Transmittal

June 20, 2018

To:	Mr. Jerome Cruz Washington Department of Ecology 3190 160th Avenue Southeast Bellevue, Washington 98008 5452	Ref. No.:	070496
		From:	Christina McClelland
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Subject: Interim Remedial Action Report

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1	Interim Remedial Action Report		

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Copy to: John Frankenthal, Atlantic Richfield Company, Rich Solomon, Phillips 66 (upload)

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Interim Remedial Action Report

Phillips 66 Renton Terminal
2423 Lind Ave Southwest
Renton, Washington 98057

Agreed Order No. DE 11313
Agency No. 2070

Phillips 66 Company

GHD | 20818 44th Avenue West Suite 190 Lynnwood WA 98036

070496| 15RM00| **** | Report No 54 | June 20, 2018

Table of Contents

Figure Index

Table Index

Appendices

1. Introduction

GHD Services Inc. (GHD) appreciates the opportunity to submit this Interim Remedial Action Report (IRAR) on behalf of Phillips 66 Company (P66) and BP Products North America Inc. (BP) for the Phillips 66 Renton Terminal located at 2423 Lind Avenue Southwest, Renton, Washington (Site, Figure 1). This IRAR is a deliverable requirement in accordance with the Final Cleanup Action Plan (FCAP) issued by the Washington State Department of Ecology (Ecology) on September 28, 2015, which was a requirement of the agreed order (DE 7882) between Ecology, ExxonMobil, and P66.

2. Site Description and Background

The Property is an active bulk petroleum distribution terminal (Figure 2). The Property occupies approximately 7 acres and is situated at the northwest corner of the intersection of Lind Avenue Southwest and Southwest 27th Street in Renton, Washington.

The Property is located in King County in the northwest quarter of Section 30; Township 23 North; Range 5 East. The eastern portion of the parcel is occupied by the terminal facility and the western portion of the parcel is a wetland (King County Tax Parcel Number 3023059086).

Four separate releases have been documented at the Site. The first release was documented in 1986 in the vicinity of the current loading racks on the northern portion of the Site. Additional suspected releases were documented in 1990 and 1991 in the vicinity of the loading racks but were never confirmed to be separate from the original release. In 2002, a confirmed release from above ground storage tank (AST) #2 was documented. Additional information regarding the four documented releases is available in the Remedial Investigation and Feasibility Study Work Plan.

Mobil (the predecessor to ExxonMobil) began terminal operations in 1968 and operated the facility until 1988 when the Property was sold to British Petroleum Exploration & Oil Inc. (predecessor of BP). Tosco Corporation (predecessor to ConocoPhillips now Phillips 66) purchased the Property from BP in 1993 and P66 is the current owner/operator.

Following the discovery of the initial release in 1986, ExxonMobil began investigation and cleanup activities under Enforcement Order DE 87-N301 issued by Ecology on October 14, 1987. Cleanup activities consisted of the operation of a groundwater extraction system equipped with two recovery trenches. Following the discovery of the 2002 release, ConocoPhillips began investigation and cleanup activities associated with the 2002 release under Ecology's Voluntary Cleanup Program (VCP). Cleanup activities consisted of product recovery from wells using a vacuum truck and operation of a dual phase extraction system. Additional information regarding the two remediation systems is available in the quarterly remediation progress reports for the Site.

Both the ExxonMobil/BP and P66 systems continued operating independently by the two parties. On August 5, 2010, Ecology, ExxonMobil and ConocoPhillips (now P66) entered into an Agreed Order (DE 7882), effectively combining both contaminated areas into one Site. The purpose of the agreed order was to facilitate completion of a Site-wide remedial investigation and implementation of a final remedial action.

A comprehensive remedial investigation was completed in 2011 and 2012 to delineate contaminants in soil, groundwater, surface water, and sediment. Historical sampling from 2004

through 2012 in the man-made retention basin located in the southeastern corner of the Site included the advancement of several hand auger borings, soil borings, and the collection of soil, sediment, and surface water samples (Figure 3). Analysis of the soil and sediment samples identified concentrations of total petroleum hydrocarbons (TPH) as gasoline (TPHg), benzene, and xylenes at concentrations above their respective Washington State Model Toxics Control Act (MTCA) Method A cleanup levels at depths up to 2.5 feet below the surface of the retention basin. Additionally, the analysis of historical surface water samples identified TPHg, TPH as diesel (TPHd), benzene, toluene, and xylenes at concentrations above their respective MTCA Method A cleanup levels.

Following completion of the remedial investigation, a feasibility study including an evaluation of cleanup alternatives and pilot tests for air sparge/soil vapor extraction and dual-phase extraction (DPE) were completed in 2012 and 2013. The results of the Remedial Investigation and Feasibility Study (RI/FS) were presented in the *Remedial Investigation and Feasibility Study Report* (CRA, 2013). Following completion of the feasibility study, DPE was chosen as the appropriate remedial action and a *Draft Corrective Action Plan* was completed. On September 28, 2015, Ecology, ExxonMobil, and Phillips 66 entered into an Agreed Order (DE 11313) to facilitate implementation of the remedial actions presented in the *Final Cleanup Action Plan* (CAP; WDOE, 2015). The remedial actions for impacted soil and groundwater included installation of a new DPE system, Operations and Maintenance (O&M), and performance monitoring. The new DPE system was completed in May 2015. The system began operation in May 2015 for a period of one year and then was shut down until October 2016 to implement system modifications. The modified DPE system operated intermittently between October 2016 and May 2017, and nearly continuously from May 2017 to present. The remedial action for surface water, sediment, and soil impacts in the southwestern corner of the retention basin, located at the southeastern corner of the site, was remedial excavation and is the subject of this report.

The purpose of this IRAR is to present the results of the pre-excavation soil samples collected in 2017, the remedial excavation conducted in August 2017, and the post-excavation surface water confirmation sampling conducted in February 2018.

2.1 Site Geology and Hydrogeology

The Site lies on the northern end of the Duwamish Green River valley. Historically, the Site was primarily wetlands. When the Site was developed sometime between 1964 and 1968, a portion of the wetlands were filled in and the Terminal built on it. Wetlands are still present surrounding the property. Current stratigraphy at the Site consists of 7 to 10 feet of structural fill (primarily silty sand with varying amounts of gravel). The fill is underlain by a 1- to 7- foot thick highly organic silt material, which are likely wetland deposits. The organic silt layer appears to be thickest in the area just west of the loading racks and tends to thin out to the east. The organic material is underlain by alluvial sand and silt deposits. The total thickness of the alluvial deposits has not been investigated at the Site. A geotechnical soil boring advanced approximately 1,600 feet west of the property, at the intersection of Southwest 27th Street and Oakesdale Avenue Southwest, indicates alluvial material to a maximum explored depth of 100 feet below ground surface (bgs).

Groundwater at the Site consists of a shallow perched water bearing zone in the porous backfill material overlying the silty, less porous native silt layer. The perched water bearing zone appears to be primarily recharged by infiltration in the earthen tank farm area at the Site. Groundwater tends to flow radially from this recharge area with often steep horizontal gradients and likely discharges to

the wetlands, the stormwater retention basin in the southeast corner of the property, and to extraction wells located at the Site. The following table shows the most current depth to groundwater measurements from WS-3 located within the stormwater retention basin, and former monitoring well HA-19, which was located approximately 40 feet northwest of the stormwater retention basin. Based on the data below, groundwater in the retention basin and within the Renton Terminal property was measured at the same approximate elevations, and both WS-3 and HA-19 were dry during the same two monitoring events, which infers that surface water present in the retention basin is likely groundwater which "daylights" seasonally within the basin. Additionally, the same contaminants of concern (COCs) have historically been present in samples collected from the stormwater retention basin and nearby monitoring wells LAIx-5 and LAIx-6, as shown in Table 2.

Table 2.1 Depth to Groundwater in WS-3 and HA-19

Sample Location	Date	Top of Casing Elevation (feet)	Depth to Groundwater (feet BTOC)	Groundwater Elevation (feet)
WS-3	1/28/2013	14.11	2.13	16.24
WS-3	5/9/2013	14.11	1.05	15.16
WS-3	8/19/2013	14.11	Dry	
WS-3	11/25/2013	14.11	1.05	15.16
WS-3	2/14/2014	14.11	1.53	15.64
WS-3	5/5/2014	14.11	2.20	16.31
WS-3	8/19/2014	14.11	Dry	
WS-3	11/21/2014	14.11	1.15	12.96
HA-19	1/28/2013	22.92	6.46	16.46
HA-19	5/9/2013	22.92	7.34	15.58
HA-19	8/19/2013	22.92	Dry	
HA-19	11/25/2013	22.92	6.12	16.80
HA-19	2/14/2014	22.92	3.67	19.25
HA-19	5/5/2014	22.92	4.51	18.41
HA-19	8/19/2014	22.92	Dry	
HA-19	11/21/2014	22.92	7.03	15.89

BTOC = below top of casing

The deep aquifer has a very shallow gradient and flows to the west northwest. The Site-specific geology is derived from a review of historical subsurface investigations completed between 1986 and 2012.

3. Site Investigation and Remedial Excavation

3.1 Wetland Evaluation

On August 10, 2016, Northwest Environmental Consulting, LLC (NWEC) visited the proposed excavation area to determine if the retention basin is considered a wetland. NWEC concluded that the retention basin is not considered a regulated wetland, but recommended that the basin be restored with similar vegetation following the excavation to provide water quality and habitat

improvement, create a natural screen between the road and the industrial facility, and stabilize the slopes of the basin. A copy of NWEC's evaluation is provided in Appendix A.

3.2 Permits

Prior to the commencement of field activities, GHD obtained a grading license permit with the City of Renton in order to perform the remedial excavation activities in the summer of 2017. The permit included a traffic control plan for the closure of a portion of the Southwest 27th Street right-of-way, which was necessary for a vehicle access corridor to the proposed remedial excavation area.

3.3 Underground Utility Location

GHD notified the Washington State One Call Utility Notification Service (one call) more than 48 hours prior to field activities to clear the hand auger boring and proposed excavation locations with public utility companies. GHD also contracted Underground Locating Services (ULS) to conduct a private utility survey to further identify potential subsurface utilities and underground obstructions in the vicinity of the proposed work areas.

3.4 Soil Borings

On July 20, 2017, prior to excavation activities, GHD advanced three hand auger borings across the southwestern portion of the stormwater retention basin to assess the conditions of the soil. Boring HA-1 was advanced along the westernmost slope of the retention basin, within the extents of the remedial excavation, boring HA-2 was advanced along the southwestern slope of the retention basin, and boring HA-3 was advanced within the center of the remedial excavation area (Figure 3). The hand auger borings were advanced to approximately 1 foot bgs, at which depth one soil sample was collected from each boring location.

The collected soil samples were analyzed for TPHg using Method NWTPH-Gx, TPHd and TPH as heavy oil (TPHo) using Method NWTPH-Dx, benzene, toluene, ethylbenzene, and xylenes (BTEX) using the Environmental Protection Agency (EPA) Method 8260B, and Resource Conservation and Recovery Act (RCRA) 8 metals (mercury, cadmium, chromium, lead, arsenic, silver, selenium, and barium) using EPA Methods 6010C and 7471B.

Benzene (5.07 milligrams per kilogram [mg/kg]) and total xylenes (12.4 mg/kg) concentrations were detected above their MTCA Method A cleanup levels of 0.03 and 9 mg/kg, respectively, in boring HA-3. The remaining contaminants of concern (COC) were not detected at concentrations above their respective laboratory method reporting limits in the soil samples collected from borings HA-1 through HA-3. Laboratory analytical reports are included as Appendix B. A summary of analytical data, as well as MTCA Method A and Site-specific cleanup levels, is provided in Table 1.

3.5 Remedial Soil Excavation

From August 14 through August 18, 2017, GHD directed soil excavation activities conducted by Clearcreek Contractors (CCC) to remove the previously identified petroleum impacted soil. The excavation activities are described below and the excavation footprint is shown in detail on Figure 3.

On August 14, 2018, GHD met with CCC on-site and oversaw set-up activities for the remedial excavation in the southeastern stormwater basin. Beginning on August 16, 2017, GHD oversaw vegetation removal by CCC in the vicinity of the excavation area, which was located on the southwestern portion of the stormwater retention basin. Once the western portion of the excavation

area was cleared, excavation of impacted soil began. Soil excavation and removal was completed on August 17 and the final extents of the excavation consisted of two non-contiguous, irregularly shaped areas separated by an approximately 3-foot high concrete wall. The western side of the excavation measured approximately 45-feet by 4- to 12-feet and the eastern side of the excavation measured approximately 29-feet by 20- to 26-feet. The final excavation depth was approximately 3.5 feet below the original surface of the retention basin (approximately 9.5 feet below the elevation of Southwest 27th Street) on the western side and 1.5 feet below the original surface of the retention basin (approximately 7.5 feet below the elevation of Southwest 27th Street) on the eastern side. The eastern side of the excavation was not advanced to a deeper depth due to presence of groundwater encountered at approximately 1.5 feet below the surface of the retention basin. Due to the sloped nature of the western portion of the excavation with a larger volume of overburden present, a greater overall depth was achieved prior to encountering groundwater. The final excavation depth was roughly equivalent on both sides of the concrete wall. The overall excavation extents in all directions horizontally (except to the east) and vertically were limited by physical constraints. The horizontal extents were limited by the public right of way to the south, the terminal tank farm berm to the north, and large, mature trees to the west. The vertical extents were limited by the presence of groundwater and the instability of the soft soils within the retention basin.

A cumulative total of approximately 54 tons of impacted soil was removed from the excavation. Excavated soil was disposed of off-Site at the Waste Management Columbia Ridge Landfill facility in Arlington, Oregon. Although, approximately 10 gallons of water accumulated in the excavation between August 16 and August 17, 2017, the relatively small amount of water did not require dewatering. Soil disposal documentation is provided as Appendix C and representative site photographs are provided as Appendix D.

3.6 Confirmation Soil Sampling

GHD conducted soil screening during excavation activities using a photoionization detector (PID). Soil samples were collected by GHD based on visual observations and PID readings and submitted for laboratory analysis. One confirmation soil sample was collected from each sidewall (Northwall, Eastwall, Westwall, and Southwall) and four confirmation soil samples were collected from the bottom of the excavation (Bottom 1 through Bottom 4; Figure 3). Samples were collected directly from the excavator bucket and preserved in the field following preparation by EPA Method 5035, then transported under chain-of-custody protocol to Pace Analytical Services, LLC in Minneapolis, Minnesota for analysis. Confirmation soil samples were analyzed for TPHg using Method NWTPH-Gx, TPHd and TPHo using Method NWTPH-Dx, BTEX using EPA Method 8260B, and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) using EPA Method 8270D by Selected Ion Monitoring (SIM).

TPHg was detected in confirmation soil samples Bottom 2 and Bottom 4 at concentrations of 31.0 and 46.2 mg/kg, respectively, which are above the MTCA Method A cleanup level of 30 mg/kg. Additionally, benzene was detected in confirmation soil samples Bottom 3 and Bottom 4 at concentrations of 0.0511 and 0.206 mg/kg, respectively, which are above the MTCA Method A cleanup level of 0.03 mg/kg.

The COCs were not detected above their respective MTCA Method A cleanup levels or laboratory method reporting limits in the remaining confirmation soil samples. Laboratory analytical reports are included as Appendix B. A summary of analytical data, as well as MTCA Method A and Site-specific cleanup levels, is provided in Table 1.

3.7 Excavation Backfill

On August 17 and August 18, 2017, the excavation was backfilled with clean soil, which was sloped to match the existing retention basin slope as closely as possible. Approximately 54 tons of fill was used to backfill the excavation. The fill was compacted with the excavator's bucket in approximate 1-foot lifts. Additionally, approximately 32 tons of topsoil was spread on top of the fill.

3.8 Revegetation of Remedial Excavation

From August 28 through 30, 2017, after the excavation backfill was complete, GHD and Landcare, a landscaping contractor, spread approximately 2 inches of compost and mulch, followed by a layer of erosion control matting across the excavation area. After the erosion control matting was in place, GHD and Landcare revegetated the excavation area by planting a total of 112 native plants, consisting of Red Alder, Shore Pine, Pacific Willow, Scouler Willow, Sitka Willow, Oregon Ash, Black Twinberry, Salmonberry, Redosier Dogwood, Hardhack, Snowberry, Indian Plum, Vine Maple, and Sword Fern, as per the requirements of the City of Renton grading license permit. Representative site photographs are provided as Appendix D.

3.9 Surface Water Confirmation Sampling

GHD conducted confirmation surface water sampling from the stormwater retention basin to asses if the previously identified impacts had been remediated with the removal of the impacted soil in August 2017. On February 16, 2018, a total of three surface water samples were collected from the southern edge of the stormwater retention basin. Sample Pond-1 was collected west of the concrete retaining wall and samples Pond-2 and Pond-3 were collected east of the concrete retaining wall (Figure 3). Water at these sample locations was greater than 1 foot deep, and the samples were collected from approximately 4- to 6-inches below the water surface. These samples were transported under chain-of-custody protocol to Pace for analysis. Confirmation surface water samples were analyzed for TPHg using Method NWTPH-Gx, TPHd and TPHo using Method NWTPH-Dx, BTEX using EPA Method 8260, PAHs using EPA Method 8270SIM, and dissolved lead and dissolved arsenic using EPA Method 6020.

TPHg (11,700 microgram per liter [µg/L]), toluene (1,660 µg/L), and total xylenes (1,500 µg/L) were detected in sample Pond-1 at concentrations above their MTCA Method A cleanup levels of 800, 1,000, and 1,000 µg/L respectively. Additionally, benzene was detected in samples Pond-1 and Pond-2 at concentrations of 735 and 27.5 µg/L, respectively, which are above the MTCA Method A cleanup level of 5 µg/L. The remaining COCs were not detected above their respective MTCA Method A cleanup levels or laboratory method reporting limits in samples Pond-1 through Pond-3. Laboratory analytical reports are included as Appendix B. A summary of analytical data, as well as MTCA Method A and Site-specific cleanup levels, is provided in Table 2.

The COCs detected in surface water samples collected from the southwestern corner of the southeastern retention basin have been declining based on data collected from 2004 through 2018. Additionally, although groundwater infiltrates the stormwater retention basin, the concentrations of COCs in the two nearby cross-gradient groundwater monitoring wells, LAIx-5 and LAIx-6, have historically been an order of magnitude higher than the surface water samples. Refer to Table 2 for a detailed comparison of COCs detected.

4. Summary and Conclusions

In July 2017, three hand auger borings were advanced across the southwestern portion of the stormwater retention basin and one soil sample was collected from each boring location at approximately 1 foot bgs. Petroleum hydrocarbon concentrations exceeded MTCA cleanup levels in the boring advanced within the center of the remedial excavation area.

In August 2017, approximately 54 tons of impacted soil was removed from the excavation, and 8 confirmatory soil samples were collected from the sidewalls and bottom of the excavation. Petroleum hydrocarbon concentrations exceeded MTCA cleanup levels in three of the samples collected from the bottom of the excavation; however, the depth of the excavation could not be advanced deeper in at least the eastern portion of the excavation due to presence of groundwater encountered at approximately 1.5 feet below the surface of the retention basin. The overall excavation extents in all directions horizontally (except to the east) and vertically were limited by physical constraints

Three confirmatory surface water samples were collected from the southwestern portion of the stormwater retention basin in January 2018. Petroleum hydrocarbon concentrations exceeded MTCA cleanup levels in the two samples collected from within the vicinity of the remedial excavation extents. Based on groundwater and surface water elevation data, water within the retention basin is seasonal and groundwater infiltrates into the basin during the wet season when the groundwater table rises.

GHD recommends continuing DPE system operations utilizing the remedial wells located closest to the retention basin area (DPE-8, DPE-9). DPE operations from these wells will continue to remediate residual soil and groundwater (surface water) concentrations upgradient and beneath the retention basin area. Additional confirmation sampling for affected media can be reassessed once the DPE system has reached its technical limits of effectiveness.

5. References

Model Toxics Control Act (MTCA), 2013. Washington State Department of Ecology. November 2013.

Agreed Order DE-11313, May 2015, Washington State Department of Ecology

WDOE 2015. *Corrective Action Plan, Phillips 66 Renton Terminal.* September 2015.

Agreed Order DE-7882, August 2010, Washington State Department of Ecology

CRA, 2013. *Remedial Investigation and Feasibility Study, Phillips 66 Renton Terminal.* September 2013

CRA, 2015. Operations and Maintenance Manual Dual Phase Extraction System. September 2015

All of Which is Respectfully Submitted,

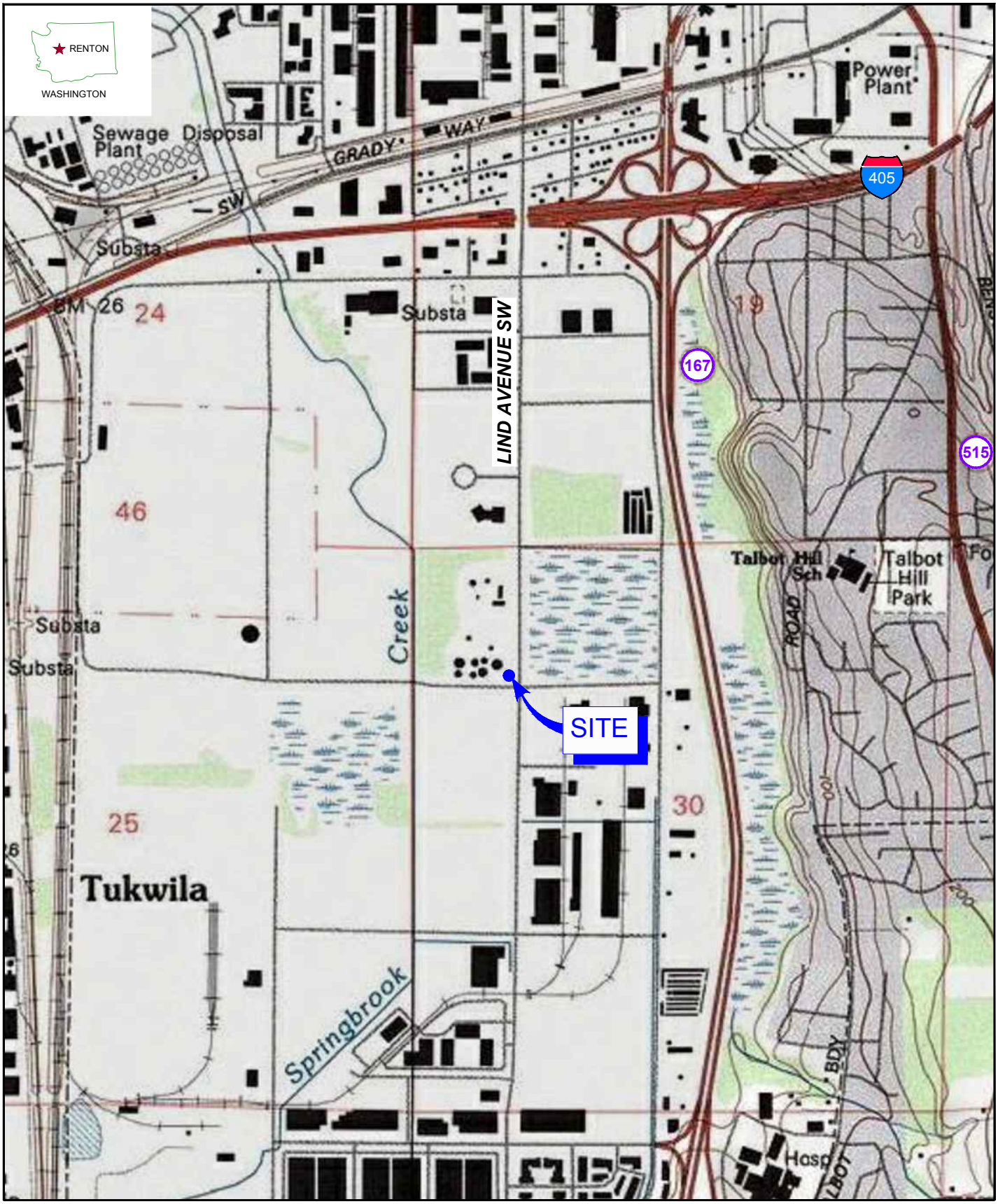
GHD

Emily Blakeway

Emily Blakeway

Christina McClelland, LG

Figures



Source: TOPO! CA

0 625 1250ft

PHILLIPS 66 RENTON TERMINAL
2423 LIND AVENUE SOUTHWEST
RENTON, WASHINGTON

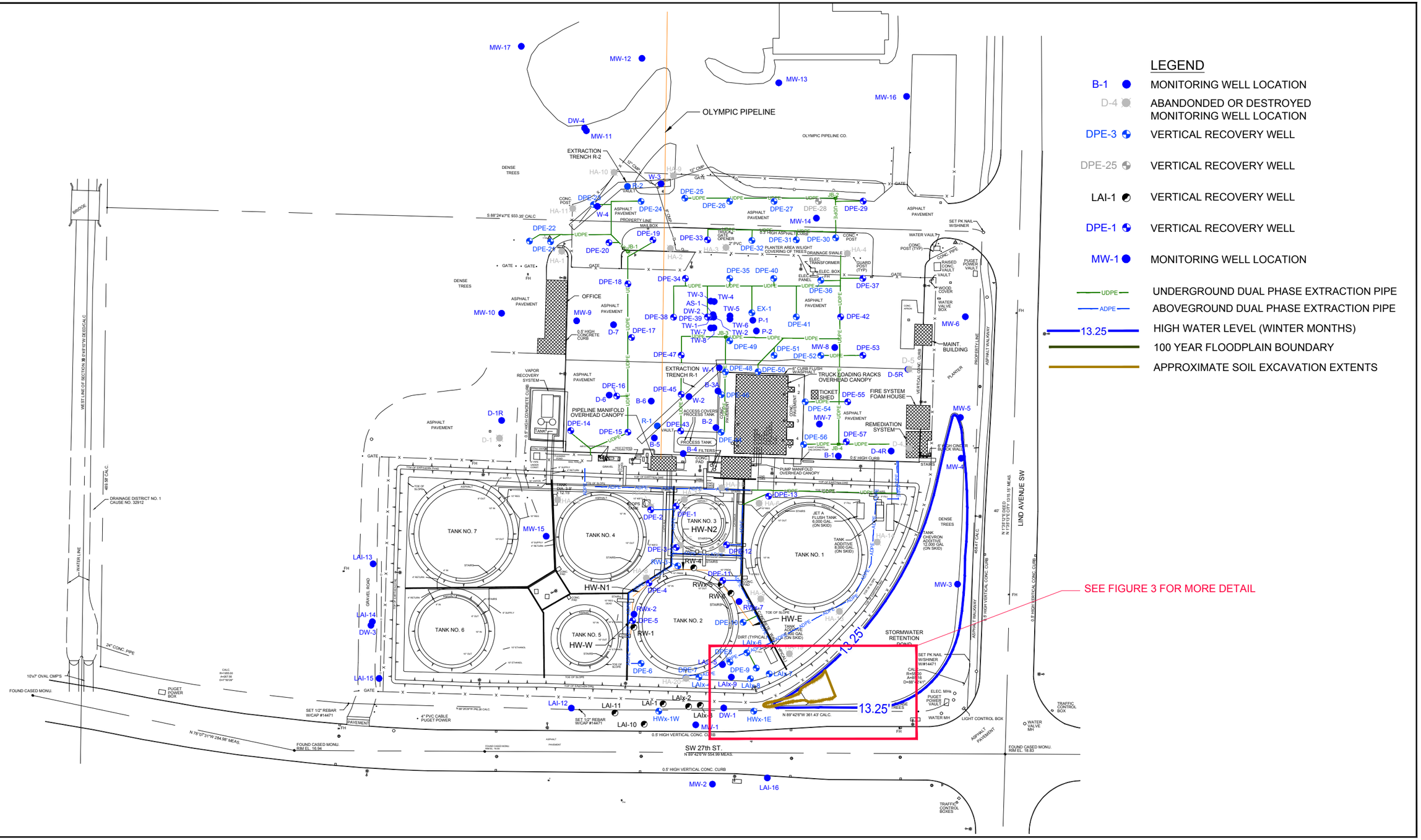
70496.17

May 18, 2018

VICINITY MAP

FIGURE 1

CAD File: 70496.17(5RM00(054)GN-SO003.DWG



SOURCE: STATEWIDE LAND SURVEYING INC., DATED 01/26/2012.

0 50 100ft

WASHINGTON STATE PLANE
NORTH ZONE 4601 IN SURVEY FT.

PHILLIPS 66 RENTON TERMINAL
2423 LIND AVENUE SOUTHWEST
RENTON, WASHINGTON

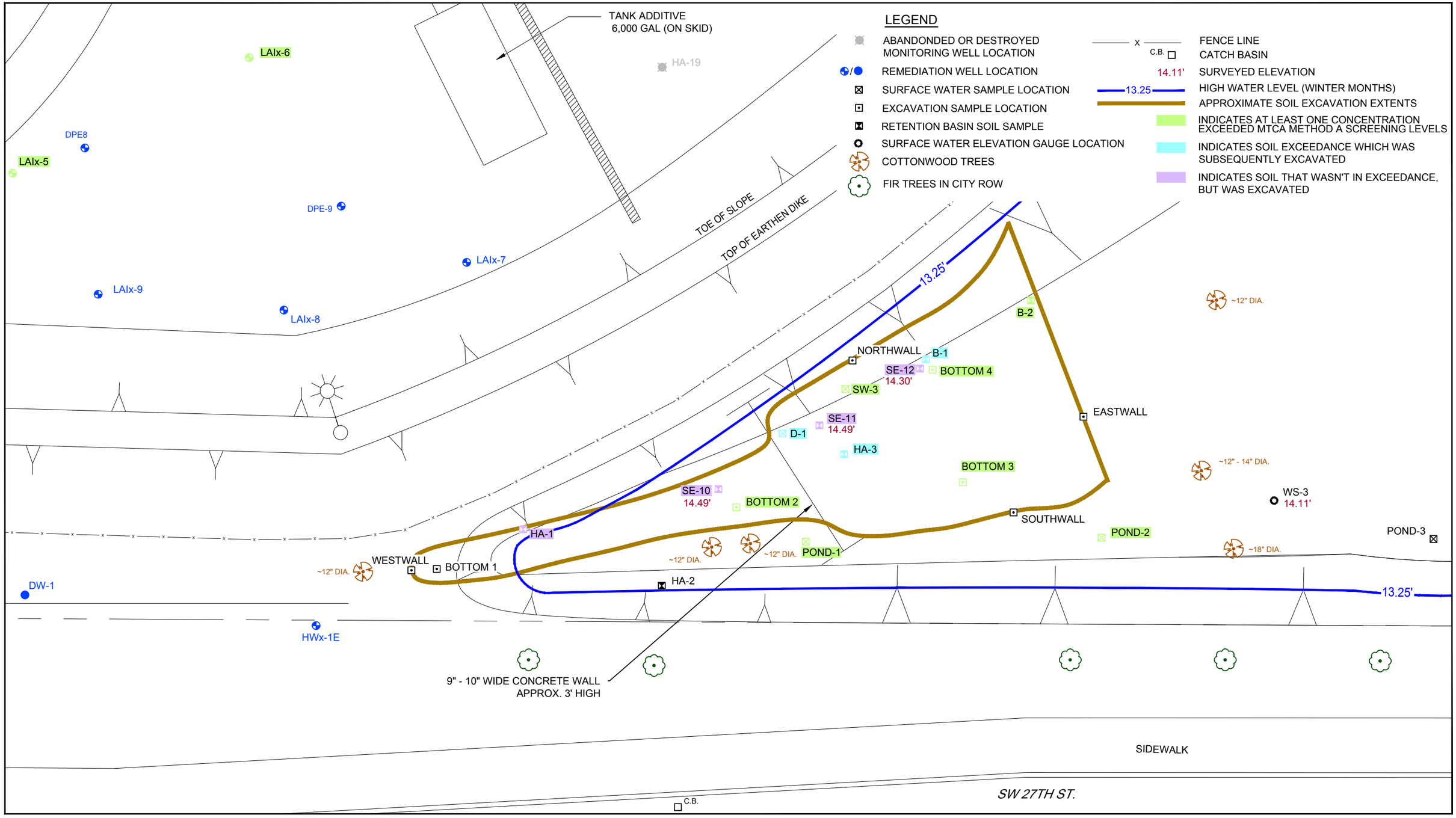
70496.17-15RM00

May 24, 2018

SITE PLAN

FIGURE 2

CAD File: 70496.17-15RM00(054)GN-SO002.dwg



SOURCE: STATEWIDE LAND SURVEYING INC., DATED 1/26/12.

0 5 10ft

Coordinate System:
WASHINGTON STATE PLANE NORTH
ZONE 4601 IN SURVEY FEET.

PHILLIPS 66 RENTON TERMINAL
2423 LIND AVENUE SW
RENTON, WASHINGTON

70496.17-15RM00

Jun 11, 2018

SITE PLAN WITH SOIL EXCAVATION EXTENTS

FIGURE 3

CAD File: 70496.17-15RM00(054)GN-SO001.dwg

Tables

Table 1

Summary of Sediment and Soil Analytical Data
Phillips 66 Renton Terminal
2423 Lind Avenue Southwest
Renton, Washington

			HYDROCARBONS			PRIMARY VOCs				OXYGENATES	PAHs [1]	cPAHs	NAPHTHALENES	METALS [1]				
Sample Location	Sample Date	Sample Depth (ft bgs)	TPHg	TPHd	TPHo	B	T	E	X	MTBE	Fluoranthene			Lead	Arsenic	Barium	Chromium	Mercury
MTCA Method A Screening Levels:			30/100	2,000	2,000	0.03	7	6	9	0.1	3,200 *	0.1	5	250	20	16,000*	2,000	2
Site-Specific Cleanup Standards:			30	2,000	2,000	0.03	7	6	9	--	--	2	5	--	--	--	--	--
B-1	06/03/04	0.5-1	**46.8**	16.4	45.8	**2.91**	3.01	1.07	**9.3**	--	--	--	--	--	--	--	--	--
B-2	06/03/04	1-1.5	8.45	<10.0	<25.0	**0.169**	0.483	<0.050	1.78	--	--	--	--	--	--	--	--	--
B-2	06/03/04	2-2.5	27.3	<20.2	<50.5	**1.45**	0.376	0.229	0.781	--	--	--	--	--	--	--	--	--
D-1	06/03/04	0-0.5	7.83	<10.0	<25.0	**0.752**	0.379	0.2	0.771	--	--	--	--	--	--	--	--	--
SE-10	04/25/12	0.5-1.0	6.5	<19.4	<77.8	0.0217	0.118	0.0406	0.155	<0.0028	<0.0082	<0.006191	0.473	3.2	<2.7	--	--	--
SE-11	04/25/12	0.5-1.0	9	<19	<76.2	0.0083	0.0179	0.0664	0.209	<0.0027	<0.0080	<0.00604	0.55	3.1	3.1	--	--	--
SE-12	04/25/12	0.5-1.0	<5.8	<18.9	<75.6	0.012	0.0383	0.0406	0.0929	<0.0032	<0.0082	<0.006191	0.433	2	<2.9	--	--	--
HA-1	07/20/17	1	<6.5	43.3	52.8	<0.0055	<0.0055	<0.0055	<0.0164	--	--	--	--	7.2	2	27.7	22.8	<0.019
HA-2	07/20/17	1	<7.9	19.8	122	<0.0074	<0.0074	<0.0074	<0.0221	--	--	--	--	9.3	4.8	46.6	16.4	0.047
HA-3	07/20/17	1	<71.7	<31.1	<20.9	**5.07**	0.0507	3.87	**12.4**	--	--	--	--	18.1	4.6	80.1	15.5	0.15
NORTHWALL	08/17/17	2.5	23.7	<19.1	17.1	0.011	0.811	1.74	0.336	--	<0.0126	0.0	0.0486	--	--	--	--	--
EASTWALL	08/17/17	1	10.8	29.5	170	0.0118	<0.0075	0.0108	0.0434	--	0.0188	0.0	<0.0168	--	--	--	--	--
WESTWALL	08/17/17	2	<6.2	<18.5	23.9	0.0049	0.0069	0.0069	0.0191	--	<0.0122	0.0	0.0265	--	--	--	--	--
SOUTHWALL	08/17/17	2	6.4	<17.7	91.2	0.0045	0.0045	0.0045	0.0136	--	<0.0118	0.0	<0.0118	--	--	--	--	--
BOTTOM 1	08/17/17	3.5	28.7	<29.3	76.7	0.0204	<0.0092	<0.0092	0.046	--	<0.02	0.0	0.170	--	--	--	--	--
BOTTOM 2	08/17/17	3.5	**46.2**	<29.9	89.4	0.0284	<0.0093	<0.0093	0.028	--	<0.02	0.0	0.1063	--	--	--	--	--
BOTTOM 3	08/17/17	1.5	25.7	<26.6	138	**0.0511**	0.0085	0.0295	0.153	--	<0.0176	0.0	0.0566	--	--	--	--	--
BOTTOM 4	08/17/17	1.5	**31.0**	<27.4	128	**0.206**	<0.0084	0.108	0.291	--	<0.0188	0.0	0.0625	--	--	--	--	--

Notes:

1 = Only the analytes with detections above the laboratory method reporting limit are listed. Please refer to the analytical report for a full list of analytes.

MTCA = Model Toxics Control Act

* = MTCA Method B Non Cancer Screening Level reported in the absence of a MTCA Method A Screening Level

-- = Not analyzed or not reported

All results in milligrams per kilogram (mg/kg) unless otherwise indicated.

Results in bold indicate an exceedance of the MTCA Method A cleanup levels.

ft bgs = feet below ground surface

TPHg = Total petroleum hydrocarbons as gasoline range organics analyzed by NWTPH-Gx

TPHd = Total petroleum hydrocarbons as diesel range organics analyzed by NWTPH-Dx

TPHo = Total petroleum hydrocarbons as heavy oil range organics analyzed by NWTPH-Dx

VOCs = volatile organic compounds

BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B

MTBE = Methyl tert-butyl ether analyzed by EPA Method 8260B

PAHs = polycyclic aromatic hydrocarbons analyzed by EPA Method 8270 by SIM

cPAHs = carcinogenic PAHs analyzed by EPA Method 8270 by SIM

Metals = Resource Conservation and Recovery Act (RCAR) 8 Metals analyzed by EPA Methods 6010C and 7471B

<x = Not detected at reporting limit x

Shading indicates the soil sample has been over excavated.

Table 2

Summary of Groundwater and Surface Water Data
Phillips 66 Renton Terminal
2423 Lind Avenue Southwest
Renton, Washington

		HYDROCARBONS			*PRIMARY VOCs*				*OXYGENATES*	*cPAHs*	*NAPHTHALENES*	*METALS*	
Sample Location	***Sample Date***	***TPHg***	***TPHd***	***TPHo***	***B***	***T***	***E***	***X***	***MTBE***			***Lead***	***Arsenic***
MTCA Method A Screening Levels:		***800/1,000***	***500***	***500***	***5***	***1,000***	***700***	***1,000***	***20***	***0.1***	***160***	***15***	***5***
Site-Specific Cleanup Standards:		***800***	***500***	***500***	***5***	***1,000***	***700***	***1,000***	***20***	***0.1***	***160***	***15***	***--***
Groundwater Samples													
LAIx-5	2/17/2017	**2,620**	<390	<390	**32.3**	57.0	37.0	433	--	--	--	--	--
LAIx-5	9/28/2017	**29,200**	**1,900**	<430	**9,600**	174	**1,020**	**6,400**	--	--	--	--	--
LAIx-6	2/17/2017	**38,900**	**1,200**	<410	**4,400**	**6,740**	510	**3,070**	--	--	--	--	--
LAIx-6	2/17/2017	**43,700**	**930**	<390	**5,090**	**6,890**	561	**3,410**	--	--	--	--	--
LAIx-6	9/28/2017	**134,000**	**3,200**	<400	**28,700**	**26,600**	**2,570**	**14,700**	--	--	--	--	--
Surface Water Samples													
D-1	6/3/2004	**36,200**	**--**	**--**	**7,860**	**6,920**	**792**	**3,260**	--	--	--	--	--
Retention Pond [1]	4/19/2006	**38,000**	**2,800**	**<1000**	**2,100**	**4,400**	180	**3,300**	--	--	--	--	--
Retention Pond [1]	2/19/2007	**16,000**	**1,400**	140	**1,600**	**2,500**	100	**1,500**	2	--	--	--	--
SW-3	3/22/2012	**13,300**	140	<380	**194**	**1,770**	181	**1,550**	<1.0	<0.0715	55.6	0.55	1.5
POND-1	2/16/2018	**11,700**	440	<400	**735**	**1,660**	24.8	**1,500**	--	0.0	24.38	<0.10	1.3
POND-2	2/16/2018	357	<400	<400	**27.5**	32.4	3.1	33.7	--	0.0	0.61	0.11	1.0
POND-3	2/16/2018	<100	<400	<400	1.9	2.2	<1.0	4.7	--	0.0	0.30	0.14	0.97

Notes:
1 = These samples were collected from the southwestern corner of the southeastern retention basin however, the exact location within that portion of the basin is unknown.
MTCA = Model Toxics Control Act
-- = Not analyzed or not reported
All results in micrograms per liter (µg/L) unless otherwise indicated.
Results in bold indicate an exceedance of the MTCA Method A cleanup levels.
TPHg = Total petroleum hydrocarbons as gasoline range organics analyzed by NWTPH-Gx
TPHd = Total petroleum hydrocarbons as diesel range organics analyzed by NWTPH-Dx
TPHo = Total petroleum hydrocarbons as heavy oil range organics analyzed by NWTPH-Dx
VOCs = volatile organic compounds
BTEX = Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B
MTBE = Methyl tert-butyl ether analyzed by EPA Method 8260B
cPAHs = carcinogenic polycyclic aromatic hydrocarbons analyzed by EPA Method 8270 by SIM
Metals = Dissolved lead and arsenic analyzed by EPA Method 6020
<x = Not detected at reporting limit x

Appendices

Appendix A
NWEC Wetland Evaluation Memo

Northwest
Environmental Consulting, LLC

3639 Palatine Avenue North
Seattle, Washington 98103
(206) 234-2520

TECHNICAL MEMORANDUM

To: **P66 Renton Terminal**

From: Brad Thiele, Northwest Environmental Consulting, LLC

Date: September 21, 2016

Subject: **Wetland Determination**

Project: P66 Renton Terminal Wetland Evaluation

This memorandum summarizes a site visit on August 10, 2016 to the P66 Renton Terminal in Renton, Washington (Figure 1 – Vicinity Map). The Property occupies approximately 7 acres and is situated at the northwest corner of the intersection of Lind Avenue Southwest and Southwest 27th Street.

As part of an Agreed Order, the State of Washington Department of Ecology is requiring contaminated soils removal from a man-made stormwater retention basin located in the southeast corner of the property. The project is located in Township 23N, Range 5E, Section 30.

The site visit was conducted to determine if the retention basin is considered a wetland.

Methods

Northwest Environmental Consulting (NWEC) biologist Brad Thiele reviewed the relevant National Wetland Inventory (NWI) maps, the U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) Soil Survey for the King County area, and the City of Renton mapping resources to see whether these sources indicated the presence of wetlands or hydric soils at the site. Soil boring logs generated during exploratory drilling activities beneath the site were also reviewed. NWEC then performed a site visit in August to confirm conditions in the field.

The wetland determination used the "Routine Method" described in the Washington State Wetlands Identification and Delineation Manual (Ecology 1997), the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), and the Western Mountains, Valleys and Coast Region Interim Regional Supplement to the Corps of Engineers Delineation Manual (U.S. Army Corps of Engineers 2008).

Results

Document Review

The NWI map for the area shows the retention basin as a wetland (Figure 2 – NWI Map). Large wetland complexes are shown across SW 27th to the South, across Lind Ave SW to the east, and on adjoining parcels to the west.

The City of Renton wetland mapping does not indicate wetlands at the retention basin, but is otherwise similar to the NWI map. (Figure 3 – City of Renton Wetlands Map)

The NRCS Soil Survey for King County maps several soil types in the vicinity of the project that intersect at the project location: Puget silty clay loam; Snohomish silt loam; Woodinville silt loam; and Urban (Figure 4 – Soils Map). All these soil types are considered hydric except for Urban soils. The Urban soil polygon may represent fill that appears slightly shifted to the north east on the map. The P66 terminal was constructed on fill.

Site Description

The Property is an active bulk petroleum distribution terminal located at 2423 Lind Avenue Southwest in Renton, Washington. The P66 Renton Terminal receives, stores, and distributes diesel fuel, gasoline, additives, and ethanol. Gasoline and diesel fuel are received to the Terminal via underground pipeline. Additives and ethanol are received from trucks. All distribution from the Terminal is done by truck. The terminal's storage area consists of 11 above ground storage tanks contained within a level, earthen berm. The fuel loading area is underneath a canopy, and is contained within a concrete berm. Additionally, there is a vapor recovery unit which is contained within a concrete-bermed area. There are two office buildings, two air compressor sheds, one remediation system building, one fire suppression building, a stormwater treatment building, and a stormwater retention basin. The site features are shown on Figure 5.

The study area includes a mapped retention basin that retained and infiltrated stormwater runoff from the site. The use has changed to a modern catchment, but some of the runoff from impervious surfaces may still flow to the basin. The retention basin has established shrub and trees growing in and around it, providing screening of the tank farm from the road. Dominant species within the retention basin include Willow (*Salix spp.,* FACW), Oregon Ash, (*Fraxinus latifolia*, FACW), black cottonwood (Populus balsamifera, FAC), and red-osier dogwood (*Cornus sericea*, FACW). The area around the retention basin includes Douglas-fir (*Psuedotsuga menziesii, FACU*) and planted ornamental vegetation.

Wetland Test Plots and Mapped Points

The retention basin had established vegetation and soils in the bottom of the basin developed hydric soil characteristics. No hydrology was present at the time of the site visit.

Three test plots were completed at the retention basin during the site visit. Data forms are attached in Attachment B. Photos of the site visit are included in Attachment C.

- Test plot 1 (TP-1) is located at the northeastern end in the bottom of the retention basin, and was located near an inlet to the retention basin. This plot had hydrophytic vegetation (though no obligate wetland species were present) and hydric soils. Hydrology was indicated by water marks on the trunks of trees. TP-1 met wetland criteria.
- Test plot 2 (TP-2) was located in the southwest corner in the bottom of the retention basin near the existing concrete wall. This plot was positive for wetland vegetation, hydric soils. A gage had been placed in the retention basin that indicated water levels had reached between 2 to 3 feet. TP-2 met wetland criteria.
- Test plot 3 (TP-3) was located on the slope of the retention basin. TP-3 had a mixed vegetation community that included both upland and wetland plants. Soils did not

meet hydric criteria and no indicators of hydrology were present. TP-3 did not meet wetland criteria and is the upland test plot for TP-1 and TP-2.

Conclusions

Wetlands are regulated at the Federal, State, and local government level in Washington State. Some or all entities may regulate the stormwater retention facility if it meets certain criteria.

The U.S Army Corps of Engineers regulates fill under the Clean Water Act. Generally, the USACE does not regulate stormwater management facilities that are determined to be waste treatment systems under 33 CFR 328.3(a)(8) as waters of the United States. The retention basin is a designed stormwater management facility created on top of fill and appears to meet the definition.

The state of Washington includes in the definition of wetland that "wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, retention facilities, wastewater treatment facilities, farm basins, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway".

The soil profiles completed at the site indicate that the stormwater retention basin is on fill and was not created from wetland as indicated by the soil map. Soil boring logs that were completed in the retention basin are included in Attachment D. The logs show sandy and silty soils before encountering a clayey sandy silt at about 11 feet BGS. The elevation of this fine-grained soil horizon corresponds well with the Puget silty clay loam soil mapped in the area. The retention basin is 6 to 8 feet deep so it appears to have been created from fill brought in during the construction of the facilities. Therefore the retention facility appears to have been created from fill and therefore meets the state definition of an artificial wetland intentionally created from a nonwetland site.

The City of Renton uses the same definition as the state of Washington and does not regulate retention facilities created from nonwetland sites.

For the reasons stated above, the retention facility is not considered a regulated wetland. However, the established vegetation provides water quality and habitat functions and create a natural screen between the road and the industrial facility. We recommend that the P66 Renton Terminal restore all temporary impacts to the retention facility with similar vegetation and stabilize the steep slopes of the retention basin.

Works Cited

Environmental Laboratory. 1987. Corps of Engineers Wetland Delineation Manual (1987 Manual). Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Army Corps of Engineers. 2008. Western Mountains, Valleys and Coast Region Interim Regional Supplement to the Corps of Engineers Delineation Manual. Report ERDC/EL TR-08-13. April.

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Washington Department of Ecology. 2014. Wetland Rating System for Western Washington, Updated 2014. Effective January 1, 2015.

WSDOT. 2016. WSODT Guidance on Wetland Buffers Across Roadways. http://www.wsdot.wa.gov/NR/rdonlyres/83C22B1F-8102-4087-8568-7D82C4DE3C95/0/Wet_BufferAcrossRdway.pdf

Attachment A – Figures

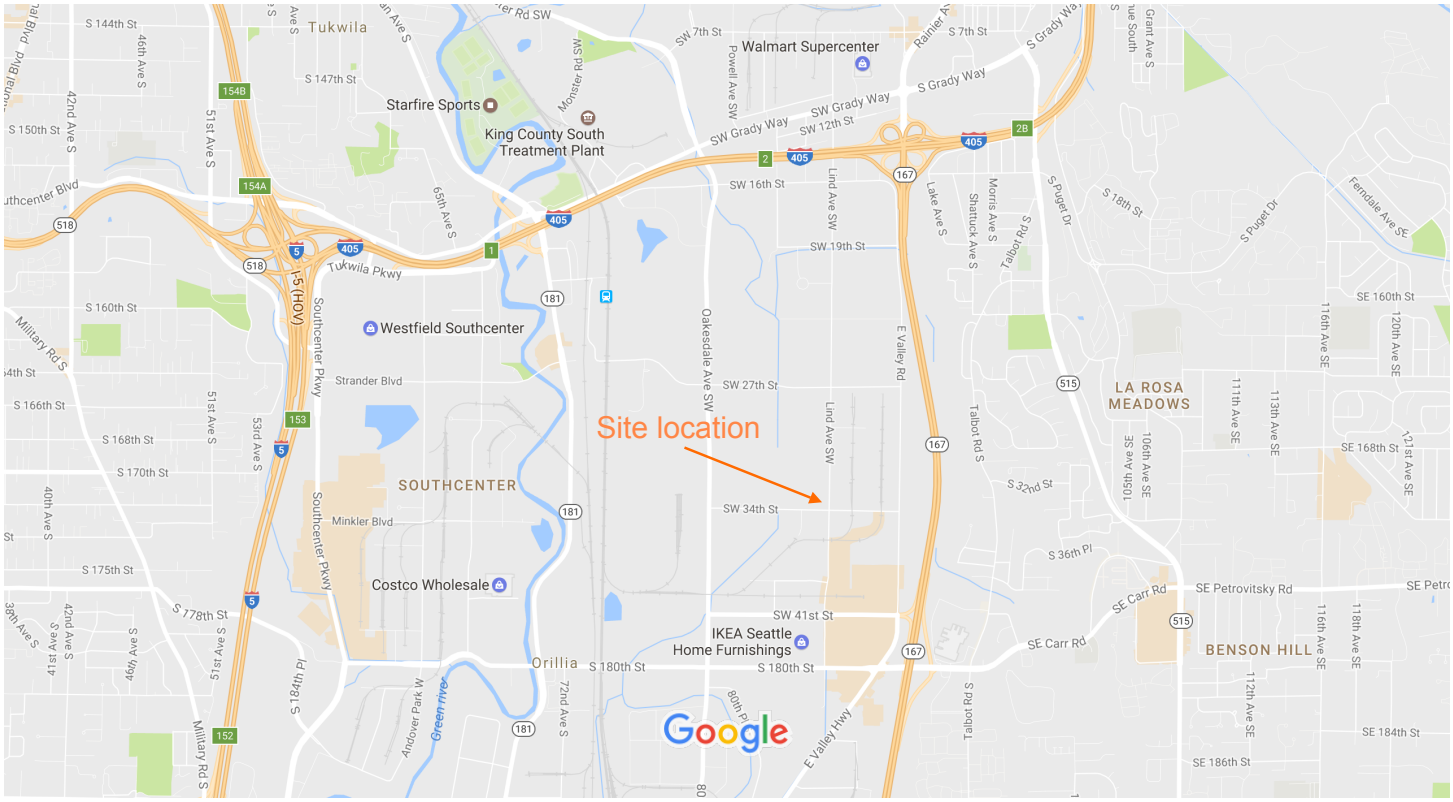
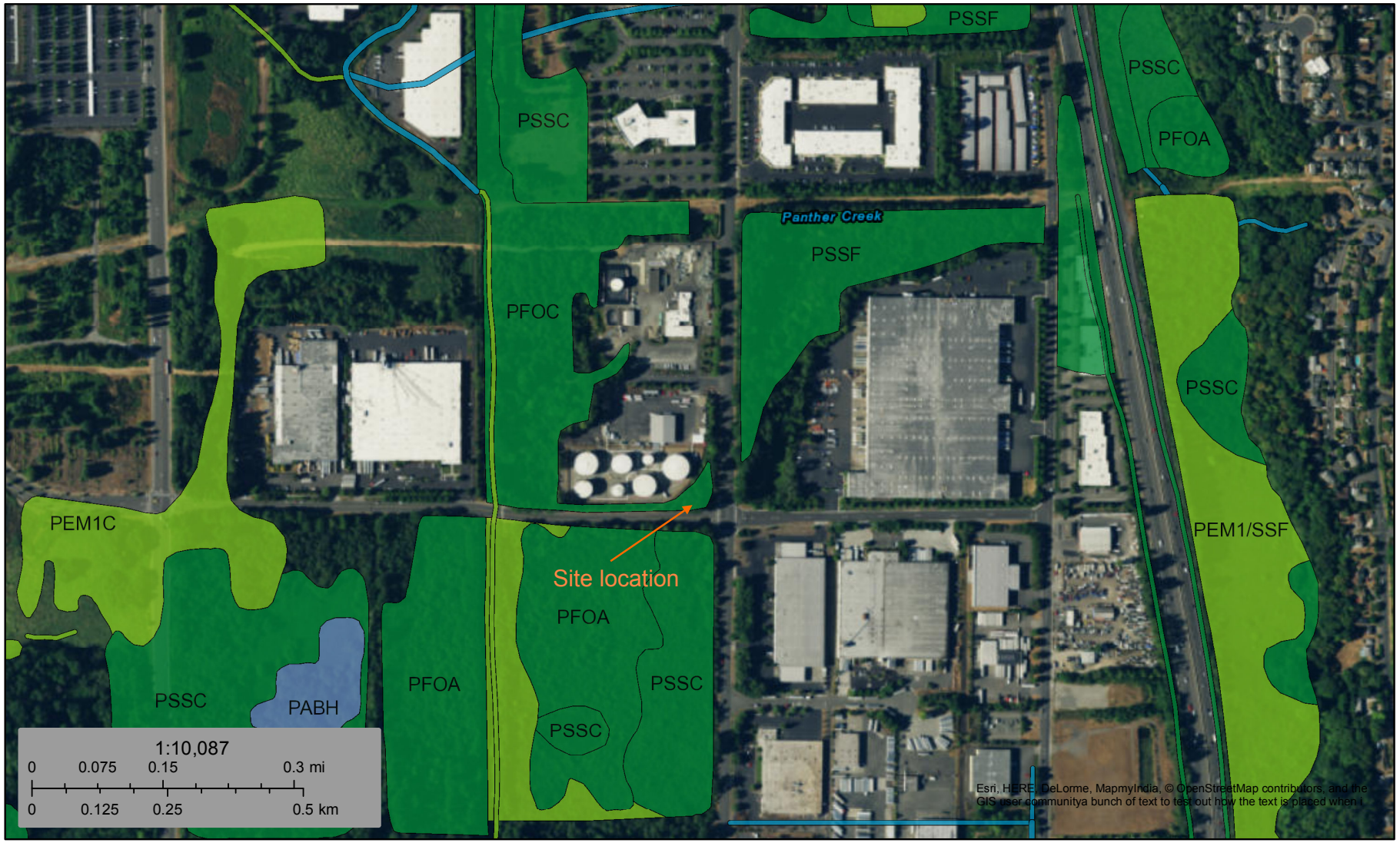


Figure 1 - Vicinity Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

P66 Renton Terminal



August 15, 2016

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Figure 2 - NWI

National Wetlands Inventory (NWI)

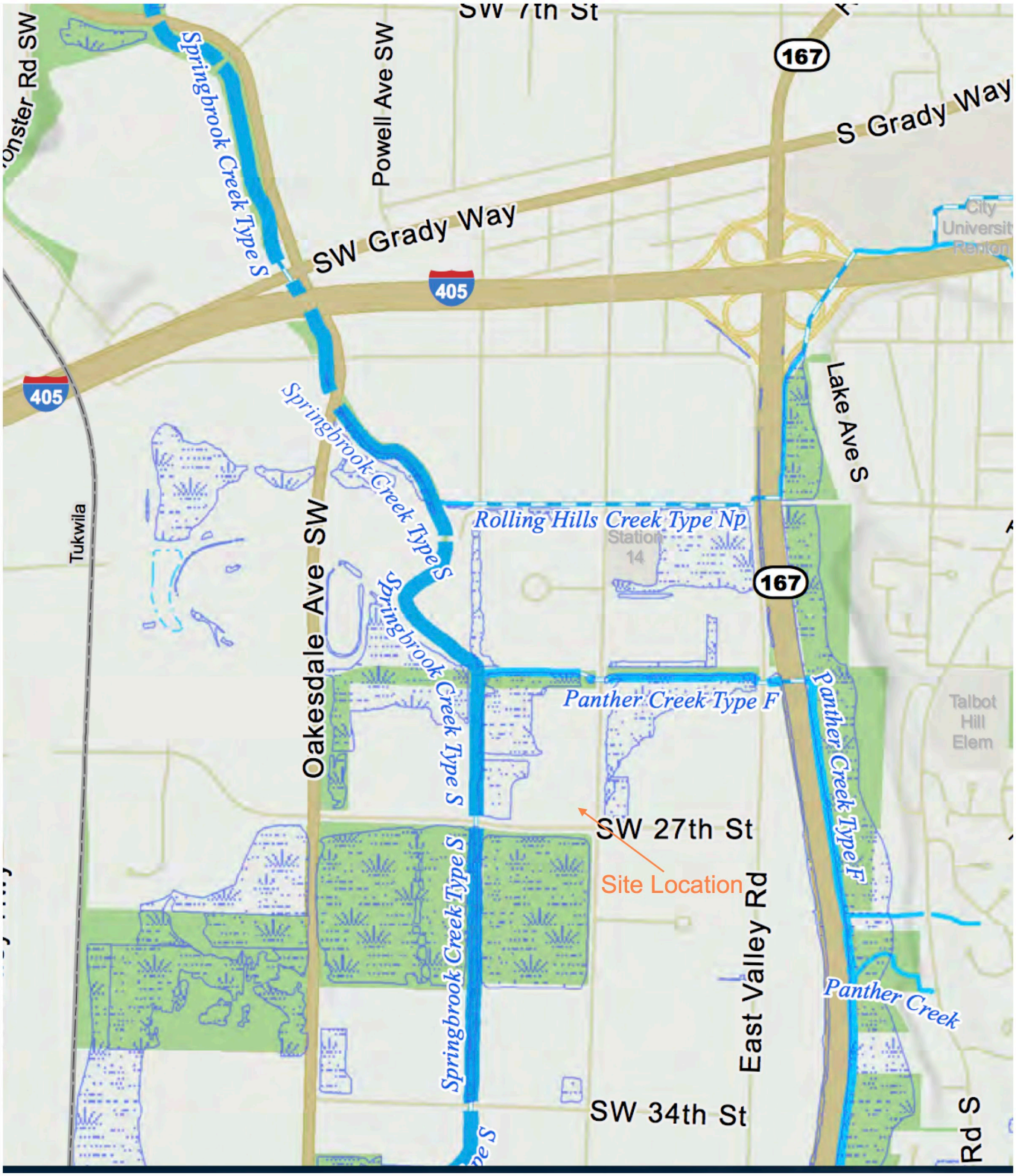


Figure 3 - Renton Wetlands Inventory

Figure 4 - Soils Map

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: King County Area, Washington
Survey Area Data: Version 11, Sep 14, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 31, 2013—Oct 6, 2013

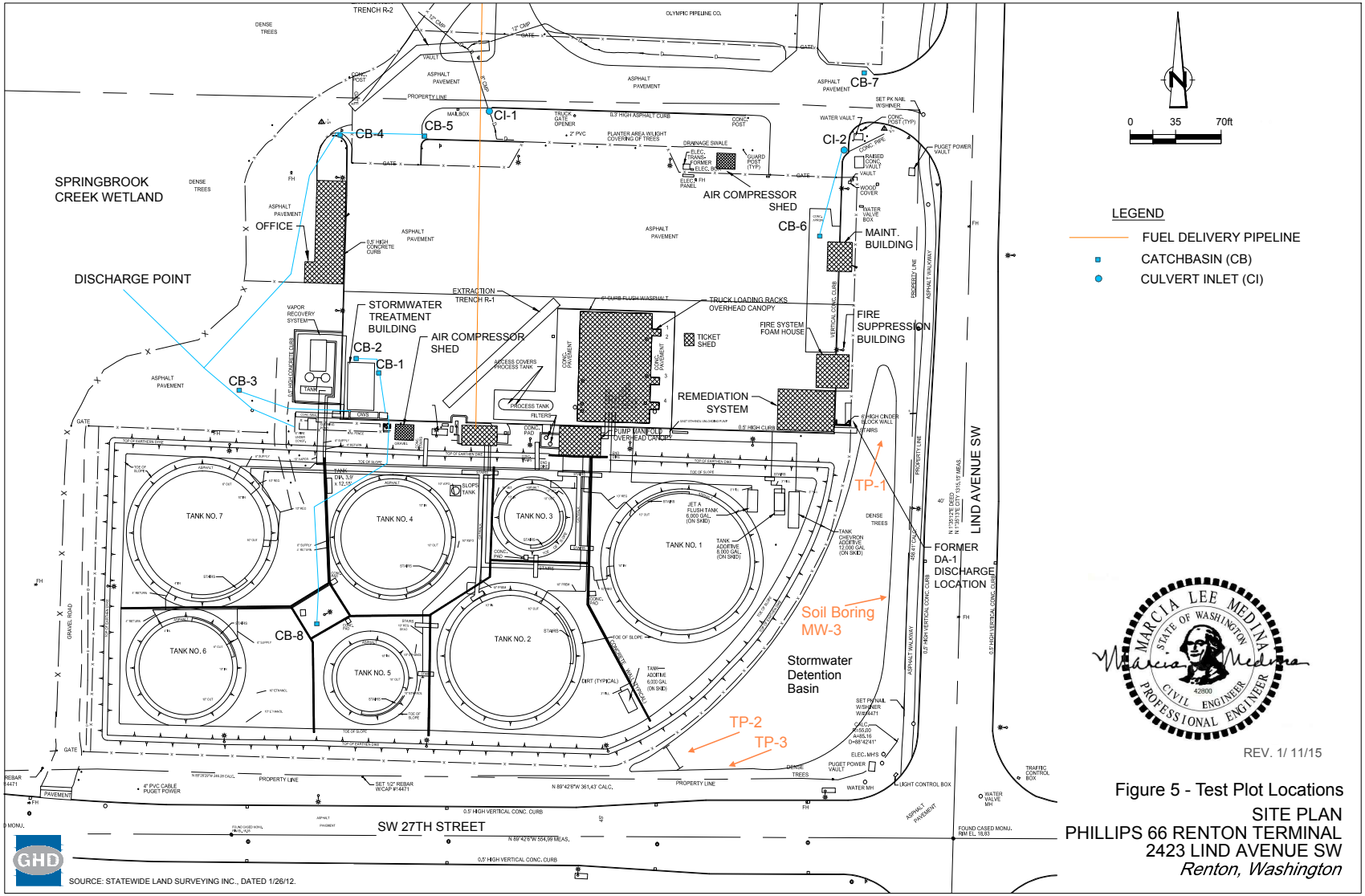
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Figure 3 - Continued

Map Unit Legend

King County Area, Washington (WA633)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Pu	Puget silty clay loam	64.9	11.5%
Py	Puyallup fine sandy loam	49.2	8.8%
So	Snohomish silt loam	152.1	27.1%
Tu	Tukwila muck	41.1	7.3%
Ur	Urban land	96.5	17.2%
W	Water	0.7	0.1%
Wo	Woodinville silt loam	157.6	28.0%
Totals for Area of Interest		**562.1**	**100.0%**

Figure 3 - Continued



MARCIA LEE MEDINA
STATE OF WASHINGTON
42800
CIVIL ENGINEER
PROFESSIONAL ENGINEER

REV. 1/ 11/15

Figure 5 - Test Plot Locations

SITE PLAN
PHILLIPS 66 RENTON TERMINAL
2423 LIND AVENUE SW
Renton, Washington

70496-6RM00(045)GN-LY002 DEC 7/2015

Attachment B – Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: P66 Renton Terminal City/County: Renton, King County Sampling Date: August 10, 2016
Applicant/Owner: Phillips State: WA Sampling Point: TP-1
Investigator(s): Brad Thiele Section, Township, Range: 30, 23N, 5E
Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 0 to 30
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area within a Wetland?** **Yes X No**
Wetland Hydrology Present?	Yes	X	No	

Remarks: Test Plot is within a detention basin.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Pacific Willow	40	Y	FACW
2. Oregon ash	30	Y	FACW
3.			
4.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10')			
1. red osier dogwood	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
		= Total Cover	

% Bare Ground in Herb Stratum

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 100 (A)
Total Number of Dominant Species Across All Strata: ___ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ___ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: Established canopy with no herbs present

SOIL

Sampling Point: TP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2+	100	--				Silt loam	
8-16	10YR 5/2	100	10YR 4/6	10	C	M	Silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks: Meets criteria for hydric soil

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Area is in a detention basin and watermarks are present indicating 2" to 4" of water in the basin.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: P66 Renton Terminal City/County: Renton, King County Sampling Date: August 10, 2016
Applicant/Owner: Phillips State: WA Sampling Point: TP-2
Investigator(s): Brad Thiele Section, Township, Range: 30, 23N, 5E
Landform (hillslope, terrace, etc.): Valley Bottom Local relief (concave, convex, none): Concave Slope (%): 0 to 30
Subregion (LRR): A Lat: Long: Datum:
Soil Map Unit Name: Alderwood gravelly sandy loam NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes	X	No	**Is the Sampled Area within a Wetland?** **Yes X No**
Wetland Hydrology Present?	Yes	X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. black cottonwood	20	Y	FACW
2. Pacific willow	30	Y	FACW
3. Hookers willow	30	Y	FACW
4.			
	80	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10')			
1. red osier dogwood	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 90%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 100 (A)
Total Number of Dominant Species Across All Strata: ___ (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: ___ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks: Wetland tree and shrub community. Black cottonwood is on the edge of the waterline above the bottom edge of the basin.

SOIL

Sampling Point: TP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					silty loam	
4-12	10YR 3/2	100	10YR 3/4	30	C	M	Silty loam	
12-16	10YR 5/1	100	--				Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks: Soil meets criteria for hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Gauge present in detention basin indicating surface water depth of 2 to 3 feet.

Remarks: Area is within a created detention basin and receives stormwater and detains stormwater during flood events.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: P66 Renton Terminal | City/County: Renton, King County | Sampling Date: August 10, 2016
Applicant/Owner: Phillips | State: WA | Sampling Point: TP-3
Investigator(s): Brad Thiele | Section, Township, Range: 30, 23N, 5E
Landform (hillslope, terrace, etc.): Valley Bottom | Local relief (concave, convex, none): Concave | Slope (%): 30
Subregion (LRR): A | Lat: | Long: | Datum:
Soil Map Unit Name: Alderwood gravelly sandy loam | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes x No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	X	No	
Hydric Soil Present?	Yes		No	X
Wetland Hydrology Present?	Yes		No	X

Is the Sampled Area within a Wetland? **Yes** ___ **No** **X**

Remarks: Test plot had a mixed indicator for vegetation. Hydric soil and hydrology indicators were not present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Oregon ash	20	Y	FACW
2. Douglas fir	20	Y	FACU
3. black cottonwood	30	Y	FAC
4.			
	70	= Total Cover	

Sapling/Shrub Stratum (Plot size: 10')			
1. red-osier dogwood	20	Y	FACW
2.			
3.			
4.			
5.			
	20	= Total Cover	

Herb Stratum (Plot size: 10')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
		= Total Cover	

Woody Vine Stratum (Plot size: 10')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	40	x 2 =	80
FAC species	30	x 3 =	90
FACU species	20	x 4 =	120
UPL species		x 5 =	
Column Totals:	90 (A)		290 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** **X** **No** **X**

Remarks: Vegetation community passes the dominance test but fails the prevalence test.

SOIL

Sampling Point: TP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	2.5YR 3/3	100	--				silty sand	
12-16	2.5 YR 2/2	100	--				silty sand with gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** **X**

Remarks: No Hydric indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** ___ **No** **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Test plot is on the slope above the water gage and does not show hydric indicators.

Attachment C – Photos

Photo 1 - Edge of detention pond showing abandoned inlet to pond.

Photo 2 - Detention pond edge conditions.

Photo 3 - concrete wall in detention basin used to separate treatment cells.

Photo 4 - water gage in detention facility.

Photo 5 - Additional water gage in detention pond. gage height indicates water depth of 2 to 3 feet.

Photo 6 - Typical ground cover conditions in detention pond.

Attachment D – Stratigraphic Boring Log

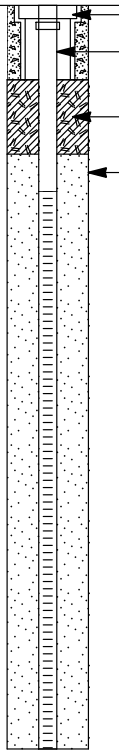
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: P66 RENTON TERMINAL
PROJECT NUMBER: 070496
CLIENT: PHILLIPS 66 COMPANY
LOCATION: RENTON, WASHINGTON

HOLE DESIGNATION: MW-3
DATE COMPLETED: October 11, 2011
DRILLING METHOD: 6" SONIC
FIELD PERSONNEL: N. HINSPERGER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	SM-SAND, some cobble, trace silt, coarse grained, poorly graded, brown, moist	
5.00	SM-SILTY SAND, with gravel, medium grained, poorly graded, brown, dry	5.00
11.00	ML-CLAYEY SANDY SILT, compact, stiff, low plasticity, gray,w et	11.00
12.00	SP-SAND, with silt, fine to medium grained, loose, gray, wet	12.00
15.50	ML-CLAYEY SANDY SILT, compact, stiff, low plasticity, gray, wet	15.50
16.50	SP-SAND, with silt, fine to medium grained, loose, gray, wet	16.50
20.00	END OF BOREHOLE @ 20.0ft BGS	20.00

MONITORING WELL



WELL DETAILS
Screened interval:
5.00 to 20.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Seal:
2.00 to 4.00ft BGS
Material: BENTONITE CHIPS
Sand Pack:
4.00 to 20.00ft BGS
Material: 2/12 SILICA SAND

SAMPLE NUMBER	INTERVAL	REC (%)	BLOW COUNTS	PID (ppm)
				0.0
				0.5
MW-3-10				0.4
				0.1
MW-3-20				0.3

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ⬭

OVERBURDEN LOG 070496WIN.GPJ CRA_CORP.GDT 10/11/12

Appendix B
Laboratory Analytical Reports

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

July 28, 2017

Christina McClelland
GHD Services, Inc.
20818 44th Ave W
Suite 190
Lynnwood, WA 98036

RE: Project: 070796.17 Renton P66
Pace Project No.: 10396557

Dear Christina McClelland:
Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Jeff Gaarder, GHD
Eric Maise, GHD Services Inc.
Accounts Payable, GHD_Conoco Phillips

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: UST-078
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: MN00064
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia WW Certification #: 382
Wisconsin Certification #: 999407970
Wyoming via EPA Region 8 Certification #: 8TMS-L

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10396557001	**SO.72017.DT.HA1**	Solid	07/20/17 11:20	07/21/17 09:40
10396557002	**SO.72017.DT.HA2**	Solid	07/20/17 11:35	07/21/17 09:40
10396557003	**SO.72017.DT.HA3**	Solid	07/20/17 11:50	07/21/17 09:40
10396557004	**Trip Blanks**	Solid	07/20/17 00:00	07/21/17 09:40

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10396557001	**SO.72017.DT.HA1**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		EPA 6010C	IP	7	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	7	PASI-M
10396557002	**SO.72017.DT.HA2**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		EPA 6010C	IP	7	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	7	PASI-M
10396557003	**SO.72017.DT.HA3**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		EPA 6010C	IP	7	PASI-M
		EPA 7471B	LMW	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	MRB	4	PASI-M
		EPA 8260B	CD2	6	PASI-M
10396557004	**Trip Blanks**	NWTPH-Gx	AJK	2	PASI-M
		EPA 8260B	MRB	7	PASI-M

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Sample: SO.72017.DT.HA1 **Lab ID: 10396557001** Collected: 07/20/17 11:20 Received: 07/21/17 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**43.3**	mg/kg	15.1	1	07/24/17 10:50	07/27/17 12:18	68334-30-5	D6,M3
Motor Oil Range	**52.8**	mg/kg	10.1	1	07/24/17 10:50	07/27/17 12:18		D6
Surrogates								
n-Triacontane (S)	70	%.	50-150	1	07/24/17 10:50	07/27/17 12:18	638-68-6	
o-Terphenyl (S)	117	%.	50-150	1	07/24/17 10:50	07/27/17 12:18	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	ND	mg/kg	6.5	1	07/25/17 15:58	07/26/17 04:09		
Surrogates								
a,a,a-Trifluorotoluene (S)	83	%.	50-150	1	07/25/17 15:58	07/26/17 04:09	98-08-8	
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050							
Arsenic	**2.0**	mg/kg	0.97	1	07/24/17 04:39	07/25/17 03:49	7440-38-2	
Barium	**27.7**	mg/kg	0.49	1	07/24/17 04:39	07/25/17 03:49	7440-39-3	
Cadmium	ND	mg/kg	0.15	1	07/24/17 04:39	07/25/17 03:49	7440-43-9	
Chromium	**22.8**	mg/kg	0.49	1	07/24/17 04:39	07/25/17 03:49	7440-47-3	
Lead	**7.2**	mg/kg	0.49	1	07/24/17 04:39	07/25/17 03:49	7439-92-1	
Selenium	ND	mg/kg	0.97	1	07/24/17 04:39	07/25/17 03:49	7782-49-2	
Silver	ND	mg/kg	0.49	1	07/24/17 04:39	07/25/17 03:49	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	ND	mg/kg	0.019	1	07/24/17 05:48	07/24/17 17:30	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**2.0**	%	0.10	1		07/26/17 12:28		
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	ND	ug/kg	5.5	1	07/24/17 09:13	07/24/17 13:46	71-43-2	
Ethylbenzene	ND	ug/kg	5.5	1	07/24/17 09:13	07/24/17 13:46	100-41-4	
Toluene	ND	ug/kg	5.5	1	07/24/17 09:13	07/24/17 13:46	108-88-3	
Xylene (Total)	ND	ug/kg	16.4	1	07/24/17 09:13	07/24/17 13:46	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%.	72-146	1	07/24/17 09:13	07/24/17 13:46	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	07/24/17 09:13	07/24/17 13:46	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-132	1	07/24/17 09:13	07/24/17 13:46	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Sample: SO.72017.DT.HA2 **Lab ID: 10396557002** Collected: 07/20/17 11:35 Received: 07/21/17 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**19.8**	mg/kg	15.6	1	07/24/17 10:50	07/27/17 13:09	68334-30-5	
Motor Oil Range	**122**	mg/kg	10.4	1	07/24/17 10:50	07/27/17 13:09		
Surrogates								
n-Triacontane (S)	65	%.	50-150	1	07/24/17 10:50	07/27/17 13:09	638-68-6	
o-Terphenyl (S)	84	%.	50-150	1	07/24/17 10:50	07/27/17 13:09	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	ND	mg/kg	7.9	1	07/25/17 15:58	07/26/17 04:30		
Surrogates								
a,a,a-Trifluorotoluene (S)	81	%.	50-150	1	07/25/17 15:58	07/26/17 04:30	98-08-8	
6010C MET ICP	Analytical Method: EPA 6010C Preparation Method: EPA 3050							
Arsenic	**4.8**	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:53	7440-38-2	
Barium	**46.6**	mg/kg	0.51	1	07/24/17 04:39	07/25/17 03:53	7440-39-3	
Cadmium	ND	mg/kg	0.15	1	07/24/17 04:39	07/25/17 03:53	7440-43-9	
Chromium	**16.4**	mg/kg	0.51	1	07/24/17 04:39	07/25/17 03:53	7440-47-3	
Lead	**9.3**	mg/kg	0.51	1	07/24/17 04:39	07/25/17 03:53	7439-92-1	
Selenium	ND	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:53	7782-49-2	
Silver	ND	mg/kg	0.51	1	07/24/17 04:39	07/25/17 03:53	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B							
Mercury	**0.047**	mg/kg	0.019	1	07/24/17 05:48	07/24/17 17:32	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**5.2**	%	0.10	1		07/26/17 12:29		
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	ND	ug/kg	7.4	1	07/24/17 09:13	07/24/17 14:05	71-43-2	
Ethylbenzene	ND	ug/kg	7.4	1	07/24/17 09:13	07/24/17 14:05	100-41-4	
Toluene	ND	ug/kg	7.4	1	07/24/17 09:13	07/24/17 14:05	108-88-3	
Xylene (Total)	ND	ug/kg	22.1	1	07/24/17 09:13	07/24/17 14:05	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	108	%.	72-146	1	07/24/17 09:13	07/24/17 14:05	17060-07-0	
Toluene-d8 (S)	101	%.	75-125	1	07/24/17 09:13	07/24/17 14:05	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-132	1	07/24/17 09:13	07/24/17 14:05	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Sample: SO.72017.DT.HA3 **Lab ID: 10396557003** Collected: 07/20/17 11:50 Received: 07/21/17 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx	Preparation Method: EPA 3550						
Diesel Fuel Range	ND	mg/kg	31.3	1	07/24/17 10:50	07/27/17 13:20	68334-30-5	
Motor Oil Range	ND	mg/kg	20.9	1	07/24/17 10:50	07/27/17 13:20		
Surrogates								
n-Triacontane (S)	86	%.	50-150	1	07/24/17 10:50	07/27/17 13:20	638-68-6	
o-Terphenyl (S)	89	%.	50-150	1	07/24/17 10:50	07/27/17 13:20	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx	Preparation Method: NWTPH-Gx						
TPH as Gas	**71.7**	mg/kg	10.5	1	07/25/17 15:58	07/26/17 04:50		
Surrogates								
a,a,a-Trifluorotoluene (S)	87	%.	50-150	1	07/25/17 15:58	07/26/17 04:50	98-08-8	
6010C MET ICP	Analytical Method: EPA 6010C	Preparation Method: EPA 3050						
Arsenic	**4.6**	mg/kg	2.0	1	07/24/17 04:39	07/25/17 03:57	7440-38-2	
Barium	**80.1**	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:57	7440-39-3	
Cadmium	ND	mg/kg	0.30	1	07/24/17 04:39	07/25/17 03:57	7440-43-9	
Chromium	**15.5**	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:57	7440-47-3	
Lead	**18.1**	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:57	7439-92-1	
Selenium	ND	mg/kg	2.0	1	07/24/17 04:39	07/25/17 03:57	7782-49-2	
Silver	ND	mg/kg	1.0	1	07/24/17 04:39	07/25/17 03:57	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B	Preparation Method: EPA 7471B						
Mercury	**0.15**	mg/kg	0.042	1	07/24/17 05:48	07/24/17 17:34	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**52.2**	%	0.10	1		07/26/17 12:29		
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B	Preparation Method: EPA 5035 Low						
Toluene	**50.7**	ug/kg	9.8	1	07/24/17 09:13	07/24/17 14:24	108-88-3	
Surrogates								
1,2-Dichloroethane-d4 (S)	109	%.	72-146	1	07/24/17 09:13	07/24/17 14:24	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1	07/24/17 09:13	07/24/17 14:24	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-132	1	07/24/17 09:13	07/24/17 14:24	460-00-4	
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B	Preparation Method: EPA 5035/5030B						
Benzene	**5070**	ug/kg	49.5	1	07/25/17 15:30	07/26/17 11:52	71-43-2	
Ethylbenzene	**3870**	ug/kg	124	1	07/25/17 15:30	07/26/17 11:52	100-41-4	
Xylene (Total)	**12400**	ug/kg	371	1	07/25/17 15:30	07/26/17 11:52	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	110	%.	75-125	1	07/25/17 15:30	07/26/17 11:52	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	07/25/17 15:30	07/26/17 11:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1	07/25/17 15:30	07/26/17 11:52	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Sample: Trip Blanks **Lab ID: 10396557004** Collected: 07/20/17 00:00 Received: 07/21/17 09:40 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx		Preparation Method: NWTPH-Gx					
TPH as Gas	ND	mg/kg	5.0	1	07/25/17 15:58	07/26/17 05:30		
Surrogates								
a,a,a-Trifluorotoluene (S)	85	%.	50-150	1	07/25/17 15:58	07/26/17 05:30	98-08-8	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B		Preparation Method: EPA 5035 Low					
Benzene	ND	ug/kg	4.0	1	07/24/17 09:13	07/24/17 11:34	71-43-2	
Ethylbenzene	ND	ug/kg	4.0	1	07/24/17 09:13	07/24/17 11:34	100-41-4	
Toluene	ND	ug/kg	4.0	1	07/24/17 09:13	07/24/17 11:34	108-88-3	
Xylene (Total)	ND	ug/kg	12.0	1	07/24/17 09:13	07/24/17 11:34	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	72-146	1	07/24/17 09:13	07/24/17 11:34	17060-07-0	
Toluene-d8 (S)	103	%.	75-125	1	07/24/17 09:13	07/24/17 11:34	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-132	1	07/24/17 09:13	07/24/17 11:34	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 487196 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10396557001, 10396557002, 10396557003, 10396557004

METHOD BLANK: 2651917 Matrix: Solid
Associated Lab Samples: 10396557001, 10396557002, 10396557003, 10396557004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	07/26/17 03:29	
a,a,a-Trifluorotoluene (S)	%.	90	50-150	07/26/17 03:29	

LABORATORY CONTROL SAMPLE & LCSD: 2651919 2651920

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	44.7	43.8	89	88	45-125	2	20	
a,a,a-Trifluorotoluene (S)	%.				110	108	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 486725 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids
Associated Lab Samples: 10396557001, 10396557002, 10396557003

METHOD BLANK: 2649852 Matrix: Solid
Associated Lab Samples: 10396557001, 10396557002, 10396557003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	ND	0.019	07/24/17 17:20	

LABORATORY CONTROL SAMPLE: 2649853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.45	0.46	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2649854 2649855

Parameter	Units	10396612001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	ND	.57	.6	0.58	0.60	99	96	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 486717 Analysis Method: EPA 6010C
QC Batch Method: EPA 3050 Analysis Description: 6010C Solids
Associated Lab Samples: 10396557001, 10396557002, 10396557003

METHOD BLANK: 2649819 Matrix: Solid
Associated Lab Samples: 10396557001, 10396557002, 10396557003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	ND	0.95	07/25/17 03:21	
Barium	mg/kg	ND	0.48	07/25/17 03:21	
Cadmium	mg/kg	ND	0.14	07/25/17 03:21	
Chromium	mg/kg	ND	0.48	07/25/17 03:21	
Lead	mg/kg	ND	0.48	07/25/17 03:21	
Selenium	mg/kg	ND	0.95	07/25/17 03:21	
Silver	mg/kg	ND	0.48	07/25/17 03:21	

LABORATORY CONTROL SAMPLE: 2649820

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	48.5	44.4	91	80-120	
Barium	mg/kg	48.5	46.9	97	80-120	
Cadmium	mg/kg	48.5	44.7	92	80-120	
Chromium	mg/kg	48.5	47.0	97	80-120	
Lead	mg/kg	48.5	45.8	94	80-120	
Selenium	mg/kg	48.5	43.8	90	80-120	
Silver	mg/kg	24.3	22.0	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2649821 2649822

Parameter	Units	10396612001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	2.1	60.6	59.4	39.0	34.3	61	54	75-125	13	20	M1
Barium	mg/kg	78.1	60.6	59.4	119	106	68	48	75-125	11	20	M1
Cadmium	mg/kg	ND	60.6	59.4	38.3	33.6	63	56	75-125	13	20	M1
Chromium	mg/kg	8.6	60.6	59.4	47.2	40.3	64	53	75-125	16	20	M1
Lead	mg/kg	4.9	60.6	59.4	40.7	36.6	59	53	75-125	11	20	M1
Selenium	mg/kg	ND	60.6	59.4	37.4	33.1	61	55	75-125	12	20	M1
Silver	mg/kg	ND	30.2	29.7	19.9	17.6	66	59	75-125	12	20	M1

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 487279 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10396557001, 10396557002, 10396557003

SAMPLE DUPLICATE: 2652297

Parameter	Units	10396457001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.2	11.5	3	30	

SAMPLE DUPLICATE: 2652298

Parameter	Units	10396817001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.4	9.7	3	30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 486577 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035 Low Analysis Description: 8260B MSV 5035 Low Level
Associated Lab Samples: 10396557001, 10396557002, 10396557003, 10396557004

METHOD BLANK: 2648675 Matrix: Solid
Associated Lab Samples: 10396557001, 10396557002, 10396557003, 10396557004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	4.0	07/24/17 10:47	
Ethylbenzene	ug/kg	ND	4.0	07/24/17 10:47	
Toluene	ug/kg	ND	4.0	07/24/17 10:47	
Xylene (Total)	ug/kg	ND	12.0	07/24/17 10:47	
1,2-Dichloroethane-d4 (S)	%.	95	72-146	07/24/17 10:47	
4-Bromofluorobenzene (S)	%.	97	75-132	07/24/17 10:47	
Toluene-d8 (S)	%.	105	75-125	07/24/17 10:47	

LABORATORY CONTROL SAMPLE & LCSD: 2648676 2648677

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	20	18.5	17.9	93	89	75-125	4	20	
Ethylbenzene	ug/kg	20	19.8	18.8	99	94	76-125	5	20	
Toluene	ug/kg	20	20.8	20.2	104	101	75-125	3	20	
Xylene (Total)	ug/kg	60	58.8	56.8	98	95	77-125	3	20	
1,2-Dichloroethane-d4 (S)	%.				96	96	72-146			
4-Bromofluorobenzene (S)	%.				95	96	75-132			
Toluene-d8 (S)	%.				104	103	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 487163
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260B
Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10396557003

METHOD BLANK: 2651730 Matrix: Solid
Associated Lab Samples: 10396557003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	20.0	07/26/17 10:08	
Ethylbenzene	ug/kg	ND	50.0	07/26/17 10:08	
Xylene (Total)	ug/kg	ND	150	07/26/17 10:08	
1,2-Dichloroethane-d4 (S)	%.	111	75-125	07/26/17 10:08	
4-Bromofluorobenzene (S)	%.	98	75-125	07/26/17 10:08	
Toluene-d8 (S)	%.	102	75-125	07/26/17 10:08	

LABORATORY CONTROL SAMPLE & LCSD: 2651731 2651732

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	1000	995	965	99	97	61-125	3	20	
Ethylbenzene	ug/kg	1000	997	955	100	96	65-125	4	20	
Xylene (Total)	ug/kg	3000	3010	2920	100	97	67-125	3	20	
1,2-Dichloroethane-d4 (S)	%.				111	110	75-125			
4-Bromofluorobenzene (S)	%.				98	102	75-125			
Toluene-d8 (S)	%.				101	98	75-125			

MATRIX SPIKE SAMPLE: 2652429

Parameter	Units	10396800002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	ND	1030	1450	140	54-150	
Ethylbenzene	ug/kg	ND	1030	1350	131	58-150	
Xylene (Total)	ug/kg	ND	3100	4140	134	55-150	
1,2-Dichloroethane-d4 (S)	%.				111	75-125	
4-Bromofluorobenzene (S)	%.				97	75-125	
Toluene-d8 (S)	%.				101	75-125	

SAMPLE DUPLICATE: 2652428

Parameter	Units	10396800001 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/kg	ND	ND		30	
Ethylbenzene	ug/kg	ND	ND		30	
Xylene (Total)	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	111	112	1		
4-Bromofluorobenzene (S)	%.	103	102	3		
Toluene-d8 (S)	%.	98	98	2		

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 070796.17 Renton P66
Pace Project No.: 10396557

QC Batch: 486877 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10396557001, 10396557002, 10396557003

METHOD BLANK: 2650287 Matrix: Solid
Associated Lab Samples: 10396557001, 10396557002, 10396557003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	07/27/17 11:56	
Motor Oil Range	mg/kg	ND	10.0	07/27/17 11:56	
n-Triacontane (S)	%.	74	50-150	07/27/17 11:56	
o-Terphenyl (S)	%.	84	50-150	07/27/17 11:56	

LABORATORY CONTROL SAMPLE: 2650288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	37.0	74	50-150	
Motor Oil Range	mg/kg	50	47.3	95	50-150	
n-Triacontane (S)	%.			78	50-150	
o-Terphenyl (S)	%.			82	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2650289 2650290

Parameter	Units	10396557001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	43.3	50.9	50.7	51.9	58.6	17	30	50-150	12	30	M3
Motor Oil Range	mg/kg	52.8	50.9	50.7	84.2	92.0	62	77	50-150	9	30	
n-Triacontane (S)	%.						70	65	50-150			
o-Terphenyl (S)	%.						90	87	50-150			

SAMPLE DUPLICATE: 2650291

Parameter	Units	10396557001 Result	Dup Result	RPD	Max RPD	Qualifiers
Diesel Fuel Range	mg/kg	43.3	16.1	92	30	D6
Motor Oil Range	mg/kg	52.8	38.6	31	30	D6
n-Triacontane (S)	%.	70	53	26		
o-Terphenyl (S)	%.	117	88	28		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 070796.17 Renton P66
Pace Project No.: 10396557

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 487169

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M3	Matrix spike recovery was outside laboratory control limits due to matrix interferences.

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METHOD CROSS REFERENCE TABLE

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B
8260B MSV 5035 Low Level	Solid	SW-846 8260B	SW-846 5035A/5030B

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 070796.17 Renton P66
Pace Project No.: 10396557

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10396557001	**SO.72017.DT.HA1**	EPA 3550	486877	NWTPH-Dx	487640
10396557002	**SO.72017.DT.HA2**	EPA 3550	486877	NWTPH-Dx	487640
10396557003	**SO.72017.DT.HA3**	EPA 3550	486877	NWTPH-Dx	487640
10396557001	**SO.72017.DT.HA1**	NWTPH-Gx	487196	NWTPH-Gx	487239
10396557002	**SO.72017.DT.HA2**	NWTPH-Gx	487196	NWTPH-Gx	487239
10396557003	**SO.72017.DT.HA3**	NWTPH-Gx	487196	NWTPH-Gx	487239
10396557004	**Trip Blanks**	NWTPH-Gx	487196	NWTPH-Gx	487239
10396557001	**SO.72017.DT.HA1**	EPA 3050	486717	EPA 6010C	486948
10396557002	**SO.72017.DT.HA2**	EPA 3050	486717	EPA 6010C	486948
10396557003	**SO.72017.DT.HA3**	EPA 3050	486717	EPA 6010C	486948
10396557001	**SO.72017.DT.HA1**	EPA 7471B	486725	EPA 7471B	486996
10396557002	**SO.72017.DT.HA2**	EPA 7471B	486725	EPA 7471B	486996
10396557003	**SO.72017.DT.HA3**	EPA 7471B	486725	EPA 7471B	486996
10396557001	**SO.72017.DT.HA1**	ASTM D2974	487279		
10396557002	**SO.72017.DT.HA2**	ASTM D2974	487279		
10396557003	**SO.72017.DT.HA3**	ASTM D2974	487279		
10396557001	**SO.72017.DT.HA1**	EPA 5035 Low	486577	EPA 8260B	487169
10396557002	**SO.72017.DT.HA2**	EPA 5035 Low	486577	EPA 8260B	487169
10396557003	**SO.72017.DT.HA3**	EPA 5035 Low	486577	EPA 8260B	487169
10396557004	**Trip Blanks**	EPA 5035 Low	486577	EPA 8260B	487169
10396557003	**SO.72017.DT.HA3**	EPA 5035/5030B	487163	EPA 8260B	487381

Pace Analytical®
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3 DAY TAT

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of 2135115

Section A Required Client Information:

Company: GHD Services
Address: 2423 Lind Ave SW
Renton, WA
Email To: Jeff Cloud; Eric Matz
Phone: 4255636500 Fax:
Requested Due Date/TAT: 3 DAY

Section B Required Project Information:

Report To: J. Cloud | J. Gaarder
Copy To: Ematse | C. Mellelland
Purchase Order No.:
Project Name: Renton PGG
Project Number: 070496.17

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #: ~~37888~~/1 + 37945/1

10346557

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location: Renton
STATE: WA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 BTEX	NW TPH 6x	NW TPH DX	RCRA 8 metals	Dry weight	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	80-72017-DT-HA1	SO	G	7-20-17	1120				6	X					X	X			X	X	X	X	X			001
2	↓ ↓ ↓ HA2	SO	G	↓	1135				6	X					X	X			X	X	X	X	X			002
3	↓ ↓ ↓ HA3	SO	G	↓	1150				6	X					X	X			X	X	X	X	X			003
4	Trip blanks																									004
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	GHD	7/20/17	1300	Jenn Gross / Pace	7/20/17	13:00	1.6	Y	N	Y
	Jenn Gross / Pace	7/20/17	13:28	/ PAC-MN	7/21/17	09:40	2.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE: D. Trydeen
PRINT Name of SAMPLER: D. Trydeen
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 7-20-17

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD Services

Project #: WO# : 10396557

10396557

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7448 1032 4051

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermometer Used: ☑ 151401163 ☐ 151401164

Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.3 **Cooler Temp Corrected (°C):** 2.3 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** True **Date and Initials of Person Examining Contents:** 7/21/17 JK

USDA Regulated Soil (☐ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally including Hawaii and Puerto Rico)? ☐ Yes ☑ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No		1.
Chain of Custody Filled Out?	☑ Yes	☐ No		2.
Chain of Custody Relinquished?	☑ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		6.
Rush Turn Around Time Requested?	☑ Yes	☐ No		7. 3 day TAT
Sufficient Volume?	☑ Yes	☐ No		8.
Correct Containers Used?	☑ Yes	☐ No		9.
-Pace Containers Used?	☐ Yes	☑ No		
Containers Intact?	☑ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	☑ Yes	☐ No		12. No date/time/Analysis on Sample Label
-Includes Date/Time/ID/Analysis Matrix: SL				Date/Time on COC is 7/20/17 11:20, 11:35, 11:50
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☐ Yes	☐ No	☑ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☑ Yes	☐ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): 689998, 52438, 52397				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Christina Date/Time: 07/21/17

Comments/Resolution: Notified-the quickest turn possible is a 5 day.

Project Manager Review: JENNI GROSS **Date:** 07/21/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

— RUSH 3 DAY —

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: GHD-P66

Project Manager: Jenni Gross

Profile/Line #: 37945/1

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	1.6	1.6	0

IR Gun # (IR1 - Q281) IR2 - 122065284

☐ **Samples on ice, cooling process has begun**

Rush/Short Hold: 3 DAY

Containers Intact: (Yes) No

Re-packed and Re-Iced: ✓

Temp Blank Included: (Yes) No

Shipped By/Date: Fe 7/20/17

Notes:

Ship to: (Pace MN) Pace Davis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 01, 2017

Christina McClelland
GHD Services, Inc.
20818 44th Ave W
Suite 190
Lynnwood, WA 98036

RE: Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Dear Christina McClelland:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Jeff Gaarder, GHD
Eric Maise, GHD Services Inc.
Accounts Payable, GHD_Conoco Phillips

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: UST-078
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: MN00064
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming via EPA Region 8 Certification #: 8TMS-L

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SAMPLE SUMMARY

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10400287001	**SO-070496-081717-JRL-Bottom 1**	Solid	08/17/17 09:15	08/19/17 10:00
10400287002	**SO-070496-081717-JRL-Bottom 2**	Solid	08/17/17 09:45	08/19/17 10:00
10400287003	**SO-070496-081717-JRL-NORTHWALL**	Solid	08/17/17 11:00	08/19/17 10:00
10400287004	**SO-070496-081717-JRL-Bottom 4**	Solid	08/17/17 11:20	08/19/17 10:00
10400287005	**SO-070496-081717-JRL-Bottom 3**	Solid	08/17/17 11:40	08/19/17 10:00
10400287006	**SO-070496-081717-JRL-EASTWALL**	Solid	08/17/17 11:50	08/19/17 10:00
10400287007	**SO-070496-081717-JRL-WESTWALL**	Solid	08/17/17 11:55	08/19/17 10:00
10400287008	**SO-070496-081717-JRL-SOUTHWALL**	Solid	08/17/17 12:15	08/19/17 10:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10400287001	**SO-070496-081717-JRL-Bottom 1**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287002	**SO-070496-081717-JRL-Bottom 2**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287003	**SO-070496-081717-JRL-NORTHWALL**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	5	PASI-M
		EPA 8260B	CD2	5	PASI-M
10400287004	**SO-070496-081717-JRL-Bottom 4**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287005	**SO-070496-081717-JRL-Bottom 3**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287006	**SO-070496-081717-JRL-EASTWALL**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287007	**SO-070496-081717-JRL-WESTWALL**	NWTPH-Dx	MT	4	PASI-M
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M
10400287008	**SO-070496-081717-JRL-SOUTHWALL**	NWTPH-Dx	MT	4	PASI-M

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		NWTPH-Gx	AJK	2	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	20	PASI-M
		EPA 8260B	MRB	7	PASI-M

Pace Analytical Services, LLC
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(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 1 **Lab ID: 10400287001** Collected: 08/17/17 09:15 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	29.3	1	08/24/17 12:27	09/01/17 12:08	68334-30-5	
Motor Oil Range	**76.7**	mg/kg	19.6	1	08/24/17 12:27	09/01/17 12:08		
Surrogates								
n-Triacontane (S)	71	%.	50-150	1	08/24/17 12:27	09/01/17 12:08	638-68-6	
o-Terphenyl (S)	65	%.	50-150	1	08/24/17 12:27	09/01/17 12:08	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**28.7**	mg/kg	12.1	1	08/31/17 10:57	08/31/17 20:37		
Surrogates								
a,a,a-Trifluorotoluene (S)	92	%.	50-150	1	08/31/17 10:57	08/31/17 20:37	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**50.4**	%	0.10	1		08/29/17 12:40		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	83-32-9	
Acenaphthylene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	208-96-8	
Anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	120-12-7	
Benzo(a)anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	56-55-3	
Benzo(a)pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	207-08-9	
Chrysene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	53-70-3	
Fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	206-44-0	
Fluorene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	193-39-5	
1-Methylnaphthalene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	90-12-0	
2-Methylnaphthalene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	91-57-6	
Naphthalene	**170**	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	91-20-3	
Phenanthrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	85-01-8	
Pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:28	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	83	%.	47-125	1	08/25/17 12:08	08/28/17 16:28	321-60-8	
p-Terphenyl-d14 (S)	86	%.	55-125	1	08/25/17 12:08	08/28/17 16:28	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**20.4**	ug/kg	9.2	1	08/23/17 12:13	08/23/17 17:32	71-43-2	
Ethylbenzene	ND	ug/kg	9.2	1	08/23/17 12:13	08/23/17 17:32	100-41-4	
Toluene	ND	ug/kg	9.2	1	08/23/17 12:13	08/23/17 17:32	108-88-3	
Xylene (Total)	**46.0**	ug/kg	27.7	1	08/23/17 12:13	08/23/17 17:32	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	72-146	1	08/23/17 12:13	08/23/17 17:32	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	08/23/17 12:13	08/23/17 17:32	2037-26-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 1 **Lab ID: 10400287001** Collected: 08/17/17 09:15 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	104	%.	75-132	1	08/23/17 12:13	08/23/17 17:32	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 2 **Lab ID: 10400287002** Collected: 08/17/17 09:45 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	29.9	1	08/24/17 12:27	09/01/17 10:05	68334-30-5	
Motor Oil Range	**89.4**	mg/kg	19.9	1	08/24/17 12:27	09/01/17 10:05		
Surrogates								
n-Triacontane (S)	70	%.	50-150	1	08/24/17 12:27	09/01/17 10:05	638-68-6	
o-Terphenyl (S)	67	%.	50-150	1	08/24/17 12:27	09/01/17 10:05	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**46.2**	mg/kg	12.7	1	08/31/17 10:57	08/31/17 20:57		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	50-150	1	08/31/17 10:57	08/31/17 20:57	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**50.3**	%	0.10	1		08/29/17 12:40		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	83-32-9	
Acenaphthylene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	208-96-8	
Anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	120-12-7	
Benzo(a)anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	56-55-3	
Benzo(a)pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	207-08-9	
Chrysene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	53-70-3	
Fluoranthene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	206-44-0	
Fluorene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	193-39-5	
1-Methylnaphthalene	**62.6**	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	90-12-0	
2-Methylnaphthalene	**43.7**	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	91-57-6	
Naphthalene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	91-20-3	
Phenanthrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	85-01-8	
Pyrene	ND	ug/kg	20.0	1	08/25/17 12:08	08/28/17 16:49	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	82	%.	47-125	1	08/25/17 12:08	08/28/17 16:49	321-60-8	
p-Terphenyl-d14 (S)	84	%.	55-125	1	08/25/17 12:08	08/28/17 16:49	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**28.4**	ug/kg	9.3	1	08/23/17 12:13	08/23/17 17:50	71-43-2	
Ethylbenzene	ND	ug/kg	9.3	1	08/23/17 12:13	08/23/17 17:50	100-41-4	
Toluene	ND	ug/kg	9.3	1	08/23/17 12:13	08/23/17 17:50	108-88-3	
Xylene (Total)	ND	ug/kg	28.0	1	08/23/17 12:13	08/23/17 17:50	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	107	%.	72-146	1	08/23/17 12:13	08/23/17 17:50	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	08/23/17 12:13	08/23/17 17:50	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 2 **Lab ID: 10400287002** Collected: 08/17/17 09:45 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	107	%.	75-132	1	08/23/17 12:13	08/23/17 17:50	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-NORTHWALL **Lab ID: 10400287003** Collected: 08/17/17 11:00 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	19.1	1	08/24/17 12:27	09/01/17 10:16	68334-30-5	
Motor Oil Range	**17.1**	mg/kg	12.8	1	08/24/17 12:27	09/01/17 10:16		
Surrogates								
n-Triacontane (S)	82	%.	50-150	1	08/24/17 12:27	09/01/17 10:16	638-68-6	
o-Terphenyl (S)	81	%.	50-150	1	08/24/17 12:27	09/01/17 10:16	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**23.7**	mg/kg	6.7	1	08/31/17 10:57	08/31/17 21:17		
Surrogates								
a,a,a-Trifluorotoluene (S)	92	%.	50-150	1	08/31/17 10:57	08/31/17 21:17	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**21.6**	%	0.10	1		08/29/17 12:40		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	83-32-9	
Acenaphthylene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	208-96-8	
Anthracene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	120-12-7	
Benzo(a)anthracene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	56-55-3	
Benzo(a)pyrene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	207-08-9	
Chrysene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	53-70-3	
Fluoranthene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	206-44-0	
Fluorene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	193-39-5	
1-Methylnaphthalene	**20.0**	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	90-12-0	
2-Methylnaphthalene	**28.6**	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	91-57-6	
Naphthalene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	91-20-3	
Phenanthrene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	85-01-8	
Pyrene	ND	ug/kg	12.6	1	08/25/17 12:08	08/28/17 17:10	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	78	%.	47-125	1	08/25/17 12:08	08/28/17 17:10	321-60-8	
p-Terphenyl-d14 (S)	85	%.	55-125	1	08/25/17 12:08	08/28/17 17:10	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**11.0**	ug/kg	3.9	1	08/23/17 12:13	08/23/17 18:09	71-43-2	
Xylene (Total)	**336**	ug/kg	11.7	1	08/23/17 12:13	08/23/17 18:09	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	72-146	1	08/23/17 12:13	08/23/17 18:09	17060-07-0	
Toluene-d8 (S)	97	%.	75-125	1	08/23/17 12:13	08/23/17 18:09	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-132	1	08/23/17 12:13	08/23/17 18:09	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-NORTHWALL **Lab ID: 10400287003** Collected: 08/17/17 11:00 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B		Preparation Method: EPA 5035/5030B					
Ethylbenzene	**1740**	ug/kg	67.5	1	08/30/17 09:37	08/30/17 18:30	100-41-4	
Toluene	**811**	ug/kg	67.5	1	08/30/17 09:37	08/30/17 18:30	108-88-3	
Surrogates								
1,2-Dichloroethane-d4 (S)	100	%.	75-125	1	08/30/17 09:37	08/30/17 18:30	17060-07-0	
Toluene-d8 (S)	102	%.	75-125	1	08/30/17 09:37	08/30/17 18:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125	1	08/30/17 09:37	08/30/17 18:30	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 4 **Lab ID: 10400287004** Collected: 08/17/17 11:20 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	27.4	1	08/24/17 12:27	09/01/17 09:54	68334-30-5	
Motor Oil Range	**128**	mg/kg	18.3	1	08/24/17 12:27	09/01/17 09:54		
Surrogates								
n-Triacontane (S)	65	%.	50-150	1	08/24/17 12:27	09/01/17 09:54	638-68-6	
o-Terphenyl (S)	56	%.	50-150	1	08/24/17 12:27	09/01/17 09:54	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**31.0**	mg/kg	11.0	1	08/31/17 10:57	08/31/17 21:37		
Surrogates								
a,a,a-Trifluorotoluene (S)	100	%.	50-150	1	08/31/17 10:57	08/31/17 21:37	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**46.9**	%	0.10	1		08/29/17 12:40		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	83-32-9	
Acenaphthylene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	208-96-8	
Anthracene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	120-12-7	
Benzo(a)anthracene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	56-55-3	
Benzo(a)pyrene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	207-08-9	
Chrysene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	53-70-3	
Fluoranthene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	206-44-0	
Fluorene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	193-39-5	
1-Methylnaphthalene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	90-12-0	
2-Methylnaphthalene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	91-57-6	
Naphthalene	**62.5**	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	91-20-3	
Phenanthrene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	85-01-8	
Pyrene	ND	ug/kg	18.8	1	08/25/17 12:08	08/28/17 17:31	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	64	%.	47-125	1	08/25/17 12:08	08/28/17 17:31	321-60-8	
p-Terphenyl-d14 (S)	60	%.	55-125	1	08/25/17 12:08	08/28/17 17:31	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**206**	ug/kg	8.4	1	08/23/17 12:13	08/23/17 18:28	71-43-2	
Ethylbenzene	**108**	ug/kg	8.4	1	08/23/17 12:13	08/23/17 18:28	100-41-4	
Toluene	ND	ug/kg	8.4	1	08/23/17 12:13	08/23/17 18:28	108-88-3	
Xylene (Total)	**291**	ug/kg	25.1	1	08/23/17 12:13	08/23/17 18:28	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%.	72-146	1	08/23/17 12:13	08/23/17 18:28	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	08/23/17 12:13	08/23/17 18:28	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 4 **Lab ID: 10400287004** Collected: 08/17/17 11:20 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	105	%.	75-132	1	08/23/17 12:13	08/23/17 18:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 3 **Lab ID: 10400287005** Collected: 08/17/17 11:40 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	26.6	1	08/24/17 12:27	09/01/17 09:43	68334-30-5	
Motor Oil Range	**138**	mg/kg	17.8	1	08/24/17 12:27	09/01/17 09:43		
Surrogates								
n-Triacontane (S)	62	%.	50-150	1	08/24/17 12:27	09/01/17 09:43	638-68-6	
o-Terphenyl (S)	67	%.	50-150	1	08/24/17 12:27	09/01/17 09:43	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**25.7**	mg/kg	10.4	1	08/31/17 10:57	08/31/17 21:57		
Surrogates								
a,a,a-Trifluorotoluene (S)	90	%.	50-150	1	08/31/17 10:57	08/31/17 21:57	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**43.7**	%	0.10	1		08/29/17 12:40		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	83-32-9	
Acenaphthylene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	208-96-8	
Anthracene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	120-12-7	
Benzo(a)anthracene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	56-55-3	
Benzo(a)pyrene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	207-08-9	
Chrysene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	53-70-3	
Fluoranthene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	206-44-0	
Fluorene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	193-39-5	
1-Methylnaphthalene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	90-12-0	
2-Methylnaphthalene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	91-57-6	
Naphthalene	**56.6**	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	91-20-3	
Phenanthrene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	85-01-8	
Pyrene	ND	ug/kg	17.6	1	08/25/17 12:08	08/28/17 17:53	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	76	%.	47-125	1	08/25/17 12:08	08/28/17 17:53	321-60-8	
p-Terphenyl-d14 (S)	76	%.	55-125	1	08/25/17 12:08	08/28/17 17:53	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**51.1**	ug/kg	7.4	1	08/23/17 12:13	08/23/17 18:47	71-43-2	
Ethylbenzene	**29.5**	ug/kg	7.4	1	08/23/17 12:13	08/23/17 18:47	100-41-4	
Toluene	**8.5**	ug/kg	7.4	1	08/23/17 12:13	08/23/17 18:47	108-88-3	
Xylene (Total)	**153**	ug/kg	22.1	1	08/23/17 12:13	08/23/17 18:47	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	101	%.	72-146	1	08/23/17 12:13	08/23/17 18:47	17060-07-0	
Toluene-d8 (S)	98	%.	75-125	1	08/23/17 12:13	08/23/17 18:47	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-Bottom 3 **Lab ID: 10400287005** Collected: 08/17/17 11:40 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	102	%.	75-132	1	08/23/17 12:13	08/23/17 18:47	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-EASTWALL **Lab ID: 10400287006** Collected: 08/17/17 11:50 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	**29.5**	mg/kg	25.4	1	08/24/17 12:27	09/01/17 09:32	68334-30-5	
Motor Oil Range	**170**	mg/kg	16.9	1	08/24/17 12:27	09/01/17 09:32		
Surrogates								
n-Triacontane (S)	57	%.	50-150	1	08/24/17 12:27	09/01/17 09:32	638-68-6	
o-Terphenyl (S)	62	%.	50-150	1	08/24/17 12:27	09/01/17 09:32	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**10.8**	mg/kg	10.3	1	08/31/17 10:57	08/31/17 22:17		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	50-150	1	08/31/17 10:57	08/31/17 22:17	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**40.9**	%	0.10	1		08/29/17 12:41		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	83-32-9	
Acenaphthylene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	208-96-8	
Anthracene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	120-12-7	
Benzo(a)anthracene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	56-55-3	
Benzo(a)pyrene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	207-08-9	
Chrysene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	53-70-3	
Fluoranthene	**18.8**	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	206-44-0	
Fluorene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	193-39-5	
1-Methylnaphthalene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	90-12-0	
2-Methylnaphthalene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	91-57-6	
Naphthalene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	91-20-3	
Phenanthrene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	85-01-8	
Pyrene	ND	ug/kg	16.8	1	08/25/17 12:08	08/28/17 18:14	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	73	%.	47-125	1	08/25/17 12:08	08/28/17 18:14	321-60-8	
p-Terphenyl-d14 (S)	72	%.	55-125	1	08/25/17 12:08	08/28/17 18:14	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**11.8**	ug/kg	7.5	1	08/23/17 12:13	08/23/17 19:06	71-43-2	
Ethylbenzene	**10.8**	ug/kg	7.5	1	08/23/17 12:13	08/23/17 19:06	100-41-4	
Toluene	ND	ug/kg	7.5	1	08/23/17 12:13	08/23/17 19:06	108-88-3	
Xylene (Total)	**43.4**	ug/kg	22.5	1	08/23/17 12:13	08/23/17 19:06	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	72-146	1	08/23/17 12:13	08/23/17 19:06	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	08/23/17 12:13	08/23/17 19:06	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-EASTWALL **Lab ID: 10400287006** Collected: 08/17/17 11:50 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	102	%.	75-132	1	08/23/17 12:13	08/23/17 19:06	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-WESTWALL **Lab ID: 10400287007** Collected: 08/17/17 11:55 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	18.5	1	08/24/17 12:27	09/01/17 11:01	68334-30-5	
Motor Oil Range	**23.9**	mg/kg	12.3	1	08/24/17 12:27	09/01/17 11:01		
Surrogates								
n-Triacontane (S)	77	%.	50-150	1	08/24/17 12:27	09/01/17 11:01	638-68-6	
o-Terphenyl (S)	76	%.	50-150	1	08/24/17 12:27	09/01/17 11:01	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	ND	mg/kg	6.2	1	08/31/17 10:57	08/31/17 22:37		
Surrogates								
a,a,a-Trifluorotoluene (S)	96	%.	50-150	1	08/31/17 10:57	08/31/17 22:37	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**18.9**	%	0.10	1		08/29/17 12:41		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	83-32-9	
Acenaphthylene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	208-96-8	
Anthracene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	120-12-7	
Benzo(a)anthracene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	56-55-3	
Benzo(a)pyrene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	207-08-9	
Chrysene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	53-70-3	
Fluoranthene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	206-44-0	
Fluorene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	193-39-5	
1-Methylnaphthalene	**26.5**	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	90-12-0	
2-Methylnaphthalene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	91-57-6	
Naphthalene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	91-20-3	
Phenanthrene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	85-01-8	
Pyrene	ND	ug/kg	12.2	1	08/25/17 12:08	08/28/17 18:35	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	80	%.	47-125	1	08/25/17 12:08	08/28/17 18:35	321-60-8	
p-Terphenyl-d14 (S)	82	%.	55-125	1	08/25/17 12:08	08/28/17 18:35	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	**4.9**	ug/kg	3.7	1	08/23/17 12:13	08/23/17 19:25	71-43-2	
Ethylbenzene	**6.9**	ug/kg	3.7	1	08/23/17 12:13	08/23/17 19:25	100-41-4	
Toluene	**6.9**	ug/kg	3.7	1	08/23/17 12:13	08/23/17 19:25	108-88-3	
Xylene (Total)	**19.1**	ug/kg	11.2	1	08/23/17 12:13	08/23/17 19:25	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	72-146	1	08/23/17 12:13	08/23/17 19:25	17060-07-0	
Toluene-d8 (S)	99	%.	75-125	1	08/23/17 12:13	08/23/17 19:25	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-WESTWALL **Lab ID: 10400287007** Collected: 08/17/17 11:55 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	106	%.	75-132	1	08/23/17 12:13	08/23/17 19:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-SOUTHWALL **Lab ID: 10400287008** Collected: 08/17/17 12:15 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS	Analytical Method: NWTPH-Dx Preparation Method: EPA 3550							
Diesel Fuel Range	ND	mg/kg	17.7	1	08/24/17 12:27	09/01/17 11:12	68334-30-5	
Motor Oil Range	**91.2**	mg/kg	11.8	1	08/24/17 12:27	09/01/17 11:12		
Surrogates								
n-Triacontane (S)	75	%.	50-150	1	08/24/17 12:27	09/01/17 11:12	638-68-6	
o-Terphenyl (S)	78	%.	50-150	1	08/24/17 12:27	09/01/17 11:12	84-15-1	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx Preparation Method: NWTPH-Gx							
TPH as Gas	**6.4**	mg/kg	6.0	1	08/31/17 10:57	08/31/17 22:57		
Surrogates								
a,a,a-Trifluorotoluene (S)	95	%.	50-150	1	08/31/17 10:57	08/31/17 22:57	98-08-8	
Dry Weight	Analytical Method: ASTM D2974							
Percent Moisture	**15.1**	%	0.10	1		08/29/17 12:41		
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550							
Acenaphthene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	83-32-9	
Acenaphthylene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	208-96-8	
Anthracene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	120-12-7	
Benzo(a)anthracene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	56-55-3	
Benzo(a)pyrene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	50-32-8	
Benzo(b)fluoranthene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	205-99-2	
Benzo(g,h,i)perylene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	191-24-2	
Benzo(k)fluoranthene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	207-08-9	
Chrysene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	218-01-9	
Dibenz(a,h)anthracene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	53-70-3	
Fluoranthene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	206-44-0	
Fluorene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	193-39-5	
1-Methylnaphthalene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	90-12-0	
2-Methylnaphthalene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	91-57-6	
Naphthalene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	91-20-3	
Phenanthrene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	85-01-8	
Pyrene	ND	ug/kg	11.8	1	08/25/17 12:08	08/28/17 18:56	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	83	%.	47-125	1	08/25/17 12:08	08/28/17 18:56	321-60-8	
p-Terphenyl-d14 (S)	85	%.	55-125	1	08/25/17 12:08	08/28/17 18:56	1718-51-0	
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Benzene	ND	ug/kg	4.5	1	08/23/17 12:13	08/23/17 19:44	71-43-2	
Ethylbenzene	ND	ug/kg	4.5	1	08/23/17 12:13	08/23/17 19:44	100-41-4	
Toluene	ND	ug/kg	4.5	1	08/23/17 12:13	08/23/17 19:44	108-88-3	
Xylene (Total)	ND	ug/kg	13.6	1	08/23/17 12:13	08/23/17 19:44	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	99	%.	72-146	1	08/23/17 12:13	08/23/17 19:44	17060-07-0	
Toluene-d8 (S)	100	%.	75-125	1	08/23/17 12:13	08/23/17 19:44	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Sample: SO-070496-081717-JRL-SOUTHWALL **Lab ID: 10400287008** Collected: 08/17/17 12:15 Received: 08/19/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5035 Low Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035 Low							
Surrogates								
4-Bromofluorobenzene (S)	105	%.	75-132	1	08/23/17 12:13	08/23/17 19:44	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 494245 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Solid GCV
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

METHOD BLANK: 2688040 Matrix: Solid
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	mg/kg	ND	5.0	08/31/17 23:37	
a,a,a-Trifluorotoluene (S)	%.	74	50-150	08/31/17 23:37	

LABORATORY CONTROL SAMPLE & LCSD: 2688042 2688043

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	mg/kg	50	42.6	43.5	85	87	45-125	2	20	
a,a,a-Trifluorotoluene (S)	%.				84	96	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 493842 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

SAMPLE DUPLICATE: 2686186

Parameter	Units	10400753001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.9	11.9	0	30	

SAMPLE DUPLICATE: 2686187

Parameter	Units	10400784009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.6	11.7	10	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 492931 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035 Low Analysis Description: 8260B MSV 5035 Low Level
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

METHOD BLANK: 2681883 Matrix: Solid
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	4.0	08/23/17 14:06	
Ethylbenzene	ug/kg	ND	4.0	08/23/17 14:06	
Toluene	ug/kg	ND	4.0	08/23/17 14:06	
Xylene (Total)	ug/kg	ND	12.0	08/23/17 14:06	
1,2-Dichloroethane-d4 (S)	%.	104	72-146	08/23/17 14:06	
4-Bromofluorobenzene (S)	%.	102	75-132	08/23/17 14:06	
Toluene-d8 (S)	%.	105	75-125	08/23/17 14:06	

LABORATORY CONTROL SAMPLE & LCSD: 2681884 2681885

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Benzene	ug/kg	20	21.4	21.2	107	106	75-125	1	20	
Ethylbenzene	ug/kg	20	21.1	20.9	105	104	76-125	1	20	
Toluene	ug/kg	20	21.0	21.5	105	107	75-125	2	20	
Xylene (Total)	ug/kg	60	61.1	62.7	102	105	77-125	3	20	
1,2-Dichloroethane-d4 (S)	%.				102	103	72-146			
4-Bromofluorobenzene (S)	%.				100	99	75-132			
Toluene-d8 (S)	%.				100	101	75-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 494119 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10400287003

METHOD BLANK: 2687484 Matrix: Solid
Associated Lab Samples: 10400287003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/kg	ND	50.0	08/30/17 13:53	
Toluene	ug/kg	ND	50.0	08/30/17 13:53	
1,2-Dichloroethane-d4 (S)	%.	100	75-125	08/30/17 13:53	
4-Bromofluorobenzene (S)	%.	99	75-125	08/30/17 13:53	
Toluene-d8 (S)	%.	99	75-125	08/30/17 13:53	

LABORATORY CONTROL SAMPLE & LCSD: 2687485 2687486

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/kg	1000	993	990	99	99	65-125	0	20	
Toluene	ug/kg	1000	912	890	91	89	67-125	2	20	
1,2-Dichloroethane-d4 (S)	%.				101	99	75-125			
4-Bromofluorobenzene (S)	%.				100	102	75-125			
Toluene-d8 (S)	%.				101	101	75-125			

MATRIX SPIKE SAMPLE: 2687487

Parameter	Units	10400784006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/kg	ND	1100	1170	106	58-150	
Toluene	ug/kg	ND	1100	1060	96	60-150	
1,2-Dichloroethane-d4 (S)	%.				98	75-125	
4-Bromofluorobenzene (S)	%.				102	75-125	
Toluene-d8 (S)	%.				101	75-125	

SAMPLE DUPLICATE: 2687488

Parameter	Units	10400784007 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	ug/kg	ND	ND		30	
Toluene	ug/kg	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	101	102	4		
4-Bromofluorobenzene (S)	%.	99	100	3		
Toluene-d8 (S)	%.	100	99	2		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 493362 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3550 Analysis Description: 8270D Solid PAH by SIM MSSV
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

METHOD BLANK: 2683967 Matrix: Solid
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/kg	ND	10.0	08/28/17 12:14	
2-Methylnaphthalene	ug/kg	ND	10.0	08/28/17 12:14	
Acenaphthene	ug/kg	ND	10.0	08/28/17 12:14	
Acenaphthylene	ug/kg	ND	10.0	08/28/17 12:14	
Anthracene	ug/kg	ND	10.0	08/28/17 12:14	
Benzo(a)anthracene	ug/kg	ND	10.0	08/28/17 12:14	
Benzo(a)pyrene	ug/kg	ND	10.0	08/28/17 12:14	
Benzo(b)fluoranthene	ug/kg	ND	10.0	08/28/17 12:14	
Benzo(g,h,i)perylene	ug/kg	ND	10.0	08/28/17 12:14	
Benzo(k)fluoranthene	ug/kg	ND	10.0	08/28/17 12:14	
Chrysene	ug/kg	ND	10.0	08/28/17 12:14	
Dibenz(a,h)anthracene	ug/kg	ND	10.0	08/28/17 12:14	
Fluoranthene	ug/kg	ND	10.0	08/28/17 12:14	
Fluorene	ug/kg	ND	10.0	08/28/17 12:14	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	10.0	08/28/17 12:14	
Naphthalene	ug/kg	ND	10.0	08/28/17 12:14	
Phenanthrene	ug/kg	ND	10.0	08/28/17 12:14	
Pyrene	ug/kg	ND	10.0	08/28/17 12:14	
2-Fluorobiphenyl (S)	%.	77	47-125	08/28/17 12:14	
p-Terphenyl-d14 (S)	%.	85	55-125	08/28/17 12:14	

LABORATORY CONTROL SAMPLE: 2683968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/kg	33.3	27.1	81	48-125	
2-Methylnaphthalene	ug/kg	33.3	25.7	77	50-125	
Acenaphthene	ug/kg	33.3	24.4	73	54-125	
Acenaphthylene	ug/kg	33.3	23.6	71	54-125	
Anthracene	ug/kg	33.3	27.5	83	67-125	
Benzo(a)anthracene	ug/kg	33.3	27.7	83	55-125	
Benzo(a)pyrene	ug/kg	33.3	31.0	93	71-125	
Benzo(b)fluoranthene	ug/kg	33.3	29.1	87	60-125	
Benzo(g,h,i)perylene	ug/kg	33.3	30.5	92	66-125	
Benzo(k)fluoranthene	ug/kg	33.3	30.9	93	75-125	
Chrysene	ug/kg	33.3	29.1	87	73-125	
Dibenz(a,h)anthracene	ug/kg	33.3	33.3	100	67-125	
Fluoranthene	ug/kg	33.3	29.3	88	69-125	
Fluorene	ug/kg	33.3	24.6	74	60-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

LABORATORY CONTROL SAMPLE: 2683968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Indeno(1,2,3-cd)pyrene	ug/kg	33.3	32.2	96	69-125	
Naphthalene	ug/kg	33.3	24.6	74	53-125	
Phenanthrene	ug/kg	33.3	27.0	81	59-125	
Pyrene	ug/kg	33.3	27.1	81	66-125	
2-Fluorobiphenyl (S)	%.			77	47-125	
p-Terphenyl-d14 (S)	%.			85	55-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2683969 2683970

Parameter	Units	10400740001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/kg	17.2	45	45	86.1	44.6	153	61	35-125	64	30	M1,R1
2-Methylnaphthalene	ug/kg	14.6	45	45	85.7	43.5	158	64	30-135	65	30	M1,R1
Acenaphthene	ug/kg	0.030 mg/kg	45	45	142	39.3	249	21	30-141	113	30	M1,R1
Acenaphthylene	ug/kg	0.025 mg/kg	45	45	61.2	39.4	81	33	30-130	43	30	R1
Anthracene	ug/kg	0.10 mg/kg	45	45	283	55.4	404	-102	43-136	135	30	M1,R1
Benzo(a)anthracene	ug/kg	0.26 mg/kg	45	45	408	97.8	327	-361	30-150	123	30	M1,R1
Benzo(a)pyrene	ug/kg	0.27 mg/kg	45	45	381	102	241	-379	30-150	116	30	M1,R1
Benzo(b)fluoranthene	ug/kg	0.32 mg/kg	45	45	449	121	280	-449	30-150	115	30	M1,R1
Benzo(g,h,i)perylene	ug/kg	0.16 mg/kg	45	45	222	76.9	143	-180	30-150	97	30	M1,R1
Benzo(k)fluoranthene	ug/kg	0.15 mg/kg	45	45	211	69.4	143	-171	30-150	101	30	M1,R1
Chrysene	ug/kg	0.27 mg/kg	45	45	395	100	274	-381	32-150	119	30	M1,R1
Dibenz(a,h)anthracene	ug/kg	0.069 mg/kg	45	45	94.7	55.8	58	-29	30-150	52	30	M1,R1
Fluoranthene	ug/kg	0.59 mg/kg	45	45	871	153	629	-964	30-150	140	30	E,M1,R1
Fluorene	ug/kg	0.031 mg/kg	45	45	151	40.2	267	21	30-142	116	30	M1,R1
Indeno(1,2,3-cd)pyrene	ug/kg	0.16 mg/kg	45	45	228	76.3	156	-180	30-150	100	30	M1,R1
Naphthalene	ug/kg	0.014 mg/kg	45	45	89.2	39.7	167	57	30-150	77	30	M1,R1
Phenanthrene	ug/kg	0.41 mg/kg	45	45	837	95.9	942	-704	30-150	159	30	E,M1,R1
Pyrene	ug/kg	0.50 mg/kg	45	45	722	132	503	-807	30-150	138	30	E,M1,R1
2-Fluorobiphenyl (S)	%.						77	76	47-125			
p-Terphenyl-d14 (S)	%.						77	81	55-125			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(612)607-1700

QUALITY CONTROL DATA

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

QC Batch: 493090 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3550 Analysis Description: NWTPH-Dx GCS
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

METHOD BLANK: 2682596 Matrix: Solid
Associated Lab Samples: 10400287001, 10400287002, 10400287003, 10400287004, 10400287005, 10400287006, 10400287007, 10400287008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range	mg/kg	ND	15.0	09/01/17 08:36	
Motor Oil Range	mg/kg	ND	10.0	09/01/17 08:36	
n-Triacontane (S)	%.	66	50-150	09/01/17 08:36	
o-Terphenyl (S)	%.	77	50-150	09/01/17 08:36	

LABORATORY CONTROL SAMPLE: 2682597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel Range	mg/kg	50	45.3	91	50-150	
Motor Oil Range	mg/kg	50	52.8	106	50-150	
n-Triacontane (S)	%.			81	50-150	
o-Terphenyl (S)	%.			83	50-150	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2682598 2682599

Parameter	Units	10400287001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel Range	mg/kg	ND	99.7	101	83.2	98.5	68	82	50-150	17	30	
Motor Oil Range	mg/kg	76.7	99.7	101	159	214	82	136	50-150	30	30	
n-Triacontane (S)	%.						57	65	50-150			
o-Terphenyl (S)	%.						50	59	50-150			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 10400287

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: 493903

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

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(612)607-1700

METHOD CROSS REFERENCE TABLE

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B
8260B MSV 5035 Low Level	Solid	SW-846 8260B	SW-846 5035A/5030B

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10400287001	SO-070496-081717-JRL-Bottom 1	EPA 3550	493090	NWTPH-Dx	494589
10400287002	SO-070496-081717-JRL-Bottom 2	EPA 3550	493090	NWTPH-Dx	494589
10400287003	SO-070496-081717-JRL-NORTHWALL	EPA 3550	493090	NWTPH-Dx	494589
10400287004	SO-070496-081717-JRL-Bottom 4	EPA 3550	493090	NWTPH-Dx	494589
10400287005	SO-070496-081717-JRL-Bottom 3	EPA 3550	493090	NWTPH-Dx	494589
10400287006	SO-070496-081717-JRL-EASTWALL	EPA 3550	493090	NWTPH-Dx	494589
10400287007	SO-070496-081717-JRL-WESTWALL	EPA 3550	493090	NWTPH-Dx	494589
10400287008	SO-070496-081717-JRL-SOUTHWALL	EPA 3550	493090	NWTPH-Dx	494589
10400287001	SO-070496-081717-JRL-Bottom 1	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287002	SO-070496-081717-JRL-Bottom 2	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287003	SO-070496-081717-JRL-NORTHWALL	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287004	SO-070496-081717-JRL-Bottom 4	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287005	SO-070496-081717-JRL-Bottom 3	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287006	SO-070496-081717-JRL-EASTWALL	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287007	SO-070496-081717-JRL-WESTWALL	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287008	SO-070496-081717-JRL-SOUTHWALL	NWTPH-Gx	494245	NWTPH-Gx	494484
10400287001	SO-070496-081717-JRL-Bottom 1	ASTM D2974	493842		
10400287002	SO-070496-081717-JRL-Bottom 2	ASTM D2974	493842		
10400287003	SO-070496-081717-JRL-NORTHWALL	ASTM D2974	493842		
10400287004	SO-070496-081717-JRL-Bottom 4	ASTM D2974	493842		
10400287005	SO-070496-081717-JRL-Bottom 3	ASTM D2974	493842		
10400287006	SO-070496-081717-JRL-EASTWALL	ASTM D2974	493842		
10400287007	SO-070496-081717-JRL-WESTWALL	ASTM D2974	493842		
10400287008	SO-070496-081717-JRL-SOUTHWALL	ASTM D2974	493842		
10400287001	SO-070496-081717-JRL-Bottom 1	EPA 3550	493362	EPA 8270D by SIM	493676
10400287002	SO-070496-081717-JRL-Bottom 2	EPA 3550	493362	EPA 8270D by SIM	493676
10400287003	SO-070496-081717-JRL-NORTHWALL	EPA 3550	493362	EPA 8270D by SIM	493676
10400287004	SO-070496-081717-JRL-Bottom 4	EPA 3550	493362	EPA 8270D by SIM	493676
10400287005	SO-070496-081717-JRL-Bottom 3	EPA 3550	493362	EPA 8270D by SIM	493676
10400287006	SO-070496-081717-JRL-EASTWALL	EPA 3550	493362	EPA 8270D by SIM	493676
10400287007	SO-070496-081717-JRL-WESTWALL	EPA 3550	493362	EPA 8270D by SIM	493676
10400287008	SO-070496-081717-JRL-SOUTHWALL	EPA 3550	493362	EPA 8270D by SIM	493676
10400287001	SO-070496-081717-JRL-Bottom 1	EPA 5035 Low	492931	EPA 8260B	493903
10400287002	SO-070496-081717-JRL-Bottom 2	EPA 5035 Low	492931	EPA 8260B	493903
10400287003	SO-070496-081717-JRL-NORTHWALL	EPA 5035 Low	492931	EPA 8260B	493903

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 070496.17 Renton Terminal
Pace Project No.: 10400287

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10400287004	**SO-070496-081717-JRL-Bottom 4**	EPA 5035 Low	492931	EPA 8260B	493903
10400287005	**SO-070496-081717-JRL-Bottom 3**	EPA 5035 Low	492931	EPA 8260B	493903
10400287006	**SO-070496-081717-JRL-EASTWALL**	EPA 5035 Low	492931	EPA 8260B	493903
10400287007	**SO-070496-081717-JRL-WESTWALL**	EPA 5035 Low	492931	EPA 8260B	493903
10400287008	**SO-070496-081717-JRL-SOUTHWALL**	EPA 5035 Low	492931	EPA 8260B	493903
10400287003	**SO-070496-081717-JRL-NORTHWALL**	EPA 5035/5030B	494119	EPA 8260B	494384

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10400287

Page: 1 of 1

2135116

Section A Required Client Information:

Company:	GHD
Address:	20818 44TH AVE WEST LYNNWOOD, WA 98036
Email To:	CHRISTINA.MCCLELLAND@GHD.COM
Phone:	(804) 237-0305 Fax:
Requested Due Date/TAT:	STANDARD

Section B Required Project Information:

Report To:	CHRISTINA MCCLELLAND
Copy To:	JEFF.GARDNER@GHD.COM
Purchase Order No.:	GHD.COM
Project Name:	RENTON TERMINAL SITE 190
Project Number:	070496.17

Section C Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jenni Gross
Pace Profile #:	37945 / 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes — MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	NWTPH-Gx	NWTPH-Dx	BTEX	cPAHs	NAPHTHALENES	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SO-070496-081717-JLL-BOTTOM 1	SL	G	8-17-17			0915		6	X									X	X	X	X	X		001
2	SO-070496-081717-JLL-BOTTOM 2						0945		6	X									X	X	X	X	X		002
3	SO-070496-081717-JLL-NORTHWALL						1100		6	X									X	X	X	X	X		003
4	SO-070496-081717-JLL-BOTTOM 4						1120		6	X									X	X	X	X	X		004
5	SO-070496-081717-JLL-BOTTOM 3						1140		6	X									X	X	X	X	X		005
6	SO-070496-081717-JLL-EASTWALL						1150		6	X									X	X	X	X	X		006
7	SO-070496-081717-JLL-WESTWALL						1155		6	X									X	X	X	X	X		007
8	SO-070496-081717-JLL-SOUTH WALL	V	V	V			1215		6	X									X	X	X	X	X		008
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	GHD	8-18-17	1300	Jenni Gross / Pace	8/18/17	13:00	3.0	Y	N	Y
	Jenni Gross / Pace	8/18/17	13:10	PACE	8-19-17	10:00	-0.1	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JOE LEWANDOWSKI

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 08-17-17

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Dec2016 Page 1 of 2
	Document No.: **F-MN-L-213-rev.20**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD (BC 8-19-17) ATC Group Services **Project #:**

WO# : 10400287

10400287

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:
Tracking Number: 7448 1032 5687

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermometer Used: ☒ 151401163 ☐ 151401164 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.0 **Cooler Temp Corrected (°C):** -0.1 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A
Temp should be above freezing to 6°C **Correction Factor:** -0.1 **Date and Initials of Person Examining Contents:** BC 8-19-17

USDA Regulated Soil (☐ N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No
Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☒ Yes	☐ No		1.
Chain of Custody Filled Out?	☒ Yes	☐ No		2.
Chain of Custody Relinquished?	☒ Yes	☐ No		3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No		5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		6.
Rush Turn Around Time Requested?	☐ Yes	☒ No		7.
Sufficient Volume?	☒ Yes	☐ No		8.
Correct Containers Used?	☒ Yes	☐ No		9.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: SL	☒ Yes	☐ No		12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☐ Yes	☐ No	☒ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Christina McClelland Date/Time: 08/21/17

Comments/Resolution: Okay to proceed with analysis out of temperature.

Project Manager Review: JMG for Amanda Albrecht **Date:** 08/21/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical	Document Name: Cooler Transfer Check List	Revised Date: 23Apr2013 Page 1 of 1
	Document Number: F-MN-C-120-rev.01	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: GHD-COP

Project Manager: Jenni Gross

Profile/Line #: 37945

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	2.8	3.0	+0.2

IR Gun # (IR1 - Q281) IR2 - 122065284

☐ **Samples on ice, cooling process has begun**

Rush/Short Hold: NO

Containers Intact: (Yes) No

Re-packed and Re-Iced: /

Temp Blank Included: (Yes) No

Shipped By/Date: MD 6-16-17

Notes:

Ship to: (Pace MN) Pace Davis

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

March 01, 2018

Christina McClelland
GHD Services, Inc.
20818 44th Ave W
Suite 190
Lynnwood, WA 98036

RE: Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Dear Christina McClelland:
Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Eric Maise, GHD Services Inc.
Accounts Payable, GHD_Conoco Phillips

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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CERTIFICATIONS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #:MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10421077001	**W-070496-021618-JRL-POND-1**	Water	02/16/18 10:45	02/17/18 09:10
10421077002	**W-070496-021618-JRL-POND-2**	Water	02/16/18 10:55	02/17/18 09:10
10421077003	**W-070496-021618-JRL-POND-3**	Water	02/16/18 11:10	02/17/18 09:10
10421077004	**Trip Blank**	Water	02/16/18 00:00	02/17/18 09:10

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SAMPLE ANALYTE COUNT

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10421077001	**W-070496-021618-JRL-POND-1**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270D by SIM	STB	21	PASI-M
		EPA 8260B	AEZ	7	PASI-M
10421077002	**W-070496-021618-JRL-POND-2**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270D by SIM	STB	21	PASI-M
		EPA 8260B	AEZ	7	PASI-M
10421077003	**W-070496-021618-JRL-POND-3**	NWTPH-Dx	EC2	4	PASI-M
		NWTPH-Gx	AJR	2	PASI-M
		EPA 6020A	RJS	2	PASI-M
		EPA 8270D by SIM	STB	21	PASI-M
		EPA 8260B	AEZ	7	PASI-M
10421077004	**Trip Blank**	EPA 8260B	AEZ	7	PASI-M

Pace Analytical Services, LLC
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(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-1 **Lab ID: 10421077001** Collected: 02/16/18 10:45 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range SG	**0.44**	mg/L	0.40	1	02/19/18 13:56	02/21/18 09:36	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	1	02/19/18 13:56	02/21/18 09:36	64742-65-0	
Surrogates								
o-Terphenyl (S)	81	%.	50-150	1	02/19/18 13:56	02/21/18 09:36	84-15-1	
n-Triacontane (S)	83	%.	50-150	1	02/19/18 13:56	02/21/18 09:36	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**11700**	ug/L	1000	10		02/28/18 14:30		
Surrogates								
a,a,a-Trifluorotoluene (S)	89	%.	50-150	10		02/28/18 14:30	98-08-8	
6020A MET ICPMS, Lab Filtered	Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Arsenic, Dissolved	**1.3**	ug/L	0.50	1	02/20/18 09:52	02/22/18 00:41	7440-38-2	
Lead, Dissolved	ND	ug/L	0.10	1	02/20/18 09:52	02/22/18 00:41	7439-92-1	
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA Mod. 3510C							
1-Methylnaphthalene	**1.4**	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	90-12-0	
2-Methylnaphthalene	**0.98**	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	91-57-6	
Acenaphthene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	83-32-9	
Acenaphthylene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	208-96-8	
Anthracene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	207-08-9	
Chrysene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	53-70-3	
Dibenzofuran	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	132-64-9	
Fluoranthene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	206-44-0	
Fluorene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	193-39-5	
Naphthalene	**22.0**	ug/L	0.21	5	02/19/18 13:54	02/20/18 15:52	91-20-3	
Phenanthrene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	85-01-8	
Pyrene	ND	ug/L	0.041	1	02/19/18 13:54	02/20/18 14:30	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	61	%.	30-145	1	02/19/18 13:54	02/20/18 14:30	321-60-8	
p-Terphenyl-d14 (S)	74	%.	30-149	1	02/19/18 13:54	02/20/18 14:30	1718-51-0	
8260B VOC	Analytical Method: EPA 8260B							
Benzene	**735**	ug/L	5.0	5		02/24/18 09:35	71-43-2	
Ethylbenzene	**24.8**	ug/L	5.0	5		02/24/18 09:35	100-41-4	
Toluene	**1660**	ug/L	10.0	10		02/24/18 09:11	108-88-3	
Xylene (Total)	**1500**	ug/L	15.0	5		02/24/18 09:35	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	86	%.	75-125	5		02/24/18 09:35	17060-07-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-1 **Lab ID: 10421077001** Collected: 02/16/18 10:45 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B VOC	Analytical Method: EPA 8260B							
Surrogates								
Toluene-d8 (S)	92	%.	75-125	5		02/24/18 09:35	2037-26-5	
4-Bromofluorobenzene (S)	93	%.	75-125	5		02/24/18 09:35	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-2 **Lab ID: 10421077002** Collected: 02/16/18 10:55 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range SG	ND	mg/L	0.40	1	02/19/18 13:56	02/21/18 09:47	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	1	02/19/18 13:56	02/21/18 09:47	64742-65-0	
Surrogates								
o-Terphenyl (S)	81	%.	50-150	1	02/19/18 13:56	02/21/18 09:47	84-15-1	
n-Triacontane (S)	83	%.	50-150	1	02/19/18 13:56	02/21/18 09:47	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	**357**	ug/L	100	1		02/28/18 14:13		
Surrogates								
a,a,a-Trifluorotoluene (S)	98	%.	50-150	1		02/28/18 14:13	98-08-8	
6020A MET ICPMS, Lab Filtered	Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Arsenic, Dissolved	**1.0**	ug/L	0.50	1	02/20/18 09:52	02/22/18 00:54	7440-38-2	
Lead, Dissolved	**0.11**	ug/L	0.10	1	02/20/18 09:52	02/22/18 00:54	7439-92-1	
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA Mod. 3510C							
1-Methylnaphthalene	**0.18**	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	91-57-6	
Acenaphthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	208-96-8	
Anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	207-08-9	
Chrysene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	53-70-3	
Dibenzofuran	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	132-64-9	
Fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	206-44-0	
Fluorene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	193-39-5	
Naphthalene	**0.43**	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	85-01-8	
Pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 14:50	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	61	%.	30-145	1	02/19/18 13:54	02/20/18 14:50	321-60-8	
p-Terphenyl-d14 (S)	72	%.	30-149	1	02/19/18 13:54	02/20/18 14:50	1718-51-0	
8260B VOC	Analytical Method: EPA 8260B							
Benzene	**27.5**	ug/L	1.0	1		02/24/18 04:25	71-43-2	
Ethylbenzene	**3.1**	ug/L	1.0	1		02/24/18 04:25	100-41-4	
Toluene	**32.4**	ug/L	1.0	1		02/24/18 04:25	108-88-3	
Xylene (Total)	**33.7**	ug/L	3.0	1		02/24/18 04:25	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%.	75-125	1		02/24/18 04:25	17060-07-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-2 **Lab ID: 10421077002** Collected: 02/16/18 10:55 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B VOC	Analytical Method: EPA 8260B							
Surrogates								
Toluene-d8 (S)	92	%.	75-125	1		02/24/18 04:25	2037-26-5	
4-Bromofluorobenzene (S)	94	%.	75-125	1		02/24/18 04:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-3 **Lab ID: 10421077003** Collected: 02/16/18 11:10 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
NWTPH-Dx GCS Silica Gel LV	Analytical Method: NWTPH-Dx Preparation Method: EPA Mod. 3510C							
Diesel Fuel Range SG	ND	mg/L	0.40	1	02/19/18 13:56	02/21/18 10:20	68334-30-5	
Motor Oil Range SG	ND	mg/L	0.40	1	02/19/18 13:56	02/21/18 10:20	64742-65-0	
Surrogates								
o-Terphenyl (S)	78	%.	50-150	1	02/19/18 13:56	02/21/18 10:20	84-15-1	
n-Triacontane (S)	77	%.	50-150	1	02/19/18 13:56	02/21/18 10:20	638-68-6	
NWTPH-Gx GCV	Analytical Method: NWTPH-Gx							
TPH as Gas	ND	ug/L	100	1		03/01/18 09:57		
Surrogates								
a,a,a-Trifluorotoluene (S)	88	%.	50-150	1		03/01/18 09:57	98-08-8	
6020A MET ICPMS, Lab Filtered	Analytical Method: EPA 6020A Preparation Method: EPA 3020							
Arsenic, Dissolved	**0.97**	ug/L	0.50	1	02/20/18 09:52	02/22/18 00:57	7440-38-2	
Lead, Dissolved	**0.14**	ug/L	0.10	1	02/20/18 09:52	02/22/18 00:57	7439-92-1	
8270D MSSV PAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA Mod. 3510C							
1-Methylnaphthalene	**0.11**	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	90-12-0	
2-Methylnaphthalene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	91-57-6	
Acenaphthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	83-32-9	
Acenaphthylene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	208-96-8	
Anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	120-12-7	
Benzo(a)anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	56-55-3	
Benzo(a)pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	207-08-9	
Chrysene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	53-70-3	
Dibenzofuran	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	132-64-9	
Fluoranthene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	206-44-0	
Fluorene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	86-73-7	
Indeno(1,2,3-cd)pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	193-39-5	
Naphthalene	**0.19**	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	91-20-3	
Phenanthrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	85-01-8	
Pyrene	ND	ug/L	0.043	1	02/19/18 13:54	02/20/18 15:11	129-00-0	
Surrogates								
2-Fluorobiphenyl (S)	60	%.	30-145	1	02/19/18 13:54	02/20/18 15:11	321-60-8	
p-Terphenyl-d14 (S)	73	%.	30-149	1	02/19/18 13:54	02/20/18 15:11	1718-51-0	
8260B VOC	Analytical Method: EPA 8260B							
Benzene	**1.9**	ug/L	1.0	1		02/24/18 04:01	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		02/24/18 04:01	100-41-4	
Toluene	**2.2**	ug/L	1.0	1		02/24/18 04:01	108-88-3	
Xylene (Total)	**4.7**	ug/L	3.0	1		02/24/18 04:01	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	90	%.	75-125	1		02/24/18 04:01	17060-07-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: W-070496-021618-JRL-POND-3 **Lab ID: 10421077003** Collected: 02/16/18 11:10 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B VOC	Analytical Method: EPA 8260B							
Surrogates								
Toluene-d8 (S)	94	%.	75-125	1		02/24/18 04:01	2037-26-5	
4-Bromofluorobenzene (S)	91	%.	75-125	1		02/24/18 04:01	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Sample: Trip Blank **Lab ID: 10421077004** Collected: 02/16/18 00:00 Received: 02/17/18 09:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260B VOC	Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	1		02/24/18 01:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		02/24/18 01:38	100-41-4	
Toluene	ND	ug/L	1.0	1		02/24/18 01:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		02/24/18 01:38	1330-20-7	
Surrogates								
1,2-Dichloroethane-d4 (S)	89	%.	75-125	1		02/24/18 01:38	17060-07-0	
Toluene-d8 (S)	93	%.	75-125	1		02/24/18 01:38	2037-26-5	
4-Bromofluorobenzene (S)	90	%.	75-125	1		02/24/18 01:38	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 524962 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10421077001, 10421077002

METHOD BLANK: 2848982 Matrix: Water
Associated Lab Samples: 10421077001, 10421077002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	02/28/18 12:59	
a,a,a-Trifluorotoluene (S)	%.	90	50-150	02/28/18 12:59	

LABORATORY CONTROL SAMPLE & LCSD: 2848983 2848984

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1080	1020	108	102	41-137	6	20	
a,a,a-Trifluorotoluene (S)	%.				98	99	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 525295 Analysis Method: NWTPH-Gx
QC Batch Method: NWTPH-Gx Analysis Description: NWTPH-Gx Water
Associated Lab Samples: 10421077003

METHOD BLANK: 2850574 Matrix: Water
Associated Lab Samples: 10421077003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
TPH as Gas	ug/L	ND	100	03/01/18 09:40	
a,a,a-Trifluorotoluene (S)	%.	90	50-150	03/01/18 09:40	

LABORATORY CONTROL SAMPLE & LCSD: 2850575 2850576

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
TPH as Gas	ug/L	1000	1100	1110	110	111	41-137	1	20	
a,a,a-Trifluorotoluene (S)	%.				96	98	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 523788 Analysis Method: EPA 6020A
QC Batch Method: EPA 3020 Analysis Description: 6020A Water Dissolved UPD4
Associated Lab Samples: 10421077001, 10421077002, 10421077003

METHOD BLANK: 2843203 Matrix: Water
Associated Lab Samples: 10421077001, 10421077002, 10421077003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic, Dissolved	ug/L	ND	0.50	02/22/18 00:35	
Lead, Dissolved	ug/L	ND	0.10	02/22/18 00:35	

LABORATORY CONTROL SAMPLE: 2843204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	100	108	108	80-120	
Lead, Dissolved	ug/L	100	110	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2843205 2843206

Parameter	Units	10421077001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	ug/L	1.3	100	100	111	108	110	107	75-125	3	20	
Lead, Dissolved	ug/L	ND	100	100	108	106	108	106	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 524191 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV 465 W
Associated Lab Samples: 10421077001, 10421077002, 10421077003, 10421077004

METHOD BLANK: 2845129 Matrix: Water
Associated Lab Samples: 10421077001, 10421077002, 10421077003, 10421077004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	02/24/18 01:14	
Ethylbenzene	ug/L	ND	1.0	02/24/18 01:14	
Toluene	ug/L	ND	1.0	02/24/18 01:14	
Xylene (Total)	ug/L	ND	3.0	02/24/18 01:14	
1,2-Dichloroethane-d4 (S)	%.	89	75-125	02/24/18 01:14	
4-Bromofluorobenzene (S)	%.	92	75-125	02/24/18 01:14	
Toluene-d8 (S)	%.	92	75-125	02/24/18 01:14	

LABORATORY CONTROL SAMPLE: 2845130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.7	103	75-126	
Ethylbenzene	ug/L	20	22.0	110	75-125	
Toluene	ug/L	20	20.8	104	74-125	
Xylene (Total)	ug/L	60	64.7	108	75-125	
1,2-Dichloroethane-d4 (S)	%.			88	75-125	
4-Bromofluorobenzene (S)	%.			93	75-125	
Toluene-d8 (S)	%.			95	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2845131 2845132

Parameter	Units	10421077003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	1.9	20	20	20.3	20.9	92	95	62-140	3	30	
Ethylbenzene	ug/L	ND	20	20	20.0	20.7	98	102	75-131	3	30	
Toluene	ug/L	2.2	20	20	20.7	21.1	92	94	68-132	2	30	
Xylene (Total)	ug/L	4.7	60	60	64.5	65.1	100	101	69-135	1	30	
1,2-Dichloroethane-d4 (S)	%.						88	89	75-125			
4-Bromofluorobenzene (S)	%.						92	93	75-125			
Toluene-d8 (S)	%.						91	92	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 523700 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA Mod. 3510C Analysis Description: 8270D PAH by SIM MSSV
Associated Lab Samples: 10421077001, 10421077002, 10421077003

METHOD BLANK: 2842974 Matrix: Water
Associated Lab Samples: 10421077001, 10421077002, 10421077003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	ND	0.040	02/20/18 11:24	
2-Methylnaphthalene	ug/L	ND	0.040	02/20/18 11:24	
Acenaphthene	ug/L	ND	0.040	02/20/18 11:24	
Acenaphthylene	ug/L	ND	0.040	02/20/18 11:24	
Anthracene	ug/L	ND	0.040	02/20/18 11:24	
Benzo(a)anthracene	ug/L	ND	0.040	02/20/18 11:24	
Benzo(a)pyrene	ug/L	ND	0.040	02/20/18 11:24	
Benzo(b)fluoranthene	ug/L	ND	0.040	02/20/18 11:24	
Benzo(g,h,i)perylene	ug/L	ND	0.040	02/20/18 11:24	
Benzo(k)fluoranthene	ug/L	ND	0.040	02/20/18 11:24	
Chrysene	ug/L	ND	0.040	02/20/18 11:24	
Dibenz(a,h)anthracene	ug/L	ND	0.040	02/20/18 11:24	
Dibenzofuran	ug/L	ND	0.040	02/20/18 11:24	
Fluoranthene	ug/L	ND	0.040	02/20/18 11:24	
Fluorene	ug/L	ND	0.040	02/20/18 11:24	
Indeno(1,2,3-cd)pyrene	ug/L	ND	0.040	02/20/18 11:24	
Naphthalene	ug/L	ND	0.040	02/20/18 11:24	
Phenanthrene	ug/L	ND	0.040	02/20/18 11:24	
Pyrene	ug/L	ND	0.040	02/20/18 11:24	
2-Fluorobiphenyl (S)	%.	65	30-145	02/20/18 11:24	
p-Terphenyl-d14 (S)	%.	83	30-149	02/20/18 11:24	

LABORATORY CONTROL SAMPLE & LCSD: 2842975 2842976

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1-Methylnaphthalene	ug/L	1	0.86	0.93	86	93	46-125	9	20	
2-Methylnaphthalene	ug/L	1	0.76	0.84	76	84	48-125	10	20	
Acenaphthene	ug/L	1	0.66	0.77	66	77	50-125	15	20	
Acenaphthylene	ug/L	1	0.72	0.82	72	82	47-125	13	20	
Anthracene	ug/L	1	0.88	0.91	88	91	65-125	3	20	
Benzo(a)anthracene	ug/L	1	0.89	0.87	89	87	60-125	2	20	
Benzo(a)pyrene	ug/L	1	0.95	0.94	95	94	67-125	1	20	
Benzo(b)fluoranthene	ug/L	1	0.94	0.94	94	94	64-125	0	20	
Benzo(g,h,i)perylene	ug/L	1	0.86	0.85	86	85	53-125	1	20	
Benzo(k)fluoranthene	ug/L	1	0.85	0.85	85	85	61-125	0	20	
Chrysene	ug/L	1	0.86	0.84	86	84	68-125	2	20	
Dibenz(a,h)anthracene	ug/L	1	0.90	0.88	90	88	45-125	2	20	
Dibenzofuran	ug/L	1	0.65	0.75	65	75	47-125	15	20	
Fluoranthene	ug/L	1	0.90	0.91	90	91	73-125	1	20	
Fluorene	ug/L	1	0.75	0.84	75	84	53-125	11	20	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

LABORATORY CONTROL SAMPLE & LCSD: 2842975 2842976

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Indeno(1,2,3-cd)pyrene	ug/L	1	0.92	0.92	92	92	62-125	1	20	
Naphthalene	ug/L	1	0.70	0.76	70	76	46-125	8	20	
Phenanthrene	ug/L	1	0.79	0.80	79	80	66-125	1	20	
Pyrene	ug/L	1	0.86	0.86	86	86	65-125	1	20	
2-Fluorobiphenyl (S)	%.				66	78	30-145			
p-Terphenyl-d14 (S)	%.				83	83	30-149			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

QC Batch: 523836 Analysis Method: NWTPH-Dx
QC Batch Method: EPA Mod. 3510C Analysis Description: NWTPH-Dx GCS LV SG
Associated Lab Samples: 10421077001, 10421077002, 10421077003

METHOD BLANK: 2843356 Matrix: Water
Associated Lab Samples: 10421077001, 10421077002, 10421077003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel Range SG	mg/L	ND	0.40	02/21/18 08:07	
Motor Oil Range SG	mg/L	ND	0.40	02/21/18 08:07	
n-Triacontane (S)	%.	70	50-150	02/21/18 08:07	
o-Terphenyl (S)	%.	77	50-150	02/21/18 08:07	

LABORATORY CONTROL SAMPLE & LCSD: 2843357 2843358

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Fuel Range SG	mg/L	2	1.7	1.6	84	80	50-150	6	20	
Motor Oil Range SG	mg/L	2	1.6	1.5	79	77	50-150	3	20	
n-Triacontane (S)	%.				77	77	50-150			
o-Terphenyl (S)	%.				81	77	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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METHOD CROSS REFERENCE TABLE

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Parameter	Matrix	Analytical Method	Preparation Method
8260B VOC	Water	SW-846 8260B/5030B	N/A

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 070496.17 Renton Pond Sampling
Pace Project No.: 10421077

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10421077001	**W-070496-021618-JRL-POND-1**	EPA Mod. 3510C	523836	NWTPH-Dx	524045
10421077002	**W-070496-021618-JRL-POND-2**	EPA Mod. 3510C	523836	NWTPH-Dx	524045
10421077003	**W-070496-021618-JRL-POND-3**	EPA Mod. 3510C	523836	NWTPH-Dx	524045
10421077001	**W-070496-021618-JRL-POND-1**	NWTPH-Gx	524962		
10421077002	**W-070496-021618-JRL-POND-2**	NWTPH-Gx	524962		
10421077003	**W-070496-021618-JRL-POND-3**	NWTPH-Gx	525295		
10421077001	**W-070496-021618-JRL-POND-1**	EPA 3020	523788	EPA 6020A	524198
10421077002	**W-070496-021618-JRL-POND-2**	EPA 3020	523788	EPA 6020A	524198
10421077003	**W-070496-021618-JRL-POND-3**	EPA 3020	523788	EPA 6020A	524198
10421077001	**W-070496-021618-JRL-POND-1**	EPA Mod. 3510C	523700	EPA 8270D by SIM	523864
10421077002	**W-070496-021618-JRL-POND-2**	EPA Mod. 3510C	523700	EPA 8270D by SIM	523864
10421077003	**W-070496-021618-JRL-POND-3**	EPA Mod. 3510C	523700	EPA 8270D by SIM	523864
10421077001	**W-070496-021618-JRL-POND-1**	EPA 8260B	524191		
10421077002	**W-070496-021618-JRL-POND-2**	EPA 8260B	524191		
10421077003	**W-070496-021618-JRL-POND-3**	EPA 8260B	524191		
10421077004	**Trip Blank**	EPA 8260B	524191		

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CHAIN-OF-CUSTODY / Analytical Request Doc

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed a

WO# : 10421077

10421077

Section A
Required Client Information:

Company: GHD
Address: 20818 44th Ave Suite 190
Lynnwood, WA 98036
Email To: Christina.McClelland@ghd.com
Phone: Fax:
Requested Due Date/TAT: Standard

Section B
Required Project Information:

Report To: Christina McClelland
Copy To: Eric Maise
Purchase Order No.: 34024057
Project Name: Renton Pond Sampling
Project Number: 070496.17

Section C
Invoice Information:

Attention: Jeff Cloud
Company Name: GHD
Address:
Pace Quote Reference:
Pace Project Manager: Jenni Gross
Pace Profile #: 37428 12

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: WA

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Metals Dis 6020	PAH 8270	NWTPH-Gx	NWTPH-Dx	8260 BTEX	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	W-070496-021618-JRL-POND1	W	G	2/16	1045				11	X			X						X	X	X	X	X		001
2	W-070496-021618-JRL-POND2	W	G	2/16	1055				11	X			X						X	X	X	X	X		002
3	W-070496-021618-JRL-POND3	W	G	2/16	1110				11	X			X						X	X	X	X	X		003
4																									004
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Eric Maise GHD	2/16	1350	[signature] PACE	2-16-18	1350	2.0	Y	N	Y
				[signature] Pace	2/17/18	910	2.0	Y	Y	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Eric Maise
SIGNATURE of SAMPLER: Eric Maise
DATE Signed (MM/DD/YY): 02/16/18

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 14Dec2017 Page 1 of 2
	Document No.: **F-MN-L-213-rev.22**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: GHD

Project #: WO#: 10421077

PM: JMG Due Date: 03/02/18

CLIENT: GHD_COP

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 4249 3595 8924

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermometer Used: ☑ 151401163 ☐ G87A9155100842 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Cooler Temp Read (°C): 2.2 **Cooler Temp Corrected (°C):** 2.0 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** -0.2 **Date and Initials of Person Examining Contents:** 2/17/18 SG

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	☑ Yes ☐ No	1.
Chain of Custody Filled Out?	☑ Yes ☐ No	2.
Chain of Custody Relinquished?	☑ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☑ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☑ No	6.
Rush Turn Around Time Requested?	☐ Yes ☑ No	7.
Sufficient Volume?	☑ Yes ☐ No	8.
Correct Containers Used? -Pace Containers Used?	☑ Yes ☐ No ☑ Yes ☐ No	9.
Containers Intact?	☑ Yes ☐ No	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes ☑ No ☐ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes ☐ No	12.
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	☐ Yes ☐ No ☑ N/A ☐ Yes ☐ No ☑ N/A ☑ Yes ☐ No ☐ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH Positive for Res. Chlorine? Y N Sample # Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes ☑ No ☐ N/A	14.
Trip Blank Present?	☑ Yes ☐ No ☐ N/A	15.
Trip Blank Custody Seals Present?	☑ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): 142170		

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Jenni Gross **Date:** 02/20/18

Note: Whenever there is a discrepancy affecting North ples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect con

Pace Analytical®	Document Name: Cooler Transfer Check List	Revised Date: 19Jan2018 Page 1 of 1
	Document Number: F-MN-C-120-rev.02	Issuing Authority: Pace Minnesota Quality Office

Cooler Transfer Check List

Client: GHD-COP

Project Manager: Jenni Gross

Profile/Line #: 37428/2

Received with Custody Seal: Yes (No)

Custody Seal Intact: Yes No (NA)

	Temp Read	Corrected Temp	Correction Factor
Temperature C:	2.9	2.9	0.0

IR Gun # (IR1)-Q281 / IR2-122065284

☑ Samples on ice, cooling process has begun

Rush/Short Hold: NA

Containers Intact: (Yes) No

Re-packed and Re-Iced: ✓

Temp Blank Included: (Yes) No

Shipped By/Date: MD 2-16-18

Notes:

Appendix C
Disposal Documentation

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of
	WAD000641530	1	1

3. Generator's Mailing Address:
Phillips 66 Company
420 South Keeler
Bartlesville, OK 74003
4. Generator's Phone 562-290-1551

Generator's Site Address (If different than mailing):
Phillips 66 Company (Renton)
2423 Lind Avenue SW
Renton, WA 98055

A. Manifest Number: WMNA 070496-01
B. State Generator's ID:

5. Transporter 1 Company Name: CLEARCREEK CONTRACTORS
6. US EPA ID Number: WAH000043796
C. State Transporter's ID:
D. Transporter's Phone: 425-252-5800

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address:
WASTE MANAGEMENT (COLUMBIA RIDGE LF)
18177 CEDAR SPRINGS LANE
ARLINGTON, OR 97812
10. US EPA ID Number: ORD987173457
G. State Facility ID:
H. State Facility: 541-454-2030

GENERATOR

11. Description of Waste Materials	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. SOIL WM Profile # 111261WA	1	DT	20	Y	
b. WM Profile #					
c. WM Profile #					
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above
*ULTIMATE DISPOSAL TO WM COLUMBIA RIDGE LF VIA ALASKA STREET RECYCLE FACILITY

K. Disposal Location
Cell:
Level:
Grid:

15. Special Handling Instructions and Additional Information
GHD Project # 070496.17-12RM00

Purchase Order # 34006669 EMERGENCY CONTACT / PHONE NO.: 866-812-9565 (GHD)

16. GENERATOR'S CERTIFICATE:
I hereby certify that the above-described materials are not hazardous wastes as defined by CFR Part 261 or any applicable state law, have been fully and accurately described, classified and packaged and are in proper condition for transportation according to applicable regulations.

Printed Name	Signature "On behalf of" PLG	Month	Day	Year
Joe Lewandowski		08	17	17

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
CHAD Wagner		08	17	17

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

19. Certificate of Final Treatment/Disposal
I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

20. Facility Owner or Operator: Certification of receipt of non-hazardous materials covered by this manifest.

Printed Name	Signature	Month	Day	Year
CHAD				

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY
Blue- GENERATOR #2 COPY
Yellow- GENERATOR #1 COPY
Pink- FACILITY USE ONLY
Gold- TRANSPORTER #1 COPY

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of	
	WAD000641530	1	1	

GENERATOR

3. Generator's Mailing Address:	Generator's Site Address (if different than mailing):	A. Manifest Number	
Phillips 66 Company 420 South Keeler Bartlesville, OK 74003	Phillips 66 Company (Renton) 2423 Lind Avenue SW Renton, WA 98055	WMNA	070496-02
4. Generator's Phone 562-290-1551		B. State Generator's ID	

5. Transporter 1 Company Name	6. US EPA ID Number	
CLEARCREEK CONTRACTORS	WAH000043796	C. State Transporter's ID D. Transporter's Phone 425-252-5800
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	
WASTE MANAGEMENT (COLUMBIA RIDGE LF) 18177 CEDAR SPRINGS LANE ARLINGTON, OR 97812	ORD987173457	G. State Facility ID H. State Facility 541-454-2030

11. Description of Waste Materials	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. SOIL WM Profile # 111261WA	1	DT	20	Y	
b. WM Profile #					
c. WM Profile #					
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above	K. Disposal Location			
*ULTIMATE DISPOSAL TO WM COLUMBIA RIDGE LF VIA ALASKA STREET RECYCLE FACILITY	Cell		Level	
	Grid			

15. Special Handling Instructions and Additional Information
GHD Project # 070496.17-12RM00

Purchase Order # 34006669 EMERGENCY CONTACT / PHONE NO.: 866-812-9565 (GHD)

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Printed Name	Signature "On behalf of" P66	Month	Day	Year
Joe Lewandowski		08	17	17

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
X Justin Bartholomew		8	17	17

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

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Printed Name	Signature	Month	Day	Year

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY Blue- GENERATOR #2 COPY Yellow- GENERATOR #1 COPY

Pink- FACILITY USE ONLY Gold- TRANSPORTER #1 COPY

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of	
	WAD000641530	1	1	

3. Generator's Mailing Address:	Generator's Site Address (if different than mailing):	A. Manifest Number	
Phillips 66 Company 420 South Keeler Bartlesville, OK 74003 4. Generator's Phone 562-290-1551	Phillips 66 Company (Renton) 2423 Lind Avenue SW Renton, WA 98055	WMNA	070496-03
		B. State Generator's ID	

5. Transporter 1 Company Name	6. US EPA ID Number	
CLEARCREEK CONTRACTORS	WAH000043796	C. State Transporter's ID D. Transporter's Phone 425-252-5800
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone
9. Designated Facility Name and Site Address WASTE MANAGEMENT (COLUMBIA RIDGE LF) 18177 CEDAR SPRINGS LANE ARLINGTON, OR 97812	10. US EPA ID Number ORD987173457	G. State Facility ID H. State Facility 541-454-2030

GENERATOR

11. Description of Waste Materials	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. SOIL WM Profile # 111261WA	1	DT	20	Y	
b. WM Profile #					
c. WM Profile #					
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above	K. Disposal Location			
*ULTIMATE DISPOSAL TO WM COLUMBIA RIDGE LF VIA ALASKA STREET RECYCLE FACILITY	Cell		Level	
	Grid			

15. Special Handling Instructions and Additional Information
GHD Project # 070496.17-12RM00

Purchase Order # 34006669 EMERGENCY CONTACT / PHONE NO.: 866-812-9565 (GHD)

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Printed Name	Signature "On behalf of" P66	Month	Day	Year
Joe Lewandowski		08	17	17

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year
Chad Wagoner		08	17	17

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

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Printed Name	Signature	Month	Day	Year

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Pink- FACILITY USE ONLY Gold- TRANSPORTER #1 COPY

NON-HAZARDOUS MANIFEST

WASTE MANAGEMENT

NON-HAZARDOUS MANIFEST	1. Generator's US EPA ID No.	Manifest Doc No.	2. Page 1 of	
	WAD000641530	1	1	

GENERATOR

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Phillips 66 Company 420 South Keeler Bartlesville, OK 74003	Phillips 66 Company (Renton) 2423 Lind Avenue SW Renton, WA 98055	WMNA	070496-04
4. Generator's Phone 562-290-1551		B. State Generator's ID	

5. Transporter 1 Company Name	6. US EPA ID Number	
CLEARCREEK CONTRACTORS	WAH000043796	C. State Transporter's ID D. Transporter's Phone 425-252-5800
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone

9. Designated Facility Name and Site Address	10. US EPA ID Number	
WASTE MANAGEMENT (COLUMBIA RIDGE LF) 18177 CEDAR SPRINGS LANE ARLINGTON, OR 97812	ORD987173457	G. State Facility ID H. State Facility 541-454-2030

11. Description of Waste Materials	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.	I. Misc. Comments
a. SOIL WM Profile # 111261WA	1	DT	~~20~~ 12	Y	
b. WM Profile #					
c. WM Profile #					
d. WM Profile #					

J. Additional Descriptions for Materials Listed Above	K. Disposal Location			
*ULTIMATE DISPOSAL TO WM COLUMBIA RIDGE LF VIA ALASKA STREET RECYCLE FACILITY	Cell		Level	
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GHD Project # 070496.17-12RM00

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Printed Name	Signature "On behalf of" P66	Month	Day	Year
JOE LEWANDOWSKI		08	17	17

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

~~Printed Name~~	Signature	Month	Day	Year
		8	17	17

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed Name	Signature	Month	Day	Year

FACILITY

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I certify, on behalf of the above listed treatment facility, that to the best of my knowledge, the above-described waste was managed in compliance with all applicable laws, regulations, permits and licenses on the dates listed above.

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Printed Name	Signature	Month	Day	Year

White- TREATMENT, STORAGE, DISPOSAL FACILITY COPY Blue- GENERATOR #2 COPY Yellow- GENERATOR #1 COPY

Pink- FACILITY USE ONLY Gold- TRANSPORTER #1 COPY

Appendix D
Site Photographs

Photo 1 - View of active vegetation clearing activities within the excavation area, located on the southwestern portion of the site, from the Southwest 27th Street right-of-way, facing northeast.

Photo 2 - Alternate view of active vegetation clearing activities within the excavation area, from the Southwest 27th Street right-of-way, facing north.

Site Photographs

Photo 3 - View of the completed western portion of the remedial excavation area, from the Southwest 27th Street right-of-way, facing north-northwest.

Photo 4 - View of backfilling activities within the eastern portion of the remedial excavation area, from the Southwest 27th Street right-of-way, facing northwest.

Photo 5 - View of the backfilled excavation, from the western edge of the stormwater retention basin, facing northeast.

Photo 6 - View of the western portion of the remedial excavation post revegetation, from the Southwest 27th Street right-of-way, facing northwest.

Site Photographs

Photo 7 - View of the eastern portion of the remedial excavation post revegetation, from the Southwest 27th Street right-of-way, facing northeast.