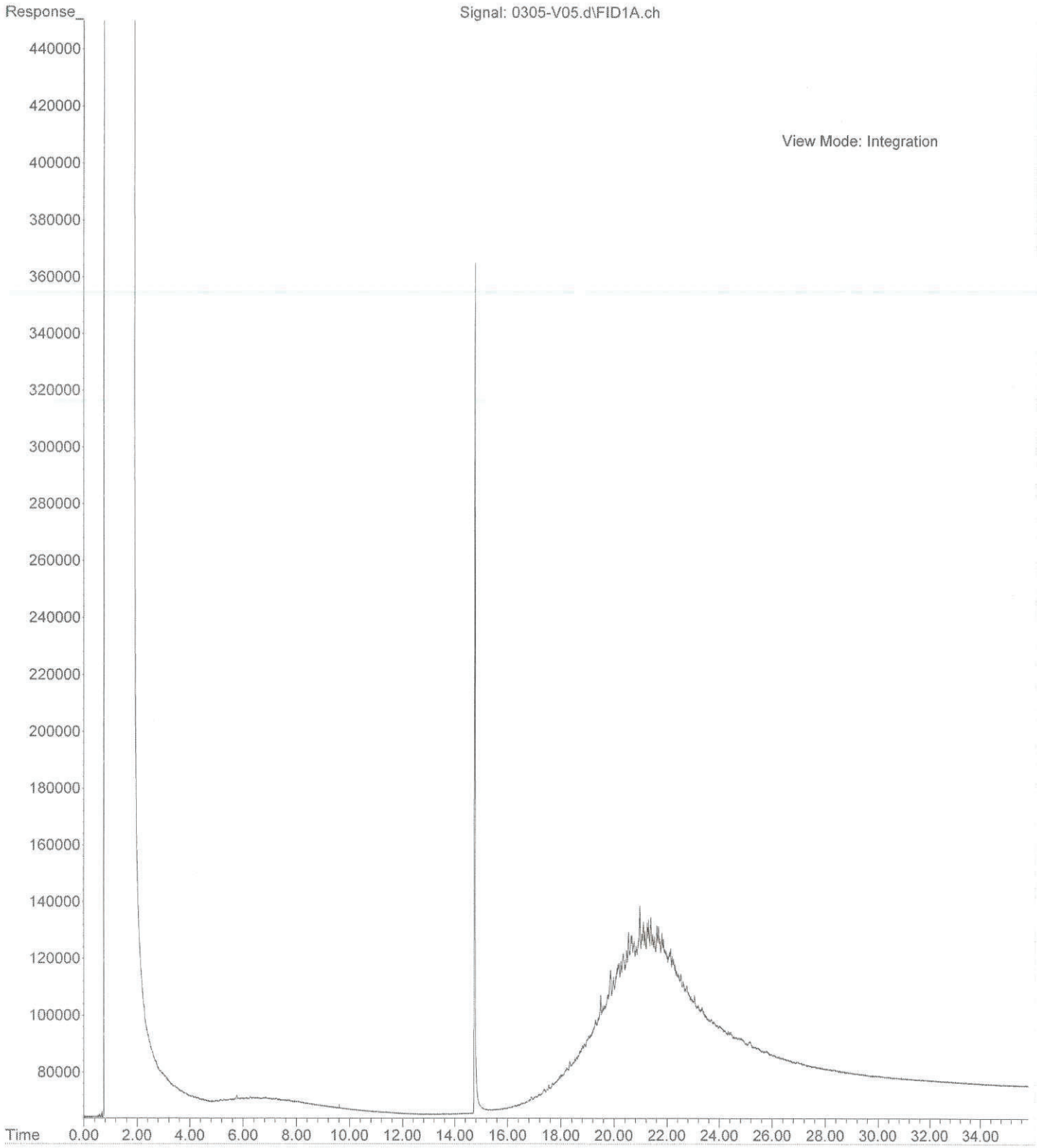
	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	3.1.18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

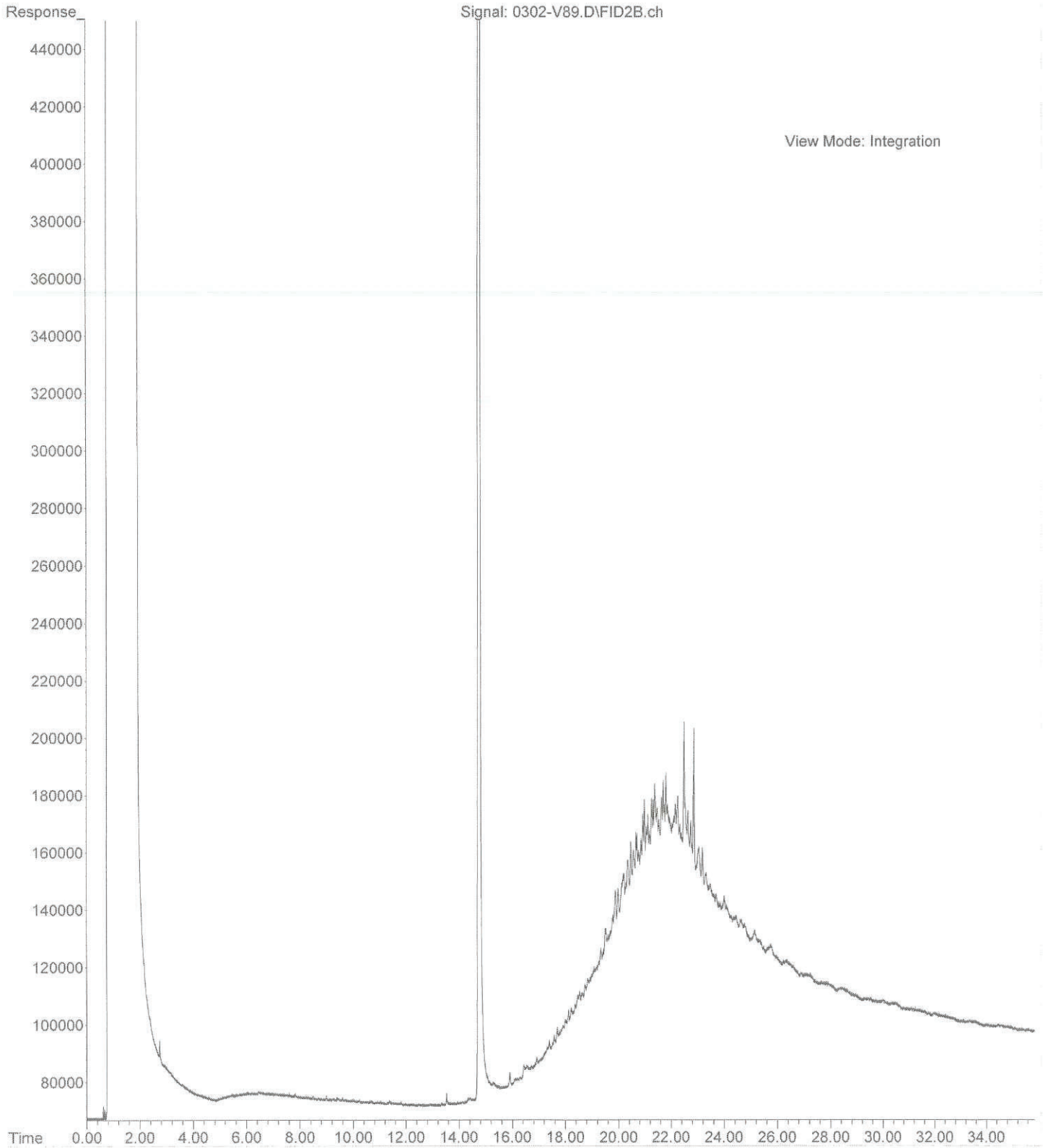
Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

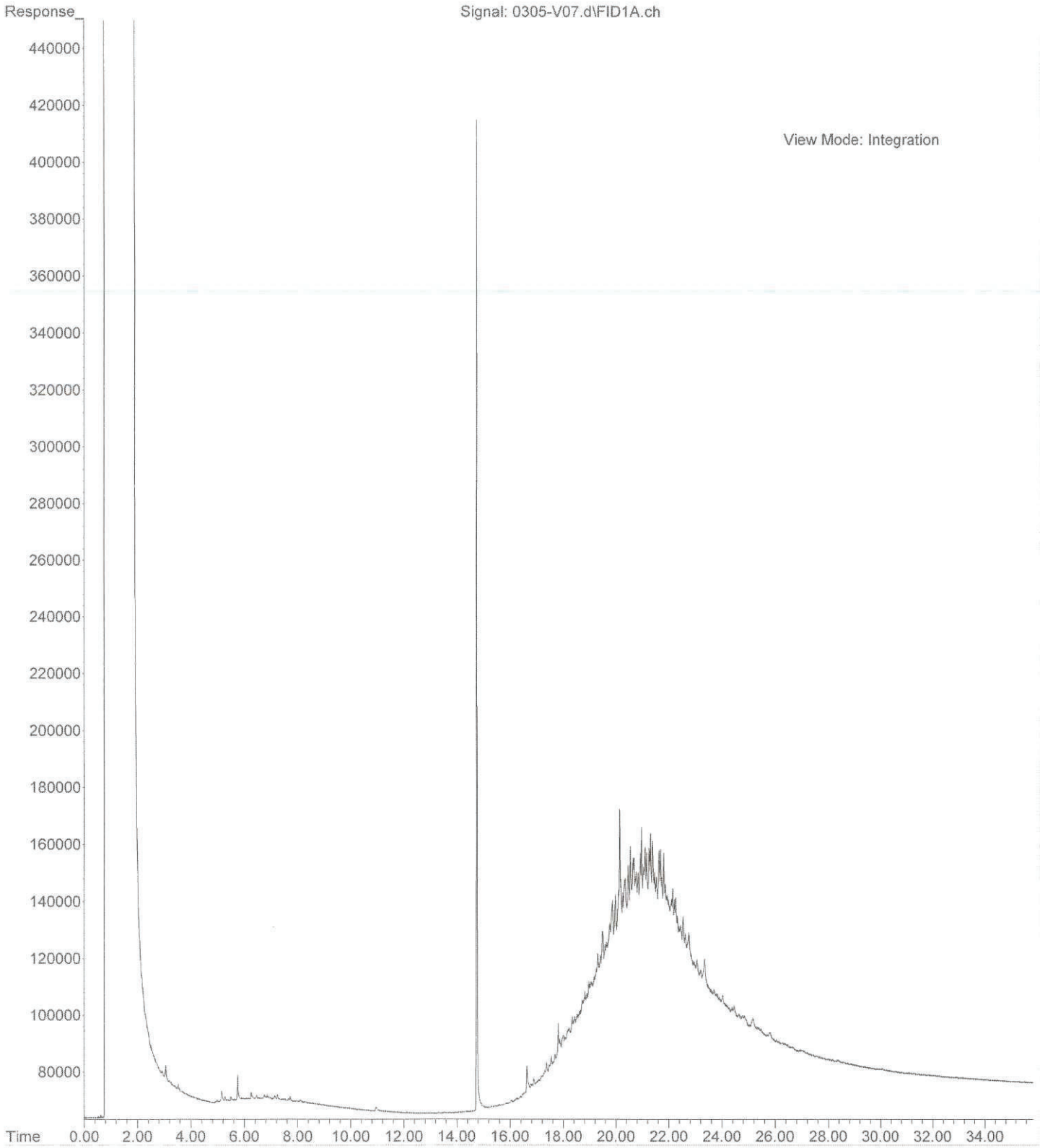
File :X:\DIESELS\VIGO\DATA\V180305\0305-V05.d
Operator : JT
Acquired : 5 Mar 2018 12:05 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-05 20X
Misc Info :
Vial Number: 5



File :X:\DIESELS\VIGO\DATA\V180302.SEC\0302-V89.D
Operator : JT
Acquired : 3 Mar 2018 9:11 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-10
Misc Info :
Vial Number: 89



File :X:\DIESELS\VIGO\DATA\V180305\0305-V07.d
Operator : JT
Acquired : 5 Mar 2018 13:32 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-17 20X
Misc Info :
Vial Number: 7



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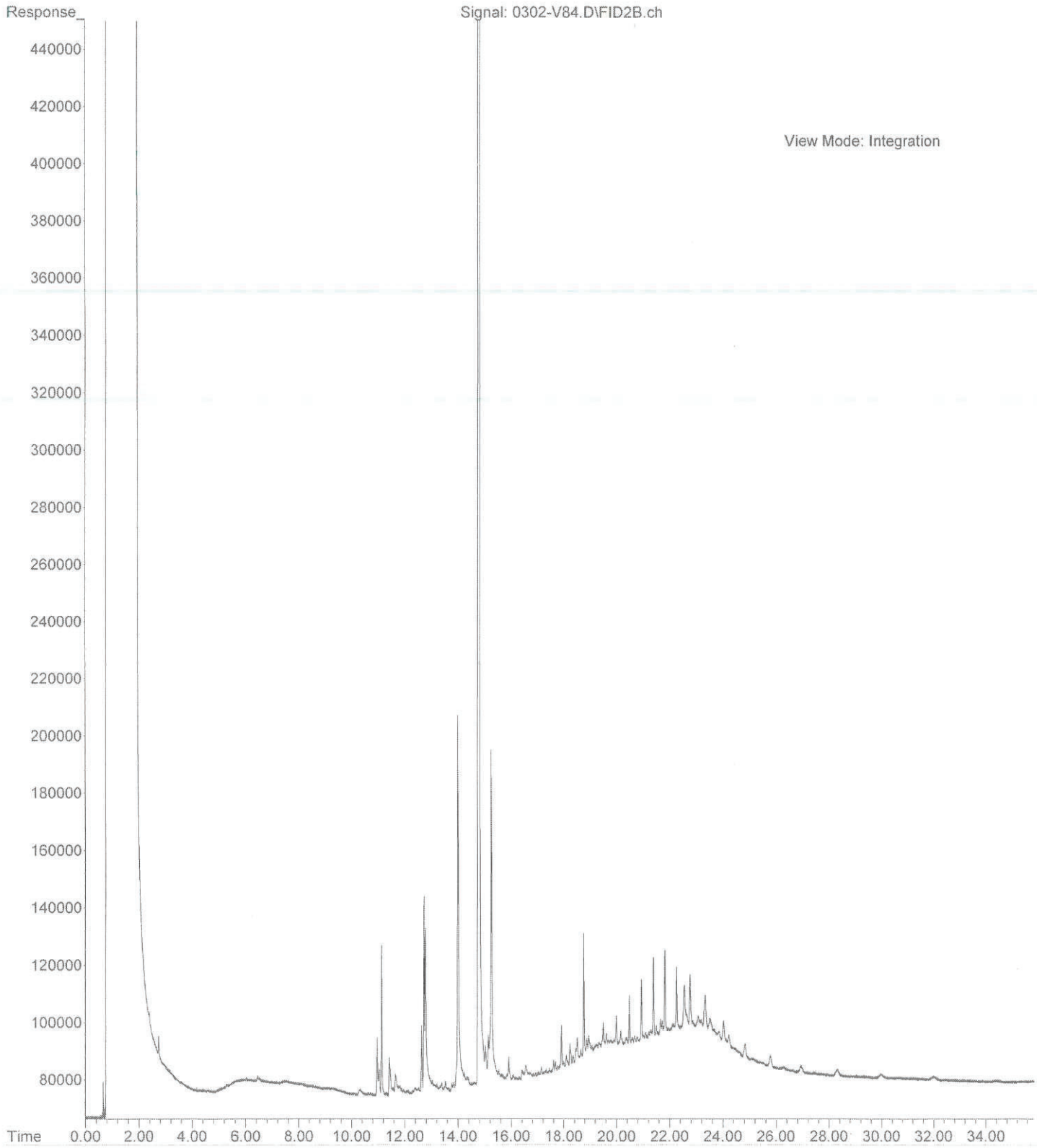
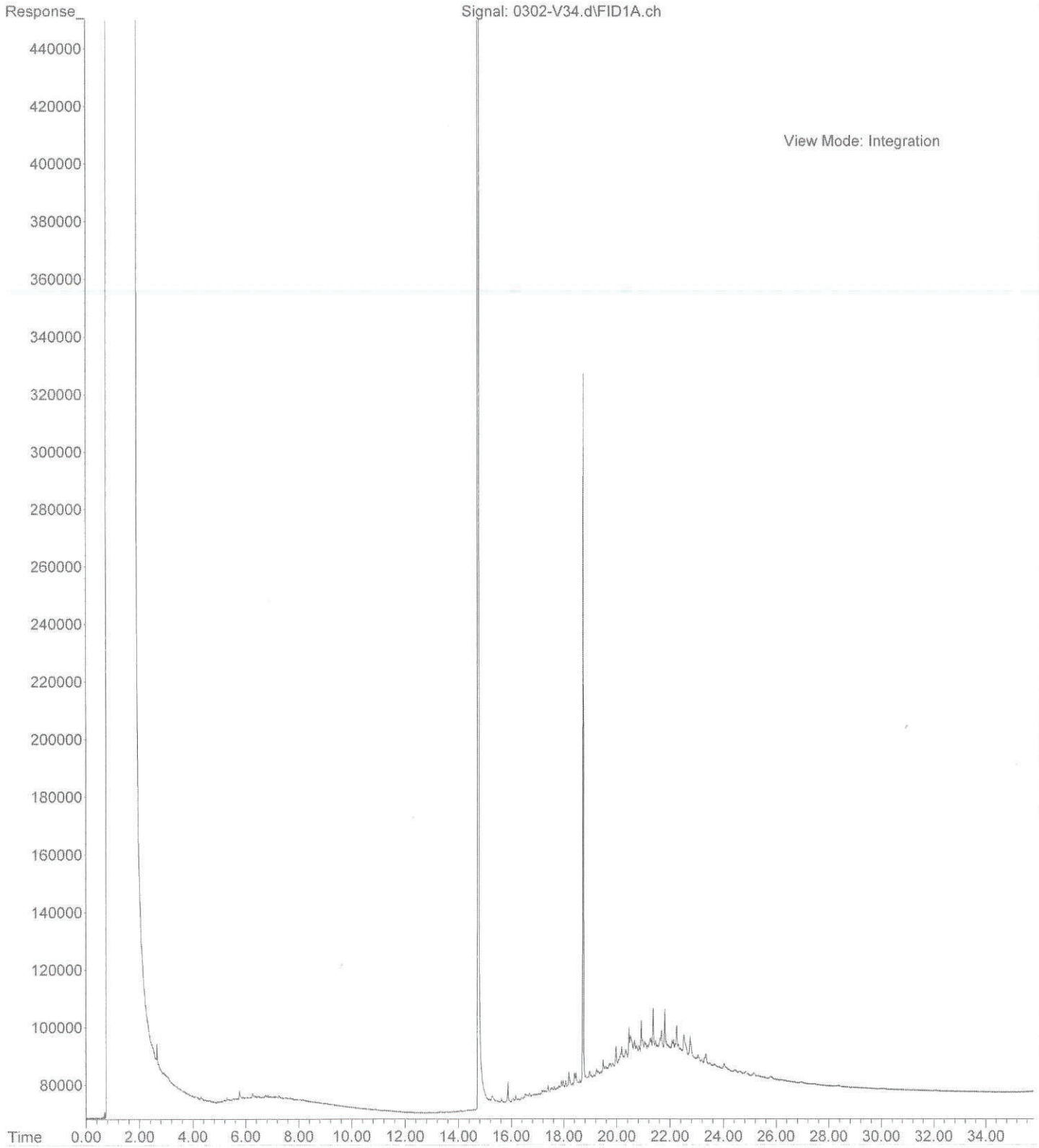
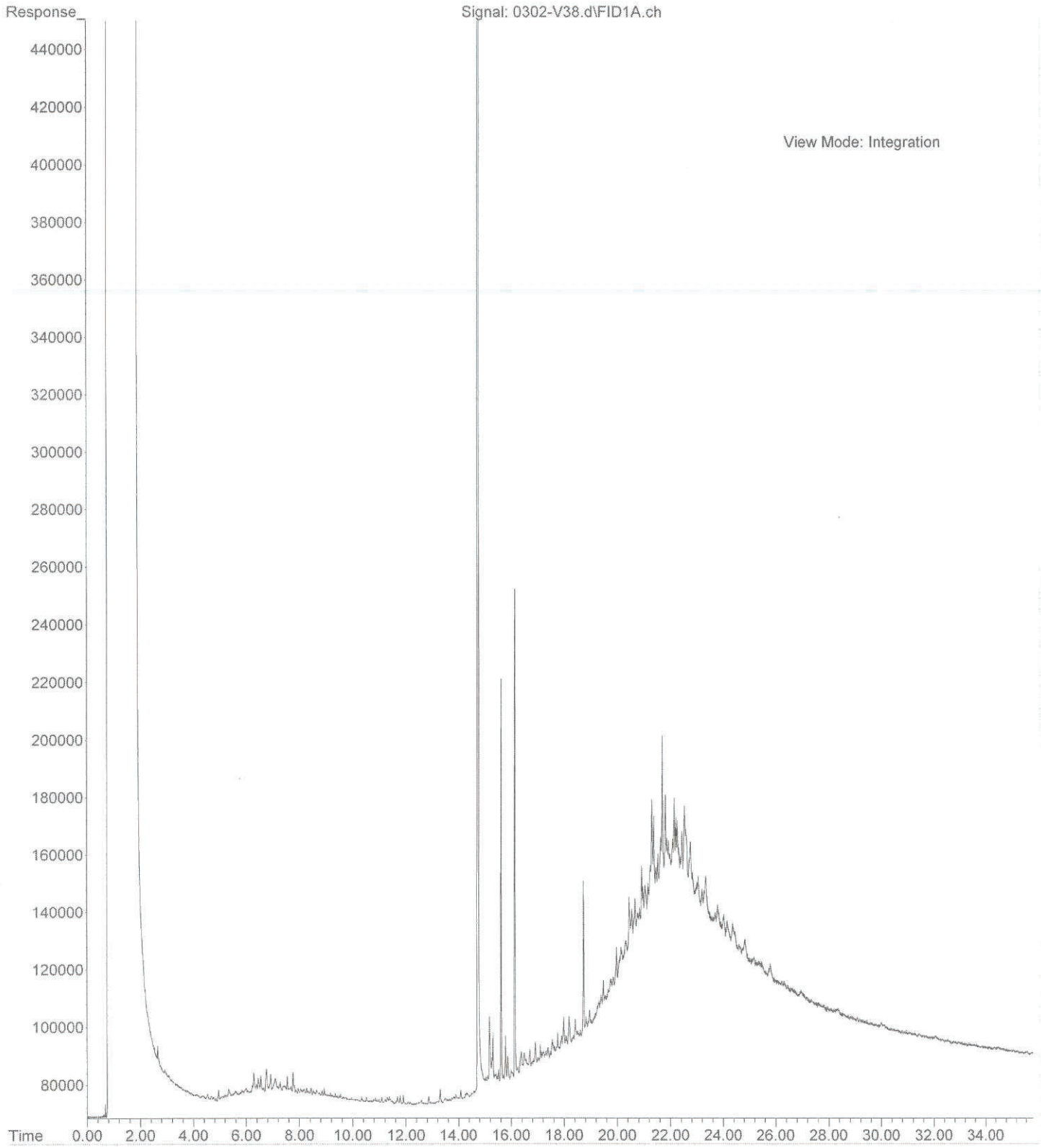
Operator : JT
Acquired : 3 Mar 2018 5:53 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-21
Misc Info :
Vial Number: 84



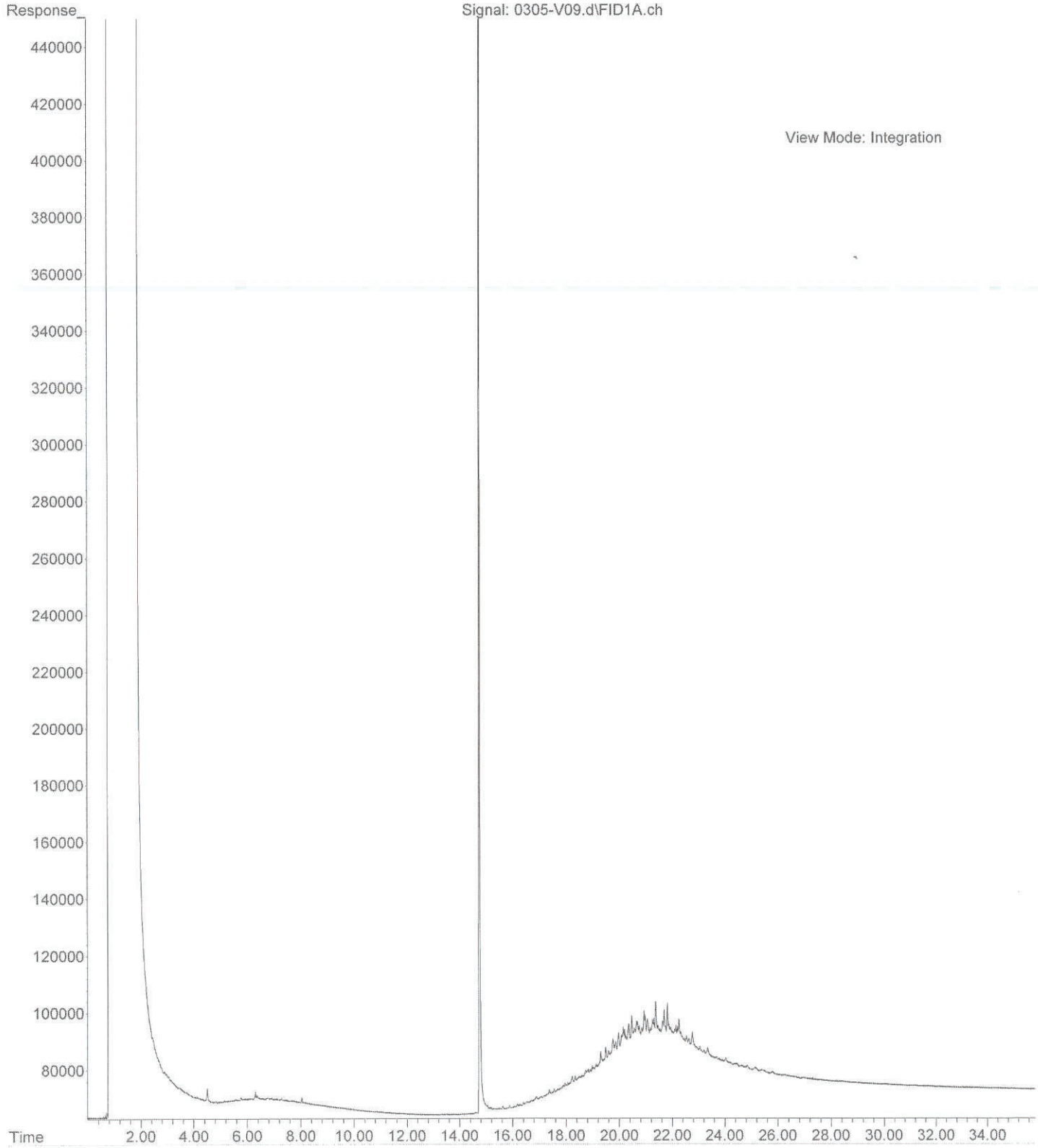
File :X:\DIESELS\VIGO\DATA\V180302\0302-V34.d
Operator : JT
Acquired : 3 Mar 2018 5:53 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-25
Misc Info :
Vial Number: 34



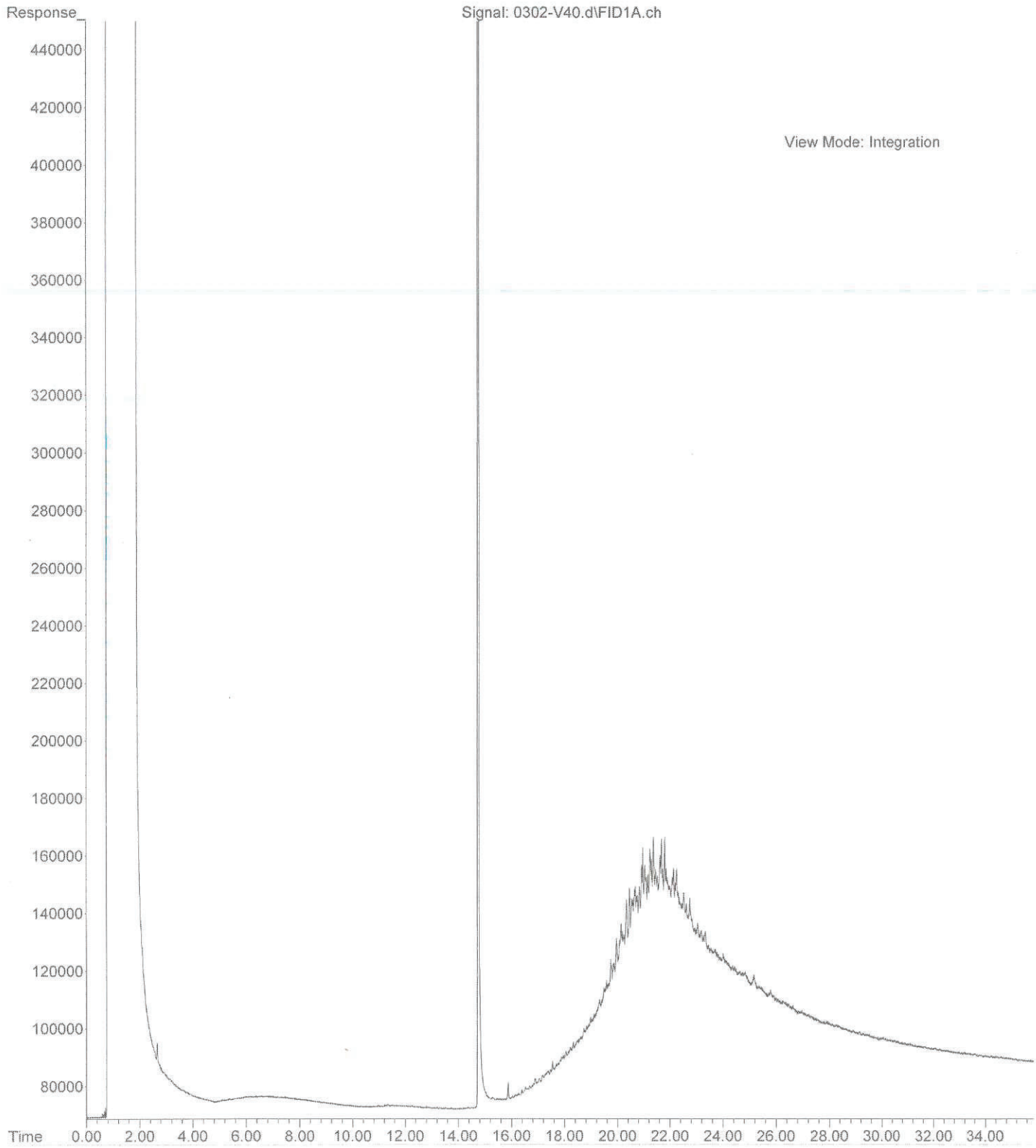
File :X:\DIESELS\VIGO\DATA\V180302\0302-V38.d
Operator : JT
Acquired : 3 Mar 2018 8:31 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-26
Misc Info :
Vial Number: 38



File :X:\DIESELS\VIGO\DATA\V180305\0305-V09.d
Operator : JT
Acquired : 5 Mar 2018 14:52 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-27 10X
Misc Info :
Vial Number: 9



File :X:\DIESELS\VIGO\DATA\V180302\0302-V40.d
Operator : JT
Acquired : 3 Mar 2018 9:51 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-29
Misc Info :
Vial Number: 40



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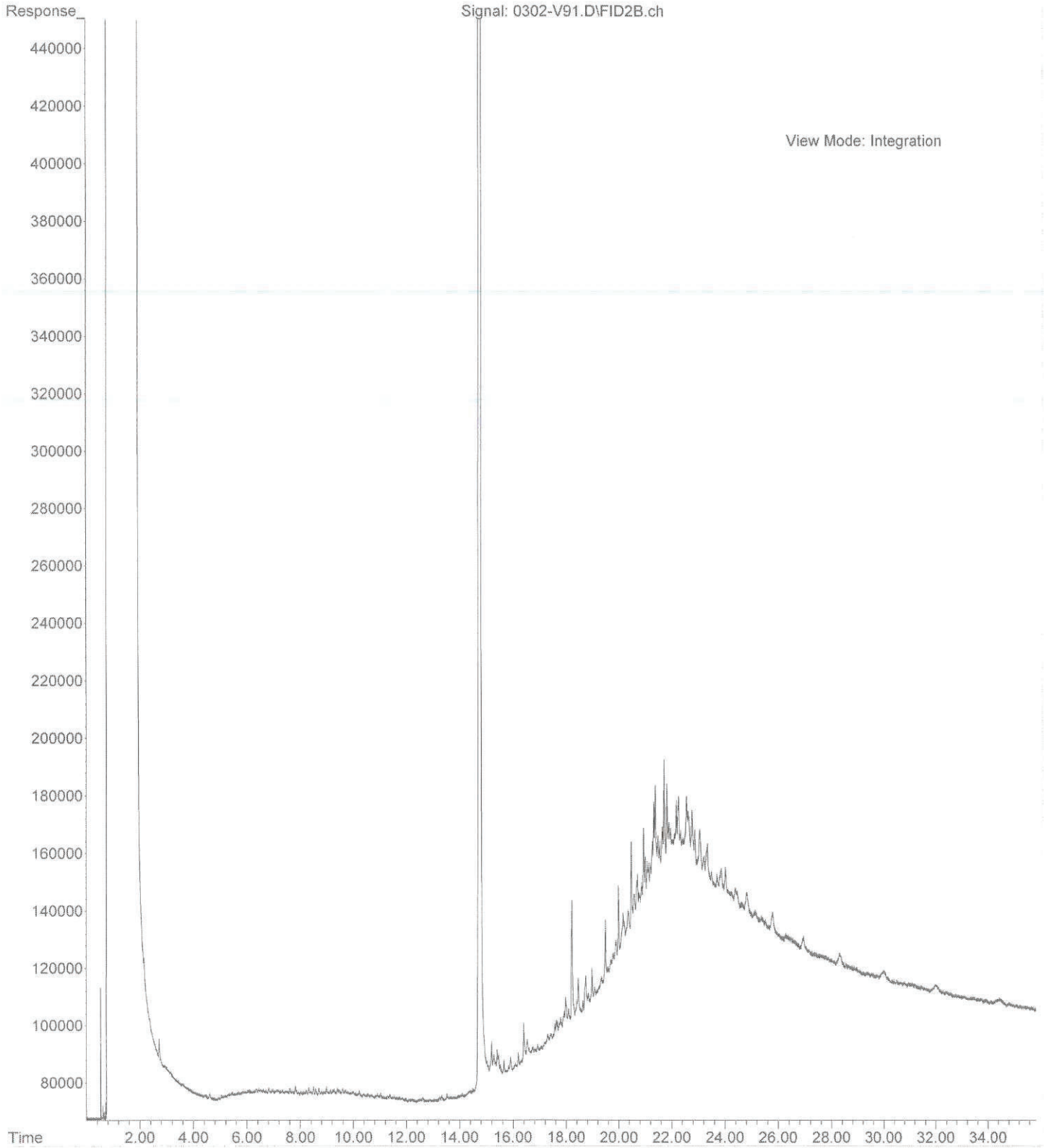
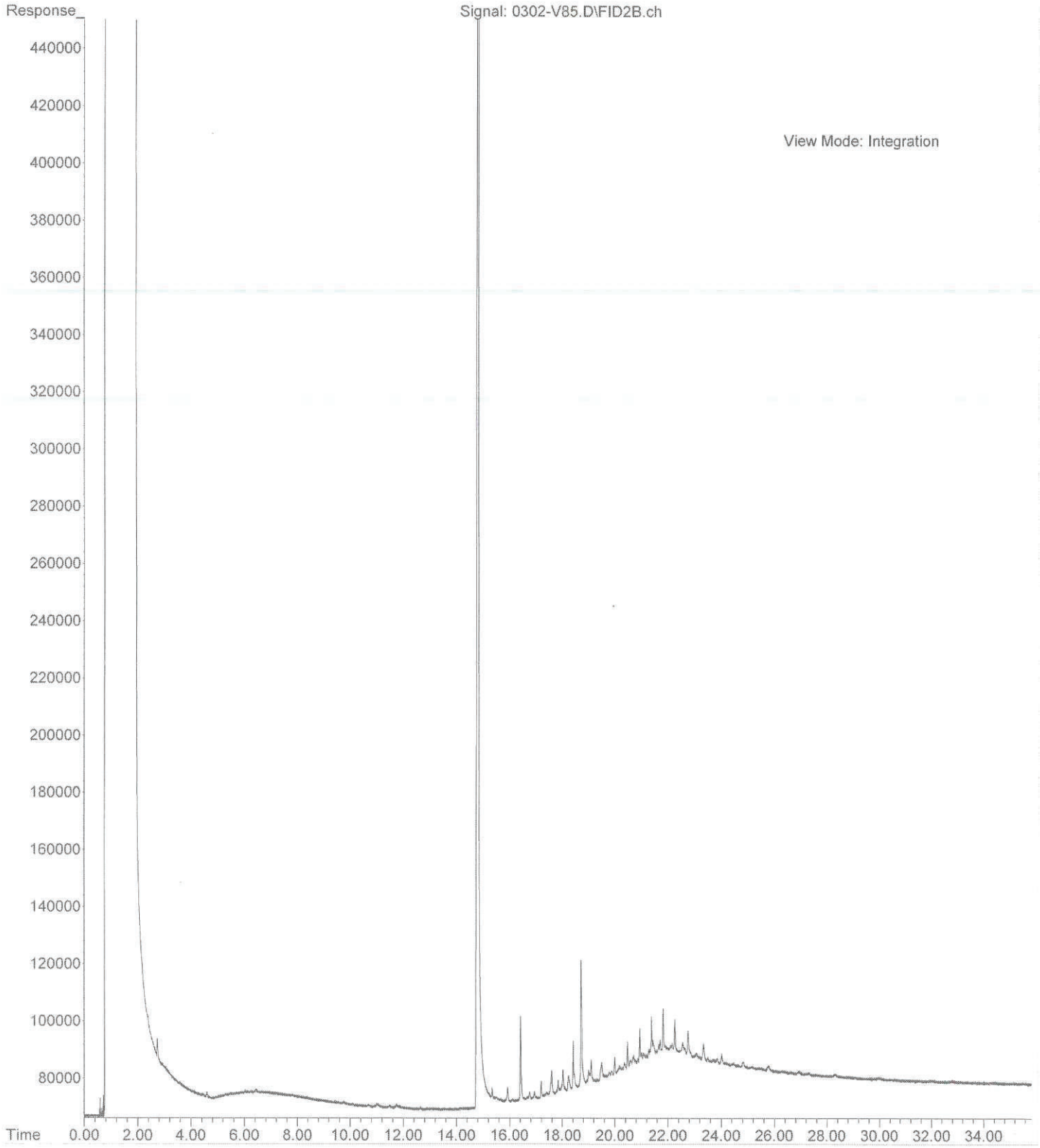
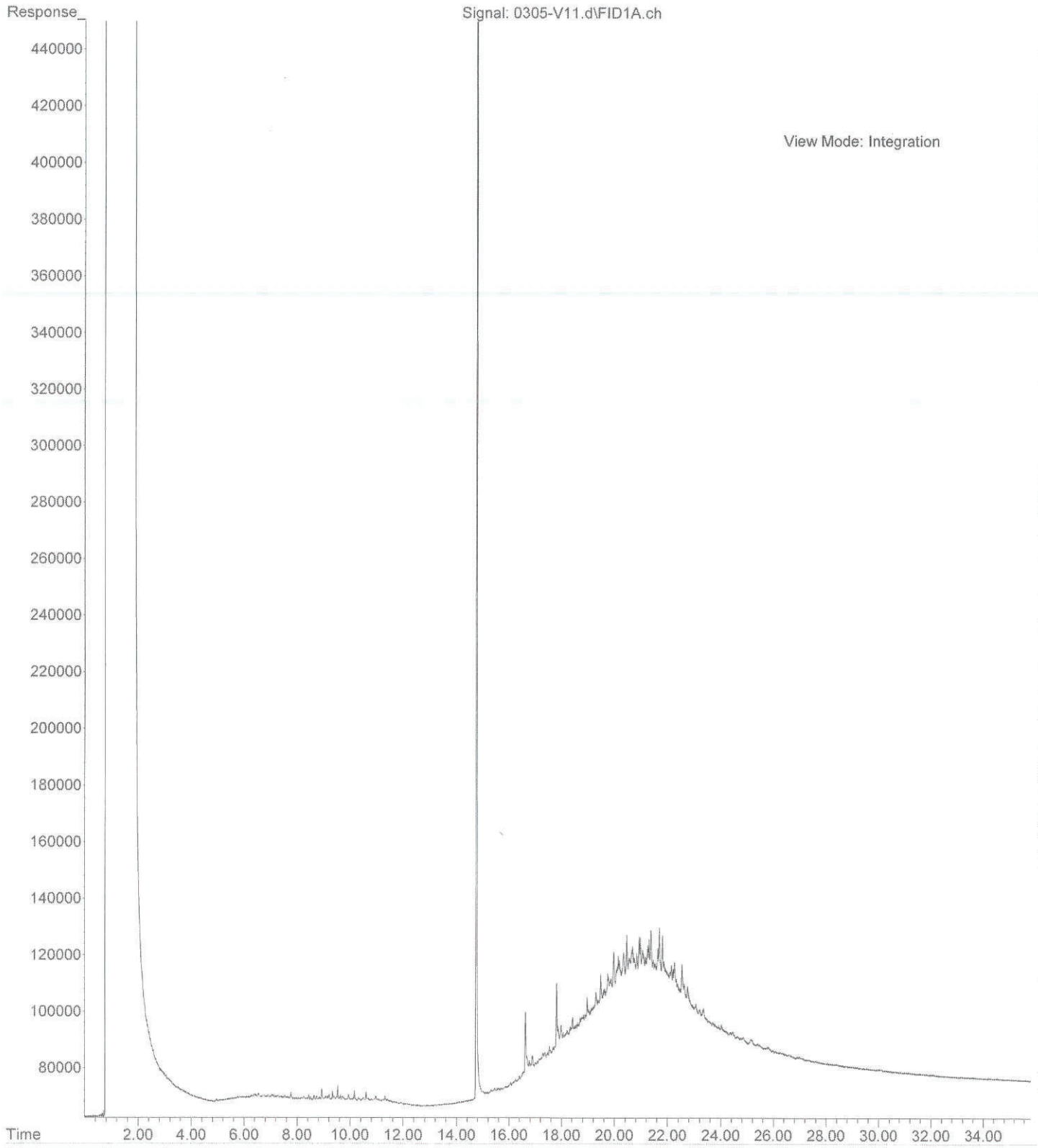
Operator : JT
Acquired : 3 Mar 2018 10:30 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-30
Misc Info :
Vial Number: 91



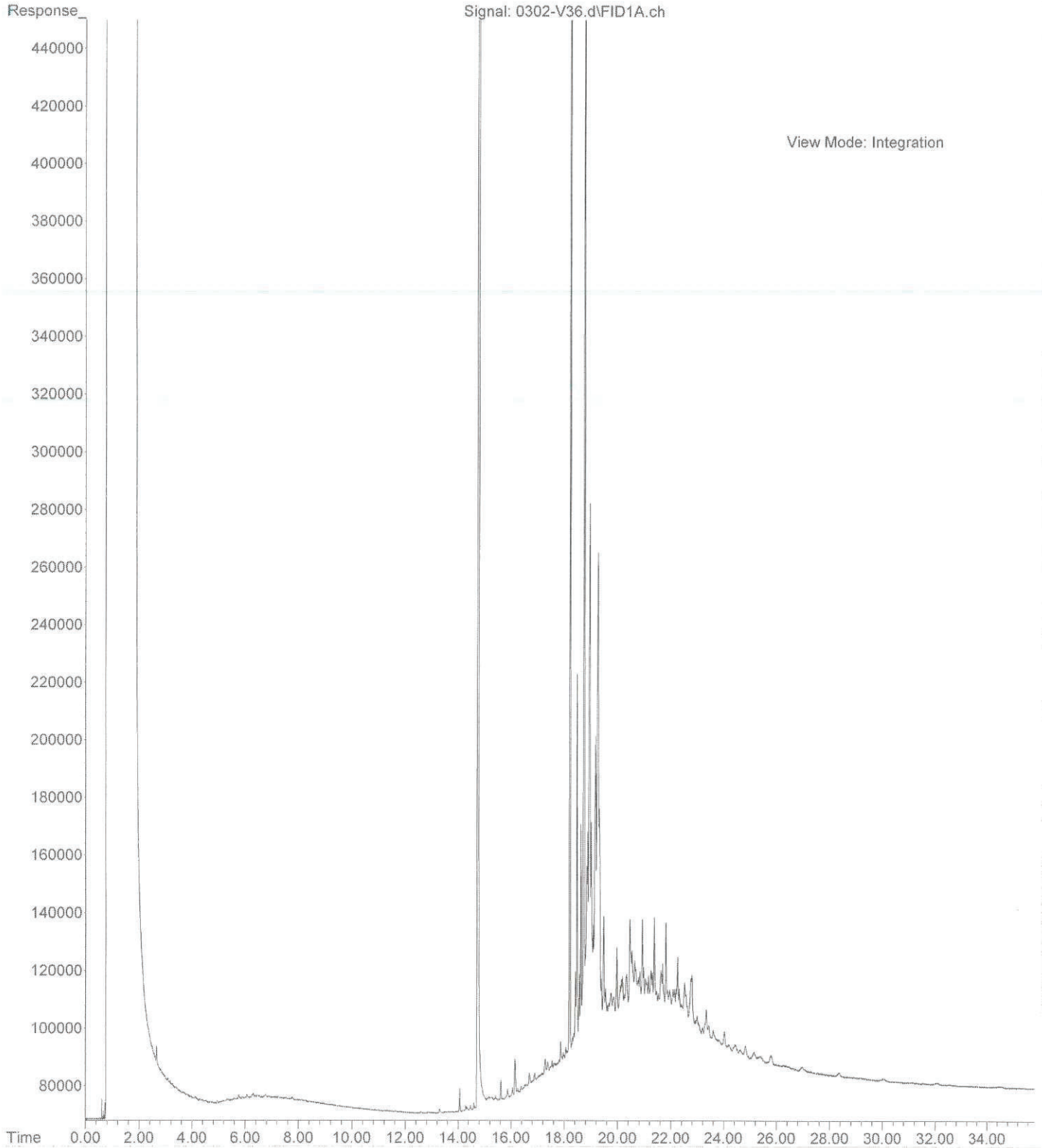
File :X:\DIESELS\VIGO\DATA\V180302.SEC\0302-V85.D
Operator : JT
Acquired : 3 Mar 2018 6:33 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-31
Misc Info :
Vial Number: 85



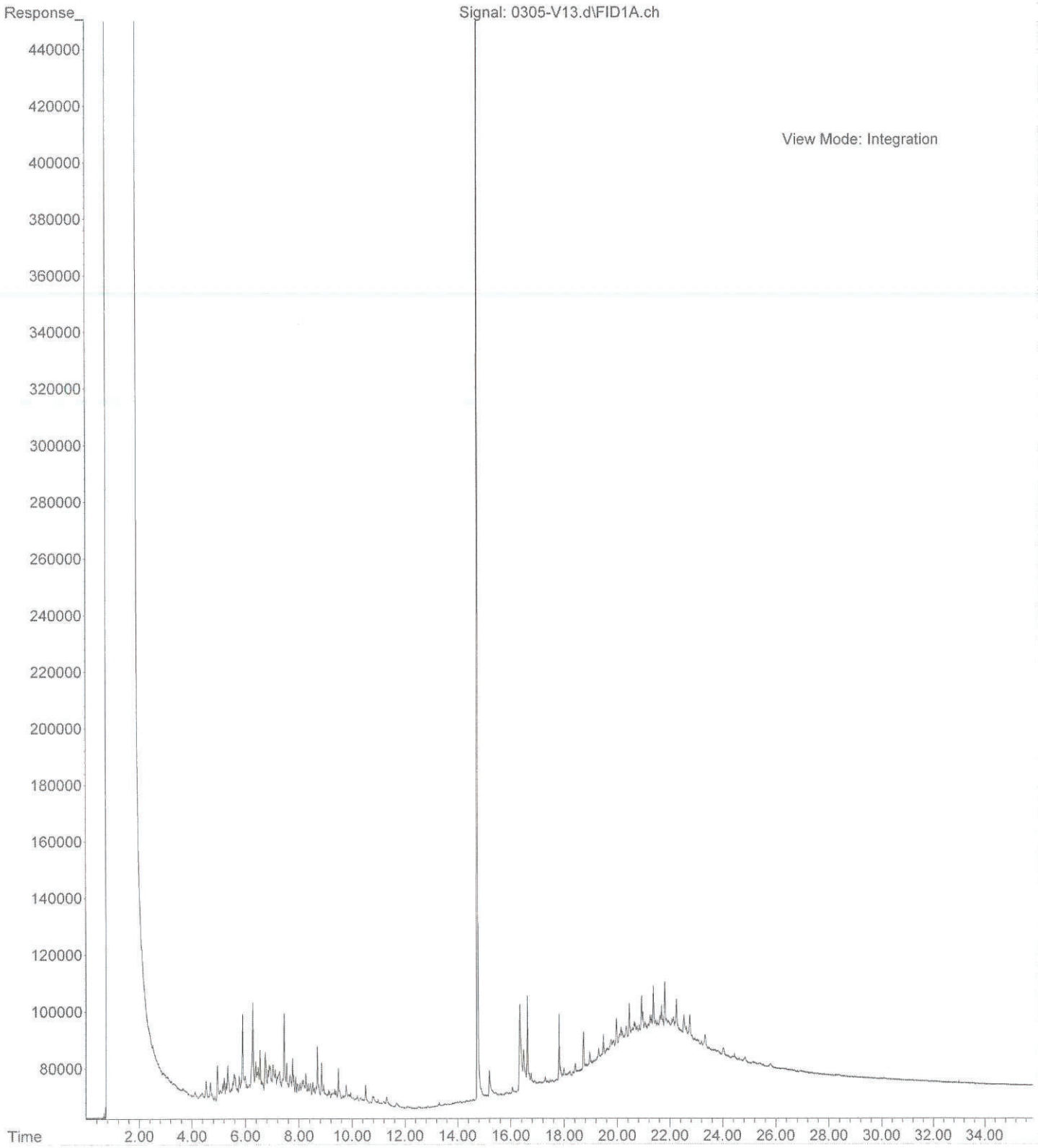
File :X:\DIESELS\VIGO\DATA\V180305\0305-V11.d
Operator : JT
Acquired : 5 Mar 2018 16:11 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-41 10X
Misc Info :
Vial Number: 11



File :X:\DIESELS\VIGO\DATA\V180302\0302-V36.d
Operator : JT
Acquired : 3 Mar 2018 7:12 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-59
Misc Info :
Vial Number: 36



File :X:\DIESELS\VIGO\DATA\V180305\0305-V13.d
Operator : JT
Acquired : 5 Mar 2018 17:31 using AcqMethod V171020F.M
Instrument : Vigo
Sample Name: 03-007-63 10X
Misc Info :
Vial Number: 13



OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 26, 2018

Bruce Carpenter
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1803-007B

Dear Bruce:

Enclosed are the analytical results and associated quality control data for samples submitted on March 1, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 26, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007B
Project: 17-06520-000

Case Narrative

Samples were collected on February 28 and March 1, 2018 and received by the laboratory on March 1, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

TCLP Lead EPA 1311/6010D Analysis

Due to a limited amount of sample, less than the required 100g was tumbled for TCLP analysis for samples PP31-6, PP21-10 and PP17-1 (03-007-26, 03-007-27, and 03-007-37) The amount of sample used was: 50g.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: March 26, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007B
Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP23-2**					
Laboratory ID:	03-007-21					
Lead	**0.27**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP23-15**					
Laboratory ID:	03-007-24					
Lead	**7.4**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP21-2**					
Laboratory ID:	03-007-25					
Lead	**1.1**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP21-6**					
Laboratory ID:	03-007-26					
Lead	**0.67**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP21-10**					
Laboratory ID:	03-007-27					
Lead	**0.72**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP20-5**					
Laboratory ID:	03-007-30					
Lead	**8.4**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP20-10**					
Laboratory ID:	03-007-31					
Lead	**0.35**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP20-15**					
Laboratory ID:	03-007-32					
Lead	**0.44**	0.20	EPA 6010D	3-23-18	3-23-18	

Date of Report: March 26, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007B
Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP18-3**					
Laboratory ID:	03-007-33					
Lead	**ND**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP18-5**					
Laboratory ID:	03-007-34					
Lead	**ND**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP17-1**					
Laboratory ID:	03-007-37					
Lead	**0.79**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP17-5**					
Laboratory ID:	03-007-38					
Lead	**3.5**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP16-11**					
Laboratory ID:	03-007-42					
Lead	**0.31**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP11-5**					
Laboratory ID:	03-007-49					
Lead	**3.0**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP11-10**					
Laboratory ID:	03-007-50					
Lead	**2.9**	0.20	EPA 6010D	3-23-18	3-23-18	
Client ID:	**PP27-7**					
Laboratory ID:	03-007-55					
Lead	**0.92**	0.20	EPA 6010D	3-23-18	3-23-18	

Date of Report: March 26, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007B
Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PP24-7**					
Laboratory ID:	03-007-63					
Lead	**16**	0.20	EPA 6010D	3-23-18	3-23-18	

Date of Report: March 26, 2018
Samples Submitted: March 1, 2018
Laboratory Reference: 1803-007B
Project: 17-06520-000

TCLP LEAD
EPA 1311/6010D
QUALITY CONTROL

Matrix: TCLP Extract
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0323TM1					
Lead	**ND**	0.20	EPA 6010D	3-23-18	3-23-18	
Laboratory ID:	MB0323TM2					
Lead	**ND**	0.20	EPA 6010D	3-23-18	3-23-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-007-24										
	ORIG	DUP									
Lead	**7.41**	**7.60**	NA	NA		NA		NA	2	20	
Laboratory ID:	03-007-38										
	ORIG	DUP									
Lead	**3.54**	**3.60**	NA	NA		NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	03-007-24										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**16.4**	**16.7**	10.0	10.0	7.41	**90**	**93**	75-125	2	20	
Laboratory ID:	03-007-38										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**13.0**	**13.0**	10.0	10.0	3.54	**94**	**95**	75-125	1	20	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
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Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Paulic Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs 8270D/SIM (low-level)~~ CPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A					% Moisture
1	PP28-3	3.1.18	1030	Soil	2																						
2	PP28-8		1035		2	X								X						X							X
3	PP28-10		1040		2	X								X						X							X
4	PP28-15		1045		2																						
5	PP29-3		1140		2	X			⊗					X	⊗					X							X
6	PP29-5		1145		2	X								X						X							X
7	PP29-10		1150		2	X								X						X							X
8	PP29-15		1155		2																						
9	PP32-4		9:20		2	X								X						X							X
10	PP32-7		9:30		2	X			⊗					X	⊗					X							X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
⊗ Added 3/6/18 .DB
O Added 3/16/18 BC
STA

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	cPAHs	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A				% Moisture
11	PP32-10	3.1.18	9:35	soil	2		X								X	X					X						X
12	PP32-15		940		2																						
13	PP31-3		1000		2	X									X						X	X					X
14	PP31-5		1005		2																						
15	PP31-11		1010		2	X									X						X						X
16	PP31-15		1015		2																						
17	PP33-3		1105		2	X	X		X						X	X					X	X					X
18	PP33-5		1110		2	X									X						X	X					X
19	PP33-10		1115		2	X									X						X	X					X
20	PP33-15		1120		2																						

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	~~1340~~ 3/1/18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-01520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs~~ 8270D/SIM (low-level) CPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP ~~Metals~~ Lead	HEM (oil and grease) 1664A				% Moisture
21	PP23-2	2.28.18	1400	soil	2	X	X		X					X	X					X	O					X
22	PP23-5		1405		2	X								X						X						X
23	PP23-10		1415		2	X								X						X						X
24	PP23-15		1420		2	X								X						X	O					X
25	PP21-2		1330		2	X			X					X	X					X	O					X
26	PP21-6		1335		2	X			X					X	X					X	O					X
27	PP21-10		1345		2	X	X		X					X	X					X	O					X
28	PP21-15		1350		2				X					X	X					X						X
29	PP20-2		1250		2	X			X					X	X					X						X
30	PP20-5		1255		2	X			X					X	X					X	O					X

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	3.1.18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
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Relinquished				
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Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs 8270D/SIM (low-level)~~ cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP ~~Metals~~ Lead	HEM (oil and grease) 1664A					% Moisture
31	PP20-10	2.28.18	1305	Soil	2	X			X					+	X					X	O						X
32	PP20-15		1310		2				X					X	X					X	O						X
33	PP18-3		1150		2	X								X						X	O						X
34	PP18-5		1200		2	X								X						X	O						X
35	PP18-10		1205		2	X								X						X							X
36	PP18-15		1210		2																						
37	PP17-1		1100		2	X								X						X	O						X
38	PP17-5		1110		2	X								X						X	O						X
39	PP17-10		1120		2	X								X						X							X
40	PP17-18		1128		2																						

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	3.1.18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pauific Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) CPAH	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP ~~Metals~~ Lead	HEM (oil and grease) 1664A					% Moisture
41	PP16-1	2.28.18	1030	Soil	2	X	X		X					X	X					X							X
42	PP16-11		1045		2	X								X						X	O						X
43	PP16-15		1050		2																						
44	PP14-1		950		2																						
45	PP14-5		955		2	X								X						X							X
46	PP14-12		1000		2	X								X						X							X
47	PP14-16		1005		2																						
48	PP11-2		915		2																						
49	PP11-5		920		2	X								X						X	O						X
50	PP11-10	✓	925	✓	2	X								X						X	O						X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3.1.18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

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Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Brice Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level) SPAHS	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP ~~Metals~~ Lead	HEM (oil and grease) 1664A				% Moisture
S1	PP11-15	2-28-18	935	soil	2																					
S2	PP10-11		840		2	X								X						X						X
S3	PP10-17		~~840~~ 808		2	X								X						X						X
S4	PP27-4		1545		2																					
S5	PP27-7		1550		2	X								X						X	O					X
S6	PP27-10		1600		2	X								X						X						X
S7	PP27-15		1610		2																					
S8	PP30-3		1505		2																					
S9	PP30-5		1510		2	X			(X)					X	(X)					X						X
S10	PP30-10		1520		2	X								X						X						X

	Signature	Company	Date	Time
Relinquished	[signature]	Herrera	3/1/18	1340
Received	[signature]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-00520-000
Project Name: Public Park
Project Manager: Bruce Carpenter
Sampled by: Brianna Bland

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-007

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs 8270D/SIM (low-level)~~ CPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP ~~Metals~~ Lead	HEM (oil and grease) 1664A					% Moisture
61	PP30-15	2.28.18	1525	soil	2																						
62	PP24-2		1430		2																						
63	PP24-7		1435		2	X	X		X					X	X					X	O						X
64	PP24-10		1445		2	X								X						X							X

	Signature	Company	Date	Time
Relinquished	Brianna Bland	Herrera	3.1.18	1340
Received	[illegible]	OSE	3/1/18	1340
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

April 3, 2018

George Iftner
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1803-248

Dear George:

Enclosed are the analytical results and associated quality control data for samples submitted on March 23, 2018.

Please note the data for the additionally requested analyses will follow in the final report

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

Case Narrative

Samples were collected on March 23, 2018 and received by the laboratory on March 23, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	03-248-01					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*81*	*50-150*				
Client ID:	**MW2**					
Laboratory ID:	03-248-02					
Gasoline Range Organics	**ND**	0.11	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**MW3**					
Laboratory ID:	03-248-03					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				
Client ID:	**MW4**					
Laboratory ID:	03-248-04					
Gasoline Range Organics	**ND**	0.11	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.27	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.44	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				
Client ID:	**MW5**					
Laboratory ID:	03-248-05					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

NWTPH-HCID

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	03-248-06					
Gasoline Range Organics	**ND**	0.11	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.28	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.45	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**B-06**					
Laboratory ID:	03-248-07					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*123*	*50-150*				
Client ID:	**B-09**					
Laboratory ID:	03-248-08					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**B-11**					
Laboratory ID:	03-248-09					
Gasoline Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.26	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

NWTPH-HCID
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0327W1					
Gasoline Range Organics	**ND**	0.040	NWTPH-HCID	3-27-18	3-27-18	
Diesel Range Organics	**ND**	0.10	NWTPH-HCID	3-27-18	3-27-18	
Lube Oil Range Organics	**ND**	0.16	NWTPH-HCID	3-27-18	3-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	03-248-01					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**MW2**					
Laboratory ID:	03-248-02					
Arsenic	**3.4**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**MW3**					
Laboratory ID:	03-248-03					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**MW4**					
Laboratory ID:	03-248-04					
Arsenic	**6.0**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	03-248-05					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**3.2**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**MW6**					
Laboratory ID:	03-248-06					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**B-06**					
Laboratory ID:	03-248-07					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**1.9**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	
Client ID:	**B-09**					
Laboratory ID:	03-248-08					
Arsenic	**3.7**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	03-248-09					
Arsenic	**ND**	3.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	4.4	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	1.1	EPA 200.8	3-27-18	3-27-18	
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0327WM1					
Arsenic	**ND**	8.3	EPA 200.8	3-27-18	3-27-18	
Cadmium	**ND**	11	EPA 200.8	3-27-18	3-27-18	
Chromium	**ND**	28	EPA 200.8	3-27-18	3-27-18	
Lead	**ND**	2.8	EPA 200.8	3-27-18	3-27-18	
Laboratory ID:	MB0330W1					
Mercury	**ND**	0.50	EPA 7470A	3-30-18	3-30-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	03-068-09										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	03-248-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	03-068-09										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**114**	**110**	111	111	ND	**102**	**99**	75-125	3	20	
Cadmium	**123**	**120**	111	111	ND	**111**	**108**	75-125	3	20	
Chromium	**109**	**108**	111	111	ND	**99**	**97**	75-125	1	20	
Lead	**125**	**123**	111	111	ND	**113**	**111**	75-125	1	20	
Laboratory ID:	03-248-01										
Mercury	**12.2**	**11.4**	12.5	12.5	ND	**97**	**91**	75-125	7	20	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	03-248-01					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*34*	*25 - 107*				
Pyrene-d10	*53*	*28 - 103*				
Terphenyl-d14	*52*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	03-248-02					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*53*	*25 - 107*				
Pyrene-d10	*68*	*28 - 103*				
Terphenyl-d14	*68*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	03-248-03					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*25 - 107*				
Pyrene-d10	*84*	*28 - 103*				
Terphenyl-d14	*81*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	03-248-04					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*48*	*25 - 107*				
Pyrene-d10	*71*	*28 - 103*				
Terphenyl-d14	*68*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	03-248-05					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*43*	*25 - 107*				
Pyrene-d10	*68*	*28 - 103*				
Terphenyl-d14	*64*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	03-248-06					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*58*	*25 - 107*				
Pyrene-d10	*77*	*28 - 103*				
Terphenyl-d14	*74*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06**					
Laboratory ID:	03-248-07					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*51*	*25 - 107*				
Pyrene-d10	*70*	*28 - 103*				
Terphenyl-d14	*65*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-09**					
Laboratory ID:	03-248-08					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*55*	*25 - 107*				
Pyrene-d10	*74*	*28 - 103*				
Terphenyl-d14	*70*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	03-248-09					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*44*	*25 - 107*				
Pyrene-d10	*62*	*28 - 103*				
Terphenyl-d14	*59*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0326W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	3-26-18	3-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*56*	*25 - 107*				
Pyrene-d10	*82*	*28 - 103*				
Terphenyl-d14	*79*	*36 - 129*				

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0326W1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.391**	**0.424**	0.500	0.500	78	85	47 - 131	8	27	
Chrysene	**0.415**	**0.450**	0.500	0.500	83	90	48 - 120	8	29	
Benzo[b]fluoranthene	**0.383**	**0.449**	0.500	0.500	77	90	42 - 128	16	29	
Benzo(j,k)fluoranthene	**0.420**	**0.429**	0.500	0.500	84	86	46 - 121	2	27	
Benzo[a]pyrene	**0.368**	**0.402**	0.500	0.500	74	80	34 - 121	9	29	
Indeno(1,2,3-c,d)pyrene	**0.407**	**0.445**	0.500	0.500	81	89	39 - 128	9	28	
Dibenz[a,h]anthracene	**0.410**	**0.448**	0.500	0.500	82	90	39 - 125	9	30	
Surrogate:										
2-Fluorobiphenyl					*56*	*61*	*25 - 107*			
Pyrene-d10					*80*	*85*	*28 - 103*			
Terphenyl-d14					*78*	*82*	*36 - 129*			

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	03-248-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	03-248-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*75-127*
Toluene-d8	*96*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	03-248-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	03-248-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*75-127*
Toluene-d8	*95*	*80-127*
4-Bromofluorobenzene	*94*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	03-248-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	0.22	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	03-248-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*75-127*
Toluene-d8	*95*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	03-248-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	03-248-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	1.1	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*75-127*
Toluene-d8	*97*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	03-248-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	03-248-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*97*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

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Samples Submitted: March 23, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	03-248-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	03-248-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06**					
Laboratory ID:	03-248-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-06**					
Laboratory ID:	03-248-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-09**					
Laboratory ID:	03-248-08					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-09**					
Laboratory ID:	03-248-08					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*97*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	03-248-09					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

VOLATILES by EPA 8260C
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**B-11**					
Laboratory ID:	03-248-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	0.36	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*98*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0402W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloromethane	ND	1.3	EPA 8260C	4-2-18	4-2-18	
Vinyl Chloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromomethane	ND	0.25	EPA 8260C	4-2-18	4-2-18	
Chloroethane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Acetone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Iodomethane	ND	1.5	EPA 8260C	4-2-18	4-2-18	
Carbon Disulfide	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methylene Chloride	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Vinyl Acetate	ND	1.0	EPA 8260C	4-2-18	4-2-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Butanone	ND	5.0	EPA 8260C	4-2-18	4-2-18	
Bromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chloroform	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Benzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Trichloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Dibromomethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromodichloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Toluene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
Page 2 of 2

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0402W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Tetrachloroethene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Hexanone	ND	2.0	EPA 8260C	4-2-18	4-2-18	
Dibromochloromethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Chlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Ethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
m,p-Xylene	ND	0.40	EPA 8260C	4-2-18	4-2-18	
o-Xylene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Styrene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromoform	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Isopropylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Bromobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Propylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
n-Butylbenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
Naphthalene	ND	1.0	EPA 8260C	4-2-18	4-2-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	4-2-18	4-2-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*75-127*
Toluene-d8	*97*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

Date of Report: April 3, 2018
Samples Submitted: March 23, 2018
Laboratory Reference: 1803-248
Project: 17-06520-000

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0402W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.74**	**9.66**	10.0	10.0	97	97	63-126	1	21	
Benzene	**9.79**	**9.70**	10.0	10.0	98	97	78-122	1	19	
Trichloroethene	**9.69**	**9.60**	10.0	10.0	97	96	63-120	1	20	
Toluene	**10.2**	**10.0**	10.0	10.0	102	100	79-124	2	19	
Chlorobenzene	**9.36**	**9.28**	10.0	10.0	94	93	78-120	1	19	
Surrogate:										
Dibromofluoromethane					*97*	*100*	*75-127*			
Toluene-d8					*99*	*102*	*80-127*			
4-Bromofluorobenzene					*98*	*101*	*78-125*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera Env. Consultants
Project Number: ~~15-05186-040~~ 17-06520-000
Project Name: Pacific Park
Project Manager: George Iftner
Sampled by: George Iftner

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-248

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	cPAHs by 8270D/SIM				% Moisture
1	MW1	3/23/18	16:16	water	8	✓				(X)										✓			✓				
2	MW2	↓	12:16	↓	8	✓				(X)										✓			✓				
3	MW3		15:26		8	✓				(X)										✓			✓				
4	MW4		14:10		8	✓				(X)										✓			✓				
5	MW5		16:05		8	✓				(X)										✓			✓				
6	MW6		15:15		8	✓				(X)										✓			✓				
7	B-06		11:32		8	✓				(X)										✓			✓				
8	B-09		14:18		8	✓				(X)										✓			✓				
9	B-11	↓	13:10	↓	8	✓				(X)										✓			✓				

	Signature	Company	Date	Time
Relinquished	George Iftner	Herrera	3/23/18	17:55
Received	[illegible]	OSE	3/23/18	1755
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold for NWTPH-Dx, NWTPH-Gx, and PCBs, pending HCID results.
(X) Added 3/30/18. DB (STA)

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 2, 2018

Mark Ewbank
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1806-222

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on June 21, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

Case Narrative

Samples were collected on June 21, 2018 and received by the laboratory on June 21, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*71*	*66-117*				
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*79*	*66-117*				
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*72*	*66-117*				
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*77*	*66-117*				
Client ID:	**Trip Blank**					
Laboratory ID:	06-222-10					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0625W2					
Gasoline	**ND**	100	NWTPH-Gx	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*76*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-222-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*71*	*73*	*66-117*			

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*85*	*50-150*				
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*88*	*50-150*				
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Date of Report: July 2, 2018
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Project: 17-06520-000

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
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Project: 17-06520-000

NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0622W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	6-22-18	6-22-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	6-22-18	6-22-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-222-02										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*85*	*93*	*50-150*			

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*96*	*75-127*				
Toluene-d8	*97*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	0.33	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	2.5	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: July 2, 2018
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*99*	*75-127*				
Toluene-d8	*100*	*80-127*				
4-Bromofluorobenzene	*99*	*78-125*				

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	0.36	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: July 2, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	06-222-10					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	06-222-10					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0625W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloromethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Vinyl Chloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromomethane	ND	0.31	EPA 8260C	6-25-18	6-25-18	
Chloroethane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Acetone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Iodomethane	ND	1.9	EPA 8260C	6-25-18	6-25-18	
Carbon Disulfide	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methylene Chloride	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Vinyl Acetate	ND	1.0	EPA 8260C	6-25-18	6-25-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Butanone	ND	5.0	EPA 8260C	6-25-18	6-25-18	
Bromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chloroform	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Benzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Trichloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Dibromomethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromodichloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Toluene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	6-25-18	6-25-18	

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VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0625W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Tetrachloroethene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Hexanone	ND	2.0	EPA 8260C	6-25-18	6-25-18	
Dibromochloromethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Chlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Ethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
m,p-Xylene	ND	0.40	EPA 8260C	6-25-18	6-25-18	
o-Xylene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Styrene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromoform	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Isopropylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Bromobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichloropropane	ND	0.27	EPA 8260C	6-25-18	6-25-18	
n-Propylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
n-Butylbenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
Naphthalene	ND	1.0	EPA 8260C	6-25-18	6-25-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	6-25-18	6-25-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*100*	*75-127*				
Toluene-d8	*102*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

VOLATILES by EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0625W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**9.02**	**8.85**	10.0	10.0	90	89	62-129	2	15	
Benzene	**9.49**	**9.38**	10.0	10.0	95	94	77-127	1	15	
Trichloroethene	**9.80**	**9.61**	10.0	10.0	98	96	70-120	2	15	
Toluene	**10.2**	**10.1**	10.0	10.0	102	101	82-123	1	15	
Chlorobenzene	**9.74**	**9.58**	10.0	10.0	97	96	79-120	2	15	
Surrogate:										
Dibromofluoromethane					*98*	*99*	*75-127*			
Toluene-d8					*104*	*104*	*80-127*			
4-Bromofluorobenzene					*103*	*102*	*78-125*			

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
Arsenic	**11**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**5.6**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
Arsenic	**4.6**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**2.0**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
Arsenic	**3.9**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0627WM1					
Arsenic	**ND**	3.3	EPA 200.8	6-27-18	6-27-18	
Cadmium	**ND**	4.4	EPA 200.8	6-27-18	6-27-18	
Chromium	**ND**	11	EPA 200.8	6-27-18	6-27-18	
Lead	**ND**	1.1	EPA 200.8	6-27-18	6-27-18	
Laboratory ID:	MB0629W1					
Mercury	**ND**	0.50	EPA 7470A	6-29-18	6-29-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-100-09										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	06-295-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	06-100-09										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**219**	**220**	222	222	ND	**99**	**99**	75-125	0	20	
Cadmium	**222**	**221**	222	222	ND	**100**	**99**	75-125	1	20	
Chromium	**202**	**208**	222	222	ND	**91**	**94**	75-125	3	20	
Lead	**231**	**237**	222	222	ND	**104**	**107**	75-125	3	20	
Laboratory ID:	06-295-01										
Mercury	**12.4**	**12.4**	12.5	12.5	ND	**99**	**99**	75-125	0	20	

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	06-222-01					
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*58*	*21 - 110*				
Pyrene-d10	*72*	*19 - 111*				
Terphenyl-d14	*74*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	06-222-02					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*21 - 110*				
Pyrene-d10	*73*	*19 - 111*				
Terphenyl-d14	*73*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	06-222-03					
Benzo[a]anthracene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.0097	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*60*	*21 - 110*				
Pyrene-d10	*82*	*19 - 111*				
Terphenyl-d14	*80*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	06-222-04					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*51*	*21 - 110*				
Pyrene-d10	*66*	*19 - 111*				
Terphenyl-d14	*66*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	06-222-05					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*21 - 110*				
Pyrene-d10	*69*	*19 - 111*				
Terphenyl-d14	*95*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	06-222-06					
Benzo[a]anthracene	**0.014**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**0.014**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**0.012**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**0.012**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**0.011**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**0.012**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**0.011**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*60*	*21 - 110*				
Pyrene-d10	*72*	*19 - 111*				
Terphenyl-d14	*71*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	06-222-07					
Benzo[a]anthracene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.0096	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*21 - 110*				
Pyrene-d10	*68*	*19 - 111*				
Terphenyl-d14	*68*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	06-222-08					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*55*	*21 - 110*				
Pyrene-d10	*71*	*19 - 111*				
Terphenyl-d14	*70*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	06-222-09					
Benzo[a]anthracene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*50*	*21 - 110*				
Pyrene-d10	*69*	*19 - 111*				
Terphenyl-d14	*68*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0625W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	6-25-18	6-26-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*64*	*21 - 110*				
Pyrene-d10	*84*	*19 - 111*				
Terphenyl-d14	*83*	*32 - 137*				

Date of Report: July 2, 2018
Samples Submitted: June 21, 2018
Laboratory Reference: 1806-222
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0625W1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.395**	**0.425**	0.500	0.500	79	85	57 - 127	7	15	
Chrysene	**0.354**	**0.371**	0.500	0.500	71	74	51 - 120	5	15	
Benzo[b]fluoranthene	**0.398**	**0.422**	0.500	0.500	80	84	54 - 124	6	17	
Benzo(j,k)fluoranthene	**0.369**	**0.392**	0.500	0.500	74	78	50 - 127	6	18	
Benzo[a]pyrene	**0.398**	**0.436**	0.500	0.500	80	87	50 - 120	9	16	
Indeno(1,2,3-c,d)pyrene	**0.417**	**0.443**	0.500	0.500	83	89	46 - 132	6	20	
Dibenz[a,h]anthracene	**0.404**	**0.421**	0.500	0.500	81	84	49 - 129	4	18	
Surrogate:										
2-Fluorobiphenyl					*57*	*53*	*21 - 110*			
Pyrene-d10					*73*	*77*	*19 - 111*			
Terphenyl-d14					*70*	*76*	*32 - 137*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera Env. Consultants
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Mark Ewbank
Sampled by: George Iftner

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 06-222

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	cPAHs by 8270D/SIM				% Moisture
1	MW1	6/21/18	1251	water	10			✓	✓	✓										✓			✓				
2	MW2	↓	13:25	↓	11			✓	✓	✓										✓			✓				
3	MW3	↓	1152	↓	↓			✓	✓	✓										✓			✓				
4	MW4	↓	12:25	↓	↓			✓	✓	✓										✓			✓				
5	MW5	↓	1355	↓	↓			✓	✓	✓										✓			✓				
6	MW6	↓	1445	↓	↓			✓	✓	✓										✓			✓				
7	MW7	↓	1030	↓	↓			✓	✓	✓										✓			✓				
8	MW8	↓	1535	↓	↓			✓	✓	✓										✓			✓				
9	MW9	↓	1430	↓	↓			✓	✓	✓										✓			✓				
10	Trip Blank	↓		↓	3			✓		✓											HCl						

	Signature	Company	Date	Time
Relinquished	[signature]	HEC	6.21.18	1730
Received	[signature]	COSE	6/21/18	1730
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold for PCBS, pending Dx results
NOTE: MW1 - cooler broke (handle) 1L Vol. for cPAHS, 0.5L Vol. for PCBS Due to broken Bottles.

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

July 10, 2018

Mark Ewbank
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1806-310

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on June 29, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

Case Narrative

Samples were collected on June 29, 2018 and received by the laboratory on June 29, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Gasoline	**ND**	100	NWTPH-Gx	7-3-18	7-3-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*75*	*66-117*				
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Gasoline	**ND**	100	NWTPH-Gx	7-3-18	7-3-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*76*	*66-117*				
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Gasoline	**ND**	100	NWTPH-Gx	7-3-18	7-3-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*76*	*66-117*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0703W3					
Gasoline	**ND**	100	NWTPH-Gx	7-3-18	7-3-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*74*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-005-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*76*	*79*	*66-117*			

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	7-2-18	7-2-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	7-2-18	7-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	7-2-18	7-2-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	7-2-18	7-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*95*	*50-150*				
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	7-2-18	7-2-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	7-2-18	7-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*94*	*50-150*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0702W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	7-2-18	7-2-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	7-2-18	7-2-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-303-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*99*	*103*	*50-150*			

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloromethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Vinyl Chloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromomethane	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Chloroethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Acetone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Iodomethane	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Carbon Disulfide	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methylene Chloride	ND	2.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Vinyl Acetate	ND	1.0	EPA 8260C	7-3-18	7-3-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Butanone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Bromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloroform	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Benzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Trichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Dibromomethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromodichloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Toluene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Hexanone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Dibromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Ethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
m,p-Xylene	ND	0.40	EPA 8260C	7-3-18	7-3-18	
o-Xylene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Styrene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromoform	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Isopropylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Propylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Naphthalene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*94*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloromethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Vinyl Chloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromomethane	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Chloroethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Acetone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Iodomethane	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Carbon Disulfide	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methylene Chloride	ND	2.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Vinyl Acetate	ND	1.0	EPA 8260C	7-3-18	7-3-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Butanone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Bromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloroform	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Benzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Trichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Dibromomethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromodichloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Toluene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Hexanone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Dibromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Ethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
m,p-Xylene	ND	0.40	EPA 8260C	7-3-18	7-3-18	
o-Xylene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Styrene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromoform	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Isopropylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Propylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Naphthalene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*95*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloromethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Vinyl Chloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromomethane	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Chloroethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Acetone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Iodomethane	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Carbon Disulfide	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methylene Chloride	ND	2.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Vinyl Acetate	ND	1.0	EPA 8260C	7-3-18	7-3-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Butanone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Bromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloroform	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Benzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Trichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Dibromomethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromodichloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Toluene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Hexanone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Dibromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Ethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
m,p-Xylene	ND	0.40	EPA 8260C	7-3-18	7-3-18	
o-Xylene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Styrene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromoform	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Isopropylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Propylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Naphthalene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*75-127*
Toluene-d8	*94*	*80-127*
4-Bromofluorobenzene	*94*	*78-125*

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

VOLATILES EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	06-310-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloromethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Vinyl Chloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromomethane	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Chloroethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Acetone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Iodomethane	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Carbon Disulfide	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methylene Chloride	ND	2.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Vinyl Acetate	ND	1.0	EPA 8260C	7-3-18	7-3-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Butanone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Bromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloroform	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Benzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Trichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Dibromomethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromodichloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Toluene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Date of Report: July 10, 2018
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	06-310-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Hexanone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Dibromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Ethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
m,p-Xylene	ND	0.40	EPA 8260C	7-3-18	7-3-18	
o-Xylene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Styrene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromoform	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Isopropylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Propylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Naphthalene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*95*	*80-127*
4-Bromofluorobenzene	*93*	*78-125*

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0703W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloromethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Vinyl Chloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromomethane	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Chloroethane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Acetone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Iodomethane	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Carbon Disulfide	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methylene Chloride	ND	2.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Vinyl Acetate	ND	1.0	EPA 8260C	7-3-18	7-3-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Butanone	ND	5.0	EPA 8260C	7-3-18	7-3-18	
Bromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chloroform	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Benzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Trichloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Dibromomethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromodichloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Toluene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

VOLATILES by EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0703W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Tetrachloroethene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Hexanone	ND	2.0	EPA 8260C	7-3-18	7-3-18	
Dibromochloromethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Chlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Ethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
m,p-Xylene	ND	0.40	EPA 8260C	7-3-18	7-3-18	
o-Xylene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Styrene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromoform	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Isopropylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Bromobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Propylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
n-Butylbenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
Naphthalene	ND	1.0	EPA 8260C	7-3-18	7-3-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	7-3-18	7-3-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*98*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

VOLATILES by EPA 8260C
MS/MSD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	06-311-06										
	MS	MSD	MS	MSD		MS	MSD				
1,1-Dichloroethene	**10.4**	**10.6**	10.0	10.0	ND	104	106	60-124	2	17	
Benzene	**10.1**	**10.4**	10.0	10.0	ND	101	104	67-130	3	22	
Trichloroethene	**9.72**	**9.60**	10.0	10.0	ND	97	96	71-120	1	15	
Toluene	**10.2**	**10.0**	10.0	10.0	ND	102	100	79-118	2	24	
Chlorobenzene	**9.93**	**9.82**	10.0	10.0	ND	99	98	74-120	1	17	
Surrogate:											
Dibromofluoromethane						*100*	*99*	*75-127*			
Toluene-d8						*97*	*96*	*80-127*			
4-Bromofluorobenzene						*96*	*95*	*78-125*			

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Arsenic	**ND**	3.3	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Arsenic	**ND**	3.3	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Arsenic	**ND**	3.3	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0705WM1					
Arsenic	**ND**	3.3	EPA 200.8	7-5-18	7-5-18	
Cadmium	**ND**	4.4	EPA 200.8	7-5-18	7-5-18	
Chromium	**ND**	11	EPA 200.8	7-5-18	7-5-18	
Lead	**ND**	1.1	EPA 200.8	7-5-18	7-5-18	
Laboratory ID:	MB0705W1					
Mercury	**ND**	0.50	EPA 7470A	7-5-18	7-5-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-006-02										
	ORIG	DUP									
Arsenic	**5.67**	**6.06**	NA	NA		NA		NA	7	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	07-005-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-006-02										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**233**	**243**	222	222	5.67	**102**	**107**	75-125	4	20	
Cadmium	**228**	**235**	222	222	ND	**103**	**106**	75-125	3	20	
Chromium	**211**	**216**	222	222	ND	**95**	**97**	75-125	2	20	
Lead	**219**	**221**	222	222	ND	**99**	**100**	75-125	1	20	
Laboratory ID:	07-005-01										
Mercury	**11.1**	**10.6**	12.5	12.5	ND	**89**	**85**	75-125	4	20	

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Benzo[a]anthracene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Chrysene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[b]fluoranthene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo(j,k)fluoranthene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[a]pyrene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Dibenz[a,h]anthracene	**ND**	0.011	EPA 8270D/SIM	7-2-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*66*	*21 - 110*				
Pyrene-d10	*85*	*19 - 111*				
Terphenyl-d14	*84*	*32 - 137*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*21 - 110*				
Pyrene-d10	*85*	*19 - 111*				
Terphenyl-d14	*82*	*32 - 137*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*66*	*21 - 110*				
Pyrene-d10	*81*	*19 - 111*				
Terphenyl-d14	*80*	*32 - 137*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0702W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	7-2-18	7-5-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*21 - 110*				
Pyrene-d10	*86*	*19 - 111*				
Terphenyl-d14	*90*	*32 - 137*				

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0702W1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.472**	**0.511**	0.500	0.500	94	102	57 - 127	8	15	
Chrysene	**0.466**	**0.499**	0.500	0.500	93	100	51 - 120	7	15	
Benzo[b]fluoranthene	**0.467**	**0.509**	0.500	0.500	93	102	54 - 124	9	17	
Benzo(j,k)fluoranthene	**0.483**	**0.502**	0.500	0.500	97	100	50 - 127	4	18	
Benzo[a]pyrene	**0.450**	**0.483**	0.500	0.500	90	97	50 - 120	7	16	
Indeno(1,2,3-c,d)pyrene	**0.483**	**0.500**	0.500	0.500	97	100	46 - 132	3	20	
Dibenz[a,h]anthracene	**0.480**	**0.516**	0.500	0.500	96	103	49 - 129	7	18	
Surrogate:										
2-Fluorobiphenyl					*64*	*78*	*21 - 110*			
Pyrene-d10					*92*	*95*	*19 - 111*			
Terphenyl-d14					*95*	*99*	*32 - 137*			

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

HARDNESS
EPA 6010D/SM 2340B

Matrix: Water
Units: mg eqt. CaCO3/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	06-310-01					
Hardness	**66**	1.0	6010D/SM 2340B	7-3-18	7-5-18	
Client ID:	**SW2**					
Laboratory ID:	06-310-02					
Hardness	**71**	1.0	6010D/SM 2340B	7-3-18	7-5-18	
Client ID:	**SW3**					
Laboratory ID:	06-310-03					
Hardness	**74**	1.0	6010D/SM 2340B	7-3-18	7-5-18	

Date of Report: July 10, 2018
Samples Submitted: June 29, 2018
Laboratory Reference: 1806-310
Project: 17-06520-000

HARDNESS
EPA 6010D/SM 2340B
QUALITY CONTROL

Matrix: Water
Units: mg eqt. $CaCO_3$/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0703WH1					
Hardness	**ND**	1.0	6010D/SM 2340B	7-3-18	7-5-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	06-310-01										
	ORIG	DUP									
Hardness	**65.6**	**64.6**	NA		NA	NA		NA	2	20	
MATRIX SPIKES											
Laboratory ID:	06-310-01										
	MS	MSD	MS	MSD		MS	MSD				
Hardness	**200**	**201**	132	132	65.6	102	103	75-125	0	20	
SPIKE BLANK											
Laboratory ID:	SB0703WH1										
	SB		SB			SB					
Hardness	**140**		132		NA	106		80-120	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera Env. Cons.
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: MARK EWBANK
Sampled by: George Iffner

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 06-310

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	cPAHs 8270D/SIM	Hexanes			% Moisture
1	SW1	6/29/18	9:20	water	11			✓	✓	✓										✓			✓	✓			
2	SW2	↓	8:45	↓	11			✓	✓	✓										✓			✓	✓			
3	SW3	↓	8:15	↓	11			✓	✓	✓										✓			✓	✓			
4	Trip Blank	6/29/18	10:00	water	3					✓																	

	Signature	Company	Date	Time
Relinquished	George Iffner	Herrera Env. Cons.	6/29/18	12:18 pm
Received	[illegible]	ALPHA	6/29/18	12:18 PM
Relinquished	[illegible]	ALPHA	6/29/18	13:58
Received	[illegible]	OSE	6/29/18	1358
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold for PCBs, pending Dx results.

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 5, 2018

Mark Ewbank
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1809-277

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on September 27, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

Case Narrative

Samples were collected on September 26, 2018 and received by the laboratory on September 27, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

cPAHs EPA 8270D/SIM Analysis

Samples MW5 and method blank MB0927W1 each had one surrogate recovery out of control limits. This is within allowance of our standard operating procedure as long as the recovery is above 10%.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*66-117*				
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*66-117*				
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*66-117*				
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*66-117*				
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*66-117*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*90*	*66-117*				
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*88*	*66-117*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0928W1					
Gasoline	**ND**	100	NWTPH-Gx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*89*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-277-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*88*	*89*	*66-117*			

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.43	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*87*	*50-150*				
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*89*	*50-150*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*103*	*50-150*				
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	9-28-18	9-28-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*98*	*50-150*				
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-28-18	10-1-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	9-28-18	10-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*82*	*50-150*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0928W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	9-28-18	10-1-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	9-28-18	10-1-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-277-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*87*	*92*	*50-150*			

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

VOLATILE ORGANICS EPA 8260C
page 1 of 2

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*102*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*99*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	0.35	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	0.22	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	4.6	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: October 5, 2018
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	0.20	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Samples Submitted: September 27, 2018
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Project: 17-06520-000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*96*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	0.38	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*101*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	09-277-10					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-30-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-30-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-30-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-30-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-30-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-30-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-30-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-30-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-30-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-30-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-30-18	

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
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Project: 17-06520-000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	09-277-10					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-30-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-30-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-30-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-30-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-30-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-30-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-30-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-30-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*105*	*75-127*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0929W1					
Dichlorodifluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloromethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Vinyl Chloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Acetone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Iodomethane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Carbon Disulfide	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methylene Chloride	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Vinyl Acetate	ND	1.0	EPA 8260C	9-29-18	9-29-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Butanone	ND	5.0	EPA 8260C	9-29-18	9-29-18	
Bromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chloroform	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Benzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Trichloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Dibromomethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromodichloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Toluene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	9-29-18	9-29-18	

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VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0929W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Tetrachloroethene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Hexanone	ND	2.0	EPA 8260C	9-29-18	9-29-18	
Dibromochloromethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Chlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,1,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Ethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
m,p-Xylene	ND	0.40	EPA 8260C	9-29-18	9-29-18	
o-Xylene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Styrene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromoform	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Isopropylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Bromobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Propylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
n-Butylbenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
1,2-Dibromo-3-chloropropane	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
Naphthalene	ND	1.0	EPA 8260C	9-29-18	9-29-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	9-29-18	9-29-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*111*	*75-127*				
Toluene-d8	*105*	*80-127*				
4-Bromofluorobenzene	*102*	*78-125*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0929W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**8.87**	**9.06**	10.0	10.0	89	91	62-129	2	15	
Benzene	**9.32**	**9.49**	10.0	10.0	93	95	77-127	2	15	
Trichloroethene	**9.55**	**9.81**	10.0	10.0	96	98	70-120	3	15	
Toluene	**9.80**	**10.1**	10.0	10.0	98	101	82-123	3	15	
Chlorobenzene	**9.04**	**9.21**	10.0	10.0	90	92	79-120	2	15	
Surrogate:										
Dibromofluoromethane					*105*	*104*	*75-127*			
Toluene-d8					*103*	*103*	*80-127*			
4-Bromofluorobenzene					*100*	*101*	*78-125*			

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
Arsenic	**ND**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**2.4**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
Arsenic	**4.9**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
Arsenic	**ND**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
Arsenic	**14**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
Arsenic	**ND**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**1.9**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
Arsenic	**4.5**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
Arsenic	**5.5**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
Arsenic	**ND**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
Arsenic	**3.6**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0928WM1					
Arsenic	**ND**	3.3	EPA 200.8	9-28-18	9-28-18	
Cadmium	**ND**	4.4	EPA 200.8	9-28-18	9-28-18	
Chromium	**ND**	11	EPA 200.8	9-28-18	9-28-18	
Lead	**ND**	1.1	EPA 200.8	9-28-18	9-28-18	
Laboratory ID:	MB0928W1					
Mercury	**ND**	0.50	EPA 7470A	9-28-18	9-28-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	09-244-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	09-277-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	09-244-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**222**	**219**	222	222	ND	**100**	**99**	75-125	1	20	
Cadmium	**211**	**204**	222	222	ND	**95**	**92**	75-125	3	20	
Chromium	**202**	**199**	222	222	ND	**91**	**90**	75-125	2	20	
Lead	**212**	**210**	222	222	ND	**96**	**95**	75-125	1	20	
Laboratory ID:	09-277-01										
Mercury	**12.1**	**12.0**	12.5	12.5	ND	**96**	**96**	75-125	0	20	

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW1**					
Laboratory ID:	09-277-01					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*73*	*21 - 110*				
Pyrene-d10	*89*	*19 - 111*				
Terphenyl-d14	*111*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW2**					
Laboratory ID:	09-277-02					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*59*	*21 - 110*				
Pyrene-d10	*78*	*19 - 111*				
Terphenyl-d14	*97*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW3**					
Laboratory ID:	09-277-03					
Benzo[a]anthracene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Chrysene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo[b]fluoranthene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo(j,k)fluoranthene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo[a]pyrene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Dibenz[a,h]anthracene	**ND**	0.0095	EPA 8270D/SIM	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*69*	*21 - 110*				
Pyrene-d10	*83*	*19 - 111*				
Terphenyl-d14	*100*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW4**					
Laboratory ID:	09-277-04					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*81*	*21 - 110*				
Pyrene-d10	*85*	*19 - 111*				
Terphenyl-d14	*134*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW5**					
Laboratory ID:	09-277-05					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*91*	*21 - 110*				
Pyrene-d10	*86*	*19 - 111*				
Terphenyl-d14	*176*	*32 - 137*				Q

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW6**					
Laboratory ID:	09-277-06					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*71*	*21 - 110*				
Pyrene-d10	*89*	*19 - 111*				
Terphenyl-d14	*122*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW7**					
Laboratory ID:	09-277-07					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*62*	*21 - 110*				
Pyrene-d10	*86*	*19 - 111*				
Terphenyl-d14	*105*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW8**					
Laboratory ID:	09-277-08					
Benzo[a]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.0094	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*21 - 110*				
Pyrene-d10	*71*	*19 - 111*				
Terphenyl-d14	*86*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW9**					
Laboratory ID:	09-277-09					
Benzo[a]anthracene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*77*	*21 - 110*				
Pyrene-d10	*82*	*19 - 111*				
Terphenyl-d14	*112*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0927W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-27-18	9-27-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*105*	*21 - 110*				
Pyrene-d10	*86*	*19 - 111*				
Terphenyl-d14	*143*	*32 - 137*				Q

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0928W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	9-28-18	9-28-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*68*	*21 - 110*				
Pyrene-d10	*83*	*19 - 111*				
Terphenyl-d14	*100*	*32 - 137*				

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0927W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.430**	**0.341**	0.500	0.500	86	68	28 - 109	23	38	
Acenaphthylene	**0.478**	**0.397**	0.500	0.500	96	79	37 - 111	19	26	
Acenaphthene	**0.496**	**0.434**	0.500	0.500	99	87	41 - 113	13	33	
Fluorene	**0.489**	**0.467**	0.500	0.500	98	93	47 - 114	5	23	
Phenanthrene	**0.465**	**0.461**	0.500	0.500	93	92	50 - 113	1	18	
Anthracene	**0.468**	**0.465**	0.500	0.500	94	93	50 - 117	1	18	
Fluoranthene	**0.490**	**0.489**	0.500	0.500	98	98	52 - 120	0	15	
Pyrene	**0.589**	**0.488**	0.500	0.500	118	98	51 - 128	19	31	
Benzo[a]anthracene	**0.541**	**0.539**	0.500	0.500	108	108	57 - 127	0	15	
Chrysene	**0.507**	**0.514**	0.500	0.500	101	103	51 - 120	1	15	
Benzo[b]fluoranthene	**0.502**	**0.506**	0.500	0.500	100	101	54 - 124	1	17	
Benzo(j,k)fluoranthene	**0.527**	**0.539**	0.500	0.500	105	108	50 - 127	2	18	
Benzo[a]pyrene	**0.503**	**0.509**	0.500	0.500	101	102	50 - 120	1	16	
Indeno(1,2,3-c,d)pyrene	**0.491**	**0.492**	0.500	0.500	98	98	46 - 132	0	20	
Dibenz[a,h]anthracene	**0.489**	**0.515**	0.500	0.500	98	103	49 - 129	5	18	
Benzo[g,h,i]perylene	**0.468**	**0.486**	0.500	0.500	94	97	45 - 130	4	19	
Surrogate:										
2-Fluorobiphenyl					*78*	*62*	*21 - 110*			
Pyrene-d10					*88*	*90*	*19 - 111*			
Terphenyl-d14					*118*	*108*	*32 - 137*			

Date of Report: October 5, 2018
Samples Submitted: September 27, 2018
Laboratory Reference: 1809-277
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0928W1									
	SB	SBD	SB	SBD	SB	SBD				
Naphthalene	**0.373**	**0.392**	0.500	0.500	75	78	28 - 109	5	38	
Acenaphthylene	**0.430**	**0.437**	0.500	0.500	86	87	37 - 111	2	26	
Acenaphthene	**0.463**	**0.448**	0.500	0.500	93	90	41 - 113	3	33	
Fluorene	**0.429**	**0.439**	0.500	0.500	86	88	47 - 114	2	23	
Phenanthrene	**0.407**	**0.431**	0.500	0.500	81	86	50 - 113	6	18	
Anthracene	**0.409**	**0.436**	0.500	0.500	82	87	50 - 117	6	18	
Fluoranthene	**0.431**	**0.460**	0.500	0.500	86	92	52 - 120	7	15	
Pyrene	**0.451**	**0.453**	0.500	0.500	90	91	51 - 128	0	31	
Benzo[a]anthracene	**0.480**	**0.504**	0.500	0.500	96	101	57 - 127	5	15	
Chrysene	**0.453**	**0.488**	0.500	0.500	91	98	51 - 120	7	15	
Benzo[b]fluoranthene	**0.478**	**0.499**	0.500	0.500	96	100	54 - 124	4	17	
Benzo(j,k)fluoranthene	**0.451**	**0.491**	0.500	0.500	90	98	50 - 127	8	18	
Benzo[a]pyrene	**0.452**	**0.477**	0.500	0.500	90	95	50 - 120	5	16	
Indeno(1,2,3-c,d)pyrene	**0.454**	**0.484**	0.500	0.500	91	97	46 - 132	6	20	
Dibenz[a,h]anthracene	**0.446**	**0.495**	0.500	0.500	89	99	49 - 129	10	18	
Benzo[g,h,i]perylene	**0.458**	**0.481**	0.500	0.500	92	96	45 - 130	5	19	
Surrogate:										
2-Fluorobiphenyl					*73*	*87*	*21 - 110*			
Pyrene-d10					*81*	*86*	*19 - 111*			
Terphenyl-d14					*104*	*104*	*32 - 137*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera Env. Cons.
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Mark Ewbank
Sampled by: B. Bland, G. Ifthen

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 09-277

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A *	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	cPAHs by 8270/SIM				% Moisture
1	MW1	9/26/18	11:00	water	11			X	X	X										X			X				
2	MW2	↓	12:35	↓	↓			X	X	X										X			X				
3	MW3		14:40					X	X	X										X			X				
4	MW4		13:45					X	X	X										X			X				
5	MW5		13:45					X	X	X										X			X				
6	MW6		12:35					X	X	X										X			X				
7	MW7		10:35					X	X	X										X			X				
8	MW8		11:35					X	X	X										X			X				
9	MW9	↓	15:00	↓	↓			X	X	X										X			X				
10	Trip Blank	9/26/18	—	water	3					X																	

	Signature	Company	Date	Time
Relinquished	George Ifthen	HERRERA	9/27/18	8:30 AM
Received		OSE	9/27/18	8:30 AM
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold for PCBs, Pending results of Dx analysis.

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

October 17, 2018

Mark Ewbank
Herrera Environmental Consultants, Inc.
2200 6th Avenue, Suite 1100
Seattle, WA 98121

Re: Analytical Data for Project 17-06520-000
Laboratory Reference No. 1810-129

Dear Mark:

Enclosed are the analytical results and associated quality control data for samples submitted on October 9, 2018.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

Case Narrative

Samples were collected on October 9, 2018 and received by the laboratory on October 9, 2018. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

GASOLINE RANGE ORGANICS
NWTPH-Gx

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Gasoline	**ND**	100	NWTPH-Gx	10-9-18	10-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*66-117*				
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Gasoline	**ND**	100	NWTPH-Gx	10-9-18	10-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*66-117*				
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Gasoline	**ND**	100	NWTPH-Gx	10-9-18	10-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*66-117*				
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Gasoline	**ND**	100	NWTPH-Gx	10-9-18	10-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*92*	*66-117*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

GASOLINE RANGE ORGANICS
NWTPH-Gx
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1009W1					
Gasoline	**ND**	100	NWTPH-Gx	10-9-18	10-9-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*91*	*66-117*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-129-01										
	ORIG	DUP									
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*92*	*92*	*66-117*			

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-11-18	10-11-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*80*	*50-150*				
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	10-11-18	10-11-18	
Lube Oil Range Organics	**ND**	0.42	NWTPH-Dx	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*78*	*50-150*				
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Diesel Range Organics	**ND**	0.26	NWTPH-Dx	10-11-18	10-11-18	
Lube Oil Range Organics	**ND**	0.41	NWTPH-Dx	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*86*	*50-150*				
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-11-18	10-11-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*83*	*50-150*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1011W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	10-11-18	10-11-18	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*84*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-129-01										
	ORIG	DUP									
Diesel Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Lube Oil Range	**ND**	**ND**	NA	NA		NA		NA	NA	NA	
Surrogate:											
o-Terphenyl						*80*	*80*	*50-150*			

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Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*97*	*75-127*
Toluene-d8	*98*	*80-127*
4-Bromofluorobenzene	*95*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*99*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	1.1	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*98*	*75-127*
Toluene-d8	*99*	*80-127*
4-Bromofluorobenzene	*98*	*78-125*

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*101*	*75-127*
Toluene-d8	*100*	*80-127*
4-Bromofluorobenzene	*96*	*78-125*

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	10-129-05					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

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Project: 17-06520-000

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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**Trip Blank**					
Laboratory ID:	10-129-05					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Surrogate:	*Percent Recovery*	*Control Limits*
Dibromofluoromethane	*100*	*75-127*
Toluene-d8	*102*	*80-127*
4-Bromofluorobenzene	*97*	*78-125*

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

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METHOD BLANK QUALITY CONTROL
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Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011W1					
Dichlorodifluoromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
Chloromethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Vinyl Chloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroethane	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Trichlorofluoromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Acetone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Iodomethane	ND	1.4	EPA 8260C	10-11-18	10-11-18	
Carbon Disulfide	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methylene Chloride	ND	2.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl t-Butyl Ether	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Vinyl Acetate	ND	1.0	EPA 8260C	10-11-18	10-11-18	
2,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
(cis) 1,2-Dichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Butanone	ND	5.0	EPA 8260C	10-11-18	10-11-18	
Bromochloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chloroform	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Carbon Tetrachloride	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Benzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Trichloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Dibromomethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromodichloromethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chloroethyl Vinyl Ether	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(cis) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Methyl Isobutyl Ketone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Toluene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
(trans) 1,3-Dichloropropene	ND	0.20	EPA 8260C	10-11-18	10-11-18	

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL
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Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1011W1					
1,1,2-Trichloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Tetrachloroethene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Hexanone	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Dibromochloromethane	ND	0.30	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromoethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Chlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,1,2-Tetrachloroethane	ND	0.28	EPA 8260C	10-11-18	10-11-18	
Ethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
m,p-Xylene	ND	0.40	EPA 8260C	10-11-18	10-11-18	
o-Xylene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Styrene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromoform	ND	2.0	EPA 8260C	10-11-18	10-11-18	
Isopropylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Bromobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,1,2,2-Tetrachloroethane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichloropropane	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Propylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
2-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
4-Chlorotoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3,5-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
tert-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trimethylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
sec-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,3-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
p-Isopropyltoluene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,4-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
n-Butylbenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
1,2-Dibromo-3-chloropropane	ND	1.9	EPA 8260C	10-11-18	10-11-18	
1,2,4-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Hexachlorobutadiene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
Naphthalene	ND	1.0	EPA 8260C	10-11-18	10-11-18	
1,2,3-Trichlorobenzene	ND	0.20	EPA 8260C	10-11-18	10-11-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*98*	*75-127*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*95*	*78-125*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1011W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**11.7**	**11.9**	10.0	10.0	117	119	62-129	2	15	
Benzene	**11.0**	**11.4**	10.0	10.0	110	114	77-127	4	15	
Trichloroethene	**10.1**	**10.2**	10.0	10.0	101	102	70-120	1	15	
Toluene	**11.0**	**11.3**	10.0	10.0	110	113	82-123	3	15	
Chlorobenzene	**9.97**	**10.1**	10.0	10.0	100	101	79-120	1	15	
Surrogate:										
Dibromofluoromethane					*95*	*101*	*75-127*			
Toluene-d8					*97*	*102*	*80-127*			
4-Bromofluorobenzene					*94*	*98*	*78-125*			

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*21 - 110*				
Pyrene-d10	*67*	*19 - 111*				
Terphenyl-d14	*83*	*32 - 137*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Benzo[a]anthracene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Chrysene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[b]fluoranthene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo(j,k)fluoranthene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[a]pyrene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Dibenz[a,h]anthracene	**ND**	0.0099	EPA 8270D/SIM	10-12-18	10-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*65*	*21 - 110*				
Pyrene-d10	*78*	*19 - 111*				
Terphenyl-d14	*92*	*32 - 137*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Benzo[a]anthracene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Chrysene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[b]fluoranthene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo(j,k)fluoranthene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[a]pyrene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Dibenz[a,h]anthracene	**ND**	0.0098	EPA 8270D/SIM	10-12-18	10-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*57*	*21 - 110*				
Pyrene-d10	*68*	*19 - 111*				
Terphenyl-d14	*82*	*32 - 137*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*60*	*21 - 110*				
Pyrene-d10	*72*	*19 - 111*				
Terphenyl-d14	*90*	*32 - 137*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB1012W1					
Benzo[a]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Chrysene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[b]fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo(j,k)fluoranthene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Benzo[a]pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Indeno(1,2,3-c,d)pyrene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Dibenz[a,h]anthracene	**ND**	0.010	EPA 8270D/SIM	10-12-18	10-12-18	
Surrogate:	*Percent Recovery*	*Control Limits*				
2-Fluorobiphenyl	*53*	*21 - 110*				
Pyrene-d10	*67*	*19 - 111*				
Terphenyl-d14	*81*	*32 - 137*				

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

cPAHs EPA 8270D/SIM
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1012W1									
	SB	SBD	SB	SBD	SB	SBD				
Benzo[a]anthracene	**0.490**	**0.495**	0.500	0.500	98	99	57 - 127	1	15	
Chrysene	**0.446**	**0.429**	0.500	0.500	89	86	51 - 120	4	15	
Benzo[b]fluoranthene	**0.457**	**0.496**	0.500	0.500	91	99	54 - 124	8	17	
Benzo(j,k)fluoranthene	**0.477**	**0.459**	0.500	0.500	95	92	50 - 127	4	18	
Benzo[a]pyrene	**0.460**	**0.452**	0.500	0.500	92	90	50 - 120	2	16	
Indeno(1,2,3-c,d)pyrene	**0.442**	**0.441**	0.500	0.500	88	88	46 - 132	0	20	
Dibenz[a,h]anthracene	**0.465**	**0.460**	0.500	0.500	93	92	49 - 129	1	18	
Surrogate:										
2-Fluorobiphenyl					*56*	*60*	*21 - 110*			
Pyrene-d10					*77*	*76*	*19 - 111*			
Terphenyl-d14					*90*	*91*	*32 - 137*			

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Arsenic	**ND**	3.3	EPA 200.8	10-16-18	10-16-18	
Cadmium	**ND**	4.4	EPA 200.8	10-16-18	10-16-18	
Chromium	**ND**	11	EPA 200.8	10-16-18	10-16-18	
Lead	**ND**	1.1	EPA 200.8	10-16-18	10-16-18	
Mercury	**ND**	0.50	EPA 7470A	10-11-18	10-11-18	
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Arsenic	**ND**	3.3	EPA 200.8	10-16-18	10-16-18	
Cadmium	**ND**	4.4	EPA 200.8	10-16-18	10-16-18	
Chromium	**ND**	11	EPA 200.8	10-16-18	10-16-18	
Lead	**ND**	1.1	EPA 200.8	10-16-18	10-16-18	
Mercury	**ND**	0.50	EPA 7470A	10-11-18	10-11-18	
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Arsenic	**ND**	3.3	EPA 200.8	10-16-18	10-16-18	
Cadmium	**ND**	4.4	EPA 200.8	10-16-18	10-16-18	
Chromium	**ND**	11	EPA 200.8	10-16-18	10-16-18	
Lead	**ND**	1.1	EPA 200.8	10-16-18	10-16-18	
Mercury	**ND**	0.50	EPA 7470A	10-11-18	10-11-18	
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Arsenic	**ND**	3.3	EPA 200.8	10-16-18	10-16-18	
Cadmium	**ND**	4.4	EPA 200.8	10-16-18	10-16-18	
Chromium	**ND**	11	EPA 200.8	10-16-18	10-16-18	
Lead	**ND**	1.1	EPA 200.8	10-16-18	10-16-18	
Mercury	**ND**	0.50	EPA 7470A	10-11-18	10-11-18	

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

TOTAL METALS
EPA 200.8/7470A
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1016WM1					
Arsenic	**ND**	3.3	EPA 200.8	10-16-18	10-16-18	
Cadmium	**ND**	4.4	EPA 200.8	10-16-18	10-16-18	
Chromium	**ND**	11	EPA 200.8	10-16-18	10-16-18	
Lead	**ND**	1.1	EPA 200.8	10-16-18	10-16-18	
Laboratory ID:	MB1011W1					
Mercury	**ND**	0.50	EPA 7470A	10-11-18	10-11-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-114-01										
	ORIG	DUP									
Arsenic	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Cadmium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Chromium	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
Laboratory ID:	10-129-01										
Mercury	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	10-114-01										
	MS	MSD	MS	MSD		MS	MSD				
Arsenic	**226**	**229**	222	222	ND	**102**	**103**	75-125	1	20	
Cadmium	**219**	**226**	222	222	ND	**99**	**102**	75-125	3	20	
Chromium	**206**	**208**	222	222	ND	**93**	**94**	75-125	1	20	
Lead	**229**	**227**	222	222	ND	**103**	**102**	75-125	1	20	
Laboratory ID:	10-129-01										
Mercury	**12.4**	**12.3**	12.5	12.5	ND	**99**	**99**	75-125	0	20	

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

HARDNESS
EPA 200.7/SM 2340B

Matrix: Water
Units: mg eqt. CaCO3/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**SW1**					
Laboratory ID:	10-129-01					
Hardness	**62**	1.0	200.7/SM 2340B	10-10-18	10-10-18	
Client ID:	**SW2**					
Laboratory ID:	10-129-02					
Hardness	**51**	1.0	200.7/SM 2340B	10-10-18	10-10-18	
Client ID:	**SW3**					
Laboratory ID:	10-129-03					
Hardness	**51**	1.0	200.7/SM 2340B	10-10-18	10-10-18	
Client ID:	**SW4**					
Laboratory ID:	10-129-04					
Hardness	**45**	1.0	200.7/SM 2340B	10-10-18	10-10-18	

Date of Report: October 17, 2018
Samples Submitted: October 9, 2018
Laboratory Reference: 1810-129
Project: 17-06520-000

HARDNESS
EPA 200.7/SM 2340B
QUALITY CONTROL

Matrix: Water
Units: mg eqt. CaCO3/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1010WH2					
Hardness	**ND**	1.0	200.7/SM 2340B	10-10-18	10-10-18	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	10-070-01										
	ORIG	DUP									
Hardness	**90.4**	**88.0**	NA		NA	NA		NA	3	20	
MATRIX SPIKES											
Laboratory ID:	10-070-01										
	MS	MSD	MS	MSD		MS	MSD				
Hardness	**215**	**225**	132	132	90.4	94	102	75-125	5	20	
SPIKE BLANK											
Laboratory ID:	SB1010WH2										
	SB		SB			SB					
Hardness	**127**		132		NA	96		80-120	NA	NA	

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: Herrera
Project Number: 17-06520-000
Project Name: Pacific Park
Project Manager: Mark Ewbank
Sampled by: George Iftner

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☑ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 10-129

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	~~PAHs~~ 8270D/SIM (low-level) cPAHs	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	Hardness			% Moisture
1	SW1	10/9/18	9:30	water	12			✓	✓	✓				✓						✓			✓				
2	SW2	↓	10:00	↓	12			✓	✓	✓				✓						✓			✓				
3	SW3		10:30		12			✓	✓	✓				✓						✓			✓				
4	SW4		11:00		12			✓	✓	✓				✓						✓			✓				
5	Trip Blank	↓	—	↓	3					✓																	

	Signature	Company	Date	Time
Relinquished	George Iftner	Herrera	10/9/18	12:55
Received	[signature]	OSE	10/9/18	1255
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Hold on PCBs, Pending DO results.

Data Package: Standard ☐ Level III ☐ Level IV ☐
Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

APPENDIX H

Data Quality Assurance Review Memorandum

King County

Herrera Environmental Consultants, Inc.

Internal Memorandum

Date: September 12, 2018

To: Project File 17-06520-000

Copy To:

From: Gina Catarra

Subject: Data Quality Assurance Review of the Pacific Park/Dumpsite Data

---

This memorandum presents a review of data quality for 92 soil samples collected from the Pacific Park/Dumpsite property between February 20 and March 1, 2018. OnSite Environmental, Inc. (OnSite), of Redmond, Washington analyzed the samples for

- Gasoline-range petroleum hydrocarbons (TPH-G) by Ecology's NWPTH-Gx method
- Diesel- and lube oil-range petroleum hydrocarbons by Ecology's NWTPH-Dx method
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8021B
- Polycyclic aromatic hydrocarbons (PAHs) by EPA method 8270D/SIM
- Polychlorinated biphenyls (PCBs) by EPA method 8082A
- Total Model Toxics Control Act (MTCA) metals (arsenic, cadmium, chromium, lead, and mercury) by EPA 6010D/7471B
- Total chromium and lead by toxicity characteristic leaching procedure (TCLP) by EPA methods 1311/6010D.

Results for the following samples were validated.

Sample ID	Lab Ref. No.	Date Collected	Analyses
B-04_12.5	1802-233	2/21/18	HCID, cPAHs, metals
B-05_7.5	1802-233	2/20/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Cr

Sample ID	Lab Ref. No.	Date Collected	Analyses
B-05_12.5	1802-233	2/20/18	HCID, cPAHs, metals
B-14_5	1802-233	2/21/18	HCID, cPAHs, metals
B-14_10	1802-233	2/21/18	HCID, cPAHs, metals
B-15_5	1802-233	2/21/18	HCID, cPAHs, metals
B-15_7.5	1802-233	2/21/18	HCID, cPAHs, metals
B-15_15	1802-233	2/21/18	HCID, cPAHs, metals
B-17_10	1802-233	2/20/18	HCID, cPAHs, metals
B-17_15	1802-233	2/20/18	HCID, cPAHs, metals
PP12-2	1802-234	2/21/18	HCID, Dx, cPAHs, PCBs, metals
PP12-7	1802-234	2/21/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Pb
PP12-10	1802-234	2/21/18	Dx, cPAHs, PCBs, metals
PP13-10	1802-234	2/21/18	HCID, cPAHs, metals, TCLP Pb
PP15-6	1802-234	2/21/18	HCID, Dx, cPAHs, PCBs, metals
PP15-12	1802-234	2/21/18	HCID, cPAHs, metals, TCLP Pb
PP19-7	1802-234	2/21/18	HCID, Dx, cPAHs, metals
PP19-10	1802-234	2/21/18	HCID, cPAHs, metals, TCLP Pb
PP19-15	1802-234	2/21/18	HCID, cPAHs, metals
PP22-4	1802-234	2/21/18	HCID, cPAHs, metals
PP22-9	1802-234	2/21/18	HCID, cPAHs, metals
PP22-13	1802-234	2/21/18	HCID, cPAHs, metals, TCLP Pb
PP25-7	1802-234	2/21/18	HCID, cPAHs, metals
PP25-13	1802-234	2/21/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals, TCLP Pb
PP25-17	1802-234	2/21/18	GX/BTEX, Dx, cPAHs, PCBs, metals
PP26-11	1802-234	2/21/18	HCID, cPAHs, metals
PP26-17	1802-234	2/21/18	HCID, cPAHs, metals
PP34-8	1802-234	2/21/18	HCID, cPAHs, metals
PP34-15	1802-234	2/21/18	cPAHs
B-06_2.5	1802-249	2/22/18	HCID, Dx, cPAHs, PCBs, metals
B-06_10	1802-249	2/22/18	Dx, cPAHs, metals
B-06_12.5	1802-249	2/22/18	HCID, Dx, cPAHs, PCBs, metals
B-09_5	1802-249	2/22/18	HCID, cPAHs, metals
B-09_15	1802-249	2/22/18	HCID, cPAHs, metals
B-13_7.5	1802-249	2/23/18	HCID, cPAHs, metals
B-13_15	1802-249	2/23/18	HCID, cPAHs, metals
B16_2.5	1802-249	2/23/18	HCID, cPAHs, metals
B-16_7.5	1802-249	2/23/18	HCID, cPAHs, metals
B-16_17.5	1802-249	2/23/18	HCID, cPAHs, metals

Sample ID	Lab Ref. No.	Date Collected	Analyses
B-11_2.5	1802-278	2/26/18	HCID, Dx, cPAHs, PCBs, metals
B-11_12.5	1802-278	2/26/18	HCID, cPAHs, metals
B-10_7.5	1802-278	2/26/18	HCID, Dx, cPAHs, PCBs, metals
B-05_5	1802-278	2/26/18	HCID, cPAHs, metals
B-08_12.5	1802-278	2/26/18	HCID, cPAHs, metals
B-07_2.5	1802-278	2/27/18	HCID, Dx, cPAHs, PCBs, metals
B-07_7.5	1802-278	2/27/18	HCID, Dx, cPAHs, PCBs, metals
B-07_12.5	1802-278	2/27/18	Dx, cPAHs, PCBs, metals
PP28-8	1803-007	3/1/18	HCID, cPAHs, metals
PP28-10	1803-007	3/1/18	HCID, cPAHs, metals
PP29-3	1803-007	3/1/18	HCID, Dx, cPAHs, PCBs, metals
PP29-5	1803-007	3/1/18	HCID, cPAHs, metals
PP29-10	1803-007	3/1/18	HCID, cPAHs, metals
PP32-4	1803-007	3/1/18	HCID, cPAHs, metals
PP32-7	1803-007	3/1/18	HCID, Dx, cPAHs, PCBs, metals
PP32-10	1803-007	3/1/18	Dx, cPAHs, PCBs, metals
PP31-3	1803-007	3/1/18	HCID, cPAHs, metals
PP31-11	1803-007	3/1/18	HCID, cPAHs, metals
PP33-3	1803-007	3/1/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals
PP33-5	1803-007	3/1/18	HCID, cPAHs, metals
PP33-10	1803-007	3/1/18	HCID, cPAHs, metals
PP23-2	1803-007	2/28/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals, TCLP Pb
PP23-5	1803-007	2/28/18	HCID, cPAHs, metals
PP23-10	1803-007	2/28/18	HCID, cPAHs, metals
PP23-15	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP21-2	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Pb
PP21-6	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Pb
PP21-10	1803-007	2/28/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals, TCLP Pb
PP21-15	1803-007	2/28/18	Dx, cPAHs, PCBs, metals
PP20-2	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals
PP20-5	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Pb
PP20-10	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals, TCLP Pb
PP20-15	1803-007	2/28/18	Dx, cPAHs, PCBs, metals, TCLP Pb
PP18-3	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP18-5	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP18-10	1803-007	2/28/18	HCID, cPAHs, metals
PP17-1	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb

Sample ID	Lab Ref. No.	Date Collected	Analyses
PP17-5	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP17-10	1803-007	2/28/18	HCID, cPAHs, metals
PP16-1	1803-007	2/28/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals
PP16-11	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP14-5	1803-007	2/28/18	HCID, cPAHs, metals
PP14-12	1803-007	2/28/18	HCID, cPAHs, metals
PP11-5	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP11-10	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP10-11	1803-007	2/28/18	HCID, cPAHs, metals
PP10-17	1803-007	2/28/18	HCID, cPAHs, metals
PP27-7	1803-007	2/28/18	HCID, cPAHs, metals, TCLP Pb
PP27-10	1803-007	2/28/18	HCID, cPAHs, metals
PP30-5	1803-007	2/28/18	HCID, Dx, cPAHs, PCBs, metals
PP30-10	1803-007	2/28/18	HCID, cPAHs, metals
PP24-7	1803-007	2/28/18	HCID, Gx/BTEX, Dx, cPAHs, PCBs, metals, TCLP Pb
PP24-10	1803-007	2/28/18	HCID, cPAHs, metals

The laboratory's performance was reviewed in accordance with quality control (QC) criteria established in the *Pacific Park/Dumpsite Environmental and Economic Assessment Sampling and Analysis Plan* (SAP) (Herrera 2017), by the laboratory, and in the specified methods.

Quality control data summaries submitted by the laboratory were reviewed; raw data were not submitted by the laboratory. Data qualifiers (flags) were added to the sample results in the laboratory reports. Data validation results are summarized below, followed by definitions of data qualifiers.

Custody, Preservation, Holding Times, and Completeness—Acceptable

The samples were properly preserved and sample custody was maintained from sample collection to receipt at the laboratory. Samples were analyzed within the required method holding times. The laboratory reports were complete and contained results for all samples and tests requested on the chain-of-custody (COC) forms.

Laboratory Reporting Limits—Acceptable

The laboratory reporting limits were reasonable for the specified methods and were below relevant comparison criteria. No data were qualified based on laboratory reporting limits.

Method Blank Analysis—Acceptable

Method blanks were analyzed at the required frequency. Method blanks did not contain levels of target analytes above the laboratory reporting limits.

Laboratory Control Sample Analysis—Acceptable

Blank spike (BS) or blank spike/blank spike duplicate (BS/BSD) samples were analyzed for gasoline/BTEX and cPAHs. The percent recovery values met the criteria established by the laboratory.

Surrogate Spike Analysis—Acceptable with Discussion

Surrogate compounds were added to all samples and laboratory QC samples for all NWTPH-HCID, NWTPH-Gx/BTEX, NWTPH-Dx, cPAHs, and PCBs analyses. With the exceptions noted below, all surrogate percent recoveries met the control limits specified by the laboratory or method.

Surrogate o-terphenyl was not recovered for the analysis of samples B-07_7.5. PP29-3, PP33-3, PP21-10, or PP16-1 by method NWTPH-Dx, or for the analysis of sample PP33-3 by method NWTPH-HCID due to the necessary dilutions. No data were qualified.

Matrix Spike Analysis—Acceptable with Discussion

Matrix spike samples were analyzed for metals; matrix spike/matrix spike duplicate (MS/MSD) samples were analyzed for cPAHs, PCBs and metals. With the exception noted below, the percent recovery values met the control limits established by the methods.

A MS/MSD performed on a batch sample resulted in percent recovery values (0 and 218 percent) for chromium that exceeded the 75 to 125 percent criteria. No data were qualified because the sample was not a project sample and all other criteria were met.

Laboratory Duplicate Analysis—Acceptable with Discussion

Laboratory duplicate samples were analyzed for metals; MS/MSD samples were analyzed for cPAHs and PCBs. The relative percent difference (RPD) was calculated for each analyte where both duplicate values were greater than five times the reporting limit (RL). The difference

between duplicate values was calculated if the detected compound concentration was less than five times the RL in either the sample or the duplicate. The relative percent difference (RPD) values or difference values met the control limits established by the laboratory or specified method, except as noted below.

A MS/MSD performed on a batch sample resulted in a RPD values (88 percent) for chromium that exceeded the less than 20 percent criterion. No data were qualified because the sample was not a project sample and all other criteria were met.

Definition of Data Qualifiers

The following are data qualifier definitions applied for this project.

Data Qualifier	Definition
J	Value is an estimate based on analytical results
R	Value is rejected based on analytical results
U	Value is below the reporting limit
UJ	Value is below the reporting limit and is an estimate based on analytical results

References

Herrera. 2017. Pacific Park/Dumpsite Environmental and Economic Assessment, Pacific, Washington, Sampling and Analysis Plan. Prepared by Herrera Environmental Consultants for River and Floodplain Management Section, King County Water and Land Resources Division. April 2017.

APPENDIX I

Soil Vapor Monitoring Data

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW 9 (B-11)
Sample ID: NA
Date & Time: 3/22/18 @ 11:45
Total Casing Volume (cc): 618 cc/ft. x 6' = 3,708 cc = 1 well vol.

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA
Field Personnel: _G. Iftner_

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	300	0 static sec	0.00	0.00	22.2	0.00
1/4	~~0~~ 927	300	185 purge sec	0.00	0.00	22.4	0.00
1/2	~~0~~ 1854	300	370 sec	0.00	0.00	22.5	0.00
3/4	~~0~~ 2781	300	556 sec	0.00	0.00	22.5	0.00
1	~~0~~ 3708	300	741 sec	0.00	0.00	22.6	0.00
1 1/4	~~0~~ 4635	300	927 sec	0.00	0.00	22.5	0.00
1 1/2	~~0~~ 5562	300	1112 sec	0.00	0.00	22.6	0.00
1 3/4	~~0~~ 6489	300	1298 sec	0.00	0.00	22.6	0.00
2	~~0~~ 7416	300	1483 sec	0.00	0.00	22.6	0.00
2 1/4	0	300	sec				
2 1/2	0	300	sec				
2 3/4	0	300	sec				
3	0	300	sec				

Comments: Static WL = 5.85' rounded up to 6' 3,708 cc/300 ml/min purge = 12.36 min = 741 seconds. Barometric pressure 29.75" Hg.

Equipment Used: Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW6
Sample ID: NA
Date & Time: 3/23/18 @ 12:05
Total Casing Volume (cc): 618 cc/ft x 6.29' = 3,893 cc = 1 well vol.

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA

Field Personnel: _G. Iftner_

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	300	Static 0 sec	0.00	0.00	22.2	0.00
1/4	~~0~~973	300	194 Purge sec	0.00	0.00	22.1	0.00
1/2	~~0~~1946	300	389 sec	0.00	0.00	22.0	0.00
3/4	~~0~~2919	300	584 sec	0.00	0.00	22.0	0.00
1	~~0~~3893	300	778 sec	0.00	0.00	22.1	0.00
1 1/4	~~0~~4866	300	972 sec	0.00	0.00	22.1	0.00
1 1/2	~~0~~5839	300	1,167 sec	0.00	0.00	22.1	0.00
1 3/4	~~0~~6812	300	1,362 sec	0.00	0.00	22.1	0.00
2	~~0~~7785	300	1,556 sec	0.00	0.00	22.1	0.00
2 1/4	0	300	sec				
2 1/2	0	300	sec				
2 3/4	0	300	sec				
3	0	300	sec				

Comments: Static WL = 6.29' → 3,893/300 ml/min = 12.9 min = 778 seconds
Barometric pressure = 29.75" Hg.

Equipment Used: Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW6
Sample ID: NA
Date & Time: 6/21/18 @ 11:00 AM
Total Casing Volume (cc): 618 cc/ft x 6.24 = 3,856 cc = 1 Well Volume

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA
Field Personnel: G. Iftner

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	3000	0 Static sec	0.00	0.1	19.6	0.00
1/4	~~0~~ 964	3000	19 Purge sec	0.00	0.3	19.1	0.00
1/2	~~0~~ 1928	3000	38 sec	0.00	1.5	16.4	0.00
3/4	~~0~~ 2892	3000	57 sec	0.00	3.1	14.8	0.00
1	~~0~~ 3856	3000	76 sec	0.00	3.6	14.6	0.00
1 1/4	~~0~~ 4820	3000	95 sec	0.00	3.7	14.4	0.00
1 1/2	~~0~~ 5784	3000	114 sec	0.00	3.8	14.3	0.00
1 3/4	~~0~~ 6748	3000	133 sec	0.00	3.8	14.2	0.00
2	~~0~~ 7712	3000	154 sec	0.00	3.9	14.1	0.00
2 1/4	0	3000	sec				
2 1/2	0	3000	sec				
2 3/4	0	3000	sec				
3	0	3000	sec				

Comments: Static WL = 6.24' 3,856 cc/3000 ml/min = 1.28 min = 76.8 seconds.
Barometric pressure = 30.0" Hg

Equipment Used: SKC Pump, Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW9
Sample ID: NA
Date & Time: 6/21/18 @ 11:20

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA

Total Casing Volume (cc): 618 cc/ft x 6.02' = 3,708 cc = 1 well Vol.

Field Personnel: _G. Iftner_

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	3000	0 static sec	0.00	0.1	19.6	
1/4	~~0~~ 927	3000	18 purge sec	0.00	0.1	19.7	
1/2	~~0~~ 1854	3000	36 sec	0.00	0.1	19.6	
3/4	~~0~~ 2781	3000	54 sec	0.00	0.1	19.6	
1	~~0~~ 3708	3000	72 sec	0.00	0.1	19.6	
1 1/4	~~0~~ 4635	3000	90 sec	0.00	0.1	19.6	
1 1/2	~~0~~ 5562	3000	108 sec	0.00	0.1	19.6	
1 3/4	~~0~~ 6489	3000	126 sec	0.00	0.1	19.6	
2	~~0~~ 7416	3000	144 sec	0.00	0.1	19.6	
2 1/4	0	3000	sec				
2 1/2	0	3000	sec				
2 3/4	0	3000	sec				
3	0	3000	sec				

Comments: 3,708 cc/3,000 ml/min = 1.2 min = 72 seconds (1 well volume)
Barometric pressure = 30.05" Hg

Equipment Used: SKC Pump, Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW9
Sample ID: NA
Date & Time: 9/26/18 @ 14:20
Total Casing Volume (cc): 618cc/ft x 6.98 = 4,314 = 1 well vol.

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA
Field Personnel: _G. Iftner_

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	3000	Static sec	0.0	0.4	19.4	0.0
1/4	~~0~~ 1078.5	3000	22 sec	0.0	1.6	17.9	0.0
1/2	~~0~~ 2157	3000	44 sec	0.0	2.6	16.6	0.0
3/4	~~0~~ 3235.5	3000	66 sec	0.0	3.7	15.3	0.0
1	~~0~~ 4314	3000	86 sec	0.0	3.8	15.1	0.0
1 1/4	~~0~~ 5392.5	3000	108 sec	0.0	3.9	15.0	0.0
1 1/2	~~0~~ 6471	3000	131 sec	0.0	3.9	15.0	0.0
1 3/4	~~0~~ 7549.5	3000	153 sec	0.0	3.9	14.9	0.0
2	~~0~~ 8628	3000	172 sec	0.0	3.9	14.9	0.0
2 1/4	0	3000	sec				
2 1/2	0	3000	sec				
2 3/4	0	3000	sec				
3	0	3000	sec				

Comments: Static Water Level = 6.98' : 4,314/3000 L/min (SKC purge rate) = 1.44 min
1.44 min = 86 seconds
Barometric Pressure 30.11" Hg.
Equipment Used: SKC Pump, Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW 6
Sample ID: NA
Date & Time: 9/26/18 11:40

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA

Total Casing Volume (cc): 618 cc/ft x 8.53' = 5,272 cc = 1 well vol.

Field Personnel: _G. Iftner_

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	3000	Static sec	0.0	0.1	20.3	0.0
1/4	~~0~~ 1318	3000	27 sec	0.0	6.3	12.7	0.0
1/2	~~0~~ 2636	3000	54 sec	0.0	7.3	11.4	0.0
3/4	~~0~~ 3954	3000	81 sec	0.0	7.5	11.1	0.0
1	~~0~~ 5272	3000	106 sec	0.0	7.5	11.0	0.0
1 1/4	~~0~~ 6590	3000	133 sec	0.0	7.5	10.9	0.0
1 1/2	~~0~~ 7908	3000	160 sec	0.0	7.6	10.9	0.0
1 3/4	~~0~~ 9226	3000	187 sec	0.0	7.6	10.9	0.0
2	~~0~~ 10544	3000	212 sec	0.0	7.5	10.8	0.0
2 1/4	0	3000	sec				
2 1/2	0	3000	sec				
2 3/4	0	3000	sec				
3	0	3000	sec				

Comments: Static Water Level = 8.53', 5,272 cc/3000 ml/min (SKC purge rate) = 1.76 min
1.76 min = 106 seconds
Barometric Pressure = 30.17" Hg

Equipment Used: SKC Pump, Gem 2000+, Water Level Meter

Pacific Park
Gas Monitoring Data Sheet

Gas Probe ID: MW1
Sample ID: NA
Date & Time: 9/26/18 10:00 Am
Total Casing Volume (cc): 618 cc/ft x 5.80' = 3584 cc = 1 well vol.

Canister ID: NA
Initial Canister Pressure: NA
Final Canister Pressure: NA
Field Personnel: _G. Iltner_____

Casing Volume Purged	Volume Purged (cc)	Purge Rate (ml/min)	Purge Time	CH_4 (% volume)	CO_2 (% volume)	O_2 (% volume)	H_2S (ppmv)
0	0	3000	Static sec	0.0	0.0	20.6	0.0
1/4	~~0~~ 896	3000	18 sec	0.0	1.7	20.1	0.0
1/2	~~0~~ 1792	3000	36 sec	0.0	1.9	19.0	0.0
3/4	~~0~~ 2688	3000	54 sec	0.0	2.0	18.9	0.0
1	~~0~~ 3584	3000	72 sec	0.0	2.0	18.9	0.0
1 1/4	~~0~~ 4480	3000	90 sec	0.0	2.1	18.8	0.0
1 1/2	~~0~~ 5376	3000	108 sec	0.0	2.1	18.8	0.0
1 3/4	~~0~~ 6272	3000	126 sec	0.0	2.1	18.7	0.0
2	~~0~~ 7168	3000	144 sec	0.0	2.1	18.7	0.0
2 1/4	0	3000	sec				
2 1/2	0	3000	sec				
2 3/4	0	3000	sec				
3	0	3000	sec				

Comments: Static WL = 5.80' 3584 cc/3000 ml/min (SKC purge rate) = 1.20 min = 72 Seconds
Barometric pressure = 30.19" Hg

Equipment Used: SKC Pump, Gem 2000+, Water Level Meter ✓