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INTERIM ACTION DESIGN REPORT

EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

Submitted by:
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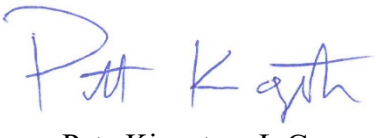

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ACRONYMS AND ABBREVIATIONS

ARI	Analytical Resources, Inc.
BTEX	benzene, toluene, ethylbenzene, and xylenes
bgs	below ground surface
CFR	Code of Federal Regulations
COPCs	constituents of potential concern
DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	total petroleum hydrocarbons as gasoline-range organics
HASP	*Health and Safety Plan, Pre-Remedial Design Investigation, Emerald Gateway, 3301 South Norfolk Street, Seattle, Washington* dated June 18, 2019, prepared by Farallon Consulting, L.L.C.
IAWP	*Interim Action Work Plan, Emerald Gateway Site, 3301 South Norfolk Street, Seattle/Tukwila, Washington* dated December 13, 2019, prepared by Farallon Consulting, L.L.C.
LDW	Lower Duwamish Waterway
µg/l	micrograms per liter
MTCA	Washington State Model Toxics Control Act Cleanup Regulation

ORO	total petroleum hydrocarbons as oil-range organics
PAHs	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PCULs	Preliminary Cleanup Levels
PID	photoionization detector
PQL	practical quantitation limit
Prologis	Prologis-Exchange 3301 South Norfolk LLC
Property	the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington
PVC	polyvinyl chloride
RI/FS	Remedial Investigation and Feasibility Study
SAP	*Sampling and Analysis Plan, Pre-Interim Action Design Investigation, Emerald Gateway Site, 3301 South Norfolk Street, Seattle/Tukwila, Washington* dated June 21, 2019, prepared by Farallon Consulting, L.L.C.
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbons
UST	underground storage tank
VOCs	volatile organic compounds
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Interim Action Design Report on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) for the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington (herein referred to as the Property) (Figures 1 and 2). This Interim Action Design Report has been prepared pursuant to Agreed Order No. DE 16659 between Prologis and the Washington State Department of Ecology (Ecology). Additional information on the Emerald Gateway Site is provided in the Interim Action Work Plan (Farallon 2019b) (IAWP).

As described in the IAWP, an interim action will be conducted in conjunction with redevelopment of the Property by Prologis into multiple warehouse and distribution centers. Redevelopment will require extensive reconfiguration of the existing surface features and stormwater infrastructure (Farallon 2019b). The interim action will be performed consistent with the cleanup requirements of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340).

This Interim Action Design Report documents the results from the pre-interim action design investigation and historical site investigations, summarizes the data screening process used to evaluate and select constituents of potential concern (COPCs) for the interim action, summarizes the soil and groundwater conditions at the interim action areas, establishes the remediation levels applicable for the interim action, and provides the final design components of the interim action.

1.1 PURPOSE

The purpose of this Interim Action Design Report is to provide sufficient information to implement the interim action at the Property.

To support the source control efforts and prevent recontamination of sediments in the Lower Duwamish Waterway (LDW), Ecology (2018) published Preliminary Cleanup Levels (PCULs), which are applied to upland sites that may have open transport pathways for contamination to reach the LDW and may impact surface water, sediments, or organisms. The Remedial Investigation and Feasibility Study (RI/FS) have not been completed for the Emerald Gateway Site, but sufficient data has been collected during subsurface investigations, remedial actions, and the pre-interim action design investigation to evaluate the chemical concentrations in soil and groundwater, to identify COPCs for the interim action, to evaluate potential transport pathways to the LDW, to refine the preliminary conceptual site model, and to design the interim action.

1.2 DOCUMENT ORGANIZATION

This Interim Action Design Report has been organized into the following sections:

- **Section 2**, **Pre-Interim Action Design Investigation**, summarizes the field program and presents results from the pre-interim action design investigation.

- **Section 3**, **Initial Site Screening**, discusses the preliminary soil and groundwater pathways and provides the statistical evaluation of chemical concentrations in soil and groundwater.
- **Section 4**, **Summary of Conditions at Interim Action Areas and Remediation Levels**, summarizes the distribution and occurrence of petroleum hydrocarbon-related constituents in the interim action areas and provides the soil remediation levels for the interim action.
- **Section 5**, **Interim Action Scope of Work**, describes the interim action scope of work, including contaminated soil excavation and potential groundwater dewatering and treatment.
- **Section 6**, **Compliance Monitoring**, describes the protection, performance, and confirmational monitoring that will be conducted as part of the interim action.
- **Section 7**, **References**, lists the documents cited in this Interim Action Design Report.
- **Section 8**, **Limitations**, provides Farallon's standard limitations applicable to this Interim Action Design Report.

2.0 PRE-INTERIM ACTION DESIGN INVESTIGATION

The objective of the pre-interim action design investigation was to collect supplemental data to further evaluate the chemical concentrations in soil and groundwater, to identify COPCs for the interim action, to evaluate potential transport pathways to the LDW, and to continue to refine the preliminary conceptual site model. Previous environmental reports subdivided the Property into investigation areas based on operational history. Locations of investigation areas are shown on Figure 3. Sampling locations for the pre-interim action design investigation are shown on Figure 4.

The scope of work for the pre-interim action design investigation was developed after evaluating soil and groundwater data collected during previous subsurface investigations and remedial actions performed in the investigation areas (Figure 3). Additionally, the investigation includes a Property-wide groundwater monitoring event to evaluate groundwater quality proximate to known and suspected source areas, previously conducted remedial action areas, and the down-gradient Property boundary (Figure 4).

The pre-interim action design investigation was conducted by Farallon at the Property in accordance with the Sampling and Analysis Plan (Farallon 2019a) (SAP) approved by Ecology on June 24, 2019. This section summarizes the field program and results from the pre-interim action design investigation.

2.1 FIELD PROGRAM

The field program was performed in June and July 2019, and was comprised of work elements, including utility reconnaissance, soil sample and reconnaissance groundwater sample collection, monitoring well installation and development, groundwater monitoring, and tidal study. A summary of the scope of work completed for each work element and the results of the field program are provided below.

2.1.1 Utility Reconnaissance

Linescape, LLC of Seattle, Washington performed a private utility locate survey before commencement of drilling activities and identified underground utilities in the vicinity of each of the proposed boring and well locations. Northwest Utility Notification Center located public utilities in the vicinity of the Property.

2.1.2 Boring Advancement and Soil Sample Collection

A total of 13 borings, including those completed as monitoring wells, were advanced between June 26 and 28, 2019 (Figure 4). Drilling services were provided by Cascade Drilling, LP. of Woodinville, Washington. The field program was conducted in accordance with a site-specific Health and Safety Plan as required by Part 1910 of Title 29 of the Code of Federal Regulations and WAC 296-62.

Borings F-24 through F-33 and FMW-01 through FMW-03 were advanced for collection of soil samples. Prior to advancing borings for soil sample collection, each boring location was manually cleared for utilities using a vacuum excavator to depths between 3 and 5 feet below ground surface (bgs). Soil samples collected within the utility clearance interval were collected using a hand auger. Once each location was cleared for utilities, a direct-push drill rig was used to advance each boring to total depth. Borings were continuously sampled using 5-foot probe rods lined with disposable polyvinyl chloride (PVC) liners that were removed and cut to reveal the sample after each interval driven. Soil samples were described by a Farallon Geologist in accordance with the Unified Soil Classification System and screened in the field for potential evidence of contamination using visual and olfactory observations and by conducting headspace analysis using a photoionization detector (PID) to detect the presence of volatile organic compounds (VOCs). Headspace analysis was performed by placing soil from each sample interval into a sealable plastic bag and allowing the sample to sit for at least 30 seconds. The probe of the PID was inserted into the bag, and the highest reading obtained over an approximately 30-second interval was recorded. The Unified Soil Classification System symbol, visual and olfactory observations for the samples, and PID readings were recorded on boring logs. The boring logs are provided in Appendix A.

Soil samples retained for laboratory analysis were collected in appropriate laboratory-supplied containers, placed on ice, and transported to Analytical Resources, Inc. (ARI) of Tukwila, Washington under standard chain-of-custody procedures.

Upon reaching total depth, borings that were not completed as groundwater monitoring wells were backfilled with bentonite and completed at the surface with concrete or cold-patch asphalt.

2.1.3 Reconnaissance Groundwater Sample Collection

Reconnaissance groundwater samples were collected from borings F-27, F-28, and F-31 (Figure 4). The samples were collected by placing a temporary PVC well screen into the open boring and using a peristaltic pump to draw water from the boring directly into laboratory-prepared sample containers. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported to ARI under standard chain-of-custody procedures for laboratory analysis.

2.1.4 Groundwater Monitoring Well Installation and Development

Monitoring wells FMW-01 through FMW-03 were installed in June 2019 (Figure 4). Borings that were converted to monitoring wells were enlarged using 3.75-inch-diameter direct-push drive rods. Groundwater monitoring wells were installed using pre-packed 2-inch-diameter Schedule 40 PVC well screen with 0.010-inch slots. Sand filter pack was placed to a depth 1 foot above the top of the screened intervals. The remaining annular spaces were then backfilled with bentonite, and the wells were completed with flush-mounted traffic-rated well monuments set in concrete to match the surrounding grade.

Following monitoring well installation, each well was developed by using a downhole pump or inertial pump to surge and purge the well until water pumped from the well appeared clear. In

addition, existing monitoring wells MW-101, MW-203, MW-207, MW-AG1, MW-AG2, MW-4, and DOF-1 through DOF-5 were redeveloped to ensure representative groundwater samples would be collected during the subsequent groundwater monitoring event.

The new and existing monitoring well locations and elevations were surveyed by Professional Land Surveyors, Inc. of Issaquah, Washington. The monitoring well top of casings and top of monument were surveyed to an accuracy of 0.01 foot using a North American Vertical Datum of 1988 benchmark.

2.1.5 Groundwater Monitoring

The groundwater monitoring event was conducted on July 1 and 2, 2019. During the groundwater monitoring event, monitoring wells were opened and allowed to sit for at least 30 minutes to allow groundwater levels to equilibrate with atmospheric pressure. The depth to groundwater in each monitoring well was then measured to the nearest 0.01 foot using a water level meter.

Groundwater samples were collected in accordance with U.S. Environmental Protection Agency (EPA) (1996) procedures and the SAP. Purging and sampling of each monitoring well was performed using a peristaltic pump and dedicated silicone and polyethylene tubing at flow rates ranging from approximately 100 to 300 milliliters per minute. The tubing intake was generally placed approximately 3 feet below the water table in each monitoring well, or in the middle of the screen interval if the screen was submerged or there was less than 3 feet of water column present.

During purging, water quality was monitored using a YSI Pro DSS water quality system equipped with a flow-through cell. Water quality parameters were monitored and recorded at 3-minute intervals during purging and included temperature, pH, specific conductance, dissolved oxygen, oxidation reduction potential, and turbidity. Purging was continued until stabilization criteria were achieved for all water quality parameters. Following purging, groundwater samples were collected from the pump outlet tubing located upstream of the flow-through cell and placed directly into laboratory-prepared sample containers. Sample containers collected for analysis of dissolved metals were collected through a 0.45-micron field filter that was attached to the pump outlet and removed prior to filling containers for other analyses. Each container was labeled with a unique sample identification number, placed on ice in a cooler, and transported to ARI for laboratory analysis under standard chain-of-custody procedures.

2.1.6 Tidal Study

A tidal study was completed at the Property between July 5 and 8, 2019. The tidal study was completed by placing pressure transducers in monitoring wells DOF-1, DOF-3, DOF-5, and MW-AG1, and allowing the transducers to record changes in groundwater elevations every 5 minutes over a period of approximately 83 hours. The transducers were then removed, and the groundwater elevation data was downloaded from each transducer for compilation and evaluation. Groundwater elevations were compared to tidal elevations obtained from National Oceanic and Atmospheric Administration Seattle Tidal Station No. 9447130, with measurements recorded in 6-minute intervals.

2.1.7 Laboratory Analyses

Samples collected during the pre-interim action design investigation were submitted to ARI for laboratory analysis in accordance with the SAP. Tables 1A and 1B show the laboratory analyses conducted for each sample collected.

2.1.7.1 Soil

Soil samples collected during the field program were analyzed for one or more of the following analytes, depending on the sample location:

- Total petroleum hydrocarbons (TPH) as diesel-range organics (DRO) and as oil-range organics (ORO) by Northwest Method NWTPH-Dx;
- TPH as gasoline-range organics (GRO) by Northwest Method NWTPH-Gx;
- VOCs by EPA Method 8260C;
- Metals (arsenic, cadmium, copper, lead, mercury, manganese, and zinc) by EPA Method 6010D/6020B/7471B; and
- Polychlorinated biphenyl (PCB) aroclors by EPA Method 8082A.

2.1.7.2 Groundwater

Reconnaissance groundwater samples were submitted for laboratory analysis for one or more of the following analytes:

- DRO and ORO by NWTPH-Dx; and
- PCB aroclors by EPA Method 8082A.

Groundwater samples collected from monitoring wells during the groundwater monitoring event were submitted for laboratory analysis for the following analytes:

- DRO and ORO by NWTPH-Dx;
- GRO by NWTPH-Gx;
- VOCs by EPA 8260C;
- Total and dissolved metals (arsenic, cadmium, copper, lead, mercury, manganese, and zinc) by EPA Methods 200.7, 200.8, 245.1, and 7470A;
- PCB aroclors by EPA Method 8082A; and
- Polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270D/SIM.

2.1.8 Deviations from the Proposed Scope of Work

The following deviations were made from the SAP during completion of the pre-interim action design investigation:

- An additional boring (F-31) was advanced down-gradient of the former fueling area in Area 4, approximately 20 feet north of boring F-26, which was terminated at a depth of approximately 5 feet bgs due to refusal;
- Monitoring wells FMW-01 through FMW-03, and boring F-31 were advanced to depths of 20 feet bgs, instead of the proposed depth of 15 feet bgs due to the depth of encountered groundwater; and
- During well development activities, several wells were purged of water volumes in excess of five well volumes due to persistent elevated turbidity observed during development of the wells.

These deviations did not affect the results and conclusions of the investigation.

2.2 RESULTS

This section provides a summary of the results of the pre-interim action design investigation.

2.2.1 Soil Profile

The soil profile observed in borings advanced by Farallon generally consisted of fill material extending from the ground surface to a depth of 4 to 10 feet bgs, underlain by native silty sands or sandy silts to the maximum explored depth of 20 feet bgs. Boring logs describing soil lithology observed during the pre-interim action design investigation are included as Appendix A.

2.2.2 Groundwater

A shallow unconfined groundwater-bearing zone, as measured in borings and groundwater monitoring wells at the Property, is present at depths ranging from approximately 7.5 to 14.5 feet bgs. Synoptic depth-to-groundwater measurements from the monitoring wells on the Property and corresponding calculated groundwater elevations are provided in Table 2. Based on groundwater contours developed using the synoptic measurements collected July 1, 2019 during low tidal level, the interpreted flow direction of the shallow groundwater-bearing zone is to the west-southwest (Figure 5). However, based on the results of the tidal study, there are periodic reversals in flow direction on the western portion of the Property during high tide events. During the July 1, 2019 groundwater monitoring event, the estimated horizontal gradient ranged from 0.012 foot per foot on the southern portion of the Property to 0.002 foot per foot on the northern portion of the Property.

2.2.3 Tidal Study

Surface water elevations recorded for the National Oceanic and Atmospheric Administration Seattle Tidal Station No. 9447130 during the 83-hour period of the tidal study fluctuated by a

maximum of approximately 15 feet and indicated that the LDW has a mixed semidiurnal tidal pattern resulting in a once-daily occurrence of a lower low tide.

The results of the tidal study show that the groundwater elevations in the tidal study monitoring wells are influenced by tidal elevations by varying degrees. The amplitude of tidal fluctuations is dependent on distance from the LDW with the amplitude decreasing as distance increases. The strongest tidal variation recorded during the tidal study was approximately 3.79 feet in monitoring well DOF-1, which is located near the western Property boundary approximately 200 feet east of the LDW. The weakest tidal variation recorded during the tidal study was approximately 0.50 foot in monitoring well MW-AG1, which is located in the north-central portion of the Property approximately 1,000 feet east of the LDW.

The timing of observed tidal highs and lows lagged behind the measured tide in the LDW. Lag times generally increased with distance from the LDW. Groundwater highs and lows were observed in monitoring well DOF-1, which was located closest to the LDW, approximately 1 hour after the tidal highs and lows. Groundwater highs and lows were observed in the remaining monitoring wells at times ranging from approximately 2 to 6 hours after the tidal highs and lows.

Hydrographs depicting monitoring well groundwater elevations and the surface water elevation recorded for the tidal study are provided in Appendix B.

2.2.4 Laboratory Analytical Results

Soil and groundwater samples were submitted for laboratory analysis from several investigation areas at the Property. This section provides a summary of analytical results obtained during the pre-interim action design investigation, organized by investigation area (Figures 3 and 4).

Tables and figures include the results from the pre-interim action design investigation and historical site investigations. Figures 6A, 6B, 6C, 7, 8A, 8B, 8C, and 9 through 14 present analytical results for COPCs compared to the most stringent PCULs applicable to the Property. Tables 3 through 12 present analytical results for soil and groundwater. The laboratory analytical reports for the pre-interim action design investigation are provided in Appendix C.

2.2.4.1 Area 2: Perishables Warehouse

DRO, GRO, ORO, and benzene, toluene, ethylbenzene, and xylenes (BTEX) were either reported non-detect at the laboratory practical quantitation limit (PQL), or were detected at concentrations less than the most stringent PCUL in the soil samples analyzed from borings F-24 and F-25, which were located inside the Perishables Warehouse (Figures 6A and 8A; Table 3). The soil analytical results confirm the lateral and vertical extent of petroleum-contaminated soil beneath the Perishables Warehouse located proximate to the former UST-D.

Concentrations of total and dissolved arsenic and manganese exceeded the most stringent PCULs in the groundwater sample collected from monitoring well MW-101. DRO, ORO, GRO, BTEX, PAHs, VOCs, PCBs, and metals (cadmium, copper, lead, mercury, and zinc)

were either reported non-detect at the laboratory PQL, or were detected at concentrations less than the most stringent PCUL in the groundwater sample collected from monitoring well MW-101. The laboratory PQLs for cPAHs and PCBs exceeded the most-stringent PCUL for non-potable groundwater.

2.2.4.2 Area 4: Former Fueling Area

Borings F-26 and F-31 were advanced down-gradient of the former fueling area (Figure 4). Boring F-26 was terminated at a depth of approximately 5 feet bgs due to refusal. Boring F-31 was advanced as a replacement to boring F-26. Soil collected from borings F-26 and F-31 did not exhibit evidence of petroleum contamination and soil samples were not collected for laboratory analysis. ORO was reported non-detect at the laboratory PQL and DRO was detected at a concentration of 580 micrograms per liter (µg/l) in the reconnaissance groundwater sample collected from boring F-31 (Figure 6A; Table 8).

In addition, DRO and ORO were reported non-detect at the laboratory PQLs in the groundwater sample collected from monitoring well FMW-02, which is on the western Property boundary down-gradient of Area 4.

2.2.4.3 Area 7: Former Automobile Service Stations

Available historical records, including aerial photographs, fire insurance maps, and archive files, were reviewed for evidence of additional automobile service stations. Based on the review of the available records, the potential location of a former automobile service station was identified south of previous investigations conducted in Area 7. Monitoring well FMW-01 was advanced on the western Property boundary in the vicinity of the potential former automobile service station (Figure 4).

GRO and ethylbenzene were detected at concentrations exceeding the most stringent PCULs in soil samples collected from monitoring well FMW-01 between depths of 10 and 14 feet bgs. DRO, ORO, and VOCs either were reported non-detect at the laboratory PQL, or were detected at concentrations less than the most stringent PCUL in soil samples analyzed (Figures 6C and 8C; Tables 3 and 5).

Concentrations of naphthalene exceeded the most stringent PCUL in the groundwater sample collected from monitoring well FMW-01 (Figure 12; Table 9). DRO, ORO, GRO, and BTEX either were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCULs in groundwater samples collected from monitoring wells DOF-1 and FMW-01 (Figures 7 and 9; Table 8).

2.2.4.4 Area 11: Former South Maintenance Shop

Monitoring well FMW-03 was advanced on the western Property boundary in the vicinity of the former south maintenance shop and dry cleaner (Figure 4). DRO, ORO, GRO, and VOCs, including BTEX and halogenated volatile organic compounds (HVOCs), were either reported non-detect at the laboratory PQLs, or were detected at concentrations less than the

most stringent PCULs in soil samples collected from monitoring well FMW-03 (Figures 6A and 8A; Tables 3 and 5). In addition, VOCs, including BTEX and HVOCs, either were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCULs in a groundwater sample collected from monitoring well FMW-03.

2.2.4.5 Former Detention Pond

Boring F-29 was advanced proximate to a former detention pond located north of Area 13 (Figure 4). Arsenic, copper, and mercury were detected at concentrations exceeding the most stringent PCULs in a soil sample collected from boring F-29 at a depth of 2.5 feet bgs (Figures 10 and 11; Table 7). Remaining metals, including cadmium, lead, manganese, and zinc, either were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCULs (Table 7). Arsenic, copper, lead, manganese, mercury, and zinc were detected in a soil sample collected from boring F-29 at a depth of 8.5 feet bgs at concentrations less than the most stringent PCULs; cadmium was reported non-detect at the laboratory PQL in this sample.

DRO and ORO were detected at concentrations less than the most stringent PCULs in a soil sample collected from boring F-29 at a depth of 2.5 feet bgs (Figure 6C; Table 3). Concentrations of DRO and ORO were reported non-detect at the laboratory PQL in a soil sample collected from boring F-29 at a depth of 8.5 feet bgs.

2.2.4.6 Northern Property Boundary

There are confirmed sources of PCBs north of the Property across South Norfolk Street. Borings F-27 and F-28 were advanced proximate to the northern Property boundary to evaluate the potential migration of PCBs to the Property from north-adjacent properties (Figure 4). Soil and reconnaissance groundwater samples were collected from borings F-27 and F-28 and analyzed for PCB aroclors.

Total PCB aroclors were detected at a concentration of 0.0269 milligram per kilogram, exceeding the most stringent PCUL in a soil sample collected from boring F-28 at a depth of 2.5 feet bgs. Total PCB aroclors were reported non-detect at the laboratory PQL in the remaining soil samples analyzed from boring F-27 at depths of 2.5 and 10.0 feet bgs and boring F-28 at a depth of 8.5 feet bgs. Each individual PCB aroclor was reported non-detect at the laboratory PQL in reconnaissance groundwater samples collected from borings F-27 and F-28 (Figure 14; Tables 6 and 12).

2.2.4.7 Transformers

Three transformers are located on the northern and central portions of the Property (Figure 4). During the pre-interim action design investigation, the transformers and surrounding concrete were visually assessed for potential releases. The visual assessment did not identify any leaks or spills proximate to the transformers.

Borings F-30, F-32, and F-33 were advanced adjacent to the transformers. Soil samples were collected at a depth of 1 foot bgs from each boring and analyzed for PCB aroclors. Each individual PCB aroclor was reported non-detect at the laboratory PQL in the soil samples analyzed from borings F-30, F-32, and F-33 (Figure 14; Table 6).

2.2.4.8 Property-Wide Groundwater Quality

A groundwater monitoring event was conducted to evaluate groundwater quality at the Property. Monitoring wells were installed at the Property during previous subsurface investigations and remedial actions, and during the pre-interim action design investigation. The wells are located proximate to known and suspected source areas, previously conducted remedial action areas, and the down-gradient Property boundary (Figure 4).

Groundwater samples were collected from monitoring wells DOF-1 through DOF-5, FMW-01 through FMW-03, MW-4, MW-101, MW-203, MW-207, MW-AG1, and MW-AG2 (Figure 4).

DRO, ORO, GRO, and BTEX either were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCULs in groundwater samples collected from monitoring wells at the Property (Figures 7 and 9; Table 8). The full suite of VOCs were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCULs in the groundwater sample collected from monitoring well FMW-03 (Table 10). The full suite of VOCs was not analyzed in groundwater samples collected from the remaining monitoring wells.

The total cPAH toxicity equivalent concentration (TEC) exceeded the most stringent PCUL in groundwater samples collected from monitoring wells MW-AG1 and DOF-1 (Figure 13; Table 9). However, chrysene was the only cPAH detected at concentrations exceeding the laboratory PQL and the concentrations were less than the PCUL for chrysene. In addition, the laboratory data qualifier indicated that the results were an estimated quantity and the results may be biased high based on non-conformance identified during data validation.

Concentrations of naphthalene exceeded the most stringent PCUL in the groundwater sample collected from monitoring well FMW-01 (Figure 12; Table 9).

Total arsenic, copper, manganese, mercury, and zinc were detected at concentrations exceeding the most stringent PCULs in one or more groundwater samples collected from the Property (Figures 10 and 11; Table 11). Total cadmium and lead either were reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCUL (Table 11).

Dissolved arsenic, copper, manganese, and mercury were detected at concentrations exceeding the most stringent PCULs in one or more groundwater samples collected from the Property (Figures 10 and 11; Table 11). Dissolved cadmium, lead, and zinc either were

reported non-detect at the laboratory PQLs, or were detected at concentrations less than the most stringent PCUL (Table 11).

Each individual PCB aroclor was reported non-detect at the laboratory PQL in groundwater samples collected from monitoring wells at the Property (Figure 14; Table 12).

3.0 INITIAL SITE SCREENING

Ecology calculated PCULs for a variety of environmental transport and exposure pathways (Ecology 2018). The PCULs were used to conduct an initial screening of existing soil and groundwater chemical concentrations to identify COPCs, and transport and exposure pathways of potential concern for the interim action. Chemical concentrations in soil and groundwater samples collected from the Property were initially screened against the most stringent PCULs. Transport and exposure pathways were then evaluated for the Property and specific PCULs were removed from the screening process (Sections 3.1.1 and 3.2.1).

A multi-tiered statistical screening process was conducted in accordance with WAC 173-340-703 and 173-340-708(2). The screening process included calculation of sample statistics, which were compared to specific criteria to support the retention or elimination of COPCs for the interim action. In accordance with WAC 173-340-747(9), groundwater data were used to demonstrate empirically that soil concentrations would not cause an exceedance of the applicable PCULs. If groundwater data demonstrated that the soil leaching to groundwater pathway was incomplete, the applicable PCULs were removed from the screening process (Section 4.4).

The following sections provide a summary of the screening process used to select COPCs for the interim action.

3.1 PRELIMINARY SOIL PATHWAYS

Soil PCULs are labeled SL-1 through SL-10, which are listed below:

PCUL Number	PCUL Name
SL-1	Direct contact under unrestricted land use
SL-2	Vadose zone protection of drinking water
SL-3	Vadose zone protection of surface water via ground water
SL-4	Vadose zone protection of sediment via ground water
SL-5	Saturated zone protection of drinking water
SL-6	Saturated zone protection of surface water via ground water
SL-7	Saturated zone protection of sediment via ground water
SL-8	Protection of sediment via bank erosion or soil transport through a storm drain
SL-9	Site-specific Terrestrial Ecological Evaluation (TEE) for unrestricted land use
SL-10	Natural background concentration

The following have been identified as potential soil transport pathways: direct contact (SL-1); leaching of soil contaminants to potable groundwater from the vadose zone (SL-2) or the saturated zone (SL-5); leaching of soil contaminants to the vadose zone (SL-3) or the saturated zone (SL-6) to groundwater followed by transport to surface water; leaching of soil contaminants from the vadose zone (SL-4) or the saturated zone (SL-7) to groundwater followed by partitioning to

sediment; transport of soil into stormwater infrastructure that discharges to the LDW (SL-8); and protection of terrestrial plants and animals (SL-9). Also, if the PCUL is less than the natural background concentrations for the COPC, it is adjusted to the natural background concentration (SL-10).

Based on the information provided in Sections 3.1.1 and 3.2.1, the PCULs for potable groundwater (SL-2 and SL-5) and protection of terrestrial plants and animals (SL-9) do not apply to the Emerald Gateway Site. As discussed in Sections 3.3 and 4.4, groundwater data were evaluated to determine whether the soil to groundwater leaching pathway was complete. If empirical evidence indicated that groundwater had not been impacted (i.e., groundwater results did not exceed the most stringent PCUL), then the direct contact PCUL (SL-1) will apply to the Emerald Gateway Site.

3.1.1 Terrestrial Ecological Evaluation

A TEE is required by WAC 173-340-7490 where a release of hazardous substances to soil has occurred. The regulation requires that one of the following actions be taken:

- Documenting a TEE exclusion using the criteria presented in WAC 173-340-7491;
- Conducting a simplified TEE in accordance with WAC 173-340-7492; or
- Conducting a site-specific TEE in accordance with WAC 173-340-7493.

According to the criteria presented under WAC 173-340-7491(1), the Property does not qualify for one of the primary exclusions from a TEE. However, it does qualify for use of a simplified TEE based on the relationship between potential terrestrial ecological receptors and the existing ecological conditions at the Property and immediately adjacent properties.

A simplified TEE was completed in accordance with WAC 173-340-7492. Based on the results of the simplified TEE, terrestrial ecological receptors are currently not considered to be potential receptors for soil contaminants at the Property. A majority of the Property is currently developed with pavement and buildings. Area 13 is entirely covered with concrete debris and vegetation is not present. Land surrounding the Property is generally used for industrial purposes; however, vegetation is present on adjacent properties. Following redevelopment, the Property will continue to be used for industrial purposes and covered with pavement and buildings. Consistent with the simplified TEE screening criteria, no further evaluation is required for the Property based on the exposure analysis consideration that planned land use makes wildlife exposure unlikely per WAC 173-340-7492(2)(a), and the pathway analysis consideration that no potential exposure pathways from soil contamination to ecological receptors exist consistent with WAC 173-340-7492(2)(b). Because there are no potential exposure pathways from soil contamination to ecological receptors, the site-specific TEE for unrestricted land use and the associated PCUL (SL-9) do not apply to the Emerald Gateway Site. Terrestrial ecological receptors will be reevaluated during the RI/FS to determine whether there are potential exposure pathways from soil contamination to ecological receptors. Documentation for the TEE simplified evaluation is provided in Appendix D.

3.2 PRELIMINARY GROUNDWATER PATHWAYS

Groundwater PCULs are labeled GW-1 through GW-5, which are listed below:

PCUL Number	PCUL Name
GW-1	Drinking water
GW-2	Protection of surface water
GW-3	Protection of sediment
GW-4	Protection of air
GW-5	Natural background concentration

The following have been identified as potential groundwater transport pathways for the LDW: groundwater contaminants in a potable aquifer (GW-1); transport of contaminated groundwater to surface water (GW-2); partitioning of groundwater contamination to sediment (GW-3); and volatilization of contaminated groundwater followed by intrusion into a building (GW-4). Also, if the PCUL is less than the natural background concentrations for the COPC, it is adjusted to the natural background concentration (GW-5).

Based on the information provided in Section 3.2.1, the PCUL for potable groundwater (GW-1) does not apply to the Emerald Gateway Site. The remaining PCULs (GW-2 through GW-5) are applicable for the Emerald Gateway Site. PCUL values for total petroleum hydrocarbons are not available for GW-2 through GW-5; however, MTCA Method B surface water cleanup levels protective of marine water aquatic life are still applicable for the Emerald Gateway Site. The preliminary surface water values protective of marine water aquatic life are derived from Ecology (2019) Draft Implementation Memorandum No. 23 for fresh gasoline- and diesel-range organics and from a publication in process for weathered diesel, for which Ecology provided the value.

3.2.1 Non-Potable Groundwater Determination

In accordance with MTCA, groundwater cleanup levels are based on estimates of the highest beneficial use, which is drinking water, unless the Property meets the criteria for non-potable groundwater listed in WAC 173-340-720(2). Because groundwater at the Property meets the criteria for non-potable groundwater, it is considered non-potable and the PCULs protective of drinking water (SL-2, SL-5, and GW-1) do not apply to the Emerald Gateway Site.

These criteria, together with a description of how the criteria are met, are provided below:

1. WAC 173-340-720(2)(a): "The ground water does not serve as a current source of drinking water."
    - The City of Seattle currently supplies drinking water to the Property.
    - There are no drinking water supply wells at the Property or any identified within a 1-mile radius.

2. WAC 173-340-720(2)(c): ". . . it is unlikely that hazardous substances will be transported from the contaminated ground water to ground water that is a current or potential future source of drinking water . . . at concentrations which exceed ground water quality criteria published in chapter 173-200 WAC."

    - Hydraulic gradients are generally upward between the upper and lower groundwater zones, limiting the potential for contaminants in the upper groundwater zone to migrate to the lower groundwater zone (Booth and Herman 1998). Based on this information, contaminated groundwater at the Property will not flow vertically downward into a deeper aquifer that could be a potential future source of drinking water.

3. WAC 173-340-720(2)(d): "Even if groundwater is classified as a potential future source of drinking water . . . there may be sites where there is an extremely low probability that the ground water will be used for that purpose because of the site's proximity to surface water that is not suitable as a domestic water supply. . . . At such sites, the department may allow ground water to be classified as nonpotable . . . if each of the following conditions can be demonstrated."

    - WAC 173-340-720(2)(d)(ii): "There are known or projected points of entry of the ground water into the surface water."
        - Shallow groundwater is known to discharge to the LDW (Booth and Herman 1998).
    - WAC 173-340-720(2)(d)(iii): "The surface water is not classified as a suitable domestic water supply source under chapter 173-201A WAC."
        - Per WAC 173-201A-602, the designated uses of the LDW do not include use as a domestic water supply.
    - WAC 173-340-720(2)(d)(iv): "The ground water is sufficiently hydraulically connected to the surface water that the ground water is not practicable to use as a drinking water source."
        - Groundwater at the Property is hydraulically connected with the LDW; tidal effects on groundwater are described in Section 2.2.3. If groundwater at the Property was used as source for drinking water, there is potential to draw brackish water into the shallow water-bearing zone resulting in increased salinity in groundwater at the Property.

3.3 SCREENING OF SOIL AND GROUNDWATER DATA

A multi-tiered statistical screening process was used to derive the COPCs for the interim action. The screening process included calculation of sample statistics for chemicals analyzed in soil and groundwater samples collected from the Property. The summary statistics were compared to specific criteria to support the retention or elimination of COPCs for the interim action. The screening process is not appropriate for investigation areas that have not been fully characterized. Soil and groundwater data collected during the interim action will be used during the statistical evaluation conducted as part of the RI/FS.

3.3.1 Sample Statistics

The following statistics were calculated for each chemical:

- Number of samples;
- Number of detections;
- Detection frequency;
- Maximum detected concentration;
- Frequency of exceedance; and
- Maximum exceedance factor.

Sample statistics for soil and groundwater are summarized in Tables 13 and 14.

The sample statistics do not include analytical results from reconnaissance groundwater samples. Reconnaissance groundwater samples are collected from open borings with limited to no development prior to sampling. This typically results in increased sample turbidity, which can bias detected chemical concentrations high, particularly for metals and hydrophobic organic compounds. If no exceedances are detected in reconnaissance groundwater samples, there is a high level of confidence that contaminant concentrations in the groundwater are less than PCULs at that location. Groundwater samples collected from properly installed and developed monitoring wells are considered to be most representative of groundwater quality. During the screening process, reconnaissance groundwater data were evaluated in areas where concentrations of one or more of the COPCs detected in reconnaissance groundwater samples exceeded PCULs. Analytical results from nearby monitoring wells and/or reconnaissance groundwater sampling locations indicated the detected chemical concentrations in the reconnaissance groundwater samples were likely biased high.

3.3.2 Elimination Criteria

Following calculation of the sample statistics, the results were compared in a sequential manner to the following criteria to determine whether the chemical should be retained or eliminated as an interim action COPC for soil and groundwater:

1. Eliminated chemicals without a PCUL.
2. Eliminated chemicals that were never detected if less than 20 percent of the PQLs exceeded the PCUL.
    - If the PQL frequency of exceedance was greater than 20 percent, eliminated the chemical if the maximum PQL was less than 10 times the PCUL.
    - If the maximum PQL exceeded the PCUL by greater than 10 times, eliminated the chemical if the median reporting limit was less than 5 times the achievable PQL.
3. Eliminated chemicals that did not exceed the most stringent PCUL for both detects and non-detects.

4. If a chemical was detected at a frequency of less than 10 percent and all detected concentrations were less than the PCUL, eliminated the chemical if the PQLs met the criteria specified in Item 2.
5. Eliminated chemicals that were detected at concentrations exceeding PCULs if 1) the detected concentrations did not exceed two times the PCUL; and 2) the PCUL frequency of exceedance for the samples was less than 10 percent.
6. For every COPC identified in soil, groundwater data were evaluated to determine whether the soil to groundwater leaching pathway was complete. If empirical evidence indicated that groundwater had not been impacted (i.e., groundwater results did not exceed the most stringent PCUL), then the soil chemical concentration was compared to the direct contact PCUL instead of a partitioning to groundwater PCUL. If the soil chemical concentration did not exceed the direct-contact PCUL, the chemical was eliminated as a COPC. Additional site-specific information is provided in Section 4.0.
7. Where a chemical was detected at a concentration exceeding PCULs within a limited area, the compound was retained as a COPC within that area only.

Tables 13 and 14 identify which chemicals were eliminated, the rationale for the elimination, and which chemicals were retained as interim action COPCs for groundwater and soil, respectively. Table 15 provides the evaluation of soil COPCs against direct contact PCULs where no impacts to groundwater were identified. Table 16 identifies the COPCs that are applicable for each investigation area.

4.0 SUMMARY OF CONDITIONS AT INTERIM ACTION AREAS AND REMEDIATION LEVELS

Subsurface investigations and remedial actions have been conducted at the Property since 1989. A detailed description of the subsurface investigations and remedial actions is provided in the Interim Action Work Plan (Farallon 2019b).

This section summarizes the distribution and occurrence of petroleum hydrocarbon-related constituents in the interim action areas. Following the interim action, an RI/FS will be conducted to determine whether further remedial actions are needed for the Emerald Gateway Site.

4.1 SUMMARY OF CONDITIONS AT INTERIM ACTION AREAS

Petroleum hydrocarbon-related constituents including DRO, GRO, petroleum VOCs, and PAHs have been detected in soil and/or groundwater samples at concentrations exceeding the most stringent PCULs in several locations at the Property proximate to former underground storage tank (UST) systems and maintenance operations.

Petroleum hydrocarbon-related constituents are the predominant COPCs for the Property. The distribution of petroleum hydrocarbon-related constituents in soil and groundwater are discussed in the sections below.

4.1.1.1 Area 2: Perishables Warehouse

DRO and PAHs (total naphthalenes, fluorene, phenanthrene, benzo(a)anthracene, total cPAH TEC, and total low molecular weight PAHs) were detected at concentrations exceeding the most stringent PCULs in soil samples collected at depths ranging from 5 to 7 feet bgs proximate to the former UST-D. The PAH exceedances were co-located with DRO in a single soil sample collected from boring F-1. PAHs, including total naphthalenes, fluorene, phenanthrene, benzo(a)anthracene, and total cPAH TEC, were detected at concentrations less than PCULs in the reconnaissance groundwater sample collected from boring F-1 and the groundwater sample collected from down-gradient monitoring well MW-101. Based on this data, the leaching to groundwater pathway for PAHs, including total naphthalenes, fluorene, phenanthrene, benzo(a)anthracene, and total cPAH TEC, is not complete for Area 2. Naphthalene, fluorene, and total cPAH TEC were detected at concentrations less than direct contact PCUL (SL-1) in the soil sample collected in Area 2. In addition, there is no direct contact PCUL (SL-1) for phenanthrene and benzo(a)anthracene. Based on the data, PAHs are not considered interim action COPCs for Area 2.

DRO, ORO, GRO, and benzene were detected at concentrations exceeding the most stringent PCULs in two reconnaissance groundwater samples collected proximate to the former UST-D. However, concentrations of DRO, ORO, GRO, and benzene in groundwater samples collected from down-gradient monitoring well MW-101, which is

approximately 15 feet from the closest reconnaissance groundwater sample, were less than the most stringent PCULs in samples collected from the well in 2001, 2016, and 2019. Groundwater samples collected from properly installed and developed monitoring wells are considered to be most representative of groundwater quality. Based on the data, the leaching to groundwater pathway for DRO, ORO, GRO, and benzene is not complete for Area 2. In addition, DRO is the only petroleum hydrocarbon constituent that exceeds the direct contact PCUL (SL-1) for Area 2.

Based on these findings, the interim action related to petroleum hydrocarbon-related constituents is only warranted for DRO-impacted soil in Area 2. In addition, the PAHs that exceeded the most stringent PCULs were co-located with DRO and will be excavated with DRO-impacted soil during the interim action. Section 5.1 provides details on the proposed interim action for Area 2.

4.1.1.2 Area 6: Former Truck Repair Shop

In July and August 2007, approximately 12,200 tons of petroleum-impacted soil and 17,500 gallons of petroleum-impacted groundwater were excavated from Area 6 to the maximum extent practicable. Soil was excavated to depths ranging from 9 to 15 feet bgs. The excavation was backfilled with inert fill and mixed with oxygen-release compound to enhance natural degradation of residual petroleum hydrocarbons.

Performance soil samples were collected at the extents of the remedial excavation and confirmed that GRO, benzene, toluene, and ethylbenzene were detected at concentrations exceeding the most stringent PCULs. In addition, petroleum-impacted soil was not accessible in the northern portion of the excavation beneath the adjacent Office Building.

Following completion of the soil excavation in 2007, reconnaissance groundwater samples have been collected from temporary borings and groundwater samples have been collected from a network of five monitoring wells proximate to the Area 6 excavation area. DRO, GRO, benzene, and ethylbenzene were detected at concentrations exceeding the most stringent PCULs in a reconnaissance groundwater sample collected in 2016 from boring F-17, which is located down-gradient of the area of known petroleum impact beneath the Office Building. Reconnaissance groundwater samples typically have increased turbidity, which can bias detected chemical concentrations high. Petroleum hydrocarbon constituents were detected at concentrations less than the most stringent PCULs or were reported non-detect at the laboratory PQL in groundwater samples collected during six groundwater monitoring events performed at the monitoring well network between November 2009 and July 2019. In addition, petroleum hydrocarbon constituents were detected at concentrations less than the PCULs or were reported non-detect at the laboratory PQL in several reconnaissance groundwater samples collected proximate to the remedial excavation. Based on the data, the leaching to groundwater pathway for DRO, GRO, benzene, and ethylbenzene is potentially incomplete. The leaching to groundwater pathway will be further evaluated following completion of the interim action.

In addition, soil gas samples were collected to evaluate the vapor intrusion pathway proximate to the area of residual petroleum impact and the north-adjacent Office Building. Benzene, naphthalene, and chloroform were detected at concentrations exceeding PCULs in soil gas samples collected from borings F-17 and F-18.

Based on the data, additional petroleum-contaminated soil may be located beneath the Office Building and an interim action is warranted in Area 6. Section 5.2 provides details on the proposed interim action for Area 6.

4.1.1.3 Area 7: Former Automobile Service Stations

GRO, ethylbenzene, and naphthalene were detected at concentrations exceeding the most stringent PCULs in soil samples collected in 2019 from boring FMW-01. GRO was detected in soil samples at concentrations of 12,300 and 8,940 milligrams per kilogram in soil samples collected at depths of 10 and 14 feet bgs, respectively, which exceed the direct contact PCUL (SL-1). Naphthalene was detected in groundwater at a concentration of 2.34 µg/l, which exceeds the protection of surface water PCUL (GW-2) of 1.4 µg/l, in a groundwater sample collected from monitoring well FMW-01 in 2019. The remaining COPCs, including GRO and ethylbenzene, were reported at concentrations less than the most stringent PCULs or the laboratory PQLs in a groundwater sample collected from monitoring well FMW-01.

The interim action in Area 7 will address contamination of petroleum hydrocarbon-related constituents. Section 5.3 provides details on the proposed interim action for Area 7.

4.2 SOIL REMEDIATION LEVELS

This section presents the soil remediation levels for the interim action COPCs based on the screening process described in Section 3.0 and the distribution of COPCs described in Section 4.4. The soil remediation levels are shown on Table 17.

MTCA Method A soil cleanup levels for GRO and DRO, and MTCA Method B soil direct contact cleanup levels for benzene, naphthalene, and cPAHs will be used as the remediation levels for the interim action.

5.0 INTERIM ACTION SCOPE OF WORK

The interim action will eliminate and/or reduce the threat to human health and the environment during Property redevelopment by removing impacted media from areas exceeding the interim action remediation levels. The interim action will take advantage of the previously unavailable access to the subsurface provided by the proposed redevelopment project. Components of the interim action include excavation of impacted soil to eliminate source material, and installation of a new stormwater conveyance and treatment system for the development.

The interim action scope of work was revised based on the results from the pre-interim action design investigation. Based on the available data, the interim action includes investigation, remediation, and/or mitigation in the following areas:

- Area 2: Perishables Warehouse;
- Area 6: Former Truck Repair Shop;
- Area 7: Former Automobile Service Stations; and
- Contingency Excavation Areas.

Specific details regarding the interim action activities that will be conducted in each investigation area are provided below and in the SAP (Appendix E).

5.1 SITE PREPARATION AND MOBILIZATION

Before the redevelopment project is initiated, site controls will be established to ensure that the work zone is properly secured. The entire perimeter of the Property will be fenced, and points of ingress and egress will be clearly marked. The access points to the Property will be monitored by authorized personnel during construction activities.

Before excavation activities are initiated, temporary erosion- and sediment-control measures will be established as part of the redevelopment project. Once all temporary erosion- and sediment-control measures have been implemented in accordance with the construction project plan, construction equipment and supplies will be mobilized to the Property.

5.2 MONITORING WELL DECOMMISSIONING

Monitoring wells within the footprint of the redevelopment area, including monitoring wells MW-4, MW-101, MW-203, MW-207, MW-AG1, MW-AG2, DOF-4, and DOF-5, will be decommissioned by a licensed well driller in accordance with the Washington State Water Well Construction Act, Chapter 18.104 of the Revised Code of Washington (WAC 173-160-460). Following well decommissioning, the required documentation will be submitted to Ecology. Excavation activities will not begin until the monitoring wells have been decommissioned.

Monitoring wells located on the western boundary of the Property, including monitoring wells DOF-1 through DOF-3 and the monitoring wells that were installed during the pre-interim action design investigation, may be retained for future compliance sampling if they can be protected during redevelopment activities. If the monitoring wells cannot be protected, they will be decommissioned in accordance with the Washington State Water Well Construction Act.

5.3 AREA 2: PERISHABLES WAREHOUSE

Based on previous investigations, concentrations of DRO exceeding the remediation level extend to a depth of approximately 7 feet bgs proximate to the former UST-D. DRO-contaminated soil will be excavated to the maximum extent practicable and disposed of off the Property at the selected disposal facility. The excavation will be coordinated to first excavate the areas of known DRO-contaminated soil at borings P2-1 and F-1. The excavation will progress vertically and laterally based on field-screening methods described in the SAP (Appendix E). Farallon will conduct performance and confirmation soil sampling per Section 6.0, Compliance Soil Monitoring, and the SAP (Appendix E). DRO-contaminated soil will be excavated until remediation levels are achieved to the maximum extent practicable. If excavation of DRO-contaminated soil is not practicable during the interim action, it will be addressed in the RI/FS.

5.4 AREA 6: FORMER TRUCK REPAIR SHOP

During previous remedial excavations, petroleum-contaminated soil, which may exceed remediation levels, was not accessible and was left in-place beneath the Office Building. The Office Building will be demolished during redevelopment allowing for access to the remaining petroleum-contaminated soil proximate to the southeastern corner of the Office Building. Petroleum-contaminated soil will be excavated to the maximum extent practicable and disposed of off the Property at the selected disposal facility. The excavation will be coordinated to first excavate the areas of known contamination. The excavation will progress vertically and laterally based on field-screening methods described in the SAP (Appendix E). Farallon will conduct performance and confirmation soil sampling per Section 6.0, Compliance Soil Monitoring, and the SAP (Appendix E). Petroleum-contaminated soil will be excavated until remediation levels are achieved to the maximum extent practicable . If excavation of petroleum-contaminated soil is not practicable during the interim action, it will be addressed in the RI/FS.

5.5 AREA 7: FORMER AUTOMOBILE SERVICE STATIONS

The nature and extent of GRO- and naphthalene-contaminated soil is not characterized in Area 7 proximate to monitoring well FMW-01. GRO- and naphthalene-contaminated soil will be excavated to the maximum extent practicable and disposed of off the Property at the selected disposal facility. The excavation will be coordinated to first excavate the areas of known contamination proximate to well FMW-01. The excavation will progress vertically and laterally based on field-screening methods described in the SAP (Appendix E). Farallon will conduct performance and confirmation soil sampling per Section 6.0, Compliance Soil Monitoring, and the SAP (Appendix E). GRO- and naphthalene-contaminated soil will be excavated until remediation

levels are achieved to the maximum extent practicable. If excavation of GRO- and naphthalene-contaminated soil is not practicable during the interim action, it will be addressed in the RI/FS.

5.6 CONTINGENCY EXCAVATION AREAS

This interim action includes a contingency to permanently remove contaminant source materials exceeding remediation levels, to the maximum extent practicable, that may be encountered during redevelopment activities. If contaminant source materials are encountered that exceed remediation levels, removal of the source will be expected to be conducted using the same procedures described in the IAWP (Farallon 2019b).

5.7 DEWATERING AND TREATMENT

Dewatering may be necessary to allow for excavation of impacted soil located below the water table. If necessary, generated wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants for compliance with Water Quality Standards for the Surface Water of the State of Washington. The Administrative Order defines the conditions and actions necessary to comply with the Construction Stormwater General Permit.

5.7.1 Soil Disposal Facility

The Waste Management Columbia Ridge Landfill in Arlington, Oregon and the Republic Services Roosevelt Regional Landfill in Roosevelt, Washington are the preferred Subtitle D disposal facilities for contaminated soil excavated during the interim action. A waste profile will be submitted to the selected disposal facility for approval before contaminated soil is excavated.

6.0 COMPLIANCE SOIL MONITORING

Three types of compliance monitoring have been identified for remedial actions performed under MTCA (WAC 173-340-410): protection monitoring, performance monitoring, and confirmational monitoring. A paraphrased purpose for each is presented below (WAC 173-340-410[1]):

- **Protection Monitoring** confirms whether human health and the environment are adequately protected during the interim action;
- **Performance Monitoring** confirms that the interim action has attained the remediation levels at the points of compliance; and
- **Confirmational Monitoring** confirms the long-term effectiveness of the interim action once remediation levels or other performance standards have been attained.

6.1 PROTECTION MONITORING

A Health and Safety Plan has been prepared for the interim action that meets the minimum requirements for such a plan identified in federal (Part 1910.120 of Title 29 of the Code of Federal Regulations (29 CFR 1910.120) and CFR 1926) and state (WAC 173-340-810 and 296) regulations. The Health and Safety Plan identifies all known physical, chemical, and biological hazards; hazard monitoring protocols; and administrative and engineering controls required to mitigate the identified hazards (Appendix F).

Construction workers encountering impacted soil will have completed 40-Hour Hazardous Waste Operations and Emergency Response training in accordance with 29 CFR 1910.120 and will have completed Annual 8-Hour Hazardous Waste Operations and Emergency Response refresher training, as needed.

6.2 PERFORMANCE MONITORING

Performance monitoring provides soil analytical results to refine, classify, and/or identify the presence of COPCs exceeding remediation levels in an area with confirmation or evidence of potentially contaminated soil. The soil analytical results define whether COPCs are present at concentrations exceeding remediation levels and, if contamination is present, the lateral and vertical extent of excavation requiring off-site disposal to achieve the remediation levels established for COPCs under MTCA to the maximum extent practicable.

Performance monitoring will involve collecting in-situ samples for laboratory analysis to quantify concentrations of COPCs in soil. Discrete soil samples will be collected from the excavation areas to serve as confirmation samples where remediation levels are attained.

Soil samples collected for performance monitoring, for confirmation monitoring, and to support soil profiling and disposal will be analyzed for the COPCs identified in Section 3, Initial Site

Screening. Samples of confirmed or potentially contaminated soil may be analyzed by one or more of the following:

- GRO and BTEX by Northwest Method NWTPH-Gx;
- DRO by Northwest Method NWTPH-Dx; and/or
- PAHs, including naphthalenes and cPAHs, by EPA Method 8270D.

The performance and confirmation soil samples will be analyzed on an appropriate turnaround schedule to facilitate soil cleanup activities during construction. The procedures for soil sample collection (e.g., frequency, location) and sample handling are described in the following sections.

6.2.1 Soil Sampling Frequency

The frequency of performance soil sampling will depend on the existing analytical data set and qualitative indications of potentially contaminated soil observed by the Farallon field personnel using the field-screening methods described in the SAP (Appendix E). The frequency of performance soil sampling may be higher near the lateral and vertical limits of an excavation area to provide sufficient samples for confirmational monitoring.

6.2.2 Soil Sample Locations

A 20- by 20-foot or comparable-sized sampling grid will be established over each excavation area to guide the excavation process and the collection of performance and confirmational soil samples. As soil is excavated, performance soil samples will be collected from the bottom and outer margins of the sampling grids. At the excavation sidewall limits, grab samples will be collected at a depth corresponding to the historical zone of seasonal groundwater level fluctuation (between approximately 5 and 12 feet bgs) where the highest COPC concentrations would be expected. Bottom samples will be collected at the approximate centers of the grids.

6.3 CONFIRMATIONAL MONITORING

Confirmational monitoring will be conducted once performance monitoring results indicate that the remediation levels have been attained at the limits of the excavations. Confirmational monitoring will consist of collecting in-situ soil samples from the base and/or sidewalls at the final limits of contamination for each completed excavation area. Performance monitoring soil sample locations will be used as confirmation soil sampling points in cases where the analytical results for the performance soil samples confirm that remediation levels have been attained.

7.0 REFERENCES

Booth, D. and L. Herman. 1998. *Duwamish Industrial Area Hydrogeologic Pathways Project, Duwamish Basin Groundwater Pathways Conceptual Model Report.* Derek Booth, Ph.D., University of Washington, and Lori Herman, CGWP, Hart Crower, Inc. Prepared for City of Seattle Office of Economic Development and King County Office of Budget and Strategic Planning. Produced by Hart Crowser, Inc. April.

Farallon Consulting, L.L.C. (Farallon). 2019a. *Sampling and Analysis Plan, Pre-Interim Action Design Investigation, Emerald Gateway Site, 3301 South Norfolk Street, Seattle/Tukwila, Washington.* Prepared for Prologis-Exchange 3301 South Norfolk LLC. June 21.

———. 2019b. *Interim Action Work Plan, Emerald Gateway Site, 3301 South Norfolk Street, Seattle/Tukwila, Washington.* Prepared for Prologis-Exchange 3301 South Norfolk LLC. December 13.

United States Environmental Protection Agency (EPA). 1996. *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells.* Revised September 19, 2017. July 30.

Washington State Department of Ecology (Ecology). 2011. *Guidance for Remediation of Petroleum Contaminated Soils.* Publication No. 10-09-057. Revised June 2016. September.

———. 2018. *Lower Duwamish Waterway Preliminary Cleanup Level Workbook Supplemental Information.* Revised April 2019. December.

———. 2019. Draft Implementation Memorandum No. 23 Regarding Concentrations of Fresh Gasoline and Diesel Range Organics Predicted to be Protective of Aquatic Receptors in Surface Water. Draft for Public Comment. From Jeff Johnston. To Interested Persons. March 7.

8.0 LIMITATIONS

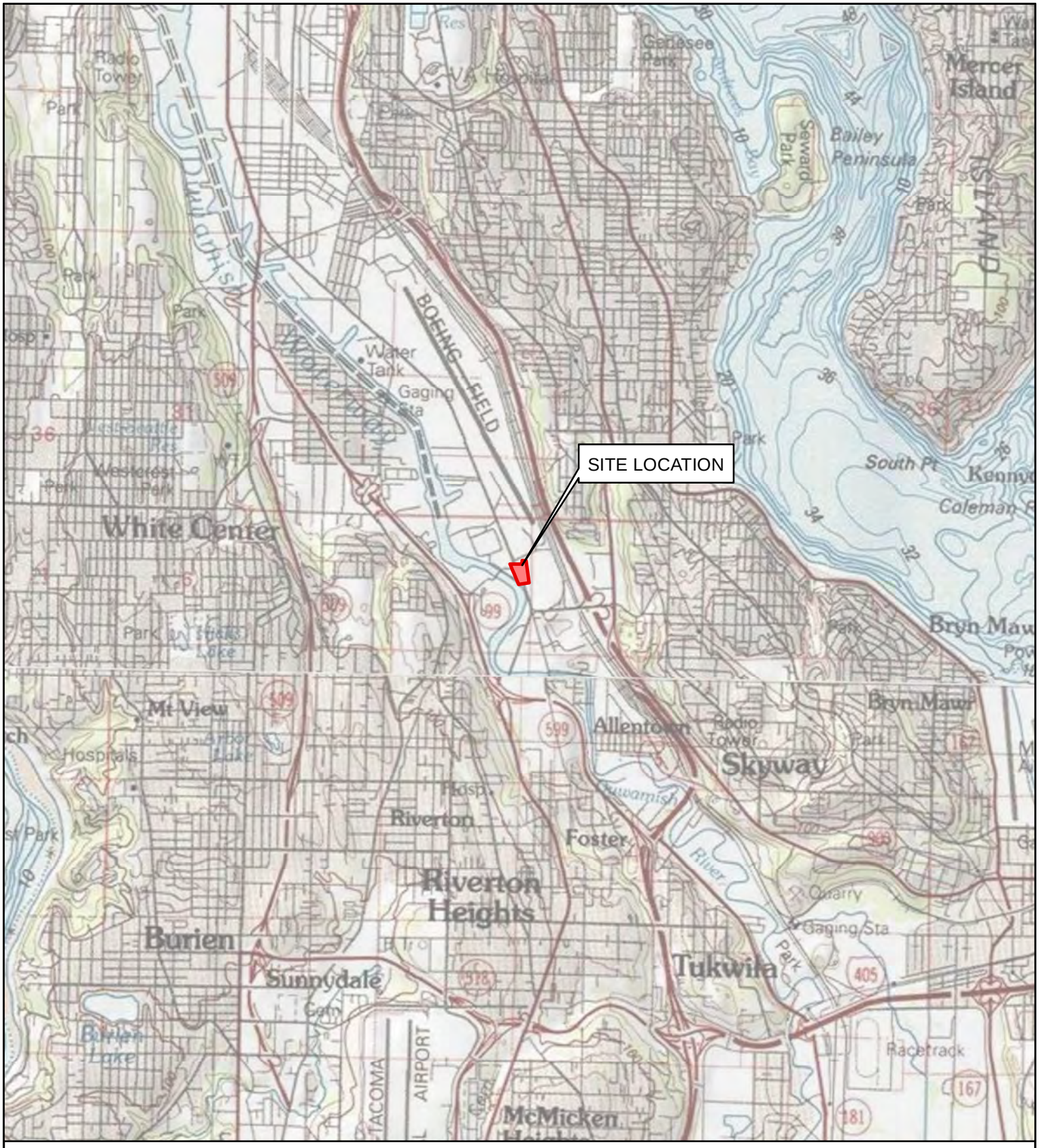
This report/assessment has been prepared in accordance with the contract for services between Farallon and Prologis-Exchange 3301 South Norfolk LLC, and currently accepted industry standards. No other warranties, representations, or certifications are made.

This report/assessment has been prepared for the exclusive use of Prologis-Exchange 3301 South Norfolk LLC to address the unique needs of Prologis-Exchange 3301 South Norfolk LLC at the Property at a specific point in time. No one other than Prologis-Exchange 3301 South Norfolk LLC may rely on this report unless Farallon agrees in advance to such reliance in writing. Any unauthorized use, interpretation, or reliance on this report/assessment is at the sole risk of that party, and Farallon will have no liability for such unauthorized use, interpretation, or reliance.

FIGURES

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026



REFERENCE: 7.5 MINUTE USGS QUADRANGLE RENTON, WASHINGTON, DATED 2013

0 5,000
SCALE IN FEET

N

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Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

FIGURE 1

SITE VICINITY MAP
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 12/17/2019 | Disc Reference:

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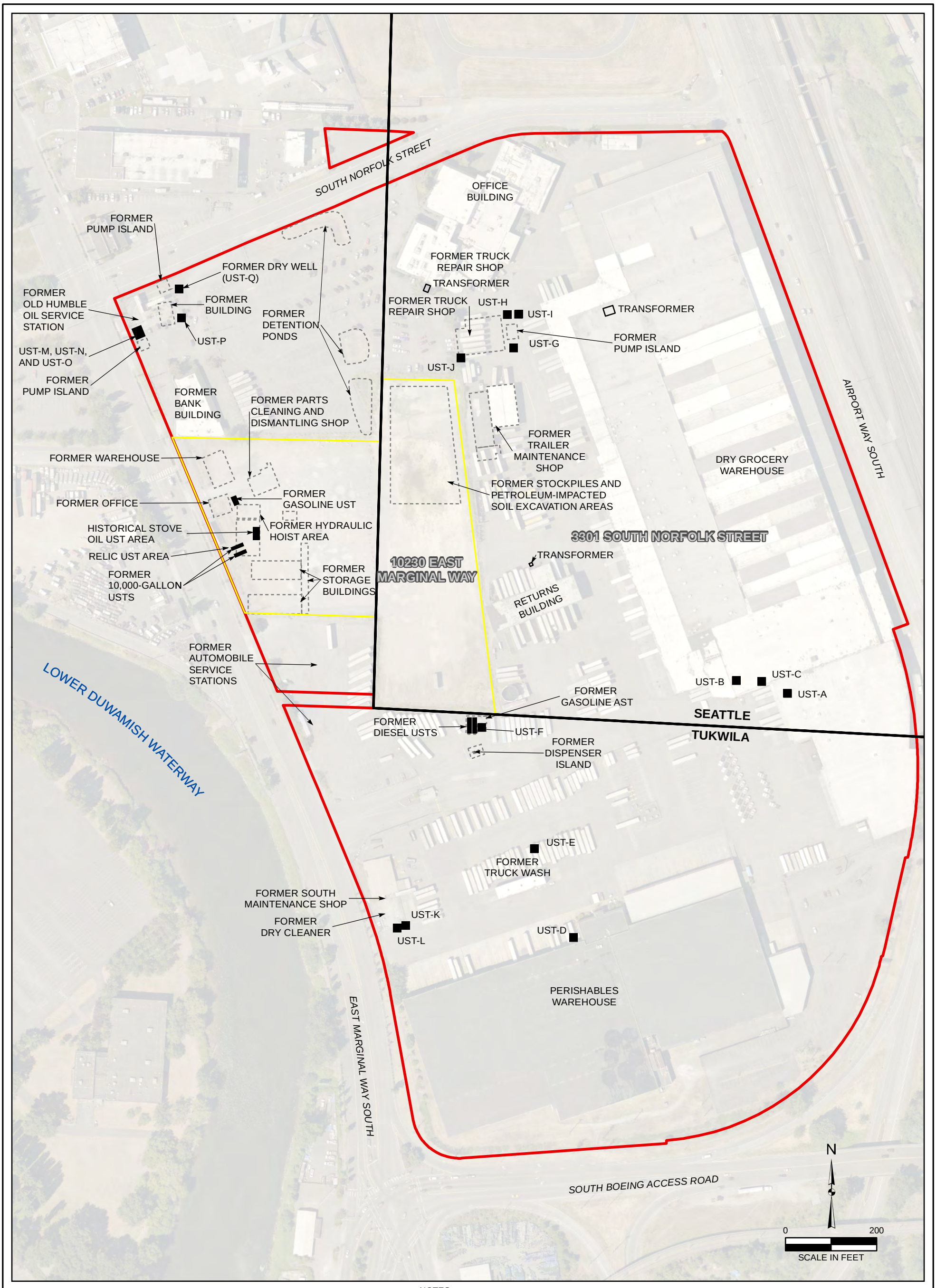

LEGEND

- FORMER DETENTION BASIN
- PROPERTY BOUNDARY
- EXISTING FEATURE
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

AST = ABOVEGROUND STORAGE TANK
UST = UNDERGROUND STORAGE TANK

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 2

PROPERTY PLAN WITH
HISTORICAL SITE FEATURES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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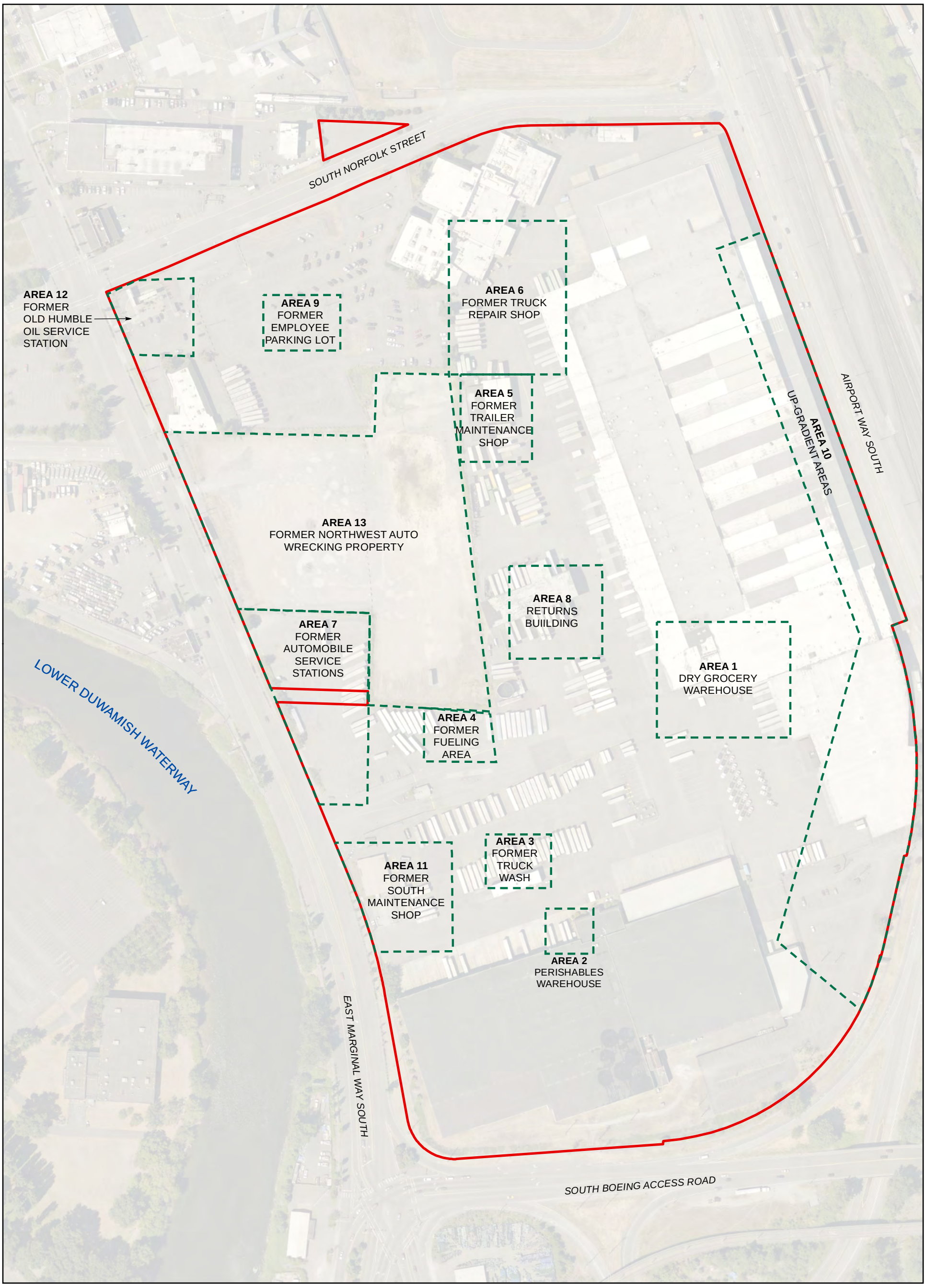

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

LEGEND

- INVESTIGATION AREA
- SITE BOUNDARY

N

0 200

SCALE IN FEET

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FIGURE 3

INVESTIGATION AREAS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

F-27

F-28

FORMER PUMP ISLAND

FORMER BUILDING

FORMER SERVICE STATION

AREA 12

FORMER UST

FORMER PUMP ISLAND

FORMER DETENTION PONDS

AREA 9

OFFICE BUILDING

AREA 6

FORMER TRUCK REPAIR SHOP

TRANSFORMER

F-30

MW-203

MW-AG2

MW-207

F-UST-H

F-UST-I

TRANSFORMER

F-33

FORMER TRUCK REPAIR SHOP

F-UST-G

FORMER PUMP ISLAND

F-UST-J

MW-4

MW-AG1

F-29

FORMER BANK BUILDING

AREA 5

FORMER TRAILER MAINTENANCE SHOP

AIRPORT WAY SOUTH

FORMER WAREHOUSE

FORMER PARTS CLEANING AND DISMANTLING SHOP

DOF-5

FORMER STOCKPILES AND PETROLEUM-IMPACTED SOIL EXCAVATION AREAS

DOF-3

FORMER OFFICE

FORMER GASOLINE UST

DRY GROCERY WAREHOUSE

HISTORICAL STOVE OIL UST AREA

FORMER HYDRAULIC HOIST AREA

AREA 13

RELIC UST AREA

DOF-4

DOF-2

FORMER 10,000-GALLON USTS

FORMER STORAGE BUILDINGS

TRANSFORMER

F-32

RETURNS BUIILDING

AREA 8

FORMER AUTOMOBILE SERVICE STATIONS

DOF-1

AREA 7

LOWER DUWAMISH WATERWAY

F-UST-B

F-UST-C

AREA 1

F-UST-A

AREA 10

FORMER GASOLINE AST

FORMER DIESEL USTS

F-UST-F

AREA 4

F-31

F-26

FORMER DISPENSER ISLAND

FMW-01

FMW-02

AREA 3

F-UST-E

FORMER TRUCK WASH

FORMER SOUTH MAINTENANCE SHOP

AREA 11

F-UST-K

FMW-03

F-UST-L

AREA 2

F-UST-D

MW-101

F-25

F-24

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

N

0

200

SCALE IN FEET

LEGEND

- BORING - RECONNAISSANCE GROUNDWATER SAMPLE
- BORING - SOIL SAMPLE
- MONITORING WELL
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

AST = ABOVEGROUND STORAGE TANK
UST = UNDERGROUND STORAGE TANK

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 4

SAMPLING LOCATIONS
PRE-INTERIM ACTION DESIGN INVESTIGATION
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

AREA 6

AREA 12

AREA 9

AREA 5

AREA 13

AREA 8

AREA 1

AREA 10

AREA 7

AREA 4

AREA 3

AREA 11

AREA 2

MW-203 (7.43)

MW-AG2 (7.68)

MW-207 (7.33)

MW-4 (7.42)

MW-AG1 (7.47)

DOF-5 (7.08)

DOF-3 (5.73)

DOF-4 (5.77)

DOF-2 (5.30)

DOF-1 (4.44)

FMW-01 (3.30)

FMW-02 (3.06)

FMW-03 (2.77)

MW-101 (7.14)

7.50

6.50

5.50

4.50

3.50

AIRPORT WAY SOUTH

DRY GROCERY WAREHOUSE

RETURNS BUIILDING

LOWER DUWAMISH WATERWAY

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- MONITORING WELL
- INVESTIGATION AREA (SEE FIGURE 3 FOR LABELS)
- FORMER REMEDIAL EXCAVATION AREA
- SITE BOUNDARY
- INFERRED GROUNDWATER FLOW DIRECTION
- 7.50 GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (7.68) GROUNDWATER ELEVATION IN FEET RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
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FIGURE 5

GROUNDWATER ELEVATION CONTOURS
FOR LOW TIDE ON JULY 1, 2019
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
AST = ABOVEGROUND STORAGE TANK

N

0 60
SCALE IN FEET

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FIGURE 6A

SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 2, 4, AND 11
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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AREA 6

P-DOF-6.1
8.0'|<72|<144

CS-SW27
9.0'|33|<14

CS-SW25
9.0'|<5.6|<11

CS-SW26
9.0'|44|<14

CS-SW24
8.0'|<5.6|<11

CS-B35
15.0'|<6.5|<13

CS-B34
10.0'|<5.3|11

CS-B17
15.0'|<6.1|<12

CS-SW10
8.0'|<5.4|<11

CS-B33
10.0'|<7.2|<14

CS-SW23
8.0'|<6.1|<12

CS-SW22
7.0'|<5.8|<12

MW-AG2

CS-B18
15.0'|<6.9|<14

CS-B19
13.5'|<6.3|<12

CS-B32
10.0'|<7.5|15

CS-SW09
8.0'|<6.6|15

PS-SW03
6.5'|<6.5|<13

MW-203

CS-B16
15.0'|12|22

CS-B20
12.0'|<6.8|16

CS-B13
15.0'|<7|18

CS-B14
15.0'|<7|21

CS-SW21
6.0'|16|15

PS-B01
7.5'|6.7|<12.0

CS-B31
9.0'|<7.6|22

P6-7
9-11'|<67|<130

CS-B15
16.0'|300|47

MW-207

CS-SW02
7.5'|6.9|13

CS-B09
11.5'|12|32

CS-B22
11.5'|<6.5|<13

CS-SW11
8.5'|21|64

CS-SW03
6.0'|11|<12

CS-B11R1
15.0'|16|17

CS-B36
14.0'|<6.3|<13

CS-B06
11.5'|11|41

CS-SW28
8.0'|<5.3|<11

CS-SW05
8.0'|<5.8|<12

CS-B24
12.0'|110|20

CS-B04
11.5'|140|27

PS-B06
14.0'|120|19

CS-B25
12.5'|550|41

CS-SW04
8.5'|<6.7|<13

CS-B10
11.5'|120|120

CS-B26
12.5'|170|29

CS-SW20
7.5'|12|30

P-DOF-6-W0
4.0'|<55|<110

MW-4

CS-SW06
7.5'|72|260

CS-B05
10.5'|<6.7|<13

CS-B27
12.0'|330|39

CS-B30
13.0'|<6.8|<14

CS-SW18
9.0'|740|46

CS-SW07
9.5'|670|120

CS-B07
11.0'|230|48

CS-SW19
9.0'|<6.3|15

CS-SW08R1
8.0'|25|68

F-11
8.0'|<31|<63

P-DOF-6.2
8.0'|<76|<152

P-DOF-6.3
8.0'|<139|<69

P-DOF-6.5
8.0'|<76|<151

MW-AG1

P5-4
9-11'|<79|<160

P5-5
3-5'|<52|<100
7-9'|<59|<120
11-13'|<68|<140

F-12
6.7'|<29|<58

P-DOF-6.4
8.0'|<60|<119

P-DOF-6.6
8.0'|<61|<121

P5-2
7-9'|1,800|190
9-11'|<69|<140

F-13
2.5'|<26|<52

R-PCS-53
9.0'|<6.9|16

F-14
6.0'|<28|<56

R-PCS-51
12.0'|<5.9|<12

P5-1
9-11'|<72|<140

R-PCS-50
9.0'|<6.5|38

AREA 5

R-PCS-54
9.0'|8.1|65

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE

N

0 40
SCALE IN FEET

NOTES:
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FIGURE 6B

SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 5 AND 6
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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P-3
6-8'|<38|<76
8-10'|<34|<68

P-1
6-8'|<37|<75
8-10'|<33|<67

P-2
6-8'|<36|<71
8-10'|<33|<67

AREA 12

MW-203

MW-207

MW-4

F-29
2.5'|134|1,330
8.5'|<6.19|<12.4

B-4
6.0'|<50|<100

PR-PV6
0-0.5'|<6|24

PR-PV5
0-0.5'|11|54

B03
0.3'|<50|<250

PR-DP1
0-0.5'|300|1,600

PR-DP3
0-0.5'|72|890

SCRAPE-N2
0-0.5'|<5.7|19|

SCRAPE-N6
3.0'|<10|46

PR-DP4
0-0.5'|100|980

PR-DP2
0-0.5'|300|1,600

B-1
6.0'|<50|<100

B-2
6.0'|<50|<100

B-3

SCRAPE-N7
3.0'|50|<14

P-07
8.5'|<50|<250

P-06
7.0'|<50|<250

TP21
6.5'|<50|<250

TP18
2.5'|<50|<250

TP12
2.5'|<50|<250

R-PCS-3
3.0'|9.4|15

DOF-5

R-PCS-2
6.0'|<6.5|<13

R-SE10
0-0.5'|<20|<50

P-08
6.0'|<50|<250
12.0'|<50|<250

P-05
10.0'|<50|<250

TP-P08
1.0'|<20|<50
8.0'|<20|<50
12.0'|<20|<50

B01
2.0'|<50|<250

DOF-3

PR-PV1(R)
0-0.5'|<5.6|<11

TP-P08A
1.0'|<20|<50
8.0'|<20|<50

TP-P01
6.0'|<20|<50
12.0'|<20|<50

R-SE15
0-0.5'|<20|<50

R-SE11
0-0.5'|<20|<50

PR-PV4(R)
0-0.5'|<6.0|<12

TP-WO-1
1.0'|<20|<50

TP-Septic-1
7.0'|<20|<50

R-SE16
0-0.5'|<20|<50

R-WHOIST
3.0'|<7.2|33
8.0'|<6.1|<12

P-02
9.0'|<50|<250

R-EHoist
3.0'|<7.7|25
8.0'|<6.2|<12

PR-PV3
0-0.5'|56|270

AREA 13

TP-P04-1
3.0'|<20|<50

P-04
8.5'|<50|<250

TP11
3.5'|610|<250
8.0'|<50|<250

TP-SD-1
2.0'|<20|<50

R-SE13
0-0.5'|<20|<50

DOF-2

DOF-4

B02
3.0'|<50|<250

TP-SD-2
2.0'|<20|<50

R-SE12
0-0.5'|<20|<50

R-SE14
0-0.5'|<20|<50

AREA 7

SS-2
0.3-1.3'|160|980

SS-1
0.3-1.3'|110|870

PR-PV2(R)
0-0.5'|<7|15

P7-4
4-6'|<64|<130
6-8'|<76|<150

SS-4
0.3-1.3'|140|930

DOF-1

SS-5
0.3-1.3'|220|1,300

P7-5
4-6'|<70|<140

SS-3
0.3-1.3'|200|1300

TP10
2.5'|<50|<250

FMW-01
5.0'|<6.27|<12.5
10.0'|68.4|<13.2
14.0'|<6.3|<12.6
19.0'|<5.99|<12

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS

N

0 80
SCALE IN FEET

NOTES:
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FIGURE 6C

SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 7, 12, AND 13
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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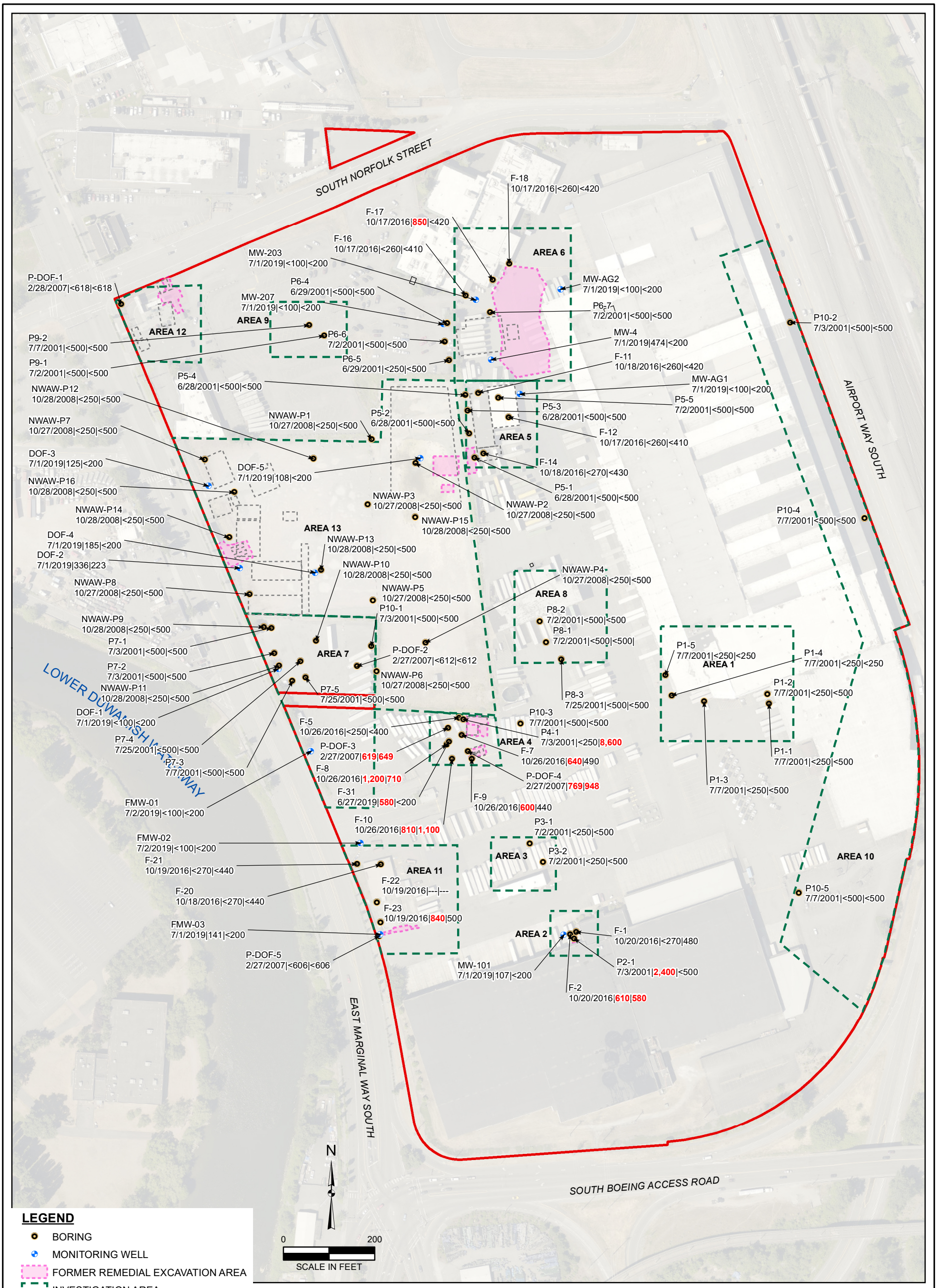

LEGEND

- BORING
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DRO | ORO
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
DRO = DIESEL-RANGE ORGANICS
ORO = OIL-RANGE ORGANICS

NOTES:
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FIGURE 7

GROUNDWATER ANALYTICAL RESULTS FOR
DRO AND ORO
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 4/2/2020 | Disc Reference:

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FORMER
DIESEL USTs

UST-N-SW
11.0'|<4.3|<0.020|<0.043|<0.043|<0.086

F-5
6.0'|<7.3|<0.020|<0.073|<0.073|<0.146

UST-E-SW
11.0'|<4.5|<0.020|<0.045|<0.045|<0.09

FORMER
GASOLINE AST

UST-W-SW
11.0'|<8.5|<0.020|<0.085|<0.085|<0.17

UST-2-B
13.0'|<6.5|<0.020|<0.065|<0.065|<0.13

UST-1-B
13.0'|<6.5|<0.020|<0.065|<0.065|<0.13

UST-F

TP2
7.0'|<5.9|<0.020|<0.059|<0.059|<0.059
12.0'|<9.4|<0.020|<0.094|<0.094|<0.094

F-7
7.0'|<9.1|<0.020|<0.091|<0.091|<0.182

B-1
7.0'|<5.8|<0.06|<0.06|<0.06|<0.01

TP1
7.0'|<13|<0.026|<0.13|<0.13|<0.26
12.0'|<12|<0.024|<0.12|<0.12|<0.24

UST-S-SW
11.0'|<8.0|<0.020|<0.080|<0.080|<0.16

DI-PIPING
3.5'|<8.4|<0.020|<0.084|<0.084|<0.168

East Wall
9.0'|<6.9|<0.07|<0.07|<0.07|<0.14

DI-2
3.5'|<6.0|<0.020|<0.060|<0.060|<0.12

FORMER
DISPENSER
ISLAND

AREA 4

DI-1
3.5'|<5.2|<0.020|<0.052|<0.052|<0.104

South Wall
9.0'|<7.5|<0.08|<0.08|<0.08|0.46

Bottom SW Corner
14.0'|9.9|**4.8**|<0.07|**0.61**|1.98

F-9
8.0'|<8.1|<0.020|<0.081|<0.081|<0.162

AREA 3

F-20
7.0'|<8.8|<0.0015|<0.0074|<0.0015|<0.0045

AREA 11

F-22
7.0'|<6.6|<0.0010|<0.0050|<0.0010|<0.0030

FMW-03
6.0'|<8.46|<0.0014|<0.0014|<0.0014|<0.0028
13.0'|<10.8|0.00047|<0.0014|<0.0014|<0.0028
18.0'|<6.91|<0.0012|<0.0012|<0.0012|<0.00241

F-25
9.0'|<6.46|<0.00102|0.00026|<0.00102|<0.00305
14.0'|<11|<0.00153|0.00042|<0.00153|<0.00459
19.0'|<7.18|<0.00123|0.00041|<0.00123|<0.0037

AREA 2

F-1
5.7'|<28|<0.022|<0.11|0.16|0.25

MW-101

F-2
7.0'|<5.7|<0.020|<0.057|<0.057|<0.114

F-24
9.0'|<4.43|<0.00115|<0.00115|<0.00115|<0.00345
12.5'|<8.07|0.00042|0.00043|<0.00134|<0.00401
19.0'|<7.06|<0.00107|0.00036|<0.00107|<0.00322

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS
AST = ABOVEGROUND STORAGE TANK

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)

N

0 50
SCALE IN FEET

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
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FIGURE 8A

SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREAS 2, 4, AND 11
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/4/2020 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IADR\Figure-08A_Soil-GBTEX_2-4-11.mxd

AREA 6

P-DOF-6.1
8.0'|<29|---|---|---|---

CS-SW27
9.0'|150|0.56|0.057|2.7|3.8

CS-SW25
9.0'|<6.8|<0.017|<0.017|<0.017|<0.034

CS-SW26
9.0'|72|0.54|0.057|0.75|4.7

CS-B35
15.0'|15|0.37|<0.025|0.037|0.16

CS-SW24
8.0'|<6.4|<0.016|<0.016|<0.016|<0.032

CS-B34
10.0'|<5.7|<0.014|<0.014|<0.014|<0.028

CS-B33
10.0'|<11|<0.028|<0.028|<0.028|0.07

CS-B19
13.5'|<14|<0.034|<0.034|<0.034|<0.068

CS-B17
15.0'|14|<0.021|0.029|0.040|0.20

CS-SW10
8.0'|<5.9|<0.015|<0.015|<0.015|<0.030

CS-SW23
8.0'|<7.7|<0.019|<0.019|<0.019|<0.039

CS-SW22
7.0'|<7.2|<0.018|<0.018|<0.018|<0.036

MW-AG2

CS-B18
15.0'|29|1.4|<0.026|0.043|0.069

CS-B32
10.0'|<13|<0.032|<0.032|<0.032|<0.064

CS-SW09
8.0'|<9.6|<0.024|<0.024|<0.024|<0.048

CS-B16
15.0'|41|<0.026|<0.026|0.027|<0.052

MW-203

PS-SW03
6.5'|<9.6|<0.024|<0.024|<0.024|<0.048

CS-B20
12.0'|27|0.031|<0.017|0.017|0.037

CS-SW21
6.0'|20|<0.023|<0.023|<0.023|<0.045

CS-B14
15.0'|11|<0.027|<0.027|<0.027|<0.054

PS-B01
7.5'|<7.8|<0.039|<0.039|<0.039|<0.078

CS-B31
9.0'|<12|<0.029|<0.029|<0.029|0.066

P6-7
9-11'|<27|---|---|---|---

CS-B15
16.0'|26|<0.031|<0.031|<0.031|<0.062

CS-SW02
7.5'|8.7|<0.019|<0.019|<0.019|<0.038

CS-B13
15.0'|19|<0.027|<0.027|<0.027|0.059

MW-207

CS-SW11
8.5'|<11|<0.027|<0.027|<0.027|<0.054

CS-B09
11.5'|32|<0.031|<0.031|<0.031|<0.063

CS-B22
11.5'|<9.0|<0.022|<0.022|<0.022|<0.045

CS-SW03
6.0'|10|<0.018|<0.018|<0.018|<0.035

CS-B11R1
15.0'|13|<0.022|<0.022|<0.022|<0.044

CS-B36
14.0'|<8.4|<0.021|<0.021|<0.021|<0.042

CS-B24
12.0'|50|<0.026|0.051|<0.026|<0.052

CS-SW28
8.0'|<5.7|<0.014|<0.014|<0.014|<0.028

CS-B06
11.5'|<13|<0.032|<0.032|<0.032|<0.064

CS-SW05
8.0'|<7.2|<0.018|<0.018|<0.018|<0.036

CS-B25
12.5'|95|<0.025|<0.025|0.10|0.76

CS-B04
11.5'|51|<0.026|<0.026|<0.026|<0.052

PS-B06
14.0'|12|<0.024|<0.024|<0.024|<0.048

CS-SW04
8.5'|<9.2|<0.023|<0.023|<0.023|<0.046

CS-B26
12.5'|70|<0.024|<0.024|<0.024|<0.048

CS-SW20
7.5'|<6.5|<0.016|<0.016|<0.016|<0.032

CS-B05
10.5'|<9.7|<0.024|<0.024|<0.024|<0.048

CS-B10
11.5'|22|<0.034|<0.034|<0.034|<0.068

MW-4

CS-B27
12.0'|66|<0.025|<0.025|<0.025|0.49

P-DOF-6-W0
4.0'|<22|---|---|---|---

CS-B30
13.0'|10|<0.023|<0.023|<0.023|<0.046

CS-SW06
7.5'|<17|<0.043|<0.043|<0.043|<0.086

CS-SW18
9.0'|96|<0.029|<0.029|0.031|0.39

CS-SW07
9.5'|52|<0.032|<0.032|<0.032|<0.064

CS-B07
11.0'|61|<0.028|<0.028|<0.028|0.055

CS-SW08R1
8.0'|44|<0.015|<0.015|0.029|<0.030

CS-SW19
9.0'|<8.2|<0.020|<0.020|<0.020|<0.041

P-DOF-6.5
8.0'|<30|---|---|---|---

P-DOF-6.3
8.0'|<28|---|---|---|---

F-11
8.0'|<5.8|<0.0011|<0.0055|<0.0011|<0.0033

P-DOF-6.2
8.0'|<30|---|---|---|---

P5-4
9-11'|<32|---|---|---|---

MW-AG1

P5-5
3-5'|<21|---|---|---|---
7-9'|<24|---|---|---|---
11-13'|<27|---|---|---|---

F-12
6.7'|<7.3|<0.0016|<0.0081|<0.0016|<0.0049

P-DOF-6.6
8.0'|<24|---|---|---|---

P-DOF-6.4
8.0'|<24|---|---|---|---

P5-2
7-9'|<28|---|---|---|---
9-11'|<28|---|---|---|---

F-13
2.5'|<5.9|<0.0011|<0.0055|<0.0011|<0.0033

R-PCS-53
9.0'|<12|<0.029|<0.029|<0.029|<0.059

F-14
6.0'|<5.4|<0.00093|<0.0046|<0.00093|<0.0028

R-PCS-51
12.0'|75|<0.019|<0.019|0.12|<0.038

P5-1
9-11'|<29|---|---|---|---

AREA 5

R-PCS-50
9.0'|<11|<0.027|<0.027|<0.027|<0.054

R-PCS-54
9.0'|<7.4|<0.018|<0.018|<0.018|<0.037

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 40
SCALE IN FEET

NOTES:
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FIGURE 8B

SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREAS 5 AND 6
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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B03
0.3'|<2|<0.020|<0.020|<0.020|<0.060

PR-DP1
0-0.5'|<13|<0.032|<0.032|<0.032|<0.064

B-4

B-3
4.5'|---|---|<25|<25|<50
7.5'|---|---|<23|4|<46
10.0'|---|---|<20|51 |135

PR-DP3
0-0.5'|<7.3|<0.018|<0.018|<0.018|<0.037

B-1
4.5'|---|---|<23|<23|<46
9.0'|---|---|<21|<21|<42

B-2
4.5'|---|---|<23|<23|<46
6.0'|---|---|32 |4|30
15.0'|---|---|<24|<24|<48

PR-DP2
0-0.5'|64|<0.032|0.049|0.049|<0.064

SCRAPE-N7
3.0'|60|<0.027|<0.027|<0.027|<0.054

PR-DP4
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

P-07
8.5'|<2|---|---|---|---

P-06
7.0'|<2|---|---|---|---

TP12
2.5'|<2|<0.020|<0.020|<0.020|<0.060

TP21
6.5'|<2|---|---|---|---

TP18
2.5'|<2|<0.020|<0.020|<0.020|<0.060

DOF-5

R-PCS-3
3.0'|<11|<0.028|<0.028|<0.028|<0.057

P-08
6.0'|<2|---|---|---|---
12.0'|<2|---|---|---|---

R-SE10
0-0.5'|<5.9|<0.015|<0.015|<0.015|<0.030

PR-PV1(R)
0-0.5'|<6.5|<0.016|<0.016|<0.016|<0.032

P-05
10.0'|<2|---|---|---|---

TP-P08
1.0'|<7.3|<0.018|<0.018|<0.018|<0.037
8.0'|<10|<0.025|<0.025|<0.025|<0.051
12.0'|<9.9|<0.025|<0.025|<0.025|<0.050

R-PCS-2
6.0'|<9.2|<0.023|<0.023|<0.023|<0.046

DOF-3

TP-P08A
1.0'|<8.2|<0.020|<0.020|<0.020|<0.041
8.0'|<8.6|<0.022|<0.022|<0.022|<0.043

B01
2.0'|<2|<0.020|<0.020|<0.020|<0.060

TP-P01
6.0'|<9.2|<0.023|<0.023|<0.023|<0.046
12.0'|<8.8|<0.022|<0.022|<0.022|<0.044

R-SE15
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

PR-PV4(R)
0-0.5'|<7.9|<0.020|<0.020|<0.020|<0.039

R-SE11
0-0.5'|<6.2|<0.016|<0.016|<0.016|<0.031

TP-WO-1
1.0'|<7.3|<0.018|<0.018|<0.018|<0.037

P-02
9.0'|<2|---|---|---|---

R-SE16
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

TP-Septic-1
7.0'|<10|<0.025|<0.025|<0.025|<0.050

PR-PV3
0-0.5'|<6.9|<0.017|<0.017|<0.017|0.040

AREA 13

TP-P04-1
3.0'|<6.7|<0.017|<0.017|<0.017|<0.034

P-04
8.5'|<2|---|---|---|---

TP11
3.5'|71|<0.020|0.1|0.13|0.49
8.0'|4|<0.020|<0.020|<0.020|<0.060

DOF-2

TP-SD-1
2.0'|<10|<0.026|<0.026|<0.026|<0.052

B02
3.0'|<2|<0.020|<0.020|<0.020|<0.060

DOF-4

R-SE13
0-0.5'|<6.8|<0.017|<0.017|<0.017|<0.034

R-SE12
0-0.5'|<6.2|<0.016|<0.016|<0.016|<0.031

TP-SD-2
2.0'|<11|<0.026|<0.026|<0.026|<0.053

R-SE14
0-0.5'|<6.4|<0.016|<0.016|<0.016|<0.032

SS-2
0.3-1.3'|<5.9|<0.015|<0.015|<0.015|<0.029

SS-1
0.3-1.3'|<5.9|<0.015|<0.015|<0.015|<0.030

PR-PV2(R)
0-0.5'|<10|<0.026|<0.026|<0.026|<0.053

P7-4
4-6'|<26|---|---|---|---
6-8'|<140|---|---|---|---

SS-4
0.3-1.3'|7.1|<0.015|<0.015|<0.015|<0.029

DOF-1

SS-5
0.3-1.3'|<5.3|<0.013|<0.013|<0.013|<0.027

SS-3
0.3-1.3'|9|<0.014|<0.014|<0.014|<0.028

P7-5
4-6'|<28|---|---|---|---

AREA 7

TP10
2.5'|<2|<0.020|<0.020|<0.020|<0.060

FMW-01
5.0'|<8.02|0.00497|0.00189|<0.00117|0.00085
10.0'|5,360|<1.64|<1.64|3.5|13.4
14.0'|4,700|<1.49|<1.49|5.84|27
19.0'|<6.5|<0.00113|<0.00113|<0.00113|<0.00339

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT
- FORMER REMEDIAL EXCAVATION AREA
- FORMER SITE FEATURE
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS

N

0 50
SCALE IN FEET

NOTES:
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FIGURE 8C

SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREA 7 AND 13
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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MW-203
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

F-17
10/17/2016|**1,300**|**90**|<4.0|**140**|20

SOUTH NORFOLK STREET

F-18
10/17/2016|<100|<1.0|<1.0|<1.0|<2.0

F-16
10/17/2016|<100|<1.0|<1.0|<1.0|<2.0

P-DOF-1
2/28/2007|<245|<1.0|<1.0|<1.0|<3.0

P6-4
6/29/2001|<250|0.69|<0.2|<0.2|<0.4

AREA 6

MW-207
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

MW-AG2
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

P9-1
7/2/2001|<250|---|---|---|---

P9-2
7/7/2001|<250|---|---|---|---

P6-7
7/2/2001|<250|---|---|---|---

P10-2
7/3/2001|<250|<20.0|<20.0|<40.0|<40.0

AREA 9

AREA 12

P6-6
7/2/2001|<250|---|---|---|---

MW-4
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

P5-5
7/2/2001|<250|<20|<20|<20|<40

P6-5
6/29/2001|<250|<0.2|<0.2|<0.2|<0.4

F-11
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

MW-AG1
7/1/2019|<500|<1.0|<1.0|<1.0|<3.0

NWAW-P1
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

P5-4
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

P5-3
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

NWAW-P12
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

F-12
10/17/2016|<100|<0.20|<1.0|<0.20|<0.60

AIRPORT WAY SOUTH

NWAW-P7
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

AREA 13

P5-2
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

AREA 5

F-13
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

DOF-3
7/1/2019|<100|<0.2|<0.2|<0.2|<0.60

NWAW-P2
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

F-14
10/18/2016|<100|<0.40|<2.0|<0.40|<1.2

NWAW-P16
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

DOF-5
7/1/2019|<100|<0.2|<0.2|<0.2|0.15

NWAW-P14
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P3
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P15
10/28/2008|280|<1.0|<1.0|<1.0|<1.0

P5-1
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

DOF-2
7/1/2019|131|0.19|0.22|0.26|0.38

P10-4
7/7/2001|<250|<1.0|<1.0|<1.0|<2.0

DOF-4
7/1/2019|<100|<0.2|<0.2|<0.2|<0.60

NWAW-P13
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P8
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P5
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

AREA 8

NWAW-P9
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

P8-2
7/2/2001|<250|---|---|---|---

P7-1
7/3/2001|700|**42**|3|**39**|102

P10-1
7/3/2001|<250|**2.3**|<1.0|8.6|17.1

P8-1
7/2/2001|<250|---|---|---|---

P8-3
7/25/2001|<250|---|---|---|---

NWAW-P10
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P4
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

P1-5
7/7/2001|<250|---|---|---|---

P7-2
7/3/2001|<250|<0.2|<0.2|<0.2|<0.4

NWAW-P6
10/27/2008|<250|<1.0|<1.0|<1.0|3.6

P1-2
7/7/2001|<250|---|---|---|---

LOWER DUWAMISH WATERWAY

NWAW-P11
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

AREA 1

DOF-1
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

P4-1
7/3/2001|<250|---|---|---|---

P1-1
7/7/2001|<250|---|---|---|---

P7-4
7/25/2001|<250|<0.2|<0.2|<0.2|<0.4

F-5
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

P10-3
7/7/2001|<250|<0.2|<0.2|<0.2|<0.4

P7-3
7/7/2001|<250|<0.2|<0.2|<0.2|<0.4

AREA 4

P1-3
7/7/2001|<250|---|---|---|---

AREA 7

F-7
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

P7-5
7/25/2001|<250|<0.2|0.49|<0.2|<0.4

P1-4
7/7/2001|<250|---|---|---|---

F-9
10/26/2016|<100|<1.0|<1.0|<1.0|1.0

P-DOF-2
2/27/2007|<243|<1.0|<1.0|<1.0|<3.0

FMW-01
7/2/2019|563|0.06|0.08|6.38|29.8

P3-1
7/2/2001|<250|---|---|---|---

P-DOF-3
2/27/2007|<238|---|---|---|---

AREA 3

AREA 10

F-8
10/26/2016|<100|<0.20|<1.0|<0.20|0.86

P3-2
7/2/2001|<250|---|---|---|---

P10-5
7/7/2001|<250|<1.0|<1.0|<1.0|<2.0

F-10
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

AREA 11

P-DOF-4
2/27/2007|<240|---|---|---|---

F-2
10/20/2016|<100|<1.0|<1.0|<1.0|<2.0

F-1
10/20/2016|<100|<0.40|<2.0|<0.40|<1.2

FMW-02
7/2/2019|<100|<0.20|<0.20|<0.20|0.07

AREA 2

F-21
10/19/2016|<100|0.21|<1.0|<0.20|<0.60

F-20
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

MW-101
7/1/2019|<100|<0.2|<0.2|<0.2|<0.60

P2-1
7/3/2001|**2,500**|**3.1**|<1.0|26|19

F-22
10/19/2016|<100|<0.20|<1.0|<0.20|<0.60

EAST MARGINAL WAY SOUTH

F-23
10/19/2016|150|<0.20|<1.0|<0.20|<0.60

P-DOF-5
2/27/2007|<240|<1.0|<1.0|<1.0|<3.0

FMW-03
7/1/2019|<100|<0.20|<0.20|<0.20|<0.60

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | GRO | BENZENE | TOLUENE |
ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = GASOLINE-RANGE ORGANICS

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FIGURE 9

GROUNDWATER ANALYTICAL RESULTS FOR
GRO AND BTEX
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 4/2/2020 | Disc Reference:

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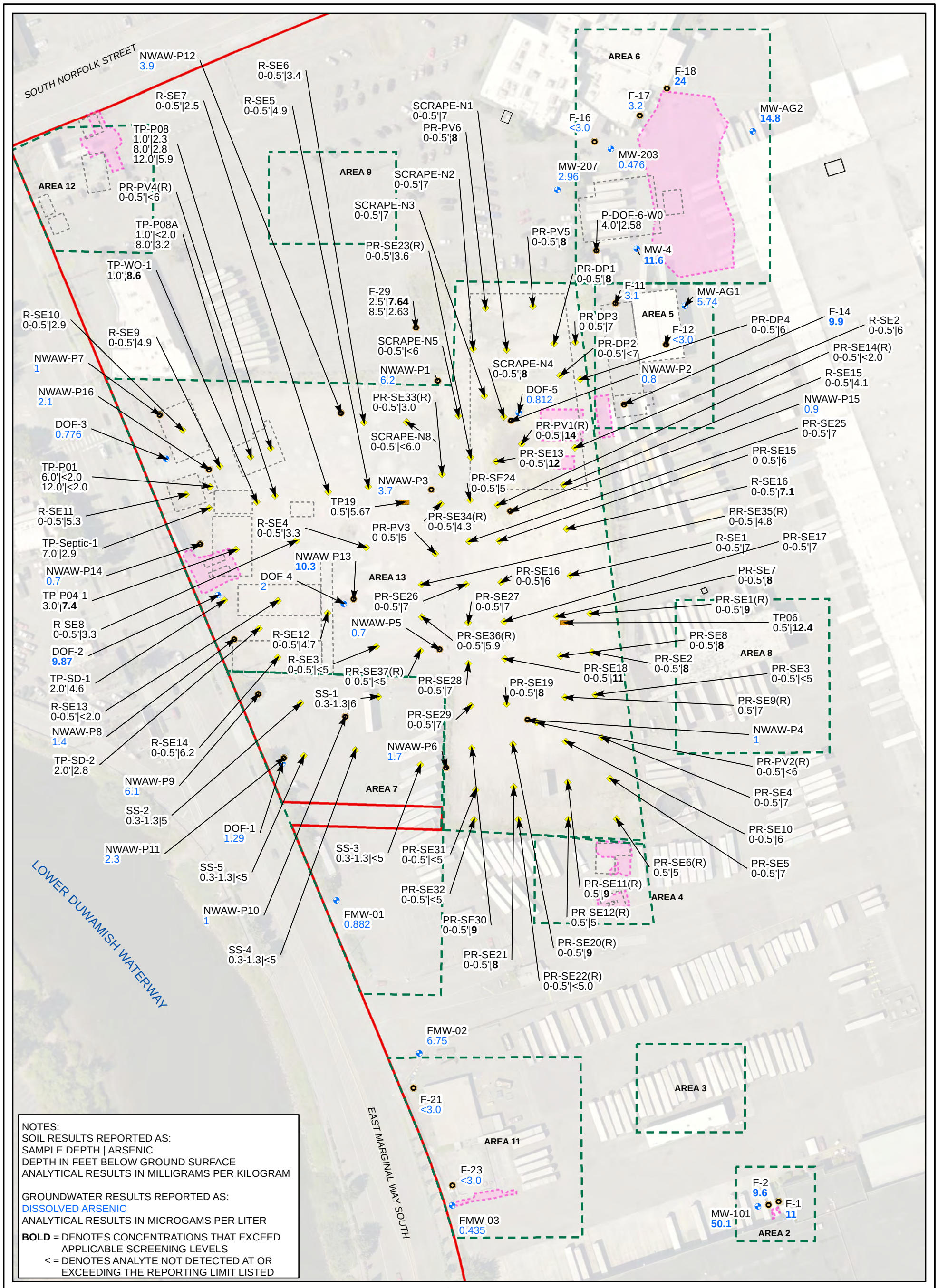

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT (DOF)
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 120

SCALE IN FEET

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FIGURE 10

SOIL AND GROUNDWATER RESULTS FOR ARSENIC
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

AREA 6

TRANSFORMER

MW-AG2
2.11

MW-203
2.03

MW-207
0.905

MW-4
1.07

TRANSFORMER

AREA 12

AREA 9

PR-PV6
0-0.5|**37.2**

PR-PV5
0-0.5|**55.9**

MW-AG1
7.75

F-29
2.5'|**60.6**
8.5'|27.3

PR-DP1
0-0.5'|30

AREA 5

PR-C1(R)
0-0.5'|16.5

PR-C2(R)
0-0.5'|12.4

DOF-5
1.14

DOF-3
8.87

PR-PV4(R)
0-0.5'|20.3

PR-C3(R)
0-0.5'|11.9

PR-PV1(R)
0-0.5'|17.4

PR-PV3
0-0.5'|23.2

PR-SE15
0-0.5'|19

DRY GROCERY WAREHOUSE

TRANSFORMER

DOF-4
<0.5

DOF-2
2.38

PR-C4(R)
0-0.5|**54.6**

AREA 13

RETURNS BUIILDING

AREA 8

PR-SE28
0-0.5'|20.1

PR-SE8
0-0.5'|16.7

DOF-1
0.363

AREA 1

AREA 10

LOWER DUWAMISH WATERWAY

PR-SE31
0-0.5'|11.2

AREA 7

AREA 4

FMW-01
0.374

FMW-02
0.536

AREA 11

AREA 3

FMW-03
<0.5

MW-101
<0.5

AREA 2

PERISHABLES WAREHOUSE

EAST MARGINAL WAY SOUTH

AIRPORT WAY SOUTH

SOUTH BOEING ACCESS ROAD

NOTES:
SOIL RESULTS REPORTED AS:
SAMPLE DEPTH | COPPER
DEPTH IN FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

GROUNDWATER RESULTS REPORTED AS:
DISSOLVED COPPER
ANALYTICAL RESULTS IN MICROGAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE SCREENING LEVELS
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 200
SCALE IN FEET

NOTES:
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FIGURE 11

SOIL AND GROUNDWATER ANALYTICAL RESULTS FOR COPPER
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

AREA 6

F-17
42

F-18
<0.095

F-16
<0.095

TRANSFORMER

MW-AG2
0.002

MW-203
0.002

TRANSFORMER

AREA 12

AREA 9

MW-207
0.002

MW-4
0.003

P10-2
<0.50

F-11
8.0'|<0.0011
<0.095

MW-AG1
0.002

PR-PV6
0-0.5'|<0.07

AREA 5

F-12
6.7'|<0.0081
<0.096

SCRAPE-N2
0-0.5'|<0.064

F-13
2.5'|<0.0011

DOF-5
0.008

F-14
6.0'|<0.056
<0.095

DOF-3
0.003

PR-PV1(R)
0-0.5'|<0.060

AIRPORT WAY SOUTH

PR-PV4(R)
0-0.5'|<0.056

R-SE15
0-0.5'|<0.05

DRY GROCERY WAREHOUSE

P10-4
<0.50

PR-PV3
0-0.5'|<0.06

R-SE16
0-0.5'|<0.05

DOF-2
0.4

TRANSFORMER

DOF-4
0.002

AREA 13

RETURNS BUIILDING

AREA 8

P10-1
8

PR-PV2(R)
0-0.5'|<0.06

DOF-1
0.002

UST-N-SW
11.0'|<0.0072

AREA 1

AREA 10

LOWER DUWAMISH WATERWAY

UST-1-B
13.0'|<0.0086

UST-E-SW
11.0'|<0.0071

UST-2-B
13.0'|<0.0088

UST-W-SW
11.0'|<0.0098

AREA 7

P10-3
<0.50

UST-S-SW
11.0'|<0.0097

FMW-01
2.98

DI-1
3.5'|<0.0072

AREA 4

DI-PIPING
3.5'|<0.0090

F-9
8.0'|<0.0096

DI-2
3.5'|<0.0070

FMW-02
0.006

F-20
7.0'|<0.0015
<0.11

F-21
<0.096

AREA 3

P10-5
<0.50

F-22
7.0'|<0.0010

F-1
5.7'|**2.0**
<0.19

F-23
<0.096

MW-101
0.007

AREA 2

FMW-03
0.025

AREA 11

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

NOTES:
SOIL RESULTS REPORTED AS:
SAMPLE DEPTH | NAPHTHALENE
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

GROUNDWATER RESULTS REPORTED AS:
NAPHTHALENE
ANALYTICAL RESULTS IN MICROGAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE SCREENING LEVELS
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 200
SCALE IN FEET

NOTES:
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FIGURE 12

SOIL AND GROUNDWATER RESULTS FOR NAPHTHALENE
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

AREA 6

F-18 <0.0072

F-17 <0.0072

MW-AG2 <0.0076

TRANSFORMER

F-16 **0.009**

MW-203 <0.0076

TRANSFORMER

P10-2 <0.0091

AREA 12

AREA 9

MW-207 <0.0076

MW-4 <0.0076

F-11 8.0'|<0.0063 <0.0072

PR-PV6 0-0.5'|<0.053

MW-AG1 **0.0075**

AREA 5

SCRAPE-N2 0-0.5'|<0.048

F-12 <0.0072

DOF-5 <0.0076

F-14 <0.0072

AIRPORT WAY SOUTH

DOF-3 <0.0076

PR-PV1(R) 0-0.5'|<0.045

PR-PV4(R) 0-0.5'|<0.042

R-SE15 0-0.5'|<0.0076

P10-4 <0.0091

R-SE16 0-0.5'|<0.0076

DRY GROCERY WAREHOUSE

PR-PV3 0-0.5'|<0.045

TRANSFORMER

DOF-2 <0.0076

DOF-4 <0.0076

AREA 13

RETURNS BUIILDING

AREA 8

PR-PV2(R) 0-0.5'|<0.045

DOF-1 **0.0075**

LOWER DUWAMISH WATERWAY

UST-N-SW 11.0'|<0.0054

UST-W-SW 11.0'|<0.0074

UST-E-SW 11.0'|<0.0054

AREA 1

AREA 10

UST-1-B 13.0'|<0.0065

P10-3 <0.0091

AREA 7

UST-S-SW 11.0'|<0.0073

UST-2-B 13.0'|<0.0066

FMW-01 <0.0076

AREA 4

DI-1 3.5'|**0.033**

DI-PIPING 3.5'|<0.0068

F-9 8.0'|<0.0072

DI-2 3.5'|<0.0053

FMW-02 <0.0076

F-21 <0.0072

F-20 7.0'|<0.0069 <0.008

AREA 3

P10-5 <0.0091

F-23 <0.0072

F-1 5.7'|**0.007** <0.014

MW-101 <0.0076

FMW-03 <0.0076

AREA 11

AREA 2

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

NOTES:
SOIL RESULTS REPORTED AS:
SAMPLE DEPTH | cPAH TEC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

GROUNDWATER RESULTS REPORTED AS:
cPAH TEC
ANALYTICAL RESULTS IN MICROGAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE SCREENING LEVELS
< = = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
cPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON
TEC = TOXIC EQUIVALENCY CONCENTRATION

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 200

SCALE IN FEET

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
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FIGURE 13

SOIL AND GROUNDWATER RESULTS FOR cPAHs
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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SOUTH NORFOLK STREET

F-27
2.5'|<0.178
10.0'|<0.180
<0.90

OFFICE BUILDING

F-28
2.5'|**0.0269**
8.5'|<0.179
<0.90

AREA 6

MW-AG2
<0.090

F-30
1.0'|<0.178

TRANSFORMER

MW-203
<0.090

TRANSFORMER
F-33
1.0'|<0.180

AREA 12

AREA 9

MW-207
<0.090

P-DOF-6-W0
4.0'|<0.055

MW-4
<0.090

PR-PV6
0-0.5'|**0.075**

MW-AG1
<0.090

AREA 5

SCRAPE-N2
0-0.5'|<0.231

DOF-5
<0.090

AIRPORT WAY SOUTH

DOF-3
<0.090

TP-WO-1
1.0'|<3.5

PR-PV1(R)
0-0.5'|<0.231

R-SE15
0-0.5'|<1.4

PR-PV4(R)
0-0.5'|<0.224

DRY GROCERY WAREHOUSE

R-SE16
0-0.5'|<1.4

DOF-2
<0.090

DOF-4
<0.090

PR-PV3
0-0.5'|<0.21

AREA 13

F-32
1.0'|<0.178

TRANSFORMER

RETURNS BUIILDING

AREA 8

PR-PV2(R)
0-0.5'|<0.21

DOF-1
<0.090

LOWER DUWAMISH WATERWAY

AREA 1

AREA 10

AREA 7

FMW-01
<0.090

AREA 4

FMW-02
<0.090

AREA 3

FMW-03
<0.090

AREA 11

MW-101
<0.090

AREA 2

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

NOTES:
SOIL RESULTS REPORTED AS:
SAMPLE DEPTH | TOTAL PCBs
DEPTH IN FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM

GROUNDWATER RESULTS REPORTED AS:
TOTAL PCBs
ANALYTICAL RESULTS IN MICROGAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED APPLICABLE SCREENING LEVELS
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT LISTED
PCB = POLYCHLORINATED BIPHENYL

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 200
SCALE IN FEET

NOTES:
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FIGURE 14

SOIL AND GROUNDWATER RESULTS FOR
TOTAL PCB AROCLORS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/5/2020 | Disc Reference:

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TABLES

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Table 1A
Summary of Soil Sample Analyses
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Method[2]					
						DRO/ORO by NWTPH-Dx	GRO by NWTPH-Gx	VOCs by EPA Method 8021 or 8260	PAHs by EPA Method 8270	PCBs by EPA Method 8082	Metals by EPA Method 6010/6020
Northern Property Boundary											
2019 Subsurface Investigation											
F-27	Farallon	F-27-2.5	2.5	Vadose	6/27/2019					X	
	Farallon	F-27-10.0	10.0	Saturated	6/27/2019					X	
F-28	Farallon	F-28-2.5	2.5	Vadose	6/27/2019					X	
	Farallon	F-28-8.5	8.5	Saturated	6/28/2019					X	
Transformers											
2019 Subsurface Investigation											
F-30	Farallon	F-30-1.0	1.0	Vadose	6/27/2019					X	
F-32	Farallon	F-32-1.0	1.0	Vadose	6/27/2019					X	
F-33	Farallon	F-33-1.0	1.0	Vadose	6/27/2019					X	
Former Detention Pond											
2019 Subsurface Investigation											
F-29	Farallon	F-29-2.5	2.5	Vadose	6/27/2019	X					X
	Farallon	F-29-8.5	8.5	Saturated	6/28/2019	X					X
Area 2: Perishables Warehouse											
2019 Subsurface Investigation											
F-24	Farallon	F-24-9.0	9.0	Saturated	6/27/2019	X	X	X			
	Farallon	F-24-12.5	12.5	Saturated	6/27/2019	X	X	X			
	Farallon	F-24-19.0	19.0	Saturated	6/27/2019	X	X	X			
F-25	Farallon	F-25-9.0	9.0	Saturated	6/27/2019	X	X	X			
	Farallon	F-25-14.0	14.0	Saturated	6/27/2019	X	X	X			
	Farallon	F-25-19.0	19.0	Saturated	6/27/2019	X	X	X			
Area 4: Former Fueling Area											
2019 Subsurface Investigation											
FMW-02	Farallon	FMW-02-6.0	6.0	Vadose	6/26/2019	X					
	Farallon	FMW-02-11.0	11.0	Saturated	6/26/2019	X					

Table 1A
Summary of Soil Sample Analyses
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Method[2]					
						DRO/ORO by NWTPH-Dx	GRO by NWTPH-Gx	VOCs by EPA Method 8021 or 8260	PAHs by EPA Method 8270	PCBs by EPA Method 8082	Metals by EPA Method 6010/6020
Area 7: Former Automobile Service Stations											
2019 Subsurface Investigation											
FMW-01	Farallon	FMW-01-5.0	5.0	Vadose	6/26/2019	X	X	X			
	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	X	X	X	X		
	Farallon	FMW-01-14.0	14.0	Saturated	6/26/2019	X	X	X			
	Farallon	FMW-01-19.0	19.0	Saturated	6/26/2019	X	X	X			
Area 11: Former South Maintenance Shop											
2019 Subsurface Investigation											
FMW-03	Farallon	FMW-03-6.0	6.0	Vadose	6/26/2019	X	X	X			
	Farallon	FMW-03-13.0	13.0	Saturated	6/26/2019	X	X	X			
	Farallon	FMW-03-18.0	18.0	Saturated	6/26/2019	X	X	X			

NOTES:

[1]Depth in feet below ground surface.

[2]An "X" indicates the sample was analyzed by the method identified in that respective column.

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
EPA = U.S. Environmental Protection Agency
Farallon = Farallon Consulting, L.L.C.
GRO = TPH as gasoline-range organics
ORO = TPH as oil-range organics
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
UST = underground storage tank
VOC = volatile organic compound

Table 1B
Summary of Groundwater Sample Analyses
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Methods[1]					
				DRO/ORO by NWTPH-Dx	GRO by NWTPH-Gx	VOCs by EPA Method 8021 or 8260	PAHs by EPA Method 8270	PCBs by EPA Method 8082	Metals by EPA Methods 200.8/6010
Northern Property Boundary									
Reconnaissance Boring Groundwater Samples									
F-27	Farallon	6/27/2019	F-27-190627					X	
F-28	Farallon	6/28/2019	F-28-190628					X	
Area 2: Perishables Warehouse									
Monitoring Well Groundwater Samples									
MW-101	Farallon	7/1/2019	MW-101-190701	X	X	X	X	X	X
Area 4: Former Fueling Area									
Reconnaissance Boring Groundwater Samples									
F-31	Farallon	6/27/2019	F-31-190627	X					
Monitoring Well Groundwater Samples									
FMW-02	Farallon	7/2/2019	FMW-02-190702	X	X	X	X	X	X
Area 6: Former Truck Repair Shop									
Monitoring Well Groundwater Samples									
MW-4	Farallon	7/1/2019	MW-4-190701	X	X	X	X	X	X
MW-203	Farallon	7/1/2019	MW-203-190701	X	X	X	X	X	X
MW-207	Farallon	7/1/2019	MW-207-190701	X	X	X	X	X	X
MW-AG1	Farallon	7/1/2019	MW-AG1-190701	X	X	X	X	X	X
MW-AG2	Farallon	7/1/2019	MW-AG2-190701	X	X	X	X	X	X
Area 7: Former Automobile Service Stations									
Monitoring Well Groundwater Samples									
DOF-1	Farallon	7/1/2019	DOF-1-190701	X	X	X	X	X	X
FMW-01	Farallon	7/2/2019	FMW-01-190702	X	X	X	X	X	X
Area 11: Former South Maintenance Shop									
Monitoring Well Groundwater Samples									
FMW-03	Farallon	7/1/2019	FMW-03-190701	X	X	X	X	X	X

Table 1B
Summary of Groundwater Sample Analyses
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Methods[1]					
				DRO/ORO by NWTPH-Dx	GRO by NWTPH-Gx	VOCs by EPA Method 8021 or 8260	PAHs by EPA Method 8270	PCBs by EPA Method 8082	Metals by EPA Methods 200.8/6010
Area 13: Former Northwest Auto Wrecking Property									
Monitoring Well Groundwater Samples									
DOF-2	Farallon	7/1/2019	DOF-2-190701	X	X	X	X	X	X
DOF-3	Farallon	7/1/2019	DOF-3-190701	X	X	X	X	X	X
DOF-4	Farallon	7/1/2019	DOF-4-190701	X	X	X	X	X	X
DOF-5	Farallon	7/1/2019	DOF-5-190701	X	X	X	X	X	X

NOTES:
[1]An "X" indicates the sample was analyzed by the method identified in that respective column.

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
EPA = U.S. Environmental Protection Agency
Farallon = Farallon Consulting, L.L.C.
GRO = TPH as gasoline-range organics
ORO = TPH as oil-range organics
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
UST = underground storage tank
VOC = volatile organic compound

Table 2
Groundwater Elevations
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Top of Casing Elevation (feet NAVD88)[1]	Monitoring Date	Depth to Water (feet)[2]	Water Level Elevation (feet NAVD88)[1]
DOF-1	16.38	7/1/2019	11.94	4.44
DOF-2	18.19	7/1/2019	12.89	5.30
DOF-3	19.08	7/1/2019	13.35	5.73
DOF-4	17.37	7/1/2019	11.60	5.77
DOF-5	14.89	7/1/2019	7.81	7.08
FMW-01	17.84	7/1/2019	14.54	3.30
FMW-02	17.41	7/1/2019	14.35	3.06
FMW-03	17.17	7/1/2019	14.40	2.77
MW-4	17.83	7/1/2019	10.41	7.42
MW-101	15.47	7/1/2019	8.33	7.14
MW-203	17.99	7/1/2019	10.56	7.43
MW-207	15.63	7/1/2019	8.30	7.33
MW-AG1	16.79	7/1/2019	9.32	7.47
MW-AG2	15.81	7/1/2019	8.13	7.68

NOTES:
[1] In feet above mean sea level.
[2] In feet below top of well casing.

NAVD88 = North American Vertical Datum of 1988

Table 3
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Former Detention Pond												
2019 Subsurface Investigation												
F-29	Farallon	F-29-2.5	2.5	Vadose	6/27/2019	134	1,330	---	---	---	---	---
	Farallon	F-29-8.5	8.5	Saturated	6/28/2019	< 6.19	< 12.4	---	---	---	---	---
Area 2: Perishables Warehouse												
P2-1	DOF	Probe 2-1	5 - 7	Vadose	7/3/2001	**9,900**	< 570	---	---	---	---	---
EX-2-2	DOF	Exc. Spl. 2-2	7.0	Vadose	4/2/2002	< 33	< 65	---	---	---	---	---
EX-2-3	DOF	Exc. Spl. 2-3	7.0	Vadose	4/2/2002	1,300	< 59	---	---	---	---	---
EX-2-4	DOF	Exc. Spl. 2-4	3.0	Vadose	4/2/2002	< 28	< 55	---	---	---	---	---
EX-2-5	DOF	Exc. Spl. 2-5	9.0	Saturated	4/2/2002	< 34	< 68	---	---	---	---	---
EX-2-6	DOF	Exc. Spl. 2-6	7.0	Vadose	4/2/2002	< 28	< 55	---	---	---	---	---
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	**5,900**	< 280	< 28	< 0.022	< 0.11	0.16	0.25
F-2	Farallon	F-2-7.0	7.0	Vadose	10/20/2016	< 28	< 56	< 5.7	< 0.020	< 0.057	< 0.057	< 0.114
F-24	Farallon	F-24-9.0	9.0	Saturated	6/27/2019	< 5.35	< 10.7	< 4.43	< 0.00115	< 0.00115	< 0.00115	< 0.00345
	Farallon	F-24-12.5	12.5	Saturated	6/27/2019	< 6.8	32.9	< 8.07	0.00042 J	0.00043 J	< 0.00134	< 0.00401
	Farallon	F-24-19.0	19.0	Saturated	6/27/2019	< 6.15	< 12.3	< 7.06	< 0.00107	0.00036 J	< 0.00107	< 0.00322
F-25	Farallon	F-25-9.0	9.0	Saturated	6/27/2019	< 5.3	< 10.6	< 6.46	< 0.00102	0.00026 J	< 0.00102	< 0.00305
	Farallon	F-25-14.0	14.0	Saturated	6/27/2019	< 6.97	29.0	< 11	< 0.00153	0.00042 J	< 0.00153	< 0.00459
	Farallon	F-25-19.0	19.0	Saturated	6/27/2019	< 6.15	< 12.3	< 7.18	< 0.00123	0.00041 J	< 0.00123	< 0.0037
Area 4: Former Fueling Area												
1998 UST Decommissioning												
Former Dispenser Island Excavation												
E. Sidewall	Global	East Sidewall	9.0	Saturated	2/6/1998	< 35	< 69	< 6.9	< 0.07	< 0.07	< 0.07	< 0.14
S. Sidewall	Global	South Sidewall	9.0	Saturated	2/6/1998	< 37	< 75	< 7.5	< 0.08	< 0.08	< 0.08	0.46
Bottom SW Corner	Global	Bottom SW Corner	14.0	Saturated	2/6/1998	36	< 72	9.9	**4.8**	< 0.07	**0.61**	1.98
Boring B-1	Global	Boring B-1	7.0	Vadose	5/28/2007	< 200	< 200	< 5.8	< 0.06	< 0.06	< 0.06	< 0.01
UST Excavation												
Tank 3 E Wall	Global	East Sidewall	Unknown	---	2/9/1998	< 36	< 59	---	---	---	---	---
West Wall	Global	West Sidewall	Unknown	---	2/9/1998	< 31	< 62	---	---	---	---	---
N. Wall	Global	North Sidewall	Unknown	---	2/9/1998	< 32	< 63	---	---	---	---	---
2002 Surface Spill Excavation												
4-1	Terra	Exc. Spl. 4-1	2.0	Vadose	4/1/2002	300	190	---	---	---	---	---
4-3	Terra	Exc. Spl. 4-3	2.0	Vadose	4/1/2002	54	<53	---	---	---	---	---
4-4	Terra	Exc. Spl. 4-4	2.0	Vadose	4/1/2002	<28	190	---	---	---	---	---
4-5	Terra	Exc. Spl. 4-5	2.5	Vadose	4/1/2002	<33	74	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

Table 3
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2016 Subsurface Investigation												
F-5	Farallon	F-5-6.0	6.0	Vadose	10/26/2016	< 34	< 68	< 7.3	< 0.020	< 0.073	< 0.073	< 0.146
F-7	Farallon	F-7-7.0	7.0	Vadose	10/26/2016	< 38	< 76	< 9.1	< 0.020	< 0.091	< 0.091	< 0.182
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	< 36	< 72	< 8.1	< 0.020	< 0.081	< 0.081	< 0.162
2019 Subsurface Investigation												
FMW-02	Farallon	FMW-02-6.0	6.0	Vadose	6/26/2019	< 6.02	< 12.0	---	---	---	---	---
	Farallon	FMW-02-11.0	11.0	Saturated	6/26/2019	< 7.98	93.8	---	---	---	---	---
2019 UST Decommissioning												
DI	Farallon	DI-1-3.5-040819	3.5	Vadose	4/8/2019	200 N	970	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
	Farallon	DI-2-3.5-040819	3.5	Vadose	4/8/2019	< 26	< 52	< 6.0	< 0.020	< 0.060	< 0.060	< 0.12
	Farallon	DI-PIPING-3.5-040819	3.5	Vadose	4/8/2019	< 34	89	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
TP1	Farallon	TP1-7.0	7.0	Vadose	4/8/2019	72 N	320	< 13	< 0.026	< 0.13	< 0.13	< 0.26
	Farallon	TP1-12.0	12.0	Saturated	4/8/2019	< 39	< 79	< 12	< 0.024	< 0.12	< 0.12	< 0.24
TP2	Farallon	TP2-7.0	7.0	Vadose	4/9/2019	< 26	72	< 5.9	< 0.020	< 0.059	< 0.059	< 0.12
	Farallon	TP2-12.0	12.0	Saturated	4/9/2019	63	< 70	< 9.4	< 0.020	< 0.094	< 0.094	< 0.19
UST	Farallon	UST-1-B-13.0	13.0	Saturated	4/5/2019	< 32	< 64	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-2-B-13.0	13.0	Saturated	4/5/2019	< 33	< 66	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-E-SW-11.0	11.0	Saturated	4/5/2019	< 27	53	< 4.5	< 0.020	< 0.045	< 0.045	< 0.09
	Farallon	UST-N-SW-11.0	11.0	Saturated	4/5/2019	< 27	< 54	< 4.3	< 0.020	< 0.043	< 0.043	< 0.086
	Farallon	UST-S-SW-11.0	11.0	Saturated	4/5/2019	160	< 72	< 8.0	< 0.020	< 0.080	< 0.080	< 0.16
	Farallon	UST-W-SW-11.0	11.0	Saturated	4/5/2019	< 37	< 74	< 8.5	< 0.020	< 0.085	< 0.085	< 0.17
Area 5: Former Trailer Maintenance Shop												
P5-1	DOF	Probe 5-1	9 - 11	Saturated	6/28/2001	< 72	< 140	< 29	---	---	---	---
P5-2	DOF	Probe 5-2	7 - 9	Saturated	6/28/2001	1,800	190	< 28	---	---	---	---
	DOF	Probe 5-2	9 - 11	Saturated	6/28/2001	< 69	< 140	< 28	---	---	---	---
P5-4	DOF	Probe 5-4	9 - 11	Saturated	6/28/2001	< 79	< 160	< 32	---	---	---	---
P5-5	DOF	Probe 5-5	3 - 5	Vadose	7/2/2001	< 52	< 100	< 21	---	---	---	---
	DOF	Probe 5-5	7 - 9	Saturated	7/2/2001	< 59	< 120	< 24	---	---	---	---
	DOF	Probe 5-5	11 - 13	Saturated	7/2/2001	< 68	< 140	< 27	---	---	---	---
2016 Subsurface Investigation												
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 31	< 63	< 5.8	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 29	< 58	< 7.3	< 0.0016	< 0.0081	< 0.0016	< 0.0049
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 26	< 52	< 5.9	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 28	< 56	< 5.4	< 0.00093	< 0.0046	< 0.00093	< 0.0028
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

Table 3
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2009 Excavation Along Boundary Between Associated Grocer's Property and Area 13												
R-PCS-50	DOF	R-PCS-50	9.0	Saturated	5/20/2010	< 6.5	38	< 11	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-51	DOF	R-PCS-51	12.0	Saturated	5/20/2010	< 5.9	< 12	**75**	< 0.019	< 0.019	**0.12**	< 0.038
R-PCS-52	DOF	R-PCS-52 R	13.0	Saturated	5/24/2010	---	---	< 6.2	< 0.016	< 0.016	**0.028**	< 0.016
R-PCS-53	DOF	R-PCS-53	9.0	Saturated	5/20/2010	< 6.9	16	< 12	< 0.029	< 0.029	< 0.029	< 0.059
R-PCS-54	DOF	R-PCS-54	9.0	Saturated	5/20/2010	8.1	65	< 7.4	< 0.018	< 0.018	< 0.018	< 0.037
Area 6: Former Truck Repair Shop												
2001 and 2007 Subsurface Investigation												
P6-7	DOF	Probe 6-7	9 - 11	Saturated	7/2/2001	< 67	< 130	< 27	---	---	---	---
P-DOF-6.1	DOF	P-DOF-6.1	8.0	Saturated	2/2007	< 72	< 144	< 29	---	---	---	---
P-DOF-6.2	DOF	P-DOF-6.2	8.0	Saturated	2/2007	< 76	< 152	< 30	---	---	---	---
P-DOF-6.3	DOF	P-DOF-6.3	8.0	Saturated	2/2007	< 139	< 69	< 28	---	---	---	---
P-DOF-6.4	DOF	P-DOF-6.4	8.0	Saturated	2/2007	< 60	< 119	< 24	---	---	---	---
P-DOF-6.5	DOF	P-DOF-6.5	8.0	Saturated	2/2007	< 76	< 151	< 30	---	---	---	---
P-DOF-6.6	DOF	P-DOF-6.6	8.0	Saturated	2/2007	< 61	< 121	< 24	---	---	---	---
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	< 55	< 110	< 22	---	---	---	---
2007 Excavation												
CS-B04	DOF	CS-B04	11.5	Saturated	8/2/2007	140	27	**51**	< 0.026	< 0.026	< 0.026	< 0.052
CS-B05	DOF	CS-B05	10.5	Saturated	8/2/2007	< 6.7	< 13	< 9.7	< 0.024	< 0.024	< 0.024	< 0.048
CS-B06	DOF	CS-B06	11.5	Saturated	8/2/2007	11	41	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B07	DOF	CS-B07	11.0	Saturated	8/3/2007	230	48	**61**	< 0.028	< 0.028	< 0.028	0.055
CS-B09	DOF	CS-B09	11.5	Saturated	8/6/2007	12	32	**32**	< 0.031	< 0.031	< 0.031	< 0.063
CS-B10	DOF	CS-B10	11.5	Saturated	8/6/2007	120	120	22	< 0.034	< 0.034	< 0.034	< 0.068
CS-B11R1	DOF	CS-B11R1	15.0	Saturated	8/9/2007	16	17	13	< 0.022	< 0.022	< 0.022	< 0.044
CS-B13	DOF	CS-B13	15.0	Saturated	8/9/2007	< 7	18	19	< 0.027	< 0.027	< 0.027	0.059
CS-B14	DOF	CS-B14	15.0	Saturated	8/9/2007	< 7	21	11	< 0.027	< 0.027	< 0.027	< 0.054
CS-B15	DOF	CS-B15	16.0	Saturated	8/9/2007	300	47	26	< 0.031	< 0.031	< 0.031	< 0.062
CS-B16	DOF	CS-B16	15.0	Saturated	8/15/2007	12	22	**41**	< 0.026	< 0.026	**0.027**	< 0.052
CS-B17	DOF	CS-B17	15.0	Saturated	8/15/2007	< 6.1	< 12	14	< 0.021	0.029	0.040	0.20
CS-B18	DOF	CS-B18	15.0	Saturated	8/15/2007	< 6.9	< 14	29	**1.4**	< 0.026	0.043	0.069
CS-B19	DOF	CS-B19	13.5	Saturated	8/17/2007	< 6.3	< 12	< 14	< 0.034	< 0.034	< 0.034	< 0.068
CS-B20	DOF	CS-B20	12.0	Saturated	8/17/2007	< 6.8	16	27	**0.031**	< 0.017	0.017	0.037
CS-B22	DOF	CS-B22	11.5	Saturated	8/21/2007	< 6.5	< 13	< 9.0	< 0.022	< 0.022	< 0.022	< 0.045
CS-B24	DOF	CS-B24	12.0	Saturated	8/22/2007	110	20	**50**	< 0.026	0.051	< 0.026	< 0.052
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

Table 3
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2007 Excavation (continued)												
CS-B25	DOF	CS-B25	12.5	Saturated	8/22/2007	550	41	**95**	< 0.025	< 0.025	**0.10**	0.76
CS-B26	DOF	CS-B26	12.5	Saturated	8/22/2007	170	29	**70**	< 0.024	< 0.024	< 0.024	< 0.048
CS-B27	DOF	CS-B27	12.0	Saturated	8/22/2007	330	39	**66**	< 0.025	< 0.025	< 0.025	0.49
CS-B30	DOF	CS-B30	13.0	Saturated	8/27/2007	< 6.8	< 14	10	< 0.023	< 0.023	< 0.023	< 0.046
CS-B31	DOF	CS-B31	9.0	Saturated	8/28/2007	< 7.6	22	< 12	< 0.029	< 0.029	< 0.029	0.066
CS-B32	DOF	CS-B32	10.0	Saturated	8/28/2007	< 7.5	15	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B33	DOF	CS-B33	10.0	Saturated	8/29/2007	< 7.2	< 14	< 11	< 0.028	< 0.028	< 0.028	0.07
CS-B34	DOF	CS-B34	10.0	Saturated	8/29/2007	< 5.3	11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
CS-B35	DOF	CS-B35	15.0	Saturated	8/30/2007	< 6.5	< 13	15	**0.37**	< 0.025	**0.037**	0.16
CS-B36	DOF	CS-B36	14.0	Saturated	8/30/2007	< 6.3	< 13	< 8.4	< 0.021	< 0.021	< 0.021	< 0.042
CS-SW02	DOF	CS-SW02	7.5	Saturated	8/1/2007	6.9	13	8.7	< 0.019	< 0.019	< 0.019	< 0.038
CS-SW03	DOF	CS-SW03	6.0	Vadose	8/2/2007	11	< 12	10	< 0.018	< 0.018	< 0.018	< 0.035
CS-SW04	DOF	CS-SW04	8.5	Saturated	8/2/2007	< 6.7	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
CS-SW05	DOF	CS-SW05	8.0	Saturated	8/2/2007	< 5.8	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW06	DOF	CS-SW06	7.5	Saturated	8/2/2007	72	260	< 17	< 0.043	< 0.043	< 0.043	< 0.086
CS-SW07	DOF	CS-SW07	9.5	Saturated	8/3/2007	670	120	**52**	< 0.032	< 0.032	< 0.032	< 0.064
CS-SW08R1	DOF	CS-SW08R1	8.0	Saturated	8/7/2007	25	68	**44**	< 0.015	< 0.015	**0.029**	< 0.030
CS-SW09	DOF	CS-SW09	8.0	Saturated	8/14/2007	< 6.6	15	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
CS-SW10	DOF	CS-SW10	8.0	Saturated	8/15/2007	< 5.4	< 11	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
CS-SW11	DOF	CS-SW11	8.5	Saturated	8/21/2007	21	64	< 11	< 0.027	< 0.027	< 0.027	< 0.054
CS-SW18	DOF	CS-SW18	9.0	Saturated	8/23/2007	740	46	**96**	< 0.029	< 0.029	**0.031**	0.39
CS-SW19	DOF	CS-SW19	9.0	Saturated	8/27/2007	< 6.3	15	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
CS-SW20	DOF	CS-SW20	7.5	Saturated	8/27/2007	12	30	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW22	DOF	CS-SW22	7.0	Saturated	8/28/2007	< 5.8	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW21	DOF	CS-SW21	6.0	Vadose	8/28/2007	16	15	20	< 0.023	< 0.023	< 0.023	< 0.045
CS-SW23	DOF	CS-SW23	8.0	Saturated	8/29/2007	< 6.1	< 12	< 7.7	< 0.019	< 0.019	< 0.019	< 0.039
CS-SW24	DOF	CS-SW24	8.0	Saturated	8/29/2007	< 5.6	< 11	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW25	DOF	CS-SW25	9.0	Saturated	8/30/2007	< 5.6	< 11	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
CS-SW26	DOF	CS-SW26	9.0	Saturated	8/30/2007	44	< 14	**72**	**0.54**	**0.057**	**0.75**	4.7
CS-SW27	DOF	CS-SW27	9.0	Saturated	8/30/2007	33	< 14	**150**	**0.56**	**0.057**	**2.7**	3.8
CS-SW28	DOF	CS-SW28	8.0	Saturated	8/30/2007	< 5.3	< 11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
PS-B01	DOF	PS-B01	7.5	Saturated	7/30/2007	6.7	< 12.0	< 7.8	< 0.039	< 0.039	< 0.039	< 0.078
PS-B06	DOF	PS-B06	14.0	Saturated	8/6/2007	120	19	12	< 0.024	< 0.024	< 0.024	< 0.048
PS-SW03	DOF	PS-SW03	6.5	Vadose	7/31/2007	< 6.5	< 13	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

Table 3
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Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Area 7: Former Automobile Service Stations												
FMW-01	Farallon	FMW-01-5.0	5.0	Vadose	6/26/2019	< 6.27	< 12.5	< 8.02	0.00497	0.00189	< 0.00117	0.00085
	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	68.4	< 13.2	**5,360**	< 1.64	< 1.64	**3.5**	13.4
	Farallon	FMW-01-14.0	14.0	Saturated	6/26/2019	< 6.3	< 12.6	**4,700**	< 1.49	< 1.49	**5.84**	27
	Farallon	FMW-01-19.0	19.0	Saturated	6/26/2019	< 5.99	< 12.0	< 6.5	< 0.00113	< 0.00113	< 0.00113	< 0.00339
P7-4	DOF	Probe 7-4	4 - 6	Vadose	7/25/2001	< 64	< 130	< 26	---	---	---	---
	DOF	Probe 7-4	6 - 8	Saturated	7/25/2001	< 76	< 150	< 140	---	---	---	---
P7-5	DOF	Probe 7-5	4 - 6	Vadose	7/25/2001	< 70	< 140	< 28	---	---	---	---
SS-1	DOF	SS-1	0.3-1.3	Vadose	10/29/2008	110	870	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
SS-2	DOF	SS-2	0.3-1.3	Vadose	10/29/2008	160	980	< 5.9	< 0.015	< 0.015	< 0.015	< 0.029
SS-3	DOF	SS-3	0.3-1.3	Vadose	10/29/2008	200	1,300	9	< 0.014	< 0.014	< 0.014	< 0.028
SS-4	DOF	SS-4	0.3-1.3	Vadose	10/29/2008	140	930	7.1	< 0.015	< 0.015	< 0.015	< 0.029
SS-5	DOF	SS-5	0.3-1.3	Vadose	10/29/2008	220	1,300	< 5.3	< 0.013	< 0.013	< 0.013	< 0.027
Area 11: Former South Maintenance Shop												
1996 UST Decommissioning												
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 23	< 23	< 46
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	< 21	< 21	< 42
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 23	< 23	< 46
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	**32**	**4** J	**30** J
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	< 24	< 24	< 48
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 25	< 25	< 50
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	< 23	**4** J	< 46
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	< 20	**51**	135 J
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 34	< 68	< 8.8	< 0.0015	< 0.0074	< 0.0015	< 0.0045
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 32	< 63	< 6.6	< 0.0010	< 0.0050	< 0.0010	< 0.0030
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2019 Subsurface Investigation												
FMW-03	Farallon	FMW-03-6.0	6.0	Vadose	6/26/2019	< 6.48	< 13	< 8.46	< 0.0014	< 0.0014	< 0.0014	< 0.0028
	Farallon	FMW-03-13.0	13.0	Saturated	6/26/2019	14.8	89.5	< 10.8	0.00047 J	< 0.0014	< 0.0014	< 0.0028
	Farallon	FMW-03-18.0	18.0	Saturated	6/26/2019	< 5.9	< 11.8	< 6.91	< 0.0012	< 0.0012	< 0.0012	< 0.00241
Area 12: Former Old Humble Oil Service Station												
P-1	Terra	P-1@6-8 feet	6 - 8	Vadose	11/23/1998	< 37	< 75	---	---	---	---	---
	Terra	P-1@8-10 feet	8 - 10	Saturated	11/23/1998	< 33	< 67	---	---	---	---	---
P-2	Terra	P-2@6-8 feet	6 - 8	Vadose	11/23/1998	< 36	< 71	---	---	---	---	---
	Terra	P-2@8-10 feet	8 - 10	Saturated	11/23/1998	< 33	< 67	---	---	---	---	---
Area 12: Former Old Humble Oil Service Station												
P-3	Terra	P-3@6-8 feet	6 - 8	Vadose	11/23/1998	< 38	< 76	---	---	---	---	---
	Terra	P-3@8-10 feet	8 - 10	Saturated	11/23/1998	< 34	< 68	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property												
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
2007 Subsurface Investigation												
B01	SES	B01	2.0	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B02	SES	B02	3.0	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B03	SES	B03	0.3	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-10	SES	TP-10	2.5	Vadose	1/11/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-11	SES	TP-11	3.5	Vadose	1/11/2007	610	< 250	**71**	< 0.020	0.10	0.13	0.49
	SES	TP-11	8.0	Saturated	1/11/2007	< 50	< 250	4	< 0.020	< 0.020	< 0.020	< 0.060
TP-12	SES	TP-12	2.5	Vadose	1/12/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-18	SES	TP-18	2.5	Vadose	1/12/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	< 50	< 250	< 2	---	---	---	---
2007 Subsurface Investigation												
P02	SES	P02	9.0	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	< 50	< 250	< 2	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	< 50	< 250	< 2	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	< 50	< 250	< 2	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	< 50	< 250	< 2	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2007 - 2008 Site-Wide Surface Soil Excavation												
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	< 5.6	< 11	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	11/1/2007	< 7	15	< 10	< 0.026	< 0.026	< 0.026	< 0.053
PR-PV3	DOF	PR-PV3	0 - 0.5	Vadose	7/27/2007	56	270	< 6.9	< 0.017	< 0.017	< 0.017	0.040
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 6.0	< 12	< 7.9	< 0.020	< 0.020	< 0.020	< 0.039
PR-PV5	DOF	PR-PV5	0 - 0.5	Vadose	2/11/2008	11	54	---	---	---	---	---
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	< 6	24	---	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
R-SE11	DOF	R-SE11	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE12	DOF	R-SE12	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE13	DOF	R-SE13	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
R-SE14	DOF	R-SE14	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
PR-DP1	DOF	PR-DP1	0 - 0.5	Vadose	7/25/2007	300	1,600	< 13	< 0.032	< 0.032	< 0.032	< 0.064
PR-DP2	DOF	PR-DP-2	0 - 0.5	Vadose	7/25/2007	300	1,600	**64**	< 0.032	0.049	0.049	< 0.064
PR-DP3	DOF	PR-DP3	0 - 0.5	Vadose	7/25/2007	72	890	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
PR-DP4	DOF	PR-DP4	0 - 0.5	Vadose	7/25/2007	100	980	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	< 5.7	19	---	---	---	---	---
R-PCS-2	DOF	R-PCS-2	6.0	Vadose	6/19/2008	< 6.5	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
R-PCS-3	DOF	R-PCS-3	3.0	Vadose	6/19/2008	9.4	15	< 11	< 0.028	< 0.028	< 0.028	< 0.057
R-PCS-4	DOF	R-PCS-4	6.0	Vadose	7/23/2008	---	---	< 8.4	< 0.021	< 0.021	**0.29**	< 0.042
R-PCS-6	DOF	R-PCS-6	mid-slope	Vadose	7/23/2008	---	---	14	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-7	DOF	R-PCS-7	3.0	Vadose	7/23/2008	---	---	**64**	**0.030** J	< 0.035	< 0.035	< 0.069
R-PCS-8	DOF	R-PCS-8	2.0	Vadose	7/23/2008	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.054
NUST-ESW	DOF	NUST-ESW	9.0	Saturated	7/2/2008	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.057
SUST-ESW	DOF	SUST-ESW	9.0	Saturated	7/2/2008	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.056
NUST-WSW	DOF	NUST-WSW	8.0	Saturated	7/11/2008	---	---	< 5.8	< 0.015	< 0.015	< 0.015	< 0.029
SUST-WSW	DOF	SUST-WSW	8.0	Saturated	7/11/2008	---	---	< 5.6	< 0.014	< 0.014	< 0.014	< 0.028
NUST-B1	DOF	NUST-B1	14.0	Saturated	7/2/2008	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.053
SUST-B3	DOF	SUST-B3	14.0	Saturated	7/10/2008	---	---	12	< 0.022	< 0.022	< 0.022	< 0.044
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2008 Hoist Excavations												
R-EHOIST	DOF	R-EHOIST-SW	3.0	Vadose	6/25/2008	< 7.7	25	---	---	---	---	---
	DOF	R-EHOIST-BOT	8.0	Saturated	6/25/2008	< 6.2	< 12	---	---	---	---	---
R-WHOIST	DOF	R-WHOIST-SW	3.0	Vadose	6/25/2008	< 7.2	33	---	---	---	---	---
	DOF	R-WHOIST-BOT	8.0	Saturated	6/25/2008	< 6.1	< 12	---	---	---	---	---
2008 Storm Drain Investigation												
TP-SD-1	DOF	TP-SD-1	2.0	Vadose	7/24/2008	< 20	< 50	< 10	< 0.026	< 0.026	< 0.026	< 0.052
TP-SD-2	DOF	TP-SD-2	2.0	Vadose	7/24/2008	< 20	< 50	< 11	< 0.026	< 0.026	< 0.026	< 0.053
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**
2008 Former Parts Shop Investigation												
TP-P08	DOF	TP-P08-1	1.0	Vadose	7/24/2008	< 20	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
	DOF	TP-P08-8	8.0	Saturated	7/24/2008	< 20	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.051
	DOF	TP-P08-12	12.0	Saturated	7/24/2008	< 20	< 50	< 9.9	< 0.025	< 0.025	< 0.025	< 0.050
TP-P08A	DOF	TP-P08A-1	1.0	Vadose	7/24/2008	< 20	< 50	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
	DOF	TP-P08A-8	8.0	Saturated	7/24/2008	< 20	< 50	< 8.6	< 0.022	< 0.022	< 0.022	< 0.043
2008 Former Waste Oil Aboveground Storage Tank Investigation												
TP-WO-1	DOF	TP-WO-1	1.0	Vadose	7/24/2008	< 20	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
2008 Former UST Investigation												
TP-P01	DOF	TP-P01-SW	6.0	Vadose	7/24/2008	< 20	< 50	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	TP-P01-B	12.0	Saturated	7/24/2008	< 20	< 50	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
TP-P04-1	DOF	TP-P04-1	3.0	Vadose	7/24/2008	< 20	< 50	< 6.7	< 0.017	< 0.017	< 0.017	< 0.034
2008 Septic Drain Field Investigation												
TP-Septic-1	DOF	TP-SEPTIC-1	7.0	Vadose	7/24/2008	< 20	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.050
2008 Investigation - Northeastern Portion of Area 3												
Scrape-N6	DOF	Scrape-N6	3.0	Vadose	2/21/2008	< 10	46	---	---	---	---	---
Scrape-N7	DOF	Scrape-N7	3.0	Vadose	2/21/2008	50	< 14	**60**	< 0.027	< 0.027	< 0.027	< 0.054
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2009 Investigation Along Boundary Between Associated Grocer's Property and Area 3												
P1	DOF	UNI-P1-9	9.0	Saturated	8/31/2009	---	---	< 12	< 0.030	< 0.030	< 0.030	< 0.060
	DOF	UNI-P1-14	14.0	Saturated	8/31/2009	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.055
	DOF	UNI-P1-19	19.0	Saturated	8/31/2009	---	---	< 8.7	< 0.022	< 0.022	< 0.022	< 0.044
P2	DOF	UNI-P2-9	9.0	Saturated	8/31/2009	---	---	< 12	< 0.031	< 0.031	< 0.031	< 0.062
	DOF	UNI-P2-14	14.0	Saturated	8/31/2009	---	---	< 9.3	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	UNI-P2-19	19.0	Saturated	8/31/2009	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
P3	DOF	UNI-P3-9	9.0	Saturated	8/31/2009	---	---	< 13	< 0.034	< 0.034	< 0.034	< 0.067
	DOF	UNI-P3-14	14.0	Saturated	8/31/2009	---	---	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
	DOF	UNI-P3-19	19.0	Saturated	8/31/2009	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**2,000**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
— denotes sample not analyzed.

[1]Depth in feet below ground surface.
[2]Analyzed by Northwest Method NWTPH-Dx.
[3]Analyzed by Northwest Method NWTPH-Gx.
[4]Analyzed by U.S. Environmental Protection Agency Method 8021 or 8260.
[5]Analyzed by Northwest Method NWTPH-HCID (hydrocarbon identification).
[6]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

BTEX = benzene, toluene, ethylbenzene, and xylenes
DOF = Dalton, Olmsted & Fuglevand, Inc.
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
E = concentration exceeds upper limit of the instrument calibration range.
Farallon = Farallon Consulting, L.L.C.
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
GRO = TPH as gasoline-range organics
J = result is an estimate.
LDW = Lower Duwamish Waterway
N = Hydrocarbons in the oil range are impacting the diesel range result.
ND = not detected exceeding the laboratory reporting limit

ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
SW = southwestern
Terra = Terra Associates, Inc.
UST = underground storage tank

Table 4
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																				
						Non-Carcinogenic PAHs												Carcinogenic PAHs								
						Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[4]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]	Total LPAHs	Total HPAHs
Area 2: Perishables Warehouse																										
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	**2.0**	9.5	**9.1**	20.6	0.50	0.37	0.44	< 0.0076	0.11	**3.2**	**5.4**	0.53	< 0.0076	**0.0080**	< 0.0076	< 0.0076	0.046	< 0.0076	< 0.0076	**0.007**	**11.91**	0.6940
Area 4: Former Fueling Area																										
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	< 0.0096	< 0.0096	< 0.0096	< 0.0288	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072	0	0
DI	Farallon	DI-1-3.5-040819	3.5	Vadose	4/8/2019	< 0.0072	< 0.0072	< 0.0072	< 0.0216	< 0.0072	< 0.0072	< 0.0072	0.035	0.029	< 0.0072	0.014	0.031	**0.025**	**0.015**	**0.029**	< 0.0072	0.029	**0.0078**	**0.02**	**0.033**	0.014	0.221
	Farallon	DI-2-3.5-040819	3.5	Vadose	4/8/2019	< 0.0070	< 0.0070	< 0.0070	< 0.0210	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0053	0	0
	Farallon	DI-PIPING-3.5-040819	3.5	Vadose	4/8/2019	< 0.0090	< 0.0090	0.014	0.014	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	0.016	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0068	0.016	0
UST	Farallon	UST-1-B-13.0	13.0	Saturated	4/5/2019	< 0.0086	< 0.0086	< 0.0086	< 0.0258	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0065	0	0
	Farallon	UST-2-B-13.0	13.0	Saturated	4/5/2019	< 0.0088	< 0.0088	< 0.0088	< 0.0264	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0066	0	0
	Farallon	UST-E-SW-11.0	11.0	Saturated	4/5/2019	< 0.0071	< 0.0071	< 0.0071	< 0.0213	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0054	0	0
	Farallon	UST-N-SW-11.0	11.0	Saturated	4/5/2019	< 0.0072	< 0.0072	< 0.0072	< 0.0216	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0054	0	0
	Farallon	UST-S-SW-11.0	11.0	Saturated	4/5/2019	< 0.0097	0.67	0.14	0.81	0.023	0.014	< 0.0097	< 0.0097	< 0.0097	**0.07**	0.043	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0073	0.15	0
	Farallon	UST-W-SW-11.0	11.0	Saturated	4/5/2019	< 0.0098	< 0.0098	< 0.0098	< 0.0294	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0074	0	0
Area 5: Former Trailer Maintenance Shop																										
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0011	< 0.0084	< 0.0084	< 0.0179	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0063	0	0
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 0.0081	---	---	< 0.0081	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0011	---	---	< 0.0011	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.056	---	---	< 0.056	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 7: Former Automobile Service Stations																										
FMW-01	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	**0.00595** J	---	---	0.00595 JD	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 11: Former South Maintenance Shop																										
F-20	Farallon	F-20-7.0	7.0	Vadose	10/18/2016	< 0.0015	< 0.0091	< 0.0091	< 0.0197	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0069	0	0
F-22	Farallon	F-22-7.0	7.0	Vadose	10/19/2016	< 0.0010	---	---	< 0.0010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																										
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	< 0.060	< 0.060	< 0.060	< 0.18	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.045	0	0
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	11/1/2007	< 0.06	< 0.06	< 0.06	< 0.18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.045	0	0
PR-PV3	DOF	PR-PV3	0 - 0.5	Vadose	7/27/2007	< 0.06	< 0.06	< 0.06	< 0.18	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.045	0	0
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 0.056	< 0.056	< 0.056	< 0.17	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.042	0	0
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	< 0.07	< 0.07	< 0.07	< 0.21	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.053	0	0
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.15	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	< 0.064	< 0.064	< 0.064	< 0.192	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.048	0	0
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[7]						**0.039**	**29**	**0.67**	**---**	**0.50**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**0.0011**	**0.0039**	**0.039**	**0.13**	**0.00057**	**0.011**	**0.00031**	**5.2**	**12**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[7]						**0.0021**	**29**	**0.67**	**---**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**0.000057**	**0.00020**	**0.0020**	**0.0064**	**0.000029**	**0.00056**	**0.000016**	**5.2**	**12**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

--- denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8270 or 8270D/SIM, unless otherwise noted.

[3]Analyzed by U.S. Environmental Protection Agency Method 8270, 8270D/SIM, or 8260C.

[4]Sum of naphthalenes, 1-methylnaphthalene, and 2-methylnaphthalene.

[5]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[6]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[7]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
HPAH = high molecular weight polycyclic aromatic hydrocarbons
J = result is an estimate
LDW = Lower Duwamish Waterway
LPAH = low molecular weight polycyclic aromatic hydrocarbons
NA = not applicable
NE = not established
PAHs = polycyclic aromatic hydrocarbons
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 5
Soil Analytical Results for Select VOCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																								
						1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chloroethyl Vinyl Ether	2-Chlorotoluene	2-Hexanone
Area 5: Former Trailer Maintenance Shop																														
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0069	< 0.0055	< 0.0011	< 0.0055
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.017	< 0.0081	< 0.0016	< 0.0081
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0069	< 0.0055	< 0.0011	< 0.0055
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.00093	< 0.00093	< 0.056	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.056	< 0.056	< 0.056	< 0.056	< 0.28	< 0.00093	< 0.056	< 0.00093	< 0.00093	< 0.056	< 0.056	< 0.00093	< 0.056	< 0.00093	0.038 Y	< 0.0046	< 0.056	< 0.0046
Area 7: Former Automobile Service Stations																														
FMW-01	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.0082	< 0.00328	< 0.0082	0.0342	< 0.0082	< 0.00164	< 0.00164	< 0.00164	< 0.00164	0.0119	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.0082	< 0.0082	< 0.00164	< 0.0082
Area 11: Former South Maintenance Shop																														
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 23	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	360	---	---	< 21	---	---	< 21	< 21	---	< 21	---	< 21	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 23	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	21 J	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	< 24	---	---	< 24	---	---	< 24	< 24	---	< 24	---	< 24	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 25	---	---	< 25	---	---	< 25	< 25	---	< 25	---	< 25	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	14 J	---	---	**65**	---	---	<23	6 J	---	**5 J**	---	120	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	**1,600**	---	---	**91**	---	---	410	< 20	---	**6 J**	---	< 20	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.058 Y	< 0.0074	< 0.0015	< 0.0074
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.0010	< 0.0050
FMW-03	Farallon	FMW-03-6.0	6.0	Vadose	6/26/2019	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.007	< 0.0028	< 0.007	< 0.0014	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	0.00656 J	< 0.007	< 0.0014	< 0.007
	Farallon	FMW-03-13.0	13.0	Saturated	6/26/2019	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.007	< 0.0028	< 0.007	< 0.0014	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	0.00609 J	< 0.007	< 0.0014	< 0.007
	Farallon	FMW-03-18.0	18.0	Saturated	6/26/2019	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.00602	< 0.00241	< 0.00602	< 0.0012	< 0.00602	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.00602	< 0.00602	< 0.0012	< 0.00602
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**38**	**371**	**0.0017**	**0.0050**	**175**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.50**	**0.036**	**0.35**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**38**	**21**	**0.00011**	**0.00033**	**175**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.50**	**0.0031**	**0.024**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**
Area 13: Former Northwest Auto Wrecking Property																														
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	---	---	---	< 0.34	---	< 0.34	---	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.34	---	---	---	< 0.34	---	< 0.34	---	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33	---	---	---	< 0.33	---	< 0.33	---	---	---	---	---
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**38**	**371**	**0.0017**	**0.0050**	**175**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.50**	**0.036**	**0.35**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**38**	**21**	**0.00011**	**0.00033**	**175**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.50**	**0.0031**	**0.024**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
--- denotes sample not analyzed or result not reported.

[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Method 8260.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

Table 5
Soil Analytical Results for Select VOCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																										
						2-Pentanone	4-Chlorotoluene	4-Methyl-2-Pentanone (MIBK)	Acetone	Acrolein	Acrylonitrile	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethyl Bromide	Freon 113	Hexachlorobutadiene	Iodomethane	Isopropylbenzene	Methyl tertiary butyl ether (MTBE)
Area 5: Former Trailer Maintenance Shop																																
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	---	< 0.0011	< 0.0055	< 0.017	---	---	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	< 0.0055	< 0.0055	< 0.0011	< 0.0011
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	---	< 0.0016	< 0.0081	0.05	---	---	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0081	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	---	---	< 0.0081	< 0.0081	< 0.0016	< 0.0016
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	---	< 0.0011	< 0.0055	< 0.017	---	---	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	< 0.0055	< 0.0055	< 0.0011	< 0.0011
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	---	< 0.056	< 0.0046	0.1 Y	---	---	< 0.056	< 0.00093	< 0.00093	< 0.00093	< 0.00093	0.0015	< 0.00093	< 0.00093	< 0.0046	< 0.00093	< 0.0046	< 0.00093	< 0.00093	< 0.00093	< 0.00093	---	---	< 0.28	< 0.0046	< 0.00093	< 0.00093
Area 7: Former Automobile Service Stations																																
FMW-01	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	< 0.0082	< 0.00164	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	---	< 0.00328	< 0.00328	< 0.0082	< 0.00164	0.00217	< 0.00164
Area 11: Former South Maintenance Shop																																
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 21	---	---	---	---	---	---	---	---	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 24	---	---	---	---	---	---	---	---	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6 J	---	---	---	---	---	---	---	---	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	---	< 0.0015	< 0.0074	0.13 Y	---	---	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.002	< 0.0015	< 0.0015	< 0.0074	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	---	---	< 0.0074	< 0.0074	< 0.0015	< 0.0015
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	---	< 0.0010	< 0.0050	< 0.0050	---	---	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	< 0.0050	< 0.0050	< 0.0010	< 0.0010
FMW-03	Farallon	FMW-03-6.0	6.0	Vadose	6/26/2019	< 0.007	< 0.0014	< 0.007	< 0.007	< 0.007	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0028	< 0.0028	< 0.007	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-13.0	13.0	Saturated	6/26/2019	< 0.007	< 0.0014	< 0.007	0.0523	< 0.007	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	0.00143	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0028	< 0.0028	< 0.007	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-18.0	18.0	Saturated	6/26/2019	< 0.00602	< 0.0012	< 0.00602	0.0248	< 0.00602	< 0.00602	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	0.00191	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.00241	< 0.00241	< 0.00602	< 0.0012	< 0.0012	< 0.0012
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**40**	**1.9**	**640**	**NA**	**NE**	**0.078**	**1.2**	**8,000**	**0.0029**	**1.7**	**NA**	**0.81**	**NA**	**0.010**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**556**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**40**	**1.9**	**640**	**NA**	**NE**	**0.0050**	**0.079**	**8,000**	**0.00015**	**0.10**	**NA**	**0.052**	**NA**	**0.00063**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**556**
Area 13: Former Northwest Auto Wrecking Property																																
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34 B	---	---	---	---	---	---	---	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34 B	---	---	---	---	---	---	---	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33 B	---	---	---	---	---	---	---	---	---	---	---
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**40**	**1.9**	**640**	**NA**	**NE**	**0.078**	**1.2**	**8,000**	**0.0029**	**1.7**	**NA**	**0.81**	**NA**	**0.010**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**556**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**40**	**1.9**	**640**	**NA**	**NE**	**0.0050**	**0.079**	**8,000**	**0.00015**	**0.10**	**NA**	**0.052**	**NA**	**0.00063**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**556**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
--- denotes sample not analyzed or result not reported.

[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Method 8260.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised .

D = the reported value is from a dilution.
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

Table 5
Soil Analytical Results for Select VOCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]															
						Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl Acetate	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Area 5: Former Trailer Maintenance Shop																					
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	< 0.0011	< 0.0055	0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 0.0081	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	---	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.0046	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.00093	< 0.056	< 0.00093	---	< 0.00093	< 0.0046	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.00093
Area 7: Former Automobile Service Stations																					
FMW-01	Farallon	FMW-01-10.0	10.0	Saturated	6/26/2019	0.00204 J	**0.00595 J**	0.00375	0.00422	0.00395	0.00214	< 0.00164	< 0.00164	< 0.00164	< 0.0082	< 0.00164	< 0.0082	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164
Area 11: Former South Maintenance Shop																					
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	390	310	---	< 21	---	< 21	---	---	---	---	---	---	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	< 24	< 24	---	< 24	---	< 24	---	---	---	---	---	---	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	< 25	< 25	---	< 25	---	< 25	---	---	---	---	---	---	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	120	620	---	350	---	36	---	---	---	---	---	---	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	< 20	1,000	---	230	---	25	---	---	---	---	---	---	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	---	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
FMW-03	Farallon	FMW-03-6.0	6.0	Vadose	6/26/2019	0.00175 J	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.007	< 0.0014	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-13.0	13.0	Saturated	6/26/2019	0.00199 J	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.007	< 0.0014	< 0.007	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-18.0	18.0	Saturated	6/26/2019	0.00114 J	< 0.00602	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.00602	< 0.0012	< 0.00602	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**0.43**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.010**	**NA**	**24,000**	**80,000**	**0.029**	**0.0044**	**160**	**5.2**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**0.030**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.00063**	**NA**	**24,000**	**80,000**	**0.0016**	**0.00027**	**160**	**0.32**	**0.000055**
Area 13: Former Northwest Auto Wrecking Property																					
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	< 0.34	< 0.34	---	< 0.34
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	< 0.34	< 0.34	---	< 0.34
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33	< 0.33	< 0.33	---	< 0.33
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**0.43**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.010**	**NA**	**24,000**	**80,000**	**0.029**	**0.0044**	**160**	**5.2**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**0.030**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.00063**	**NA**	**24,000**	**80,000**	**0.0016**	**0.00027**	**160**	**0.32**	**0.000055**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
--- denotes sample not analyzed or result not reported.
[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Method 8260.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised .

D = the reported value is from a dilution.
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

Table 6
Soil Analytical Results for PCBs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Northern Property Boundary															
F-27	Farallon	F-27-2.5	2.5	Vadose	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
	Farallon	F-27-10.0	10.0	Saturated	6/27/2019	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.180
F-28	Farallon	F-28-2.5	2.5	Vadose	6/27/2019	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	0.0269	< 0.0199	< 0.0199	**0.0269**
	Farallon	F-28-8.5	8.5	Saturated	6/28/2019	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.179
Transformers															
F-30	Farallon	F-30-1.0	1.0	Vadose	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
F-32	Farallon	F-32-1.0	1.0	Vadose	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
F-33	Farallon	F-33-1.0	1.0	Vadose	6/27/2019	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.180
Area 6: Former Truck Repair Shop															
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	---	---	---	---	---	---	---	---	---	< 0.055
Area 13: Former Northwest Auto Wrecking Property															
2007 - 2008 Site-Wide Surface Soil Excavation															
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	---	---	< 0.231
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	11/1/2007	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	---	---	< 0.21
PR-PV3	DOF	PR-PV3	0 - 0.5	Vadose	7/27/2007	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	---	---	< 0.21
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	---	---	< 0.224
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	< 0.03	< 0.03	< 0.03	< 0.03	0.038	0.037	< 0.03	---	---	**0.075**
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	---	---	< 1.4
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	---	---	< 1.4
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	---	---	< 0.231
2008 Former Waste Oil Aboveground Storage Tank Investigation															
TP-WO-1	DOF	TP-WO-1	1.0	Vadose	7/24/2008	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	---	---	< 3.5
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]															**0.000043**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]															**0.0000022**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8082.

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.

LDW = Lower Duwamish Waterway

PCB = polychlorinated biphenyl

PCUL = preliminary cleanup level

Table 7
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]										
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Selenium	Silver	Zinc
Former Detention Pond																
F-29	Farallon	F-29-2.5	2.5	Vadose	6/27/2019	**7.64**	---	0.64	---	**60.6**	45.1	290	**0.357**	---	---	64.3
	Farallon	F-29-8.5	8.5	Saturated	6/28/2019	2.63	---	< 0.11	---	27.3	1.58	33.0	0.0142 J	---	---	11.6
Area 2: Perishables Warehouse																
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	---	---	---	---	---	< 5.7	---	---	---	---	---
Area 4: Former Fueling Area																
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	---	---	---	---	---	< 7.2	---	---	---	---	---
Area 6: Former Truck Repair Shop																
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	2.58	37.6	< 0.55	10.3	---	1.96	---	< 0.11	< 0.55	< 0.55	---
Area 7: Former Automobile Service Stations																
SS-1	DOF	SS-1	0.3 - 1.3	Vadose	10/29/2008	6	---	0.2	---	---	13	---	---	---	---	---
SS-2	DOF	SS-2	0.3 - 1.3	Vadose	10/29/2008	5	---	0.3	---	---	15	---	---	---	---	---
SS-3	DOF	SS-3	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.3	---	---	7	---	---	---	---	---
SS-4	DOF	SS-4	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.3	---	---	11	---	---	---	---	---
SS-5	DOF	SS-5	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.2	---	---	4	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																
TP06	SES	TP-06	0.5	Vadose	1/11/2007	**12.4**	54.9	< 1	10.7	---	27.3	---	< 0.2	< 1	< 1	59.2
TP19	SES	TP-19	0.5	Vadose	1/12/2007	5.67	35.4	**1.38**	5.28	---	21.7	---	< 0.2	< 1	< 1	42
PR-C1(R)	DOF	PR-C1(R)	0 - 0.5	Vadose	6/24/2008	---	---	---	13.5	16.5	3.0	---	---	---	---	---
PR-C2(R)	DOF	PR-C2(R)	0 - 0.5	Vadose	6/24/2008	---	---	---	13.5	12.4	3.0	---	---	---	---	---
PR-C3(R)	DOF	PR-C3(R)	0 - 0.5	Vadose	6/25/2008	---	---	---	10.2	11.9	10.0	---	---	---	---	---
PR-C4(R)	DOF	PR-C4(R)	0 - 0.5	Vadose	6/26/2008	---	---	---	13.6	**54.6**	18.0	---	---	---	---	---
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	**14**	---	< 0.2	12.7	17.4	12.0	---	---	---	---	---
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	11/1/2007	< 6	54.9	< 0.3	19.6	---	3	---	< 0.06	< 6.0	< 0.4	---
PR-PV3	DOF	PR-PV3	0 - 0.5	Vadose	7/27/2007	5	---	0.7	10.6	23.2	13	---	---	---	---	**183**
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 6	---	< 0.2	16.1	20.3	3.0	---	---	---	---	---
PR-PV5	DOF	PR-PV5	0 - 0.5	Vadose	2/11/2008	**8**	---	0.3	16.9	**55.9**	**59**	---	---	---	---	**89**
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	**8**	---	0.3	17.4	**37.2**	30	---	---	---	---	64
PR-SE1(R)	DOF	PR-SE1(R)	0 - 0.5	Vadose	6/12/2008	**9**	---	0.4	---	---	36	---	---	---	---	---
PR-SE2	DOF	PR-SE2	0 - 0.5	Vadose	7/25/2007	**8**	---	**1.4**	---	---	**150**	---	---	---	---	---
PR-SE3	DOF	PR-SE3	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	---	---	**88**	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.016**	**85**

Table 7
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]										
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Selenium	Silver	Zinc
PR-SE4	DOF	PR-SE4	0 - 0.5	Vadose	7/25/2007	7	---	0.5	---	---	**75**	---	---	---	---	---
PR-SE5	DOF	PR-SE5	0 - 0.5	Vadose	7/25/2007	7	---	0.3	---	---	**66**	---	---	---	---	---
PR-SE6(R)	DOF	PR-SE6(R)	0.5	Vadose	9/7/2007	5	---	< 0.2	---	---	12	---	---	---	---	---
PR-SE7	DOF	PR-SE7	0 - 0.5	Vadose	7/25/2007	**8**	---	0.4	---	---	47	---	---	---	---	---
PR-SE8	DOF	PR-SE8	0 - 0.5	Vadose	7/25/2007	**8**	---	0.4	12.6	16.7	**51**	---	---	---	---	52
PR-SE9(R)	DOF	PR-SE9(R)	0.5	Vadose	10/23/2007	7	76.8	< 0.2	21.6	---	7	---	0.07	< 6.0	< 0.4	---
PR-SE10	DOF	PR-SE10	0 - 0.5	Vadose	7/25/2007	6	---	0.3	---	---	**187**	---	---	---	---	---
PR-SE11(R)	DOF	PR-SE11(R)	0.5	Vadose	9/7/2007	**9**	---	< 0.2	---	---	16	---	---	---	---	---
PR-SE12(R)	DOF	PR-SE12(R)	0.5	Vadose	9/7/2007	5	---	< 0.2	---	---	13	---	---	---	---	---
PR-SE13	DOF	PR-SE13	0 - 0.5	Vadose	7/26/2007	**12**	---	0.7	---	---	**220**	---	---	---	---	---
PR-SE14(R)	DOF	PR-SE14(R)	0 - 0.5	Vadose	7/10/2008	< 2.0	---	< 2.0	---	---	3.5	---	---	---	---	---
PR-SE15	DOF	PR-SE15	0 - 0.5	Vadose	7/26/2007	6	---	0.3	14.4	19	31	---	---	---	---	48
PR-SE16	DOF	PR-SE16	0 - 0.5	Vadose	7/25/2007	6	---	0.7	---	---	**67**	---	---	---	---	---
PR-SE17	DOF	PR-SE17	0 - 0.5	Vadose	7/25/2007	7	---	0.3	---	---	13	---	---	---	---	---
PR-SE18	DOF	PR-SE18	0 - 0.5	Vadose	7/25/2007	**11**	---	0.2	---	---	**150**	---	---	---	---	---
PR-SE19	DOF	PR-SE19	0 - 0.5	Vadose	7/25/2007	**8**	---	0.3	---	---	40	---	---	---	---	---
PR-SE20(R	DOF	PR-SE20(R	0 - 0.5	Vadose	10/23/2007	**9**	35.1	< 0.2	13	---	6	---	< 0.04	< 5.0	< 0.3	---
PR-SE21	DOF	PR-SE21	0 - 0.5	Vadose	7/25/2007	**8**	---	1.0	---	---	**89**	---	---	---	---	---
PR-SE22(R	DOF	PR-SE22(R	0 - 0.5	Vadose	9/7/2007	< 5.0	---	< 0.2	---	---	5	---	---	---	---	---
PR-SE23(R)	DOF	PR-SE23(R)	0 - 0.5	Vadose	7/10/2008	3.6	---	< 2.0	---	---	8.2	---	---	---	---	---
PR-SE24	DOF	PR-SE24	0 - 0.5	Vadose	7/24/2007	5	---	0.4	---	---	**151**	---	---	---	---	---
PR-SE25	DOF	PR-SE25	0 - 0.5	Vadose	7/26/2007	7	---	0.9	---	---	**120**	---	---	---	---	---
PR-SE26	DOF	PR-SE26	0 - 0.5	Vadose	7/25/2007	7	---	0.9	---	---	**167**	---	---	---	---	---
PR-SE27	DOF	PR-SE27	0 - 0.5	Vadose	7/25/2007	7	---	0.9	---	---	**113**	---	---	---	---	---
PR-SE28	DOF	PR-SE28	0 - 0.5	Vadose	7/25/2007	7	---	0.3	13.3	20.1	49	---	---	---	---	56
PR-SE29	DOF	PR-SE29	0 - 0.5	Vadose	7/25/2007	7	---	0.6	---	---	40	---	---	---	---	---
PR-SE30	DOF	PR-SE30	0 - 0.5	Vadose	7/25/2007	**9**	---	< 0.2	---	---	24	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.016**	**85**

Table 7
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]										
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Selenium	Silver	Zinc
PR-SE31	DOF	PR-SE31	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	8.8	11.2	**64**	---	---	---	---	40
PR-SE32	DOF	PR-SE32	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	---	---	26	---	---	---	---	---
PR-SE33(R)	DOF	PR-SE33(R)	0 - 0.5	Vadose	7/10/2008	3.0	---	< 2.0	---	---	11	---	---	---	---	---
PR-SE34(R)	DOF	PR-SE34(R)	0 - 0.5	Vadose	7/10/2008	4.3	---	< 2.0	---	---	48	---	---	---	---	---
PR-SE35(R)	DOF	PR-SE35(R)	0 - 0.5	Vadose	7/10/2008	4.8	---	< 2.0	---	---	14	---	---	---	---	---
PR-SE36(R)	DOF	PR-SE36(R)	0 - 0.5	Vadose	7/10/2008	5.9	---	< 2.0	---	---	**70**	---	---	---	---	---
PR-SE-37(R)	DOF	PR-SE-37(R)	0 - 0.5	Vadose	6/12/2008	< 5	---	0.2	---	---	5	---	---	---	---	---
R-SE1	DOF	R-SE1	0 - 0.5	Vadose	6/12/2008	7	---	0.5	---	---	19	---	---	---	---	---
R-SE2	DOF	R-SE2	0 - 0.5	Vadose	6/12/2008	6	---	< 0.2	---	---	9	---	---	---	---	---
R-SE3	DOF	R-SE3	0 - 0.5	Vadose	6/12/2008	< 5	---	0.3	---	---	3	---	---	---	---	---
R-SE4	DOF	R-SE4	0 - 0.5	Vadose	7/10/2008	3.3	---	< 2.0	---	---	2.6	---	---	---	---	---
R-SE5	DOF	R-SE5	0 - 0.5	Vadose	7/10/2008	4.9	---	< 2.0	---	---	8.4	---	---	---	---	---
R-SE6	DOF	R-SE6	0 - 0.5	Vadose	7/10/2008	3.4	---	< 2.0	---	---	5.3	---	---	---	---	---
R-SE7	DOF	R-SE7	0 - 0.5	Vadose	7/10/2008	2.5	---	< 2.0	---	---	3.6	---	---	---	---	---
R-SE8	DOF	R-SE8	0 - 0.5	Vadose	7/10/2008	3.3	---	< 2.0	---	---	7.4	---	---	---	---	---
R-SE9	DOF	R-SE9	0 - 0.5	Vadose	7/10/2008	4.9	---	< 2.0	---	---	22	---	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	Vadose	7/17/2008	2.9	---	< 2.0	---	---	24	---	---	---	---	---
R-SE11	DOF	R-SE11	0 - 0.5	Vadose	7/17/2008	5.3	---	**2.0**	---	---	**160**	---	---	---	---	---
R-SE12	DOF	R-SE12	0 - 0.5	Vadose	7/17/2008	4.7	---	< 2.0	---	---	16	---	---	---	---	---
R-SE13	DOF	R-SE13	0 - 0.5	Vadose	7/17/2008	< 2.0	---	< 2.0	---	---	4.2	---	---	---	---	---
R-SE14	DOF	R-SE14	0 - 0.5	Vadose	7/17/2008	6.2	---	< 2.0	---	---	**74**	---	---	---	---	---
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	4.1	---	< 2.0	---	---	30	---	---	---	---	---
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	**7.1**	---	< 2.0	---	---	33	---	---	---	---	---
PR-DP1	DOF	PR-DP1	0 - 0.5	Vadose	7/25/2007	**8**	---	0.5	29.6	30	**91**	---	---	---	---	**109**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.016**	**85**

Table 7
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]										
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Selenium	Silver	Zinc
PR-DP-2	DOF	PR-DP-2	0 - 0.5	Vadose	7/25/2007	< 7	---	0.4	---	---	**83**	---	---	---	---	---
PR-DP3	DOF	PR-DP3	0 - 0.5	Vadose	7/25/2007	7	---	0.6	---	---	**162**	---	---	---	---	---
PR-DP4	DOF	PR-DP4	0 - 0.5	Vadose	7/25/2007	6	---	0.5	---	---	**144**	---	---	---	---	---
Scrape-N1	DOF	Scrape-N1	0 - 0.5	Vadose	2/18/2008	7	---	< 0.2	---	---	18	---	---	---	---	---
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	7	---	0.3	---	---	**51**	---	---	---	---	---
Scrape-N3	DOF	Scrape-N3	0 - 0.5	Vadose	2/18/2008	7	---	0.3	---	---	21	---	---	---	---	---
Scrape-N4	DOF	Scrape-N4	0 - 0.5	Vadose	2/20/2008	**8**	---	0.5	---	---	**78**	---	---	---	---	---
Scrape-N5	DOF	Scrape-N5	0 - 0.5	Vadose	2/20/2008	< 6	---	0.3	---	---	24	---	---	---	---	---
Scrape-N8	DOF	Scrape-N8	0 - 0.5	Vadose	2/21/2008	< 6.0	---	< 0.2	---	---	11	---	---	---	---	---
Underground Storage Tank (UST) Removal Excavation																
NUST-ESW	DOF	NUST-ESW	9.0	Saturated	7/2/2008	---	---	---	---	---	4.0	---	---	---	---	---
SUST-ESW	DOF	SUST-ESW	9.0	Saturated	7/2/2008	---	---	---	---	---	4.6	---	---	---	---	---
SUST-SSW	DOF	SUST-SSW	8.0	Saturated	7/10/2008	---	---	---	---	---	7.0	---	---	---	---	---
UST-PI	DOF	UST-PI	4.0	Vadose	7/11/2008	---	---	---	---	---	4.0	---	---	---	---	---
NUST-WSW	DOF	NUST-WSW	8.0	Saturated	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---	---
SUST-WSW	DOF	SUST-WSW	8.0	Saturated	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---	---
NUST-B1	DOF	NUST-B1	14.0	Saturated	7/2/2008	---	---	---	---	---	< 4.0	---	---	---	---	---
SUST-B3	DOF	SUST-B3	14.0	Saturated	7/10/2008	---	---	---	---	---	5.0	---	---	---	---	---
Storm Drains																
TP-SD-1	DOF	TP-SD-1	2.0	Vadose	7/24/2008	4.6	---	< 2.0	---	---	2.7	---	---	---	---	---
TP-SD-2	DOF	TP-SD-2	2.0	Vadose	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---	---
Former Parts Shop Test Pits																
TP-P08	DOF	TP-P08-1	1.0	Vadose	7/24/2008	2.3	---	< 2.0	---	---	3.6	---	---	---	---	---
	DOF	TP-P08-8	8.0	Saturated	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---	---
	DOF	TP-P08-12	12.0	Saturated	7/24/2008	5.9	---	< 2.0	---	---	< 4.0	---	---	---	---	---
TP-P08A	DOF	TP-P08A-1	1.0	Vadose	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---
	DOF	TP-P08A-8	8.0	Saturated	7/24/2008	3.2	---	< 2.0	---	---	< 4.0	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.016**	**85**

Table 7
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]										
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Selenium	Silver	Zinc
Former Waste Oil Aboveground Storage Tank																
TP-WO-1	DOF	TP-WO-1	1.0	Vadose	7/24/2008	**8.6**	---	< 2.0	---	---	15	---	---	---	---	---
Former UST Sampling Locations																
TP-P01	DOF	TP-P01-SW	6.0	Vadose	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---
	DOF	TP-P01-B	12.0	Saturated	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---
TP-P04-1	DOF	TP-P04-1	3.0	Vadose	7/24/2008	**7.4**	---	< 2.0	---	---	4.6	---	---	---	---	---
Septic Drain field																
TP-SEPTIC-1	DOF	TP-SEPTIC-1	7.0	Vadose	7/24/2008	2.9	---	< 2.0	---	---	< 4.0	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**1,200**	**0.07**	**0.30**	**0.016**	**85**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

--- denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Methods 6010 or 6020.

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.

Farallon = Farallon Consulting, L.L.C.

J = result is an estimate

LDW = Lower Duwamish Waterway

PCUL = preliminary cleanup level

SES = SoundEarth Strategies, Inc.

Table 8
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 1: Dry Grocery Warehouse										
Reconnaissance Boring Groundwater Samples										
P1-1	DOF	7/7/2001	Probe 1-1	< 250	< 500	< 250	---	---	---	---
P1-2	DOF	7/7/2001	Probe 1-2	< 250	< 500	< 250	---	---	---	---
P1-3	DOF	7/7/2001	Probe 1-3	< 250	< 500	< 250	---	---	---	---
P1-4	DOF	7/7/2001	Probe 1-4	< 250	< 500	< 250	---	---	---	---
P1-5	DOF	7/7/2001	Probe 1-5	< 250	< 500	< 250	---	---	---	---
Area 2: Perishables Warehouse										
Reconnaissance Boring Groundwater Samples										
P2-1	DOF	7/3/2001	Probe 2-1 (b)	**2,400**	< 500	**2,500**	**3.1**	< 1.0	26	19
F-1	Farallon	10/20/2016	F-1-GW	< 270	480	< 100	< 0.40	< 2.0	< 0.40	< 1.2
F-2	Farallon	10/20/2016	F-2-GW	**610**	**580**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples										
MW-101	DOF	8/12/2001	MW-101	< 250	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	Farallon	10/19/2016	MW-101-101916	290	< 410	< 100	< 0.40	< 2.0	< 0.40	< 1.2
	Farallon	7/1/2019	MW-101-190701	107	< 200	< 100	< 0.2	< 0.2	< 0.2	< 0.60
Area 3: Former Truck Wash										
Reconnaissance Boring Groundwater Samples										
P3-1	DOF	7/2/2001	Probe 3-1	< 250	< 500	< 250	---	---	---	---
P3-2	DOF	7/2/2001	Probe 3-2	< 250	< 500	< 250	---	---	---	---
Area 4: Former Fueling Area										
Reconnaissance Boring Groundwater Samples										
P4-1	DOF	7/3/2001	Probe 4-1	< 250	**8,600**	< 250	---	---	---	---
P10-3	DOF	7/7/2001	Probe 10-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P-DOF-3	DOF	2/27/2007	P-DOF-3	**619**	**649**	< 238	---	---	---	---
P-DOF-4	DOF	2/27/2007	P-DOF-4	**769**	**948**	< 240	---	---	---	---
F-5	Farallon	10/26/2016	F-5-GW	< 250	< 400	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-7	Farallon	10/26/2016	F-7-GW	**640**	490	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-8	Farallon	10/26/2016	F-8-GW	**1,200**	**710**	< 100	< 0.20	< 1.0	< 0.20	0.86
F-9	Farallon	10/26/2016	F-9-GW	**600**	440	< 100	< 1.0	< 1.0	< 1.0	1.0
F-10	Farallon	10/26/2016	F-10-GW	**810**	**1,100**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-31	Farallon	6/27/2019	F-31-190627	**580**	< 200	---	---	---	---	---
Monitoring Well Groundwater Samples										
MW-2	DOF	5/29/1998	MW-2	< 100	< 100	< 100	< 1	< 1	< 1	< 1
FMW-02	Farallon	7/2/2019	FMW-02-190702	< 100	< 200	< 100	< 0.20	< 0.20	< 0.20	0.070 J
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

Table 8
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 5: Former Trailer Maintenance Shop										
Reconnaissance Boring Groundwater Samples										
P5-1	DOF	6/28/2001	Probe 5-1	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-2	DOF	6/28/2001	Probe 5-2	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-3	DOF	6/28/2001	Probe 5-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-4	DOF	6/28/2001	Probe 5-4	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-5	DOF	7/2/2001	Probe 5-5	< 500	< 500	< 250	< 20	< 20	< 20	< 40
F-11	Farallon	10/18/2016	F-11-GW	< 260	< 420	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-12	Farallon	10/17/2016	F-12-GW	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-13	Farallon	10/18/2016	F-13-GW	---	---	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-14	Farallon	10/18/2016	F-14-GW	< 270	< 430	< 100	< 0.40	< 2.0	< 0.40	< 1.2
Area 6: Former Truck Repair Shop										
Reconnaissance Boring Groundwater Samples										
P6-4	DOF	6/29/2001	P6-4	< 500	< 500	< 250	0.69	< 0.2	< 0.2	< 0.4
P6-5	DOF	6/29/2001	P6-5	< 250	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P6-6	DOF	7/2/2001	P6-6	< 500	< 500	< 250	---	---	---	---
P6-7	DOF	7/2/2001	P6-7	< 500	< 500	< 250	---	---	---	---
F-16	Farallon	10/17/2016	F-16-GW	< 260	< 410	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-17	Farallon	10/17/2016	F-17-GW	**850** M	< 420	**1,300**	**90**	< 4.0	**140**	20
F-18	Farallon	10/17/2016	F-18-GW	< 260	< 420	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples										
MW-4	DOF	11/12/2009	MW-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-4-102116	< 260	< 410	< 400	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-4-190701	474	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

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Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
MW-203	DOF	1/8/2002	MW-203	< 250	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	11/12/2009	MW-203	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-203	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-203	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-203	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-203-102116	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-203-190701	< 100	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
MW-207	DOF	11/12/2009	MW-207	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-207	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-207	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-207	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-207-102116	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-207-190701	< 100	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
MW-AG1	DOF	11/12/2009	MW-AG1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-AG1-102116	< 260	< 420	< 400	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-AG1-190701	< 100	< 200	< 500	< 1.0	< 1.0	< 1.0	< 3.0
MW-AG2	DOF	11/12/2009	MW-AG2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG2	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG2	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/19/2016	MW-AG2-101916	< 250	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-AG2-190701	< 100	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
Area 7: Former Automobile Service Stations										
Reconnaissance Boring Groundwater Samples										
P7-1	DOF	7/3/2001	Probe 7-1	< 500	< 500	700	**42**	3	**39**	102
P7-2	DOF	7/3/2001	Probe 7-2	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-3	DOF	7/7/2001	Probe 7-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-4	DOF	7/25/2001	Probe 7-4	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-5	DOF	7/25/2001	Probe 7-5	< 500	< 500	< 250	< 0.2	0.49	< 0.2	< 0.4
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 612	< 612	< 243	< 1.0	< 1.0	< 1.0	< 3.0
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

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Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Monitoring Well Groundwater Samples										
DOF-1	DOF	11/12/2009	DOF-1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	DOF-1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-1	Well Dry						
	DOF	11/26/2014	DOF-1	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/19/2016	DOF-1-101916	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-1-190701	< 100	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
FMW-01	Farallon	7/2/2019	FMW-01-190702	< 100	< 200	563	0.060 J	0.080 J	6.38	29.8 J
Area 8: Returns Building										
Reconnaissance Boring Groundwater Samples										
P8-1	DOF	7/2/2001	Probe 8-1	< 500	< 500	< 250	---	---	---	---
P8-2	DOF	7/2/2001	Probe 8-2	< 500	< 500	< 250	---	---	---	---
P8-3	DOF	7/25/2001	Probe 8-3	< 500	< 500	< 250	---	---	---	---
Area 9: Former Employee Parking Lot										
Reconnaissance Boring Groundwater Samples										
P9-1	DOF	7/2/2001	Probe 9-1	< 500	< 500	< 250	---	---	---	---
P9-2	DOF	7/7/2001	Probe 9-2	< 500	< 500	< 250	---	---	---	---
Area 10: Up-Gradient Areas										
Reconnaissance Boring Groundwater Samples										
P10-2	DOF	7/3/2001	Probe 10-2	< 500	< 500	< 250	< 20.0	< 20.0	< 40.0	< 40.0
P10-4	DOF	7/7/2001	Probe 10-4	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
P10-5	DOF	7/7/2001	Probe 10-5	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

Table 8
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 11: Former South Maintenance Shop										
Reconnaissance Boring Groundwater Samples										
P-DOF-5	DOF	2/27/2007	P-DOF-5	< 606	< 606	< 240	< 1.0	< 1.0	< 1.0	< 3.0
F-20	Farallon	10/18/2016	F-20-GW	< 270	< 440	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-21	Farallon	10/19/2016	F-21-GW	< 270	< 440	< 100	0.21	< 1.0	< 0.20	< 0.60
F-22	Farallon	10/19/2016	F-22-GW	---	---	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-23	Farallon	10/19/2016	F-23-GW	**840**	500	150	< 0.20	< 1.0	< 0.20	< 0.60
Monitoring Well Groundwater Samples										
FMW-03	Farallon	7/1/2019	FMW-03-190701	141	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
Area 12: Former Old Humble Oil Service Station										
Reconnaissance Boring Groundwater Samples										
P-DOF-1	DOF	2/28/2007	P-DOF-1	< 618	< 618	< 245	< 1.0	< 1.0	< 1.0	< 3.0
Area 13: Former Northwest Auto Wrecking Property										
Reconnaissance Boring Groundwater Samples										
P10-1	DOF	7/3/2001	Probe 10-1	< 500	< 500	< 250	**2.3**	< 1.0	8.6	17.1
NWAW-P1	DOF	10/27/2008	NWAW-P1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P2	DOF	10/27/2008	NWAW-P2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P3	DOF	10/27/2008	NWAW-P3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P4	DOF	10/27/2008	NWAW-P4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P5	DOF	10/27/2008	NWAW-P5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P6	DOF	10/27/2008	NWAW-P6	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	3.6
NWAW-P7	DOF	10/27/2008	NWAW-P7	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P8	DOF	10/27/2008	NWAW-P8	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P9	DOF	10/28/2008	NWAW-P9	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	10/28/2008	NWAW-P9 (duplicate)	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P10	DOF	10/28/2008	NWAW-P10	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P11	DOF	10/28/2008	NWAW-P11	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P12	DOF	10/28/2008	NWAW-P12	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P13	DOF	10/28/2008	NWAW-P13	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P14	DOF	10/28/2008	NWAW-P14	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P15	DOF	10/28/2008	NWAW-P15	< 250	< 500	280	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P16	DOF	10/28/2008	NWAW-P16	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

Table 8
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Monitoring Well Groundwater Samples										
DOF-2	DOF	11/12/2009	DOF-2	< 250	< 500	**1,200**	**5.9**	1.2	9.7	1.8
	DOF	3/18/2010	DOF-2	< 250	< 500	**850**	**3.3**	< 1.0	4.3	1.3
	DOF	10/5/2010	DOF-2	< 100	< 200	370	1.1	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-2	< 100	< 200	770	**3.2**	< 1.0	3.4	< 2.0
	DOF	3/23/2012	DOF-2	< 100	< 200	720	**5.4**	1.1	5	< 2.0
	DOF	8/28/2014	DOF-2	---	---	420	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-2	---	---	**1,200**	1.5	1.2	1.5	< 3.0
	DOF	6/5/2015	DOF-2	---	---	450	0.39	0.43	0.88	0.93
	Farallon	10/24/2016	DOF-2-102416	380	**560**	180	0.27	< 1.0	0.31	< 0.60
	Farallon	7/1/2019	DOF-2-190701	336	223	131	0.19 J	0.22	0.26	0.38 J
DOF-3	DOF	11/12/2009	DOF-3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-3	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-3	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-3	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-3	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-3	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/21/2016	DOF-3-102116	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-3-190701	125	< 200	< 100	< 0.2	< 0.2	< 0.2	< 0.60
DOF-4	DOF	11/12/2009	DOF-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-4	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-4	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/24/2016	DOF-4-102416	< 260	450	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-4-190701	185	< 200	< 100	< 0.2	< 0.2	< 0.2	< 0.60
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

Table 8
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)						
				DRO[1]	ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
DOF-5	DOF	11/12/2009	DOF-5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-5	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	1.2
	DOF	3/3/2011	DOF-5	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-5	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-5	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-5	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	7/1/2019	DOF-5-190701	108	< 200	< 100	< 0.2	< 0.2	< 0.2	0.15 J
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**500[4]**	**500[4]**	**800/1,000[5]**	**1.6**	**130**	**31**	**330**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

--- denotes sample not analyzed.

[1]Analyzed by Northwest Method NWTPH-Dx.

[2]Analyzed by Northwest Method NWTPH-Gx.

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019, unless otherwise noted.

[4]Washington State Model Toxics Control Act Cleanup Regulation Method A Cleanup Levels for Groundwater, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, as amended 2013.

[5]Cleanup level is 800 micrograms per liter if benzene is detected and 1,000 micrograms per liter if benzene is not detected.

BTEX = benzene, toluene, ethylbenzene, and xylenes
DOF = Dalton, Olmsted & Fuglevand, Inc.
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Farallon = Farallon Consulting, L.L.C.
GRO = TPH as gasoline-range organics
J = result is an estimate
LDW = Lower Duwamish Waterway
M = hydrocarbons in the gasoline-range are impacting the DRO result
NA = not applicable
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level

Table 9
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-0266

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																		
				Non-Carcinogenic PAHs												Carcinogenic PAHs							
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[2]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[3,4]
Area 2: Perishables Warehouse																						
Reconnaissance Boring Groundwater Samples																						
F-1	Farallon	10/20/2016	F-1-GW	< 0.19	1.9	1.6	3.5	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	0.23	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
Monitoring Well Groundwater Samples																						
MW-101	Farallon	10/19/2016	MW-101-101916	0.10	3.0	0.43	3.5	0.20	< 0.094	< 0.094	< 0.0094	< 0.094	0.16	0.17	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	MW-101-190701	0.007 J	0.002 J	0.003 J	0.012	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 4: Former Fueling Area																						
Reconnaissance Boring Groundwater Samples																						
P10-3	DOF	7/7/2001	Probe 10-3	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
Monitoring Well Groundwater Samples																						
FMW-02	Farallon	7/2/2019	FMW-02-190702	0.006 J	0.005 J	0.005 J	0.011	0.016	< 0.010	0.004 J	< 0.010	0.003 J	0.015	0.022	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 5: Former Trailer Maintenance Shop																						
Reconnaissance Boring Groundwater Samples																						
F-11	Farallon	10/18/2016	F-11-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
F-12	Farallon	10/17/2016	F-12-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-14	Farallon	10/18/2016	F-14-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
Area 6: Former Truck Repair Shop																						
Reconnaissance Boring Groundwater Samples																						
F-16	Farallon	10/17/2016	F-16-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	0.016	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	**0.014**	**0.014**	**0.009**
F-17	Farallon	10/17/2016	F-17-GW	**42**	14	23	79	0.20	< 0.096	< 0.096	< 0.0096	< 0.096	0.37	0.38	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-18	Farallon	10/17/2016	F-18-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
Monitoring Well Groundwater Samples																						
MW-4	Farallon	10/21/2016	MW-4-102116	< 0.19	< 0.19	< 0.19	< 0.57	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	MW-4-190701	0.003 J	0.005 J	0.003 J	0.011	0.084	< 0.010	< 0.010	< 0.010	< 0.010	0.011	0.012	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-203	Farallon	10/21/2016	MW-203-102116	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	MW-203-190701	0.002 J	< 0.010	< 0.010	0.002	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-207	Farallon	10/21/2016	MW-207-102116	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	MW-207-190701	0.002 J	< 0.010	< 0.010	0.002	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	< 0.19	< 0.19	< 0.19	< 0.57	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	MW-AG1-190701	0.002 J	0.002 J	0.001 J	0.005	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.003 J	0.001 J	< 0.010	< 0.010	< 0.010	< 0.010	0.001 J	< 0.010	< 0.010	**0.0075**
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	MW-AG2-190701	0.002 J	0.001 J	0.001 J	0.004	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**NA**	**NA**	---	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**

Table 9
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-0266

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																		
				Non-Carcinogenic PAHs												Carcinogenic PAHs							
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[2]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[3,4]
Area 7: Former Automobile Service Stations																						
Monitoring Well Groundwater Samples																						
DOF-1	Farallon	10/19/2016	DOF-1-101916	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	DOF-1-190701	0.002 J	0.001 J	< 0.010	0.003	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.0009 J	< 0.010	< 0.010	**0.0075**
FMW-01	Farallon	7/2/2019	FMW-01-190702	**2.98**	0.152	0.337	3.47	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 10: Up-Gradient Areas																						
Reconnaissance Boring Groundwater Samples																						
P10-2	DOF	7/3/2001	Probe 10-2	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
P10-4	DOF	7/7/2001	Probe 10-4	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
P10-5	DOF	7/7/2001	Probe 10-5	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
Area 11: Former South Maintenance Shop																						
Reconnaissance Boring Groundwater Samples																						
F-20	Farallon	10/18/2016	F-20-GW	< 0.11	< 0.11	< 0.11	< 0.33	< 0.11	< 0.11	< 0.11	< 0.011	< 0.11	< 0.11	< 0.11	< 0.11	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.008
F-21	Farallon	10/19/2016	F-21-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-23	Farallon	10/19/2016	F-23-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
Monitoring Well Groundwater Samples																						
FMW-03	Farallon	7/1/2019	FMW-03-190701	0.025	1.31	0.011	1.35	0.096	0.008 J	0.002 J	< 0.010	< 0.010	0.051	0.048	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 13: Former Northwest Auto Wrecking Property																						
Reconnaissance Boring Groundwater Samples																						
P-10-1	DOF	7/3/2001	Proble 10-1	**8**	2.1	4.3	14.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																						
DOF-2	Farallon	10/24/2016	DOF-2-102416	0.64	1.8	< 0.19	2.4	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	DOF-2-190701	0.4	0.646	0.609	1.655	0.128	0.004 J	0.004 J	< 0.010	< 0.010	0.147	0.045	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-3	Farallon	10/21/2016	DOF-3-102116	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	DOF-3-190701	0.003 J	0.001 J	0.001 J	0.005	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-4	Farallon	10/24/2016	DOF-4-102416	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	DOF-4-190701	0.002 J	0.001 J	0.001 J	0.004	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-5	Farallon	7/1/2019	DOF-5-190701	0.008 J	0.172	0.009 J	0.189	0.009 J	< 0.010	< 0.010	< 0.010	< 0.010	0.003 J	0.001 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**NA**	**NA**	**---**	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 8270 or 8270D/SIM.

[2]Sum of naphthalenes, 1-methylnaphthalene, and 2-methylnaphthalene.

[3]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[4]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[5]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DOF = Dalton, Olmsted & Fuglevand, Inc.
E = concentration exceeds upper limit of the instrument calibration range.
Farallon = Farallon Consulting, L.L.C.
J = result is an estimate
LDW = Lower Duwamish Waterway
NA = not applicable
NE = not established
PAHs = polycyclic aromatic hydrocarbons
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 10
Groundwater Analytical Results for Select VOCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																		
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichloropropane	Acetone	Carbon Disulfide	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Isopropylbenzene (Cumene)	Methyl Tertiary Butyl Ether	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride
Area 2: Perishables Warehouse																						
Reconnaissance Boring Groundwater Samples																						
F-1	Farallon	10/20/2016	F-1-GW	< 0.40	< 0.40	< 0.40	< 10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Monitoring Well Groundwater Samples																						
MW-101	Farallon	10/19/2016	MW-101-101916	< 0.40	< 0.40	< 0.40	< 10	< 0.40	< 0.40	< 0.40	2.7	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Area 4: Former Fueling Area																						
Reconnaissance Boring Groundwater Samples																						
F-8	Farallon	10/26/2016	F-8-GW	0.24	< 0.20	< 0.20	< 8.0	< 0.20	< 0.20	< 0.20	< 0.28	< 0.20	4.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.40	< 0.20	< 0.20	< 0.20
Area 5: Former Trailer Maintenance Shop																						
Reconnaissance Boring Groundwater Samples																						
F-11	Farallon	10/18/2016	F-11-GW	< 0.20	< 0.20	< 0.20	< 5.0	0.36	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.22	< 0.20	< 0.20	< 0.20
F-12	Farallon	10/17/2016	F-12-GW	< 0.20	< 0.20	< 0.20	< 5.0	0.22	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-13	Farallon	10/18/2016	F-13-GW	< 0.20	< 0.20	< 0.20	7.1	0.52	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-14	Farallon	10/18/2016	F-14-GW	< 0.40	< 0.40	< 0.40	< 10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Area 6: Former Truck Repair Shop																						
Reconnaissance Boring Groundwater Samples																						
P10-3	DOF	7/7/2001	Probe 10-3	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
P-DOF-6.3	DOF	2/27/2008	P-DOF-6.3	5.5	---	---	---	23.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																						
MW-4	Farallon	10/21/2016	MW-4-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-203	Farallon	10/21/2016	MW-203-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-207	Farallon	10/21/2016	MW-207-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Area 7: Former Automobile Service Stations																						
Reconnaissance Boring Groundwater Samples																						
P7-1	DOF	7/3/2001	P7-1	12	2.1	---	---	---	---	---	---	1.3	---	1.1	1.1	---	---	---	---	---	---	---
P7-4	DOF	7/3/2001	P7-4	---	0.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 1.00	< 1.00	< 1.00	< 20.0	8.80	< 1.00	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 0.200
Monitoring Well Groundwater Samples																						
DOF-1	Farallon	10/19/2016	DOF-1-101916	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[2]				**240**	**NA**	**3.1**	**NA**	**400**	**1.2**	**NA**	**5.6**	**NA**	**600**	**NA**	**NA**	**NA**	**NA**	**NA**	**2.9**	**0.70**	**120**	**0.18**
Area 10: Up-Gradient Areas																						
P10-2	DOF	7/3/2001	Probe 10-2	< 20	---	< 20	---	---	< 20	< 20	< 20	---	---	---	---	---	---	---	< 20	< 20	< 20	< 20
P10-4	DOF	7/7/2001	Probe 10-4	< 1.0	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P10-5	DOF	7/7/2001	Probe 10-5	< 1.0	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Table 10
Groundwater Analytical Results for Select VOCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																		
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichloropropane	Acetone	Carbon Disulfide	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Isopropylbenzene (Cumene)	Methyl Tertiary Butyl Ether	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride
Area 11: Former South Maintenance Shop																						
Reconnaissance Boring Groundwater Samples																						
F-20	Farallon	10/18/2016	F-20-GW	0.25	< 0.20	< 0.20	5.7	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-21	Farallon	10/19/2016	F-21-GW	< 0.20	< 0.20	< 0.20	< 5.0	0.81	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-22	Farallon	10/19/2016	F-22-GW	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	0.24	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-23	Farallon	10/19/2016	F-23-GW	< 0.20	< 0.20	0.39	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.40	< 0.20	< 0.20	< 0.20	< 0.20
Monitoring Well Groundwater Samples																						
FMW-03	Farallon	7/1/2019	FMW-03-190701	0.060 B J	< 0.20	< 0.20	8.47	0.090 J	< 0.20	< 0.20	0.95	< 0.20	< 0.50	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Area 12: Former Old Humble Oil Service Station																						
Reconnaissance Boring Groundwater Samples																						
P-DOF-1	DOF	2/28/2007	P-DOF-1	---	---	---	---	10.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																						
Reconnaissance Boring Groundwater Samples																						
P10-1	DOF	7/3/2001	P10-1	43	23	---	---	---	0.77	---	---	5.4	---	---	18	1	1.4	---	---	---	---	---
Monitoring Well Groundwater Samples																						
DOF-2	Farallon	10/24/2016	DOF-2-102416	0.33	< 0.20	< 0.20	< 7.4	< 0.20	< 0.20	< 0.20	< 0.27	6.1	< 0.20	1.2	1.5	< 0.20	1.7	0.67	< 0.20	< 0.20	0.33	< 0.20
DOF-4	Farallon	10/24/2016	DOF-4-102416	< 0.20	< 0.20	< 0.20	< 7.4	< 0.20	< 0.20	< 0.20	< 0.27	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[2]				**240**	**NA**	**3.1**	**NA**	**400**	**1.2**	**NA**	**5.6**	**NA**	**600**	**NA**	**NA**	**NA**	**NA**	**NA**	**2.9**	**0.70**	**120**	**0.18**

NOTES:
< denotes analyte not detected at or exceeding the reporting limit listed.
— denotes sample not analyzed or reporting limit unknown for non-detected analytes.
[1]Analyzed by U.S. Environmental Protection Agency Method 8260.
[2]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
LDW = Lower Duwamish Waterway
NA = not applicable
PCUL = preliminary cleanup level
VOCs = volatile organic compounds.

Table 11
Groundwater Analytical Results for Metals
3301 South Norfolk Street
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Result (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Total Manganese	Dissolved Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 2: Perishables Warehouse																	
Reconnaissance Boring Groundwater Samples																	
F-1	Farallon	10/20/2016	F-1-GW	---	**11**	---	---	---	---	---	---	---	---	---	---	---	---
F-2	Farallon	10/20/2016	F-2-GW	---	**9.6**	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
MW-101	Farallon	10/19/2016	MW-101-101916	---	**48**	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	Farallon	7/1/2019	MW-101-190701	**49.2**	**50.1**	< 0.1	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	**4,130**	**4,060**	< 0.02	< 0.02	7.22 B	2.59 J
Area 4: Former Fueling Area																	
Monitoring Well Groundwater Samples																	
FMW-02	Farallon	7/2/2019	FMW-02-190702	7.14	6.75	< 0.1	< 0.1	1.03	0.536	< 0.1	< 0.1	723	685	0.016 J	0.015 J	8.2	2.44 J
Area 5: Former Trailer Maintenance Shop																	
F-11	Farallon	10/18/2016	F-11-GW	---	3.1	---	---	---	---	---	---	---	---	---	---	---	---
F-12	Farallon	10/17/2016	F-12-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
F-14	Farallon	10/18/2016	F-14-GW	---	**9.9**	---	---	---	---	---	---	---	---	---	---	---	---
Area 6: Former Truck Shop Building																	
Reconnaissance Boring Groundwater Samples																	
F-16	Farallon	10/17/2016	F-16-GW	---	< 3.0	---	---	---	---	---	< 1.0	---	---	---	---	---	---
F-17	Farallon	10/17/2016	F-17-GW	---	3.2	---	---	---	---	---	< 1.0	---	---	---	---	---	---
F-18	Farallon	10/17/2016	F-18-GW	---	**24**	---	---	---	---	---	< 1.0	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
MW-4	Farallon	10/21/2016	MW-4-102116	---	**38**	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-4-190701	**12.3**	**11.6**	< 0.2	< 0.2	2.21	1.07	0.216	< 0.2	904	937	0.015 J	0.014 J	3.56 J	3.11 J
MW-203	Farallon	10/21/2016	MW-203-102116	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-203-190701	0.629	0.476	< 0.1	< 0.1	2.09	2.03	< 0.1	< 0.1	483	481	0.019 J	0.017 J	3.97 J	4.43
MW-207	Farallon	10/21/2016	MW-207-102116	---	**27**	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-207-190701	**8.5**	2.96	0.073 J	0.061 J	1.64	0.905	0.466	< 0.1	140	137	0.019 J	0.018 J	7.04	4.86
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	---	4.8	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-AG1-190701	7.57	5.74	< 0.2	< 0.1	**30.2**	**7.75**	2.22	0.4	94.3	74.6	**0.029**	0.018 J	20.6	3.05 J
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	---	5.8	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-AG2-190701	**15.9**	**14.8**	< 0.1	< 0.1	**5.79**	2.11	0.576	0.223	59.6	60.6	0.018 J	0.017 J	3.33 J	2.17 J
Area 7: Former Automobile Service Stations																	
Monitoring Well Groundwater Samples																	
DOF-1	DOF	11/12/2009	DOF-1	2.1	1.8	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-1	1.0	1.0	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/4/2010	DOF-1	1.8	2.1	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-1	0.5	0.5	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-1	1.5	0.3	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-1	Well Dry													
	DOF	11/26/2014	DOF-1	0.5	0.4	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-1	0.7	0.3	---	---	---	---	0.2	< 0.1	---	---	---	---	---	---
	Farallon	10/19/2016	DOF-1-101916	---	< 3.0	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-1-190701	1.32	1.29	0.084 J	0.044 J	< 0.5	0.363 J	< 0.1	< 0.1	928	931	0.016 J	0.015 J	5.03	4.98
FMW-01	Farallon	7/2/2019	FMW-01-190702	0.996	0.882	< 0.1	< 0.1	0.75	0.374 J	0.126	0.074 J	528	526	0.019 J	0.017 J	22.5	2.17 J

Table 11
Groundwater Analytical Results for Metals
3301 South Norfolk Street
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Result (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Total Manganese	Dissolved Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 11: Former South Maintenance Shop																	
Reconnaissance Boring Groundwater Samples																	
F-21	Farallon	10/19/2016	F-21-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
F-23	Farallon	10/19/2016	F-23-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
FMW-03	Farallon	7/1/2019	FMW-03-190701	0.45	0.435	< 0.1	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	612	628	0.011 J	0.016 J	3.07 J	3.1 J
LDW Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8.0**		**1.2**		**3.1**		**8.1**		**2,500**		**0.025**		**81**	
Area 13: Former Northwest Auto Wrecking Property																	
Reconnaissance Boring Groundwater Samples																	
NWAW-P1	DOF	10/27/2008	NWAW-P1	---	6.2	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P2	DOF	10/27/2008	NWAW-P2	---	0.8	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P3	DOF	10/27/2008	NWAW-P3	---	3.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P4	DOF	10/27/2008	NWAW-P4	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P5	DOF	10/27/2008	NWAW-P5	---	0.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P6	DOF	10/27/2008	NWAW-P6	---	1.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P7	DOF	10/27/2008	NWAW-P7	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P8	DOF	10/27/2008	NWAW-P8	---	1.4	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P9	DOF	10/28/2008	NWAW-P9	---	6.1	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
	DOF	10/28/2008	NWAW-P9 (duplicate)	---	2.6	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P10	DOF	10/28/2008	NWAW-P10	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P11	DOF	10/28/2008	NWAW-P11	---	2.3	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P12	DOF	10/28/2008	NWAW-P12	---	3.9	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P13	DOF	10/28/2008	NWAW-P13	---	**10.3**	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P14	DOF	10/28/2008	NWAW-P14	---	0.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P15	DOF	10/28/2008	NWAW-P15	---	0.9	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P16	DOF	10/28/2008	NWAW-P16	---	2.1	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
DOF-2	DOF	11/12/2009	DOF-2	**9.0**	**8.9**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-2	**15.7**	**13.7**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-2	**14.2**	**12.6**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-2	**24.5**	**19.7**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-2	**19.0**	**17.1**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-2	**35.1**	**35.7**	---	---	---	---	1.8	0.7	1,620	---	---	---	---	---
	DOF	11/26/2014	DOF-2	**25.3**	**28.2**	---	---	---	---	1.0	0.3	---	---	---	---	---	---
	DOF	6/5/2015	DOF-2	**20.5**	**20.2**	---	---	---	---	1.9	0.6	---	---	---	---	---	---
	Farallon	10/24/2016	DOF-2-102416	---	6.1	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-2-190701	**10.1**	**9.87**	< 0.1	< 0.1	2.95	2.38	0.44	0.479	18.4	19.1	0.024	0.022	3.56 J	5.35
DOF-3	DOF	11/12/2009	DOF-3	**9.1**	**8.6**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-3	5.2	5.2	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-3	2.0	1.8	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-3	1.6	1.3	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-3	1.5	0.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-3	3.4	1.2	---	---	---	---	1.6	0.5	**15,700**	---	---	---	---	---
	DOF	11/26/2014	DOF-3	1.0	1.0	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-3	0.9	0.9	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	Farallon	10/21/2016	DOF-3-102116	---	< 3.0	---	---	---	---	---	<1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-3-190701	0.857	0.776	0.053 J	0.062 J	**9.43**	**8.87**	< 0.1	< 0.1	991	953	**0.031**	**0.026**	7.8	7.52
LDW Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8.0**		**1.2**		**3.1**		**8.1**		**2,500**		**0.025**		**81**	

Table 11
Groundwater Analytical Results for Metals
3301 South Norfolk Street
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Result (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Total Manganese	Dissolved Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
DOF-4	DOF	11/12/2009	DOF-4	7.5	7.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-4	5.7	6.5	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-4	**11.5**	**9.4**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-4	5.5	6.0	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-4	5.8	6.4	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-4	**8.2**	**9.3**	---	---	---	---	< 0.1	< 0.1	**10,100**	---	---	---	---	---
	DOF	11/26/2014	DOF-4	**11.0**	**11.3**	---	---	---	---	0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-4	7.4	7.4	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	Farallon	10/24/2016	DOF-4-102416	---	< 3.0	---	---	---	---	---	<1.0		---	---	---	---	---
	Farallon	7/1/2019	DOF-4-190701	2.17	2	< 0.1	< 0.1	0.426 J	< 0.5	< 0.1	< 0.1	675	702	< 0.02	< 0.02	10.2	2.92 J
DOF-5	DOF	11/12/2009	DOF-5	1.1	1.1	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-5	1.1	0.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-5	1.1	1.2	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-5	1.0	0.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-5	1.1	0.8	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-5	1.2	1.1	---	---	---	---	0.2	< 0.1	**14,400**	---	---	---	---	---
	DOF	11/26/2014	DOF-5	1.2	0.9	---	---	---	---	0.4	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-5	0.8	0.7	---	---	---	---	0.1	< 0.1	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-5-190701	0.893	0.812	< 0.1	< 0.1	1.45	1.14	2.27	0.14	210	216	0.013 J	0.016 J	**159**	3.2 J
LDW Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8.0**		**1.2**		**3.1**		**8.1**		**2,500**		**0.025**		**81**	

NOTES:

Results in **bold and highlighted** denote concentrations exceeding one or more screening levels.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed.

[1]Analyzed by U.S. Environmental Protection Agency Method 200.8/6010 Series.

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

B = analyte detected in associated method blank.

DOF = Dalton, Olmsted & Fuglevand, Inc.

Farallon = Farallon Consulting, L.L.C.

J = result is an estimate

LDW = Lower Duwamish Waterway

NA = not applicable

PCUL = preliminary cleanup level

Table 12
Groundwater Analytical Results for PCB Aroclors
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]									
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[2]
Northern Property Boundary													
Reconnaissance Boring Groundwater Samples													
F-27	Farallon	6/27/2019	F-27-190627	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.90
F-28	Farallon	6/28/2019	F-28-190628	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.90
Area 2: Perishables Warehouse													
MW-101	Farallon	7/1/2019	MW-101-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 4: Former Fueling Area													
FMW-02	Farallon	7/2/2019	FMW-02-190702	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 6: Former Truck Shop Building													
MW-4	Farallon	7/1/2019	MW-4-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-203	Farallon	7/1/2019	MW-203-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-207	Farallon	7/1/2019	MW-207-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-AG1	Farallon	7/1/2019	MW-AG1-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-AG2	Farallon	7/1/2019	MW-AG2-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 7: Former Automobile Service Stations													
DOF-1	Farallon	7/1/2019	DOF-1-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
FMW-01	Farallon	7/2/2019	FMW-01-190702	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 11: Former South Maintenance Shop													
FMW-03	Farallon	7/1/2019	FMW-03-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 13: Former Northwest Auto Wrecking Property													
DOF-2	Farallon	7/1/2019	DOF-2-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-3	Farallon	7/1/2019	DOF-3-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-4	Farallon	7/1/2019	DOF-4-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-5	Farallon	7/1/2019	DOF-5-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
LDW Most Stringent Groundwater PCUL: Nonpotable Water[3]													**0.0000070**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 8082A.

[2]Where all Aroclors were non-detect in a specific sample, half the reporting limit for each Aroclor was used to calculate total PCBs.

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

LDW = Lower Duwamish Waterway

PCB = polychlorinated biphenyl

PCUL = preliminary cleanup level

Table 13
Summary of COPCs in Soil
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Results	Number of Detects	Frequency of Detection (%)	LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable GW (w/o SL-9)[1]	LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable GW (w/o SL-9)[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Exceedance Frequency of Detects (%)	Exceedance Frequency of Detects > 2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Exceedance Frequency of Non-Detects > 10x PCUL (%)	Median Reporting Limit for Non-Detects	Maximum Detected Concentration (mg/kg)	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COC
Total Petroleum Hydrocarbons and BTEX																			
DRO	199	54	27%	2000	2000	2	2	0	0	1%	1%	0%	0%	23.5	9900	5.0			Yes
ORO	199	64	32%	2000	2000	0	0	0	0	0%	0%	0%	0%	58.25	1600	0.80	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
GRO	192	41	21%	30	30	20	13	2	0	10%	7%	1%	0%	8.075	12300	410			Yes
Benzene	163	10	6%	0.0088	0.00056	7	7	149	83	4%	4%	91%	51%	0.021	4.8	8571			Yes
Toluene	171	13	8%	0.92	0.055	3	1	19	9	2%	1%	11%	5%	0.0225	32	35			Yes
Ethylbenzene	171	22	13%	0.26	0.015	19	14	74	5	11%	8%	43%	3%	0.02225	51	3400			Yes
Xylenes	171	24	14%	16,000	16,000	0	0	0	0	0%	0%	0%	0%	0.047	135	0.01	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Polycyclic Aromatic Hydrocarbons (PAHs)																			
Naphthalene	25	1	4%	0.039	0.0021	1	1	16	0	4%	4%	64%	0%	0.02935	2	51.28			Yes
1-Methylnaphthalene	21	2	10%	29	29	0	0	0	0	0%	0%	0%	0%	0.0308	9.5	0.33	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
2-Methylnaphthalene	21	3	14%	0.67	0.67	1	1	0	0	5%	5%	0%	0%	0.0323	9.1	13.58			Yes
Total Naphthalenes	25	3	12%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0879	20.6	0.00	X	No Ecology-provided PCUL	
Acenaphthene	21	2	10%	0.5	0.028	0	0	0	0	0%	0%	0%	0%	0.0308	0.5	1.00	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Acenaphthylene	21	2	10%	1.3	1.3	0	0	0	0	0%	0%	0%	0%	0.0308	0.37	0.28	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Anthracene	21	1	5%	0.96	0.051	0	0	0	0	0%	0%	0%	0%	0.03085	0.44	0.46	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Benzo(g,h,i)Perylene	21	1	5%	0.67	0.67	0	0	0	0	0%	0%	0%	0%	0.03085	0.035	0.052	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Fluoranthene	21	2	10%	1.7	0.09	0	0	0	0	0%	0%	0%	0%	0.03235	0.11	0.065	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Fluorene	21	2	10%	0.54	0.029	2	2	0	0	10%	10%	0%	0%	0.0308	3.2	5.93			Yes
Phenanthrene	21	4	19%	1.5	1.5	1	1	0	0	5%	5%	0%	0%	0.0333	5.4	3.60			Yes
Pyrene	21	2	10%	2.6	0.14	0	0	0	0	0%	0%	0%	0%	0.03235	0.53	0.20	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Benzo(a)Pyrene	21	1	5%	0.00031	0.000016	1	1	20	20	5%	5%	95%	95%	0.02085	0.025	80.65			Yes
Benzo(a)Anthracene	21	2	10%	0.0011	0.000057	2	2	19	14	10%	10%	90%	67%	0.03235	0.015	13.64			Yes
Benzo(b)Fluoranthene	21	1	5%	0.0039	0.0002	1	1	20	14	5%	5%	95%	67%	0.02085	0.029	7.44			Yes
Benzo(j,k)Fluoranthene	21	0	0%	0.039	0.002	0	0	14	0	0%	0%	67%	0%	0.00935	---	---	X	FOD = 0%; max RL < 10x PCUL	
Chrysene	21	2	10%	0.13	0.0064	0	0	8	0	0%	0%	38%	0%	0.03235	0.046	0.35	X	Detects less than most stringent PCUL; max RL < 10x PCUL	
Dibenzo(a,h)Anthracene	21	1	5%	0.00057	0.000029	1	1	20	20	5%	5%	95%	95%	0.02085	0.0078	13.7			Yes
Indeno(1,2,3-cd)Pyrene	21	1	5%	0.011	0.00056	1	0	14	8	5%	0%	67%	38%	0.02085	0.02	1.82	X	FOE < 10%; no exceedances >2x PCUL	
Total cPAHs TEC	21	2	10%	0.00031	0.000016	2	2	19	19	10%	10%	90%	90%	0.024275	0.03283	106			Yes
Total LPAHs	21	21	100%	5.2	5.2	1	1	0	0	5%	5%	0%	0%	---	11.91	2.29			Yes
Total HPAHs	21	21	100%	12	12	0	0	0	0	0%	0%	0%	0%	---	0.694	0.058	X	Detects/NDs never exceeded most stringent PCUL;RLs<PCULS	
Volatile Organic Compounds																			
1,1,1,2-Tetrachloroethane	10	0	0%	38	38	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
1,1,1-Trichloroethane	10	0	0%	371	21	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
1,1,2,2-Tetrachloroethane	10	0	0%	0.0017	0.00011	0	0	7	6	0%	0%	70%	60%	0.0014	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.0010 mg/kg	
1,1,2-Trichloroethane	10	0	0%	0.0050	0.00033	0	0	6	0	0%	0%	60%	0%	0.001275	---	---	X	FOD = 0%; max RL < 10x PCUL	
1,1-Dichloroethane	10	0	0%	175	175	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
1,1-Dichloroethene	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
1,1-Dichloropropene	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
1,2,3-Trichlorobenzene	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.00403	---	---	X	No Ecology-provided PCUL	
1,2,3-Trichloropropane	10	0	0%	0.033	0.033	0	0	1	0	0%	0%	10%	0%	0.0020775	---	---	X	FOD = 0%; FOE of RL < 20%	
1,2,4-Trichlorobenzene	10	0	0%	0.0014	0.000072	0	0	9	7	0%	0%	90%	70%	0.00403	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.0010 mg/kg	
1,2,4-Trimethylbenzene	18	5	28%	800	800	1	0	0	0	6%	0%	0%	0%	0.02865	1600	2.00	X	FOE < 10%; no exceedances > 2x PCUL	
1,2-Dibromo-3-chloropropane	10	0	0%	1.25	1.3	0	0	0	0	0%	0%	0%	0%	0.00703	---	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dibromoethane	10	0	0%	0.5	0.50	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dichlorobenzene	21	2	10%	0.036	0.0031	2	2	10	6	10%	10%	48%	29%	0.170725	91	29355			Yes
1,2-Dichloroethane	10	0	0%	0.35	0.024	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dichloropropane	10	0	0%	0.016	0.0010	0	0	5	0	0%	0%	50%	0%	0.001275	---	---	X	FOD = 0%; max RL < 10x PCUL	
1,3,5-Trimethylbenzene	18	2	11%	800	800	0	0	0	0	0%	0%	0%	0%	5.764725	410	0.51	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
1,3-Dichlorobenzene	21	1	5%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.17075	6	0.00	X	No Ecology-provided PCUL	
1,3-Dichloropropane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
1,4-Dichlorobenzene	21	2	10%	0.11	0.0081	2	2	9	6	10%	10%	43%	29%	0.170725	6	741			Yes
2,2-Dichloropropane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
2-Butanone (MEK)	18	6	33%	48000	48000	0	0	0	0	0%	0%	0%	0%	11.5041	120	0.003	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
2-Chloroethyl Vinyl Ether	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.00638	---	---	X	No Ecology-provided PCUL	
2-Chlorotoluene	10	0	0%	1600	1600	0	0	0	0	0%	0%	0%	0%	0.0014	---	---	X	FOD = 0%; all RLs < PCUL	
2-Hexanone	10	0	0%	400	400	0	0	0	0	0%	0%	0%	0%	0.00638	---	---	X	FOD = 0%; all RLs < PCUL	
2-Pentanone	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	No Ecology-provided PCUL	
4-Chlorotoluene	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0014	---	---	X	No Ecology-provided PCUL	
4-Methyl-2-Pentanone (MIBK)	10	0	0%	6400	6400	0	0	0	0	0%	0%	0%	0%	0.00638	---	---	X	FOD = 0%; all RLs < PCUL	
Acetone	10	5	50%	72000	72000	0	0	0	0	0%	0%	0%	0%	0.0101	0.13	0.00	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Acrolein	4	0	0%	40	40	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	FOD = 0%; all RLs < PCUL	
Acrylonitrile	4	0	0%	1.9	1.9	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	FOD = 0%; all RLs < PCUL	
Bromobenzene	10	0	0%	640	640	0	0	0	0	0%	0%	0%	0%	0.0014	---	---	X	FOD = 0%; all RLs < PCUL	
Bromochloromethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
Bromodichloromethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	No Ecology-provided PCUL	
Bromoform	10	0	0%	0.078	0.0050	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Bromomethane	10	0	0%	1.2	0.079	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCULs	
Carbon Disulfide	10	4	40%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.00125	0.002	0.00	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Carbon Tetrachloride	10	0	0%	0.0029	0.00015	0	0	6	1	0%	0%	60%	10%	0.001275	---	---	X	FOD = 0%; median RL < 5x achievable PQL of 0.0010 mg/kg	
Chlorobenzene	10	0	0%	1.7	0.10	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Chloroethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.004185	---	---	X	No Ecology-provided PCUL	
Chloroform	21	1	5%	0.81	0.052	1	1	7	7	5%	5%	33%	33%	0.168285	6	7.41			Yes
Chloromethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.004185	---	---	X	No Ecology-provided PCUL	
cis-1,3-Dichloropropene	10	0	0%	0.010	0.00063	0	0	6	0	0%	0%	60%	0%	0.001275	---	---	X	FOD = 0%; max RL < 10x PCUL	
Dibromochloromethane	10	0	0%	0.012	0.00077	0	0	6	0	0%	0%	60%	0%	0.001275	---	---	X	FOD = 0%; max RL < 10x PCUL	
Dibromomethane	10	0	0%	800	800	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Dichlorodifluoromethane	9	0	0%	16000	16000	0	0	0	0	0%	0%	0%	0%	0.001225	---	---	X	FOD = 0%; all RLs < PCUL	
Ethyl Bromide	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0028	---	---	X	No Ecology-provided PCUL	
Freon 113	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0028	---	---	X	No Ecology-provided PCUL	
Hexachlorobutadiene	10	0	0%	0.011	0.00054	0	0	7	6	0%	0%	70%	60%	0.00703	---	---	X	FOD = 0%; median RL < 5x achievable PQL of 0.0050 mg/kg	

Table 13
Summary of COPCs in Soil
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Results	Number of Detects	Frequency of Detection (%)	LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable GW (w/o SL-9)[1]	LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable GW (w/o SL-9)[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Exceedance Frequency of Detects (%)	Exceedance Frequency of Detects > 2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Exceedance Frequency of Non-Detects > 10x PCUL (%)	Median Reporting Limit for Non-Detects	Maximum Detected Concentration (mg/kg)	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COC
Iodomethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.004185	---	---	X	No Ecology-provided PCUL	
Isopropylbenzene	10	1	10%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.001225	0.00217	0.00	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Methyl tertiary butyl ether (MTBE)	10	0	0%	556	556	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Methylene Chloride	10	4	40%	0.43	0.030	0	0	0	0	0%	0%	0%	0%	0.0055	0.00204	0.07	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Naphthalene	10	1	10%	0.039	0.0021	1	1	3	0	10%	10%	30%	0%	0.004525	0.00595	2.88			Yes
n-Butylbenzene	18	3	17%	4000	4000	0	0	0	0	0%	0%	0%	0%	5.7647	390	0.10	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Volatile Organic Compounds (continued)																			
n-Propylbenzene	18	4	22%	8000	8000	0	0	0	0	0%	0%	0%	0%	5.76465	1000	0.13	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
p-Isopropyltoluene	10	1	10%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.00135	0.00395	---	X	No Ecology-provided PCUL	
sec-Butylbenzene	18	3	17%	8000	8000	0	0	0	0	0%	0%	0%	0%	5.7647	350	0.04	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Styrene	10	0	0%	16000	16000	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
tert-Butylbenzene	18	2	11%	8000	8000	0	0	0	0	0%	0%	0%	0%	5.764725	36	0.00	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
trans-1,3-Dichloropropene	10	0	0%	0.010	0.00063	0	0	6	0	0%	0%	60%	0%	0.001275	---	---	X	FOD = 0%; max RL < 10x PCUL	
trans-1,4-Dichloro-2-butene	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	No Ecology-provided PCUL	
Trichlorofluoromethane	10	0	0%	24000	24000	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Vinyl Acetate	10	0	0%	80000	80000	0	0	0	0	0%	0%	0%	0%	0.00638	---	---	X	FOD = 0%; all RLs < PCUL	
Tetrachloroethene (PCE)	21	1	5%	0.029	0.0016	0	0	12	8	0%	0%	57%	38%	0.03791	0.0011	0.69		No exceedances; median RL > 5x achievable PQL of 0.0010 mg/kg	Data Gap*
Trichloroethene (TCE)	21	0	0%	0.0044	0.00027	0	0	17	11	0%	0%	81%	52%	0.02582	---	---		FOD = 0%; median RL > 5x achievable PQL of 0.0010 mg/kg	Data Gap*
cis-1,2-Dichloroethene	21	0	0%	160	160	0	0	0	0	0%	0%	0%	0%	0.02582	---	---	X	FOD = 0%; all RLs < PCUL	
trans-1,2-Dichloroethene	10	0	0%	5.2	0.32	0	0	0	0	0%	0%	0%	0%	0.001275	---	---	X	FOD = 0%; all RLs < PCUL	
Vinyl Chloride	21	0	0%	0.0010	0.000055	0	0	20	17	0%	0%	95%	81%	0.02582	---	---		FOD = 0%; median RL > 5x achievable PQL of 0.0010 mg/kg	Data Gap*
Metals																			
Arsenic	91	72	79%	7	7	21	0	0	0	23%	0%	0%	0%	3.5	14	2.00			Yes
Barium	6	6	100%	160	8.3	0	0	0	0	0%	0%	0%	0%	---	76.8	0.48	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Cadmium	91	45	49%	1	1	3	0	30	0	3%	0%	33%	0%	2	2	2.00	X	FOE < 10%; no exceedances 2x PCUL	
Chromium	20	20	100%	48	48	0	0	0	0	0%	0%	0%	0%	---	29.6	0.62	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Copper	16	16	100%	36	36	4	0	0	0	25%	0%	0%	0%	---	60.6	1.68			Yes
Lead	105	92	88%	250	81	0	0	0	0	0%	0%	0%	0%	4	220	0.88	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Manganese	2	2	100%	1200	1200	0	0	0	0	0%	0%	0%	0%	---	290	0.24	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Mercury	8	3	38%	0.07	0.07	1	1	3	0	13%	13%	38%	0%	0.11	0.357	5.10			Yes
Selenium	6	0	0%	7.4	0.38	0	0	0	0	0%	0%	0%	0%	3	---	---	X	FOD = 0%; all RLs < PCUL	
Silver	6	0	0%	0.32	0.016	0	0	5	0	0%	0%	83%	0%	0.475	---	---	X	FOD = 0%; max RL < 10x PCUL	
Zinc	12	12	100%	100	85	2	0	0	0	17%	0%	0%	0%	---	183	1.83			Yes
Polychlorinated Biphenyl Aroclors (PCBs)																			
Aroclor 1016	16	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1221	16	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1232	16	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1242	16	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1248	16	1	6%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	0.038	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1254	16	1	6%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	0.037	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1260	16	1	6%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.024975	0.0269	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1262	7	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.019875	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1268	7	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.019875	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Total PCB Aroclors	17	2	12%	0.000043	0.0000022	2	2	15	15	12%	12%	88%	88%	0.025975	0.075	1744			Yes

NOTES:

Parameter names highlighted in yellow indicate chemical selected as a COPC based on initial screening.

Parameter names highlighted in gray indicate chemical has been eliminated as a COPC.

--- denotes calculation is not applicable due to zero detected values, zero non-detected values, or no established screening limits available for the given parameter.

[1]Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

Data Gap* = Chemical is not considered a COPC because results were reported non-detect at the lowest PQL achievable in all samples collected between 2016 and 2019.

BTEX = benzene, toluene, ethylbenzene, and xylenes
COC = constituent of concern
COPC = constituents of pontetial concern
cPAH = carcinogenic polycyclic aromatic hydrocarbon
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Ecology = Washington State Department of Ecology
EF = exceedance frequency
FOD = frequency of detection
FOE = frequency of exceedance
GRO = TPH as gasoline-range organics
GW = groundwater
HPAH = high molecular weight polycyclic aromatic hydrocarbon

LDW = Lower Duwamish Waterway
LPAH = low molecular weight polycyclic aromatic hydrocarbon
mg/kg = milligram per kilogram
ND = non-detect
NE = not established
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
PQL = practical quantitation limit
RL = reporting limit
RL<PCUL = reporting limits are less than the most stringent applicable preliminary cleanup level
TEC = toxic equivalent concentration

Table 14
Summary of COPCs in Groundwater
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Samples	Number of Detections	Detection Frequency (%)	LDW Most Stringent GW PCUL: Nonpotable Water[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Maximum Detected Concentration (ug/l)	Frequency of Exceedance (%)	Exceedance Frequency of Detects >2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Median Reporting Limit for Non-Detects	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COC
Total Petroleum Hydrocarbons and BTEX																	
DRO	72	9	13%	500	0	0	0	0	474	0%	0%	0%	100	0.9	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
ORO	72	3	4%	500	1	0	0	0	560	1%	0%	0%	200	1.1	X	FOE < 10%; no exceedances >2x PCUL	
GRO	82	11	13%	800	3	0	0	0	1200	4%	0%	0%	250	1.5	X	FOE < 10%; no exceedances >2x PCUL	
Benzene	82	10	12%	1.6	4	3	0	0	5.9	5%	4%	0%	1	3.7			Yes
Toluene	82	6	7%	130	0	0	0	0	1.2	0%	0%	0%	1	0.009	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Ethylbenzene	82	9	11%	31	0	0	0	0	9.7	0%	0%	0%	1	0.3	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Xylenes	82	8	10%	330	0	0	0	0	29.8	0%	0%	0%	2	0.09	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Polycyclic Aromatic Hydrocarbons (PAHs)																	
Naphthalene	22	14	64%	1.4	1	1	0	0	2.98	5%	5%	0%	0.095	2.1			Yes
1-Methylnaphthalene	22	12	55%	NE	0	0	0	0	3	0%	0%	0%	0.0945	---	X	No Ecology-provided PCUL for non-potable water	
2-Methylnaphthalene	22	10	45%	NE	0	0	0	0	0.609	0%	0%	0%	0.0945	---	X	No Ecology-provided PCUL for non-potable water	
Total Naphthalenes	22	14	64%	NE	0	0	0	0	3.5	0%	0%	0%	0.285	---	X	No Ecology-provided PCUL	
Acenaphthene	22	4	18%	5.3	0	0	0	0	0.2	0%	0%	0%	0.052	0.038	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Acenaphthylene	22	1	5%	NE	0	0	0	0	0.004	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL	
Anthracene	22	1	5%	2.1	0	0	0	0	0.004	0%	0%	0%	0.01	0.002	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Benzo(g,h,i)Perylene	22	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL	
Fluoranthene	22	0	0%	1.8	0	0	0	0	---	0%	0%	0%	0.01	---	X	FOD = 0%; all RLs < PCUL	
Fluorene	22	4	18%	3.7	0	0	0	0	0.16	0%	0%	0%	0.052	0.04	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Phenanthrene	22	8	36%	NE	0	0	0	0	0.17	0%	0%	0%	0.094	---	X	No Ecology-provided PCUL	
Pyrene	22	3	14%	2	0	0	0	0	0.002	0%	0%	0%	0.094	0.001	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Benzo(a)Pyrene	22	0	0%	0.000016	0	0	22	22	---	0%	0%	100%	0.01	---	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(a)Anthracene	22	0	0%	0.00016	0	0	22	22	---	0%	0%	100%	0.01	---	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(b)Fluoranthene	22	0	0%	0.00016	0	0	22	22	---	0%	0%	100%	0.01	---	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(j,k)Fluoranthene	22	0	0%	0.0016	0	0	22	3	---	0%	0%	100%	0.01	---	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Chrysene	22	2	9%	0.016	0	0	3	0	0.001	0%	0%	14%	0.01	0.063	X	Detects less than most stringent PCUL; RL FOE < 20%	
Dibenzo(a,h)Anthracene	22	0	0%	0.000016	0	0	22	22	---	0%	0%	100%	0.01	875	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Indeno(1,2,3-cd)Pyrene	22	0	0%	0.00016	0	0	22	22	---	0%	0%	100%	0.01	87.5	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Total cPAHs TEC	22	2	9%	0.000016	2	2	20	20	0.00751	9%	9%	91%	0.0076	469			Yes
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	10	1	10%	240	0	0	0	0	0.33	0%	0%	0%	0.2	0.001	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
1,3,5-Trimethylbenzene	10	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
1,2-Dichloropropane	10	0	0%	3.1	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Acetone	10	0	0%	NE	0	0	0	0	---	0%	0%	0%	5	---	X	No Ecology-provided PCUL for non-potable water	
Carbon Disulfide	10	0	0%	400	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Chloroform	10	0	0%	1.2	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
cis-1,2-Dichloroethene	10	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
Dichlorodifluoromethane	10	1	10%	5.6	0	0	0	0	2.7	0%	0%	0%	0.2	0.48	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Isopropylbenzene (Cumene)	10	1	10%	NE	0	0	0	0	6.1	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
Methyl Tertiary Butyl Ether	10	0	0%	600	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
n-Butylbenzene	10	1	10%	NE	0	0	0	0	1.2	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
n-Propylbenzene	10	1	10%	NE	0	0	0	0	1.5	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
p-Isopropyltoluene	10	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
sec-Butylbenzene	10	1	10%	NE	0	0	0	0	1.7	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
tert-Butylbenzene	10	1	10%	NE	0	0	0	0	0.67	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
Tetrachloroethene (PCE)	10	0	0%	2.9	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Trichloroethene (TCE)	10	0	0%	0.7	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Trichlorofluoromethane	10	1	10%	120	0	0	0	0	0.33	0%	0%	0%	0.2	0.003	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Vinyl Chloride	10	0	0%	0.18	0	0	10	0	---	0%	0%	100%	0.2	---	X	FOD = 0%; Max RL < 10x PCUL	
Metals																	
Dissolved Arsenic	12	12	100%	8	4	1	0	0	50.1	33%	8%	0%	---	6.26			Yes
Dissolved Cadmium	12	3	25%	1.2	0	0	0	0	0.062	0%	0%	0%	0.1	0.05	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Dissolved Copper	12	10	83%	3.1	2	2	0	0	8.87	17%	17%	0%	0.5	2.86			Yes
Dissolved Lead	12	5	42%	8.1	0	0	0	0	0.479	0%	0%	0%	0.1	0.06	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Dissolved Manganese	12	12	100%	2,500	1	0	0	0	4060	8%	0%	0%	---	1.62	X	FOE < 10%; no exceedances >2x PCUL	
Dissolved Mercury	12	10	83%	0.025	1	0	0	0	0.026	8%	0%	0%	0.02	1.04	X	FOE < 10%; no exceedances >2x PCUL	
Dissolved Zinc	12	12	100%	81	0	0	0	0	7.52	0%	0%	0%	---	0.09	X	Detects never exceeded most stringent PCUL; RLs<PCUL	
Polychlorinated Biphenyl Aroclors (PCBs)																	
Aroclor 1016	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1221	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1232	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1242	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1248	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1254	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1260	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1262	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1268	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Total PCB Aroclors	14	0	0%	0.000007	0	0	14	14	---	0%	0%	100%	0.01	---	X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	

NOTES:

Parameter names highlighted in yellow indicate chemical selected as a COPC.

Parameter names highlighted in gray indicate chemical has been eliminated as a COPC.

--- denotes calculation is not applicable due to zero detected values, zero non-detected values, or no established screening limits available for the given parameter.

[1]Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

BTEX = benzene, toluene, ethylbenzene, and xylenes
COC = constituent of concern
COPC = constituent of potential concern
cPAH = carcinogenic polycyclic aromatic hydrocarbon
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Ecology = Washington State Department of Ecology
FOD = frequency of detection
FOE = frequency of exceedance
GRO = TPH as gasoline-range organics
GW = groundwater
LDW = Lower Duwamish Waterway
µg/l = micrograms per liter
ND = non-detect
NE = not established
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
PQL = practical quantitation limit
RL = reporting limit
TEC = toxic equivalent concentration

Table 15
Evaluation of Soil to Groundwater Pathway for COPCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern (COPCs)	Overall Site		No Apparent Impacts to Groundwater based on Empirical Evidence	Soil Direct Contact LDW PCUL[1]	Maximum Detected Soil Concentration (mg/kg)	Eliminated as COC	Comments
	Soil	Groundwater					
Petroleum Hydrocarbons							
DRO	X		Yes	2,000	9,900	No	
GRO	X		Yes	30	12,300	No	
Benzene	X		Yes	18	4.8	Yes	---
Toluene	X		Yes	6,400	32	Yes	---
Ethylbenzene	X		Yes	8,000	51	Yes	---
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	X	X	---	---	---	No	---
2-Methylnaphthalene	X		Yes	320	9.1	Yes	---
Fluorene	X		Yes	3,200	3.2	Yes	---
Phenanthrene	X		Yes	NA	---	Yes	Direct contact PCUL not available
Benzo(a)Pyrene	X		Yes	0.19	0.025	Yes	---
Benzo(a)Anthracene	X		Yes	NA	---	Yes	Direct contact PCUL not available
Benzo(b)Fluoranthene	X		Yes	NA	---	Yes	Direct contact PCUL not available
Dibenzo(a,h)Anthracene	X		Yes	NA	---	Yes	Direct contact PCUL not available
Total cPAHs TEC	X	X	---	---	---	No	---
Total LPAHs	X		---	---	---	Yes	---
Volatile Organic Compounds (VOCs)							
1,2-Dichlorobenzene	X		Yes	7,200	91	Yes	---
1,4-Dichlorobenzene	X		Yes	190	6	Yes	---
Chloroform	X		Yes	32	6	Yes	---
Metals							
Arsenic	X	X	---	---	---	No	---
Copper	X	X	---	---	---	No	---
Mercury	X		Yes	24	0.357	Yes	---
Zinc	X		Yes	24,000	183	Yes	---
Polychlorinated Biphenyls (PCBs)							
Total PCB Aroclors	X		Yes	1.0	0.075	Yes	---

NOTES:

X denotes the analyte has been detected at concentrations exceeding the most stringent Lower Duwamish Waterway (LDW) PCUL or screening level in one or more samples collected from the site.

--- denotes not applicable

[1]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

cPAH = carcinogenic polycyclic aromatic hydrocarbons
COC = constituent of concern
COPC = constituents of pontetial concern
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
LPAH = low molecular weight polycyclic aromatic hydrocarbon
mg/kg = milligrams per kilogram
NA = not available
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 16
Soil and Groundwater COPCs for the Interim Action
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Area 2: Perishables Warehouse		Area 6: Former Truck Repair Shop		Area 7: Former Auto Service Stations	
	Soil	Groundwater	Soil	Groundwater	Soil	Groundwater
Petroleum Hydrocarbons						
DRO	X		X		X	X
ORO*					X*	X*
GRO			X	X	X	X
Benzene			X		X	
Toluene			X	X	X	X
Ethylbenzene			X	X	X	X
Xylenes			X	X	X	X
Polycyclic Aromatic Hydrocarbons (PAHs)						
Naphthalene					X	X
Total cPAHs TEC						X

NOTES:

X denotes the analyte has been detected at concentrations exceeding the most stringent Lower Duwamish Waterway (LDW) PCUL or screening level in one or more samples collected from the site.

* COPC added as area has not been fully characterized, is suspected to be present, and is a data gap.

COPC = constituents of pontetial concern
cPAH = carcinogenic polycyclic aromatic hydrocarbons
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
LPAH = low molecular weight polycyclic aromatic hydrocarbon
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 17
Soil Remediation Levels
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Consituents of Potential Concern	Remediation Levels (milligrams per kilogram)
Petroleum Hydrocarbons	
DRO	2000
GRO	30/100[1]
Benzene	18
Polycyclic Aromatic Hydrocarbons (PAHs)	
Naphthalene	1600
Total cPAHs TEC	0.19

NOTES:

[1]Cleanup level is 30 milligrams per kilogram if benzene is detected and 100 milligrams per kilogram if benzene is not detected.

cPAH = carcinogenic polycyclic aromatic hydrocarbons
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
PCUL = preliminary cleanup level

APPENDIX A
BORING LOGS

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Log of Boring: F-24

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1352
Date/Time Completed: 6/27/19 @ 1020
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 15.6
Total Boring Depth (ft bgs): 20
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-5.0': Cleared for utilities. 0.0-0.8': Concrete.	CO		100					Concrete
		0.8-5.0': Poorly graded GRAVEL with sand (60% gravel, 35% sand, 5% silt), coarse gravel, medium sand, brown, moist, no odor (Fill).	GP							
5		5.0-9.5': Silty SAND with gravel (50% sand, 30% gravel, 20% silt), fine to coarse sand and gravel, brown, dry, no odor.	SM		90					
							0.2	F-24-9.0	X	Bentonite
10		9.5-10.0': No recovery.								
		10.0-12.5': SILT (90% silt, 10% sand), fine and medium sand, dark gray, moist, no odor.	ML		50					
		12.5-15.0': No recovery.					0.9	F-24-12.5	X	
15		15.0-15.6': SILT (90% silt, 10% sand), fine and medium sand, dark gray, moist, no odor.	ML		80					Water Level
		15.6-17.7': Silty SAND (70% sand, 30% silt), fine and medium sand, grayish-brown, wet, no odor.	SM							
		17.7-19.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM							
		19.0-20.0': No recovery.					0.1	F-24-19.0	X	
20										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-25

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1355
Date/Time Completed: 6/27/19 @ 1120
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 15.0
Total Boring Depth (ft bgs): 20
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0	0.0-5.0': Cleared for utilities. 0.0-0.8': Concrete.	CO	100				Concrete
	0.8-5.0': Poorly graded SAND with gravel (70% sand, 25% gravel, 5% silt), fine and medium sand, fine and coarse gravel, brown, moist, organic odor (Fill).	SP		2.6	F-25-2.5		
5	5.0-10.0': Silty SAND with gravel (40% sand, 30% gravel, 30% silt), fine to coarse sand and gravel, grayish-brown, dry, no odor (Fill).	SM	100	0.1	F-25-9.0	X	Bentonite
10	10.0-10.9': Silty SAND with gravel (40% sand, 30% gravel, 30% silt), fine to coarse sand and gravel, grayish-brown, dry, no odor (Fill).	SM	90				
	10.9-14.5': SILT (100% silt), grayish brown, moist, no odor.	ML		0.1	F-25-14.0	X	
15	14.5-15.0': No recovery.						Water Level
	15.0-17.3': Silty SAND (70% sand, 30% silt), fine and medium sand, dark gray, wet, no odor.	SM	90				
	17.3-19.5': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, black, wet, no odor.	SP		0.1	F-25-19.0	X	
20	19.5-20.0': No recovery.						

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-26

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1558
Date/Time Completed: 6/27/19 @ 1700
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Air Knife

Sampler Type: Hand Auger
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 4.7
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-4.7': Cleared for utilities. 0.0-0.4': Asphalt.	AC							Concrete
		0.4-2.5': Silty SAND with gravel (55% sand, 30% silt, 15% gravel), fine to coarse sand and gravel, gray, moist, no odor (Fill).	SM							
		2.5-4.7': Degraded concrete and hardpack soil. Refusal at 4.7' due to concrete.	CO				1.5	F-26-2.5	X	Bentonite
5										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Fill

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-27

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

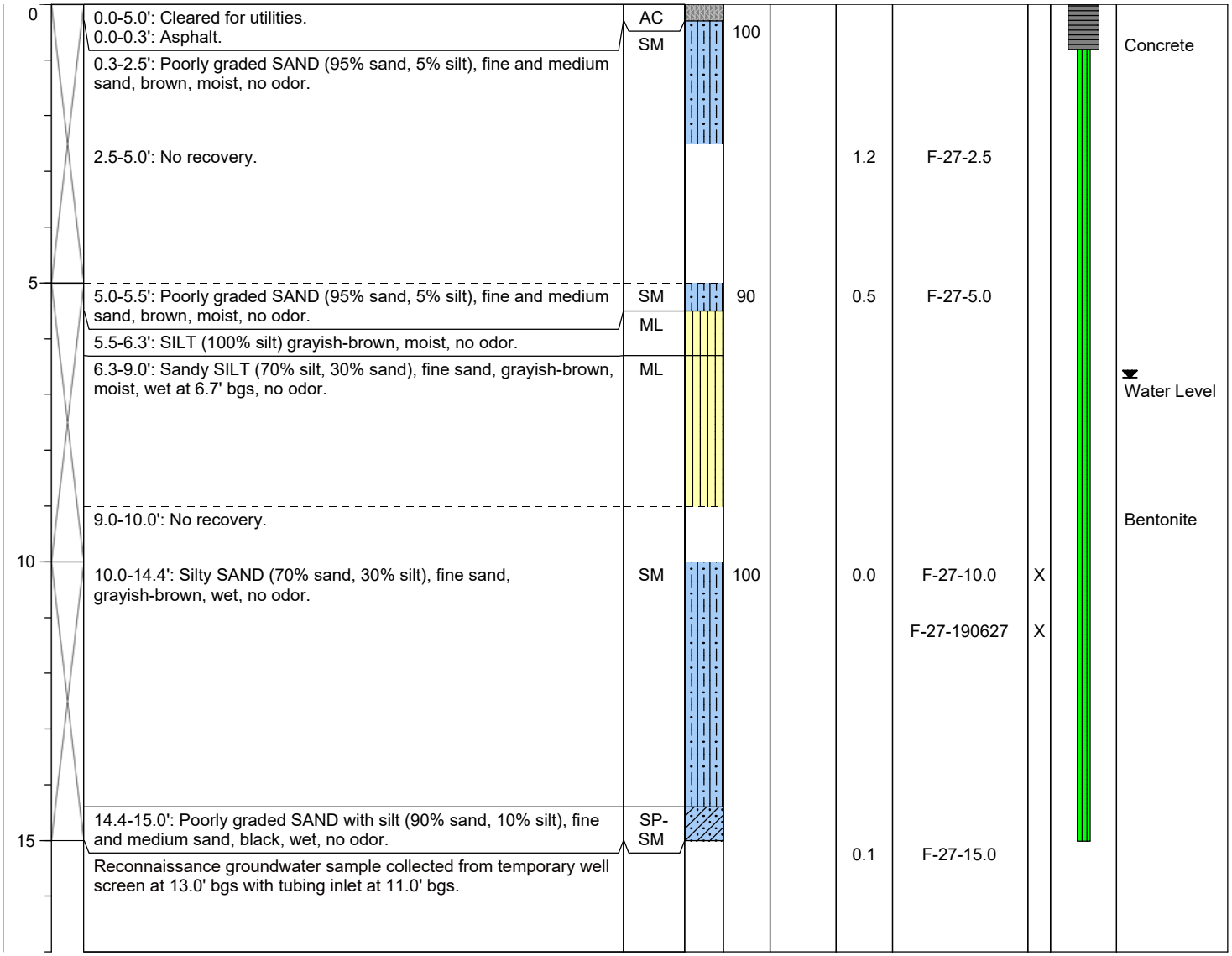
Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 0900
Date/Time Completed: 6/27/19 @ 1510
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 6.7
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): 13.0 (Temp)

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-5.0': Cleared for utilities. 0.0-0.3': Asphalt.	AC				
	0.3-2.5': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, no odor.	SM	100			
	2.5-5.0': No recovery.			1.2	F-27-2.5	
5	5.0-5.5': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, no odor.	SM	90	0.5	F-27-5.0	
	5.5-6.3': SILT (100% silt) grayish-brown, moist, no odor.	ML				
	6.3-9.0': Sandy SILT (70% silt, 30% sand), fine sand, grayish-brown, moist, wet at 6.7' bgs, no odor.	ML				
	9.0-10.0': No recovery.					
10	10.0-14.4': Silty SAND (70% sand, 30% silt), fine sand, grayish-brown, wet, no odor.	SM	100	0.0	F-27-10.0	X
					F-27-190627	X
15	14.4-15.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM		0.1	F-27-15.0	
	Reconnaissance groundwater sample collected from temporary well screen at 13.0' bgs with tubing inlet at 11.0' bgs.					



Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): 8.0-13.0
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-28

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/27/19 @ 0930
Date/Time Completed: 6/28/19 @ 0915
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 7.6
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): 14.0 (Temp)

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-5.0': Cleared for utilities. 0.0-2.5': Silty SAND (85% sand, 15% silt), fine and medium sand, dark brown, moist, no odor.	SM		100					Concrete
		2.5-5.0': No recovery.					1.8	F-28-2.5		
5		5.0-7.2': SILT (100% silt), olive gray, moist, no odor.	ML		70		0.3	F-28-5.0		
		7.2-7.6': Sandy SILT (70% silt, 30% sand), fine and medium sand, dark gray, moist, no odor.	ML							Water Level
		7.6-8.5': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM				0.3	F-28-8.5	X	
		8.5-10.0': No recovery.								Bentonite
10		10.0-15.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM		100			F-28-190628	X	
15		Reconaissance groundwater sample collected from temporary well screen at 14.0' bgs with tubing inlet at 10.0' bgs.					0.2	F-28-15.0		

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): 9.0-14.0
Filter Pack: NA
Surface Seal: NA
Annular Seal: NA
Boring Abandonment: Bentonite
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-29

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

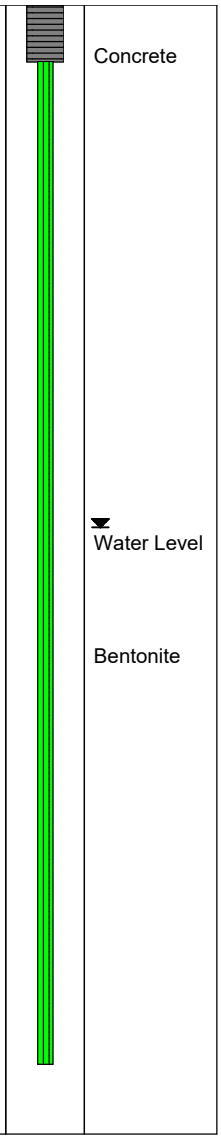
Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/27/19 @ 1010
Date/Time Completed: 6/28/19 @ 0915
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 7.4
Total Boring Depth (ft bgs): 15.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-5.0': Cleared for utilities, layered concrete with soil. 0.0-0.5': Asphalt.	AC					
	0.5-2.5': Poorly graded SAND (85% sand, 10% gravel, 5% silt), fine and medium sand, fine and coarse gravel, brown, moist, no odor, some concrete debris (Fill).	SP	100		2.5	F-29-2.5	
5	5.0-7.0': SILT (100% silt), gray with reddish-brown mottling, moist, no odor.	ML	72		1.1	F-29-6.0	
	7.0-8.6': Silty SAND (85% sand, 15% silt), fine and medium sand, dark gray, moist, wet at 7.4' bgs, no odor.	SM			0.8	F-29-8.5	X
	8.6-10.0': No recovery.						
10	10.0-15.0': Poorly graded SAND (100% sand), fine and medium sand, black, wet, no odor.	SP	100		1.4	F-29-15.0	
15							



Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Bentonite

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-30

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/27/19 @ 1100
Date/Time Completed: 6/27/19 @ 1200
Equipment: Hand Auger
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Hand Auger

Sampler Type: Hand Auger
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 3.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Asphalt.	AC							Cold Patch Asphalt
		0.5-1.0': Sandy SILT (60% silt, 30% sand, 10% gravel), fine and medium sand, fine and coarse gravel, large cobbles, grayish-brown, moist, no odor.	ML							
		1.0-3.0': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, no odor.	SP				1.1	F-30-1.0	X	Native Backfill
							5.2	F-30-3.0		
5										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA

Filter Pack: NA
Surface Seal: Asphalt
Annular Seal: NA
Boring Abandonment: Fill

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-31

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/27/19 @ 1140
Date/Time Completed: 6/27/19 @ 1300
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 13.4
Total Boring Depth (ft bgs): 20.0
Total Well Depth (ft bgs): Temp.

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-5.0': Cleared for utilities. 0.0-0.5': Asphalt.	AC							Concrete
		0.5-2.5': Poorly graded SAND with silt and gravel (70% sand, 20% gravel, 10% silt), fine and medium sand, fine and coarse gravel, brown, moist, no odor.	SP-SM		100		2.1	F-31-2.5		
5		5.0-6.0': Silty SAND with gravel (70% sand, 15% silt, 15% gravel), fine and medium sand, fine gravel, dark brown, dry, no odor.	SM		70					
		6.0-8.5': SILT (100% silt), grayish-brown, moist, no odor.	ML				1.0	F-31-6.0		
		8.5-10.0': No recovery.								Bentonite
10		10.0-10.5': Silty SAND (70% sand, 30% silt), fine and medium sand, dark gray, moist, no odor.	SM		80					
		10.5-13.4': SILT (100% silt), brown, moist, no odor.	ML				0.3	F-31-12.5 F-31-190627	X	Water Level
		13.4-14.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM							
15		14.0-15.0': No recovery.								
		15.0-20.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM		100		0.1	F-31-19.0		
20		Recconaissance groundwater sample collected from temporary screen at 20.0' bgs with tubing at 13.0' bgs.								

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): 20.0 (Temp)
Filter Pack: NA
Surface Seal: NA
Annular Seal: NA
Boring Abandonment: Bentonite
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-32

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/27/19 @ 1236
Date/Time Completed: 6/27/19 @ 1300
Equipment: Hand Auger
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Hand Auger

Sampler Type: Hand Auger
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 3.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.5': Asphalt.	AC							Cold Patch Asphalt
		0.5-3.0': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, no odor.	SP				1.8	F-32-1.0	X	Native Backfill
							1.8	F-32-3.0		
5										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Asphalt
Annular Seal: NA
Boring Abandonment: Fill
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: F-33

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1330
Date/Time Completed: 6/26/19 @ 1410
Equipment: Hand Auger
Drilling Company: Cascade Drilling
Drilling Foreman: Steven Eddins
Drilling Method: Hand Auger

Sampler Type: Hand Auger
Drive Hammer (lbs.): NA
Depth of Water ATD (ft bgs): NE
Total Boring Depth (ft bgs): 3.0
Total Well Depth (ft bgs): NA

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-0.8': Concrete.	CO							Cold Patch Asphalt
		0.8-1.0': Poorly graded SAND (100% sand), fine and medium sand, brown, moist, no odor.	SP							
		1.0-3.0': Silty SAND (85% sand, 15% silt), fine and medium sand, brown, moist, no odor.	SM		100		2.9	F-33-1.0	X	Native Backfill
							2.6	F-33-3.0		
5										

Well Construction Information

Monument Type: NA
Casing Diameter (inches): NA
Screen Slot Size (inches): NA
Screened Interval (ft bgs): NA
Filter Pack: NA
Surface Seal: Concrete
Annular Seal: NA
Boring Abandonment: Fill
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: NA

FARALLON CONSULTING

Log of Boring: FMW-01

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

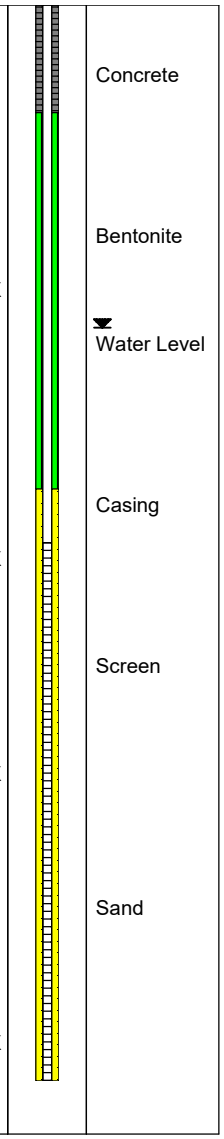
Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 0830
Date/Time Completed: 6/26/19 @ 1140
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Kyle Ceruti
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 6.0
Total Boring Depth (ft bgs): 20
Total Well Depth (ft bgs): 20

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-5.0': Cleared for utilities. 0.0-2.5': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, organic odor, trace fine gravel.	SP					
	2.5-5.0': No recovery.				2.6	FMW-01-2.5	
5	5.0-6.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, brown, moist, no odor.	SP-SM	80		0.2	FMW-01-5.0	X
	6.0-6.5': Silty SAND (80% sand, 20% silt), fine and medium sand, brown, wet, no odor.	SM					
	6.5-6.7': Silty SAND with gravel (60% sand, 25% gravel, 15% silt), fine to coarse sand, fine gravel, gray, wet, slight petroleum-like odor.	SM					
	6.7-7.7': SILT (100% silt), grayish brown, wet, slight petroleum-like odor.	ML			130.5		
	7.7-9.0 SILT (100% silt), gray, moist, slight petroluem-like odor.	ML					
10	9.0-10.0': No recovery.						
	10.0-12.2': SILT (100% silt), grayish-brown, wet, strong petroleum-like odor.	ML	80		2027	FMW-01-10.0	X
	12.2-13.0': Sandy SILT (60% silt, 40% sand), fine sand, dark gray, wet, petroleum-like odor.	ML					
	13.0-14.0': Silty SAND (80% sand, 20% silt), fine and medium sand, dark gray, wet, petroleum-like odor.	SM			2072		
	14.0-15.0': No recovery.				1971	FMW-01-14.0	X
15	15.0-17.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, slight petroleum-like odor.	SP-SM	80		206.5		
	17.0-19.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM					
	19.0-20.0': No recovery.				3.9	FMW-01-19.0	X
20							



Well Construction Information

Monument Type: Flush Mount
Casing Diameter (inches): 2.0
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10.0-20.0

Filter Pack: Prepacked Sand
Surface Seal: Cement
Annular Seal: Bentonite
Boring Abandonment: NA

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: BLK-238

FARALLON CONSULTING

Log of Boring: FMW-02

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1015
Date/Time Completed: 6/26/19 @ 1330
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Kyle Ceruti
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 7.0
Total Boring Depth (ft bgs): 20
Total Well Depth (ft bgs): 20

Depth (feet bgs.)	Sample Interval	Lithologic Description	USCS	USCS Graphic	% Recovery	Blow Counts 8/8/8	PID (ppm)	Sample ID	Sample Analyzed	Boring/Well Construction Details
0		0.0-5.0': Cleared for utilities. 0.0-0.3': Asphalt.	AC							Concrete
		0.3-0.7': Concrete.	CO		100					
		0.7-2.5': Poorly graded SAND (85% sand, 10% gravel, 5% silt), fine and medium sand, fine and coarse gravel, dark brown, moist, organic odor.	SP				3.0	FMW-02-2.5		Bentonite
5		5.0-7.5': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, grayish-brown, moist, wet at 7.0' bgs, no odor.	SP-SM		80		2.5	FMW-02-6.0	X	Water Level
		7.5-9.0': SILT (100% silt), reddish and grayish-brown, wet to 8.0' bgs, then moist, organic odor, trace wood at 8.3' bgs.	ML							
		9.0-10.0': No recovery.					1.1			Casing
10		10.0-13.2': SILT (100% silt), gray, moist, organic odor.	ML		90		0.7	FMW-02-11.0	X	
		13.2-14.5': Silty SAND (80% sand, 20% silt), fine and medium sand, dark gray, wet, no odor.	SM				0.9			Screen
		14.5-15.0': No recovery.								
15		15.0-19.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM		80		0.4	FMW-02-17.0	X	Sand
		19.0-20.0': No recovery.								
20										

Well Construction Information

Monument Type: Flush Mount
Casing Diameter (inches): 2.0
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10.0-20.0

Filter Pack: Prepacked Sand
Surface Seal: Cement
Annular Seal: Bentonite
Boring Abandonment: NA

Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: BLK-239

FARALLON CONSULTING

Log of Boring: FMW-03

Client: Prologis
Project: Emerald Gateway Site
Location: Tukwila, Washington

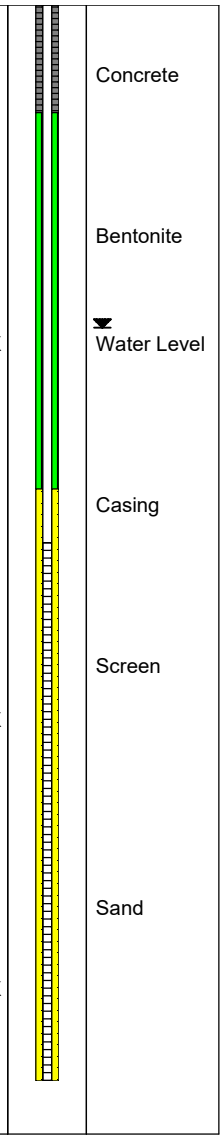
Farallon PN: 1071-026

Logged By: Y. Pehlivan / C. Banfield

Date/Time Started: 6/26/19 @ 1134
Date/Time Completed: 6/26/19 @ 1435
Equipment: Geoprobe 7822DT
Drilling Company: Cascade Drilling
Drilling Foreman: Kyle Ceruti
Drilling Method: Direct Push

Sampler Type: 5' Macrocore
Drive Hammer (lbs.): Auto
Depth of Water ATD (ft bgs): 6.0
Total Boring Depth (ft bgs): 20
Total Well Depth (ft bgs): 20

Depth (feet bgs.)	Lithologic Description	USCS	% Recovery	PID (ppm)	Sample ID	Sample Analyzed
0	0.0-5.0': Cleared for utilities. 0.0-0.2': Asphalt.	AC				
	0.2-2.5': Poorly graded SAND (95% sand, 5% silt), fine and medium sand, brown, moist, organic odor, trace fine gravel.	SP	100			
	2.5-5.0': No recovery.			6.3	FMW-03-2.5	
5	5.0-7.1': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, brown and reddish-brown, moist, wet at 6.0' bgs, no odor.	SP-SM	80	3.5	FMW-03-6.0	X
	7.1-9.2': SILT (100% silt), brown to grayish brown, moist, organic odor, trace wood at 8.4' bgs.	ML				
	9.2-10.0': No recovery.					
10	10.0-13.7': SILT (100% silt), moist, gray, organic odor.	ML	90			
	13.7-14.2': Sandy SILT (60% silt, 40% sand), fine and medium sand, dark gray, wet, no odor.	ML		3.2	FMW-03-13.0	X
15	14.2-15.0': No recovery.					
	15.0-19.0': Poorly graded SAND with silt (90% sand, 10% silt), fine and medium sand, black, wet, no odor.	SP-SM	80	2.3	FMW-03-18.0	X
	19.0-20.0': No recovery.					
20						



Well Construction Information

Monument Type: Flush Mount
Casing Diameter (inches): 2.0
Screen Slot Size (inches): 0.010
Screened Interval (ft bgs): 10.0-20.0

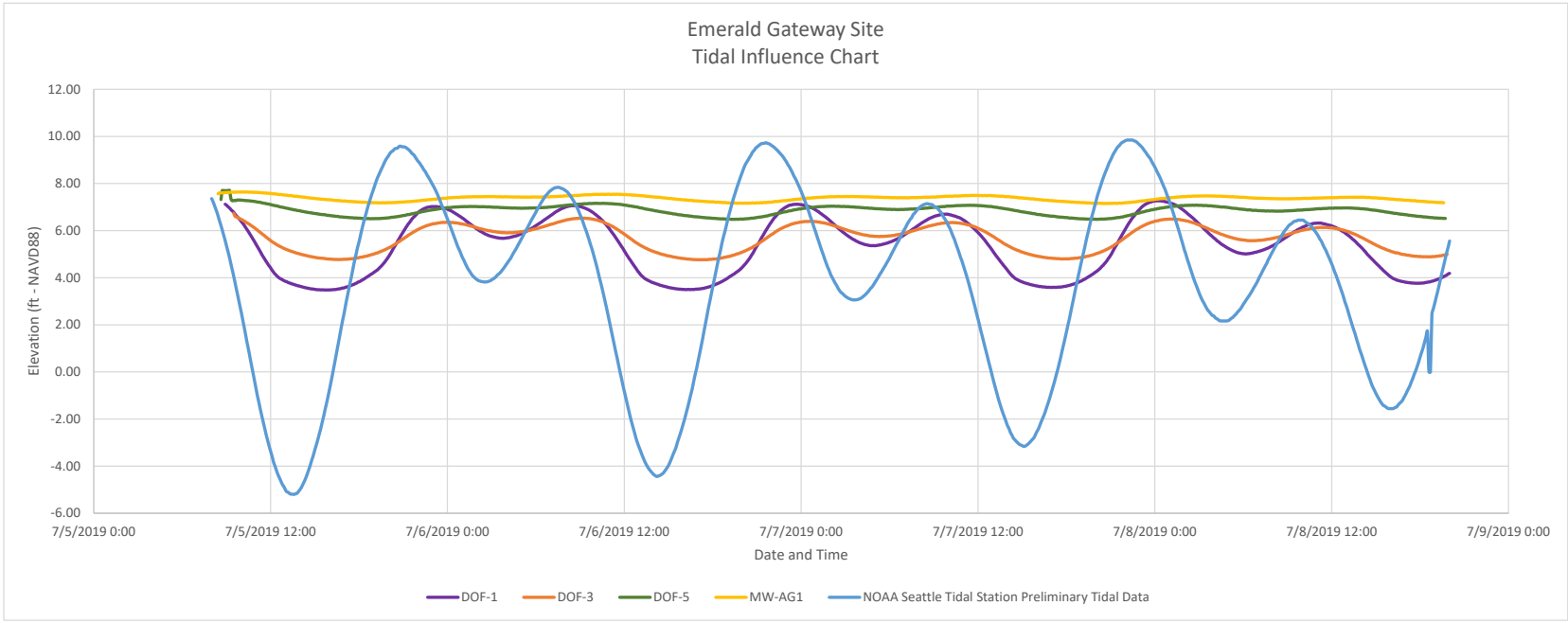
Filter Pack: Prepacked Sand
Surface Seal: Cement
Annular Seal: Bentonite
Boring Abandonment: NA

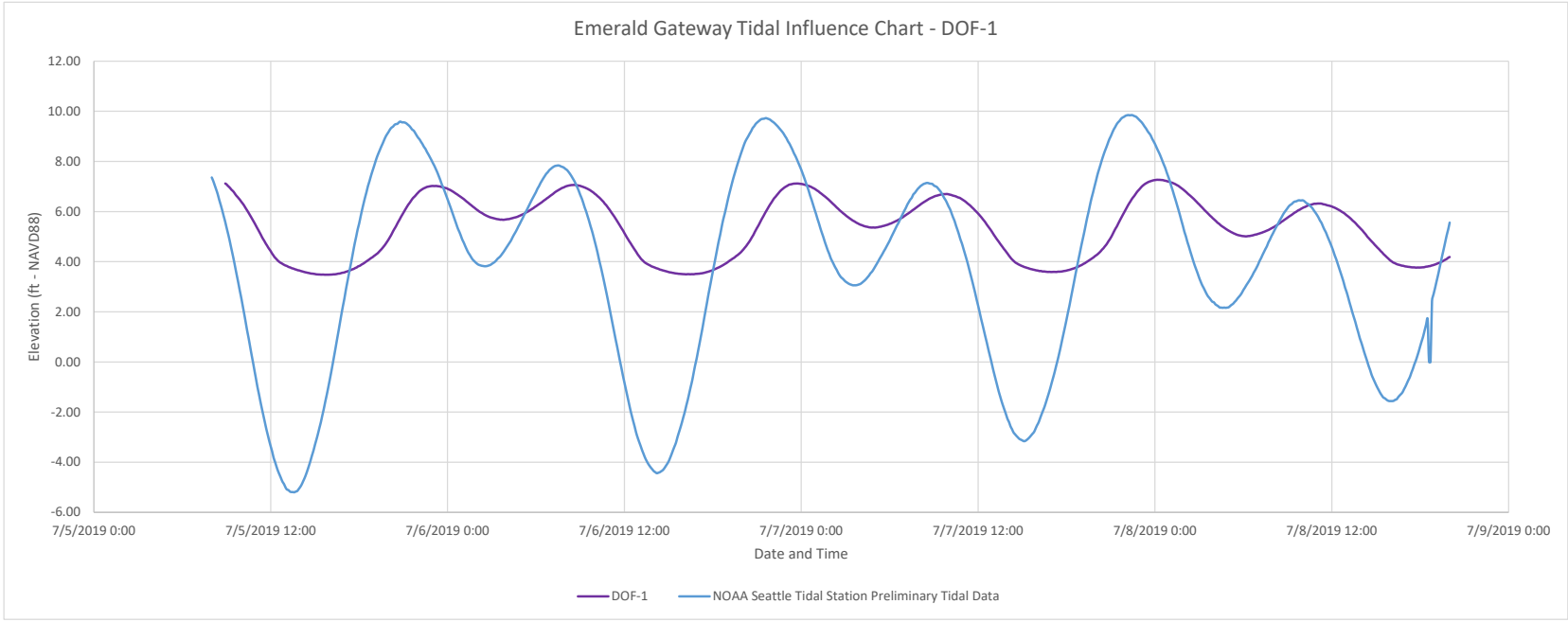
Ground Surface Elevation (ft): NA
Top of Casing Elevation (ft): NA
Surveyed Location: **X:** NA **Y:** NA
Unique Well ID: BLK-240

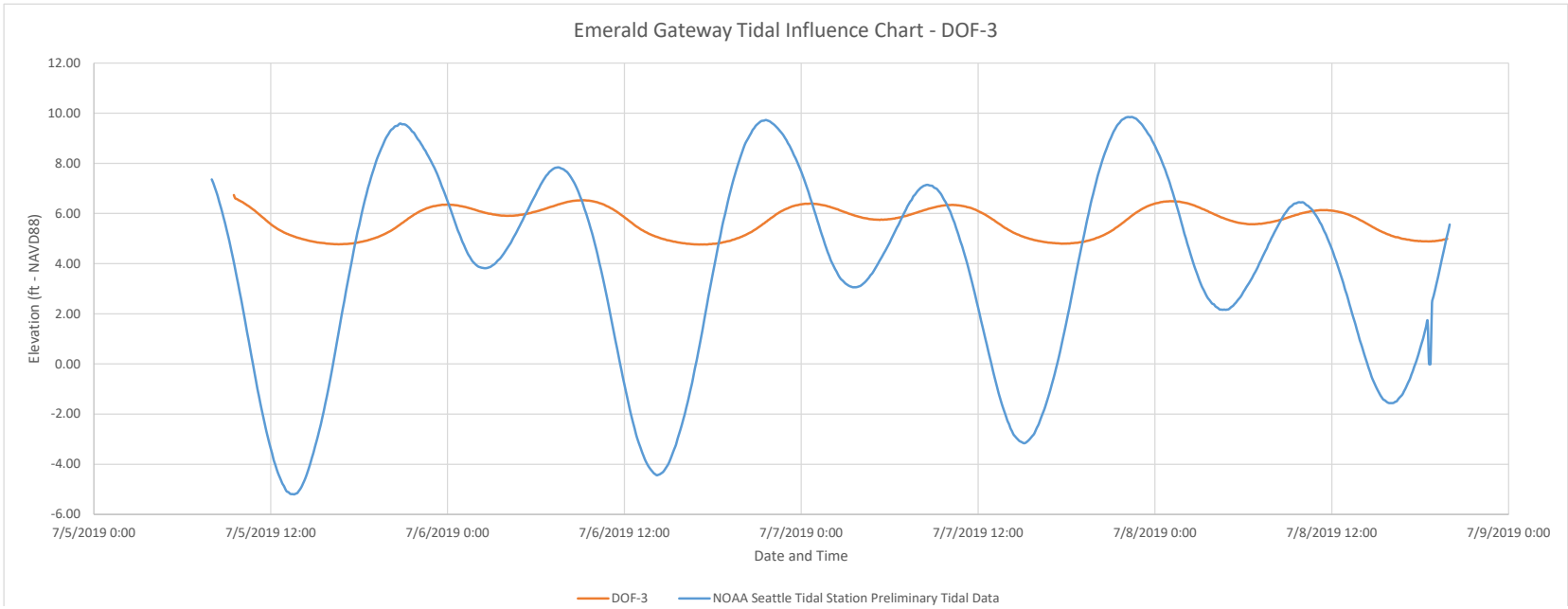
APPENDIX B
TIDAL STUDY HYDROGRAPHS

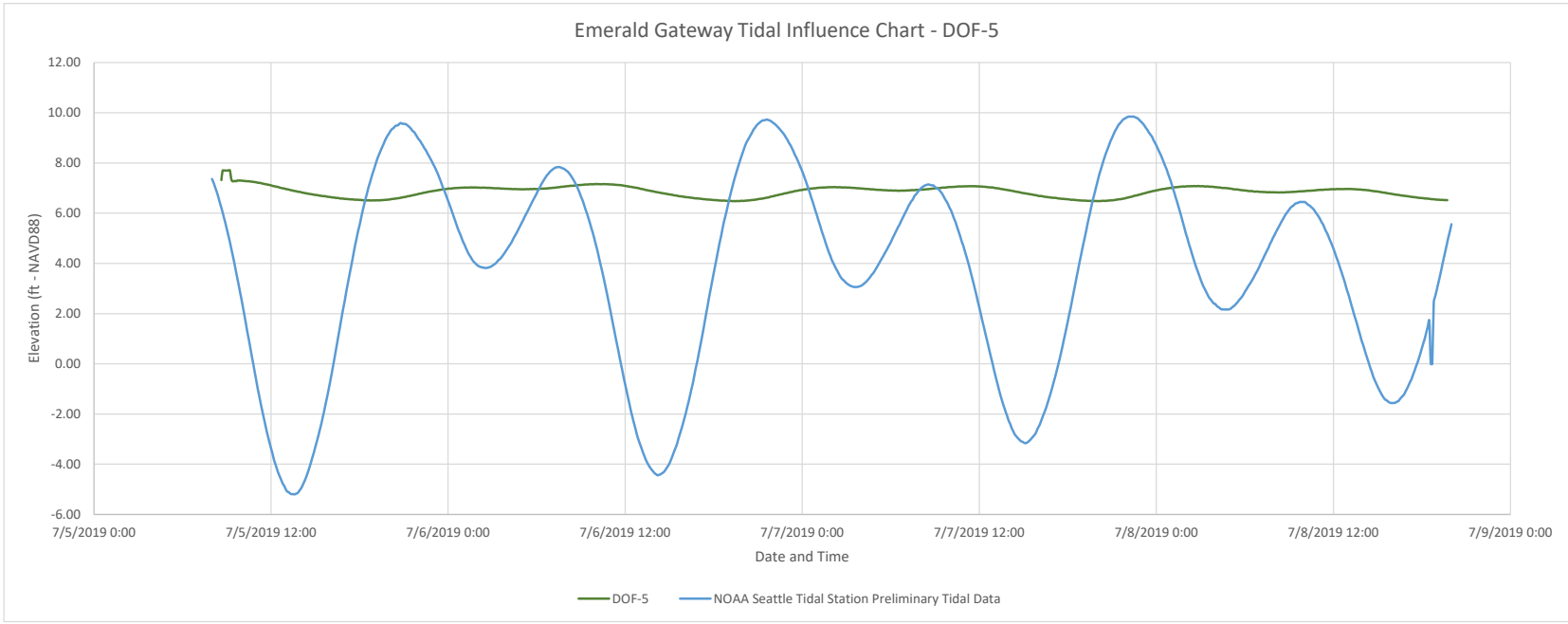
INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

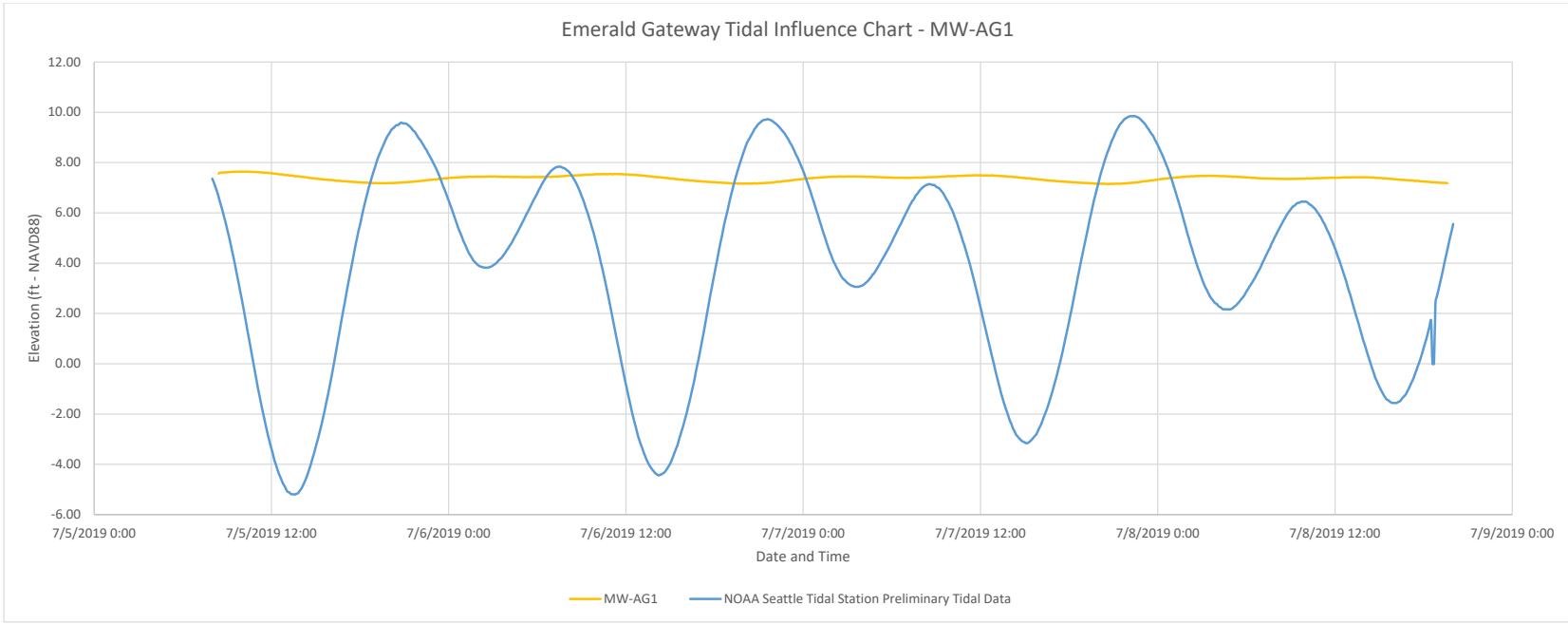
Farallon PN: 1071-026


Emerald Gateway Site
Tidal Influence Chart
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
Elevation (ft - NAVD88)
7/5/2019 0:00
7/5/2019 12:00
7/6/2019 0:00
7/6/2019 12:00
7/7/2019 0:00
7/7/2019 12:00
7/8/2019 0:00
7/8/2019 12:00
7/9/2019 0:00
Date and Time
DOF-1
DOF-3
DOF-5
MW-AG1
NOAA Seattle Tidal Station Preliminary Tidal Data


Emerald Gateway Tidal Influence Chart - DOF-1
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
Elevation (ft - NAVD88)
7/5/2019 0:00
7/5/2019 12:00
7/6/2019 0:00
7/6/2019 12:00
7/7/2019 0:00
7/7/2019 12:00
7/8/2019 0:00
7/8/2019 12:00
7/9/2019 0:00
Date and Time
DOF-1
NOAA Seattle Tidal Station Preliminary Tidal Data


Emerald Gateway Tidal Influence Chart - DOF-3
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
Elevation (ft - NAVD88)
7/5/2019 0:00
7/5/2019 12:00
7/6/2019 0:00
7/6/2019 12:00
7/7/2019 0:00
7/7/2019 12:00
7/8/2019 0:00
7/8/2019 12:00
7/9/2019 0:00
Date and Time
DOF-3
NOAA Seattle Tidal Station Preliminary Tidal Data


Emerald Gateway Tidal Influence Chart - DOF-5
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
Elevation (ft - NAVD88)
7/5/2019 0:00
7/5/2019 12:00
7/6/2019 0:00
7/6/2019 12:00
7/7/2019 0:00
7/7/2019 12:00
7/8/2019 0:00
7/8/2019 12:00
7/9/2019 0:00
Date and Time
DOF-5
NOAA Seattle Tidal Station Preliminary Tidal Data


Emerald Gateway Tidal Influence Chart - MW-AG1
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
Elevation (ft - NAVD88)
7/5/2019 0:00
7/5/2019 12:00
7/6/2019 0:00
7/6/2019 12:00
7/7/2019 0:00
7/7/2019 12:00
7/8/2019 0:00
7/8/2019 12:00
7/9/2019 0:00
Date and Time
MW-AG1
NOAA Seattle Tidal Station Preliminary Tidal Data

APPENDIX C
LABORATORY ANALYTICAL REPORTS

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19F0377	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day
ARI Client Company: Farallon	Phone: 425-394-4146
Client Contact: Pete Kingston	
Client Project Name: Emerald Gateway	
Client Project #:	Samplers: YP/CB

Page: 1 of 2	
Date: 6/26/19	Ice Present? Yes
No. of Coolers: 1	Cooler Temps: 5.8°C

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-DX	GRO NWTPH-Gx	BTEX 8260C	VOC's 8260C					Notes/Comments
FMW-01-2.5	6/26/19	0909	S	6									
FMW-01-5.0	"	1030	"	6	X	X	X						
FMW-01-10.0		1035		6	X	X	X						
FMW-01-14.0		1050		6	X	X	X						
FMW-01-19.0		1100		6	X	X	X						
FMW-02-2.5		1045		1									
FMW-02-6.0		1250		1	X								
FMW-02-11.0		1255		1	X								
FMW-02-17.0		1300		1									
FMW-03-2.5	↓	1205	↓	6									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day
ARI Client Company: Farallon	Phone: 425-394-4146
Client Contact: Pete Kingston	
Client Project Name: Emerald Gateway	
Client Project #: 1071-026	Samplers: YP/CB

Page: 2	of 2
Date: 6/26/19	Ice Present? Yes
No. of Coolers: 1	Cooler Temps: 5.8°C

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	BTEX 8260C	VOCs 8260C					Notes/Comments
FMW-03-6.0	6/26/19	1400	S	6	X	X		X					
FMW-03-13.0	"	1410	"	6	X	X		X					
FMW-03-18.0	"	1415	"	6	X	X		X					
~~FMW~~ F-25-2.5	"	1450	"	6									
F-26-2.5	"	1623	S	1									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

RE: 19F0377 Emerald Gateway Report and EDD

Yusuf Pehlivan <ypehlivan@farallonconsulting.com>

Tue 7/16/2019 8:36 AM

To: Amanda Volgardsen <amanda.volgardsen@arilabs.com>;

Cc: Peter Kingston <pkingston@farallonconsulting.com>;

Hi Amanda,

Can you please analyze sample FMW-01-10.0, collected on 6/26 for VOCs by 8260C? We would like to run the analysis even though it is outside of the hold time.

Thanks

Yusuf Pehlivan, L.G., Project Geologist
D: 425-394-4415 | C: 425-606-7051 | Bio | LinkedIn

From: Amanda Volgardsen <amanda.volgardsen@arilabs.com>
Sent: Monday, July 8, 2019 1:26 PM
To: Peter Kingston <pkingston@farallonconsulting.com>; Yusuf Pehlivan <ypehlivan@farallonconsulting.com>
Subject: 19F0377 Emerald Gateway Report and EDD

Hello,

Attached is the final data for 19F0377. Please let me know if you have any questions.

Regards,
Amanda Volgardsen
Analytical Resources, Inc.
Project Manager

206-695-6220

https://www.arilabs.com

Version changes coming this summer to SW-846 8260 and 8270 organic *and* 6010 and 6020 metals *analysis methods.*

"Humor is the universal solvent against the abrasive elements of life." - Alan Simpson

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FMW-01-10.0	19F0377-03	Solid	26-Jun-2019 10:35	26-Jun-2019 16:50

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 26, 2019 under ARI work order 19F0377. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

Samples FMW-01-10.0 and FMW-01-14.0 were reanalyzed at dilutions due to the gas concentration exceeding the upper calibration range. The initial analyses have been flagged with "E" qualifiers. No further corrective action was taken.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrgates associated with sample FMW-01-14.0
which are outside of the control limits for the original analysis. The sample was re-analyzed at a dilution with surrogate recoveries in control.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception the ICV for NT5 on 6/28/19 which is outside of control limits high for Trichlorofluoromethane. The samples are non-detect for this compound. Associated QC has been flagged with "Q" qualifiers. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCSD has high RPD for Chloroethane. All other LCS/LCSD percent recoveries and RPD were within control limits. No corrective action was taken.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

19F0377

Client: Farallon Consulting, LLC
Project Manager: Amanda Volgardsen
Project: Emerald Gateway Site 1071-026
Project Number: Emerald Gateway Site 1071-026

Report To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone: (425) 394-4415
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due: 05-Jul-2019 18:00 (5 day TAT)
Received By: Jacob Walter
Date Received: 26-Jun-2019 16:50
Logged In By: Erin I. Salle
Date Logged In: 27-Jun-2019 08:01

Samples Received at: **5.8°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-01 FMW-01-2.5 [Solid] Sampled 26-Jun-2019 09:09 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
19F0377-02 FMW-01-5.0 [Solid] Sampled 26-Jun-2019 10:30 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:30	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
19F0377-03 FMW-01-10.0 [Solid] Sampled 26-Jun-2019 10:35 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:35	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
19F0377-04 FMW-01-14.0 [Solid] Sampled 26-Jun-2019 10:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-05 FMW-01-19.0 [Solid] Sampled 26-Jun-2019 11:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 11:00	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
19F0377-06 FMW-02-2.5 [Solid] Sampled 26-Jun-2019 10:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:45	
19F0377-07 FMW-02-6.0 [Solid] Sampled 26-Jun-2019 12:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:50	
19F0377-08 FMW-02-11.0 [Solid] Sampled 26-Jun-2019 12:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:55	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:55	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:55	
19F0377-09 FMW-02-17.0 [Solid] Sampled 26-Jun-2019 13:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 13:00	
19F0377-10 FMW-03-2.5 [Solid] Sampled 26-Jun-2019 12:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:05	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 12:05	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:05	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-11 FMW-03-6.0 [Solid] Sampled 26-Jun-2019 14:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
19F0377-12 FMW-03-13.0 [Solid] Sampled 26-Jun-2019 14:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:10	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
19F0377-13 FMW-03-18.0 [Solid] Sampled 26-Jun-2019 14:15 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:15	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
19F0377-14 F-25-2.5 [Solid] Sampled 26-Jun-2019 14:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-15 F-26-2.5 [Solid] Sampled 26-Jun-2019 16:23 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 16:23	

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon — Project Name: Emerald Gateway

COC No(s): NA — Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ____

Assigned ARI Job No: 19F0377 — Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1650 — 5.8°C

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: DOO 5206

Cooler Accepted by: JJW — Date: 06/26/19 — Time: 1650

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ...	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES (GS 6/27/19)	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	____	

Were the sample(s) split by ARI? NA YES — Date/Time: ____ — Equipment: ____ — Split by: ____

Samples Logged by: [signature] — Date: 6/27/19 — Time: 0801 — Labels checked by: GS

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
FMW-01-	FMW-01-19.0		

Additional Notes, Discrepancies, & Resolutions:

By: [signature] Date: 6/27/19

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-03 E

Preparation Batch: BHF0743 — Sample Size: 5.015 g (wet) — Dry Weight:3.79 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.42	1.64	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.26	1.64	ND	ug/kg	U
Bromomethane	74-83-9	1	0.33	1.64	ND	ug/kg	U
Chloroethane	75-00-3	1	0.61	1.64	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.39	1.64	ND	ug/kg	U
Acrolein	107-02-8	1	1.87	8.20	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.27	3.28	ND	ug/kg	U
Acetone	67-64-1	1	1.48	8.20	ND	ug/kg	U
1,1-Dichloroethene	75-35-4	1	0.26	1.64	ND	ug/kg	U
Bromoethane	74-96-4	1	0.26	3.28	ND	ug/kg	U
Iodomethane	74-88-4	1	0.95	1.64	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.31	3.28	**2.04**	ug/kg	J, D
Acrylonitrile	107-13-1	1	0.48	8.20	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.51	1.64	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.37	1.64	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.61	8.20	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.27	1.64	ND	ug/kg	U
2-Butanone	78-93-3	1	1.35	8.20	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	0.34	1.64	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.30	1.64	ND	ug/kg	U
Chloroform	67-66-3	1	0.35	1.64	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.38	1.64	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.33	1.64	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.32	1.64	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.43	1.64	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.32	1.64	ND	ug/kg	U
Benzene	71-43-2	1000	269	1640	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.30	1.64	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.21	1.64	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.22	1.64	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.40	1.64	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	8.20	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	1.25	8.20	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.31	1.64	ND	ug/kg	U
Toluene	108-88-3	1000	282	1640	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.32	1.64	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	1.96	8.20	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.25	1.64	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.25	1.64	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.45	1.64	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.29	1.64	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.41	1.64	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.46	1.64	ND	ug/kg	U
Ethylbenzene	100-41-4	1000	446	1640	**3500**	ug/kg	D
1,1,1,2-Tetrachloroethane	630-20-6	1	0.17	1.64	ND	ug/kg	U
m,p-Xylene	179601-23-1	1000	916	3280	**13400**	ug/kg	D
o-Xylene	95-47-6	1000	374	1640	ND	ug/kg	U
Xylenes, total	1330-20-7	1	1.27	3.28	**13.4**	ug/kg	D
Styrene	100-42-5	1	0.45	1.64	ND	ug/kg	U
Bromoform	75-25-2	1	0.43	1.64	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.35	1.64	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.46	3.28	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.84	8.20	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.63	1.64	**4.22**	ug/kg	D
Bromobenzene	108-86-1	1	0.74	1.64	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.55	1.64	**2.17**	ug/kg	D
2-Chlorotoluene	95-49-8	1	0.65	1.64	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.74	1.64	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.63	1.64	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.62	1.64	**11.9**	ug/kg	D
1,2,4-Trimethylbenzene	95-63-6	1	0.74	1.64	**34.2**	ug/kg	D
s-Butylbenzene	135-98-8	1	0.70	1.64	**2.14**	ug/kg	D
4-Isopropyl Toluene	99-87-6	1	0.76	1.64	**3.95**	ug/kg	D
1,3-Dichlorobenzene	541-73-1	1	0.76	1.64	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.83	1.64	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.94	1.64	**3.75**	ug/kg	D
1,2-Dichlorobenzene	95-50-1	1	0.80	1.64	ND	ug/kg	U
1,2-Dibromo-3-Chloropropane	96-12-8	1	0.80	8.20	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	1.69	8.20	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.36	8.20	ND	ug/kg	U
Naphthalene	91-20-3	1	2.52	8.20	**5.95**	ug/kg	J, D
1,2,3-Trichlorobenzene	87-61-6	1	1.96	8.20	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.38	1.64	ND	ug/kg	U
2-Pentanone	107-87-9	1	8.20	8.20	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4				*80-124 %*	*120*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*80-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*99.5*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*101*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Chloromethane	ND	12.7	50.0	ug/kg							U
Vinyl Chloride	ND	7.80	50.0	ug/kg							U
Bromomethane	ND	10.2	50.0	ug/kg							U
Chloroethane	ND	18.6	50.0	ug/kg							U
Trichlorofluoromethane	ND	12.0	50.0	ug/kg							U
Acrolein	ND	57.0	250	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.10	100	ug/kg							U
Acetone	ND	45.2	250	ug/kg							U
1,1-Dichloroethene	ND	7.90	50.0	ug/kg							U
Bromoethane	ND	8.00	100	ug/kg							U
Iodomethane	ND	28.8	50.0	ug/kg							U
Methylene Chloride	53.6	9.50	100	ug/kg							J
Acrylonitrile	ND	14.7	250	ug/kg							U
Carbon Disulfide	ND	15.4	50.0	ug/kg							U
trans-1,2-Dichloroethene	ND	11.2	50.0	ug/kg							U
Vinyl Acetate	ND	18.6	250	ug/kg							U
1,1-Dichloroethane	ND	8.20	50.0	ug/kg							U
2-Butanone	ND	41.1	250	ug/kg							U
2,2-Dichloropropane	ND	10.3	50.0	ug/kg							U
cis-1,2-Dichloroethene	ND	9.00	50.0	ug/kg							U
Chloroform	ND	10.8	50.0	ug/kg							U
Bromochloromethane	ND	11.7	50.0	ug/kg							U
1,1,1-Trichloroethane	ND	10.1	50.0	ug/kg							U
1,1-Dichloropropene	ND	9.70	50.0	ug/kg							U
Carbon tetrachloride	ND	13.0	50.0	ug/kg							U
1,2-Dichloroethane	ND	9.70	50.0	ug/kg							U
Benzene	ND	8.20	50.0	ug/kg							U
Trichloroethene	ND	9.00	50.0	ug/kg							U
1,2-Dichloropropane	ND	6.40	50.0	ug/kg							U
Bromodichloromethane	ND	6.70	50.0	ug/kg							U
Dibromomethane	ND	12.1	50.0	ug/kg							U
2-Chloroethyl vinyl ether	ND	7.50	250	ug/kg							U
4-Methyl-2-Pentanone	ND	38.0	250	ug/kg							U
cis-1,3-Dichloropropene	ND	9.40	50.0	ug/kg							U
Toluene	ND	8.60	50.0	ug/kg							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
trans-1,3-Dichloropropene	ND	9.60	50.0	ug/kg							U
2-Hexanone	ND	59.8	250	ug/kg							U
1,1,2-Trichloroethane	ND	7.70	50.0	ug/kg							U
1,3-Dichloropropane	ND	7.70	50.0	ug/kg							U
Tetrachloroethene	ND	13.8	50.0	ug/kg							U
Dibromochloromethane	ND	8.70	50.0	ug/kg							U
1,2-Dibromoethane	ND	12.5	50.0	ug/kg							U
Chlorobenzene	ND	14.1	50.0	ug/kg							U
Ethylbenzene	ND	13.6	50.0	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	5.10	50.0	ug/kg							U
m,p-Xylene	ND	27.9	100	ug/kg							U
o-Xylene	ND	11.4	50.0	ug/kg							U
Xylenes, total	ND	38.7	100	ug/kg							U
Styrene	ND	13.8	50.0	ug/kg							U
Bromoform	ND	13.2	50.0	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	10.7	50.0	ug/kg							U
1,2,3-Trichloropropane	ND	14.0	100	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	25.5	250	ug/kg							U
n-Propylbenzene	ND	19.3	50.0	ug/kg							U
Bromobenzene	ND	22.4	50.0	ug/kg							U
Isopropyl Benzene	ND	16.7	50.0	ug/kg							U
2-Chlorotoluene	ND	19.7	50.0	ug/kg							U
4-Chlorotoluene	ND	22.4	50.0	ug/kg							U
t-Butylbenzene	ND	19.2	50.0	ug/kg							U
1,3,5-Trimethylbenzene	ND	18.9	50.0	ug/kg							U
1,2,4-Trimethylbenzene	ND	22.7	50.0	ug/kg							U
s-Butylbenzene	ND	21.2	50.0	ug/kg							U
4-Isopropyl Toluene	ND	23.1	50.0	ug/kg							U
1,3-Dichlorobenzene	ND	23.3	50.0	ug/kg							U
1,4-Dichlorobenzene	ND	25.3	50.0	ug/kg							U
n-Butylbenzene	ND	28.6	50.0	ug/kg							U
1,2-Dichlorobenzene	ND	24.4	50.0	ug/kg							U
1,2-Dibromo-3-Chloropropane	ND	24.4	250	ug/kg							U
1,2,4-Trichlorobenzene	ND	51.5	250	ug/kg							U
Hexachloro-1,3-Butadiene	ND	41.4	250	ug/kg							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Naphthalene	ND	76.9	250	ug/kg							U
1,2,3-Trichlorobenzene	ND	59.8	250	ug/kg							U
Dichlorodifluoromethane	ND	10.4	50.0	ug/kg							U
Methyl tert-butyl Ether	ND	11.6	50.0	ug/kg							U
2-Pentanone	ND	250	250	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	51.3			ug/kg	*50.0*		*103*	*80-124*			
Surrogate: Toluene-d8	50.3			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	51.5			ug/kg	*50.0*		*103*	*80-120*			
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Chloromethane	2520			ug/kg	2500		101	42-153			
Vinyl Chloride	2660			ug/kg	2500		106	74-133			
Bromomethane	2730			ug/kg	2500		109	41-147			
Chloroethane	2030			ug/kg	2500		81.2	66-133			
Trichlorofluoromethane	3020			ug/kg	2500		121	60-145			Q
Acrolein	10800			ug/kg	12500		86.4	45-149			
1,1,2-Trichloro-1,2,2-Trifluoroethane	2560			ug/kg	2500		102	70-133			
Acetone	12000			ug/kg	12500		95.7	45-147			
1,1-Dichloroethene	2530			ug/kg	2500		101	67-132			
Bromoethane	2590			ug/kg	2500		104	68-135			
Iodomethane	2440			ug/kg	2500		97.7	42-187			
Methylene Chloride	2450			ug/kg	2500		98.0	53-169			
Acrylonitrile	2450			ug/kg	2500		98.2	63-133			
Carbon Disulfide	2560			ug/kg	2500		102	62-140			
trans-1,2-Dichloroethene	2520			ug/kg	2500		101	71-136			
Vinyl Acetate	2490			ug/kg	2500		99.5	72-127			
1,1-Dichloroethane	2560			ug/kg	2500		103	76-121			
2-Butanone	12600			ug/kg	12500		101	65-136			
2,2-Dichloropropane	2560			ug/kg	2500		102	73-129			
cis-1,2-Dichloroethene	2640			ug/kg	2500		106	77-121			
Chloroform	2550			ug/kg	2500		102	76-123			
Bromochloromethane	2520			ug/kg	2500		101	78-120			
1,1,1-Trichloroethane	2550			ug/kg	2500		102	76-125			
1,1-Dichloropropene	2530			ug/kg	2500		101	78-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Carbon tetrachloride	2440			ug/kg	2500		97.8	78-120			
1,2-Dichloroethane	2300			ug/kg	2500		91.9	75-120			
Benzene	2480			ug/kg	2500		99.3	80-120			
Trichloroethene	2430			ug/kg	2500		97.1	77-120			
1,2-Dichloropropane	2430			ug/kg	2500		97.1	78-120			
Bromodichloromethane	2400			ug/kg	2500		95.8	73-128			
Dibromomethane	2420			ug/kg	2500		96.9	78-120			
2-Chloroethyl vinyl ether	2380			ug/kg	2500		95.3	66-128			
4-Methyl-2-Pentanone	12000			ug/kg	12500		96.0	80-120			
cis-1,3-Dichloropropene	2510			ug/kg	2500		101	83-120			
Toluene	2420			ug/kg	2500		96.8	77-120			
trans-1,3-Dichloropropene	2500			ug/kg	2500		99.8	82-120			
2-Hexanone	11700			ug/kg	12500		93.5	73-122			
1,1,2-Trichloroethane	2370			ug/kg	2500		95.0	79-120			
1,3-Dichloropropane	2370			ug/kg	2500		94.6	80-120			
Tetrachloroethene	2300			ug/kg	2500		92.0	76-120			
Dibromochloromethane	2410			ug/kg	2500		96.3	79-120			
1,2-Dibromoethane	2420			ug/kg	2500		96.7	79-120			
Chlorobenzene	2360			ug/kg	2500		94.3	77-120			
Ethylbenzene	2360			ug/kg	2500		94.2	79-122			
1,1,1,2-Tetrachloroethane	2420			ug/kg	2500		96.6	78-120			
m,p-Xylene	4730			ug/kg	5000		94.7	81-122			
o-Xylene	2410			ug/kg	2500		96.3	79-120			
Xylenes, total	7140			ug/kg	7500		95.2	80-120			
Styrene	2450			ug/kg	2500		97.8	77-124			
Bromoform	2390			ug/kg	2500		95.6	80-120			
1,1,2,2-Tetrachloroethane	2390			ug/kg	2500		95.7	79-120			
1,2,3-Trichloropropane	2390			ug/kg	2500		95.5	79-120			
trans-1,4-Dichloro 2-Butene	2390			ug/kg	2500		95.5	75-123			
n-Propylbenzene	2450			ug/kg	2500		98.1	80-125			
Bromobenzene	2410			ug/kg	2500		96.6	76-120			
Isopropyl Benzene	2500			ug/kg	2500		100	74-130			
2-Chlorotoluene	2410			ug/kg	2500		96.5	77-120			
4-Chlorotoluene	2400			ug/kg	2500		96.0	77-121			
t-Butylbenzene	2440			ug/kg	2500		97.5	74-126			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
1,3,5-Trimethylbenzene	2470			ug/kg	2500		98.8	79-124			
1,2,4-Trimethylbenzene	2450			ug/kg	2500		98.1	79-125			
s-Butylbenzene	2460			ug/kg	2500		98.2	80-127			
4-Isopropyl Toluene	2490			ug/kg	2500		99.5	75-132			
1,3-Dichlorobenzene	2350			ug/kg	2500		94.2	75-120			
1,4-Dichlorobenzene	2330			ug/kg	2500		93.2	76-120			
n-Butylbenzene	2410			ug/kg	2500		96.5	79-130			
1,2-Dichlorobenzene	2320			ug/kg	2500		92.8	76-120			
1,2-Dibromo-3-Chloropropane	2350			ug/kg	2500		94.0	75-120			
1,2,4-Trichlorobenzene	2390			ug/kg	2500		95.7	74-121			
Hexachloro-1,3-Butadiene	2380			ug/kg	2500		95.2	74-120			
Naphthalene	2460			ug/kg	2500		98.4	75-120			
1,2,3-Trichlorobenzene	2380			ug/kg	2500		95.0	75-120			
Dichlorodifluoromethane	2720			ug/kg	2500		109	62-143			
Methyl tert-butyl Ether	2500			ug/kg	2500		100	68-132			
2-Pentanone	12100			ug/kg	12500		96.9	77-120			
Surrogate: Dibromofluoromethane	52.7			ug/kg	*50.0*		*105*	*30-160*			
Surrogate: 1,2-Dichloroethane-d4	52.0			ug/kg	*50.0*		*104*	*80-124*			
Surrogate: Toluene-d8	51.2			ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.5			ug/kg	*50.0*		*99.1*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.5			ug/kg	*50.0*		*101*	*80-120*			
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Chloromethane	2800			ug/kg	2500		112	42-153	10.50	30	
Vinyl Chloride	2880			ug/kg	2500		115	74-133	7.87	30	
Bromomethane	2900			ug/kg	2500		116	41-147	6.05	30	
Chloroethane	2850			ug/kg	2500		114	66-133	33.70	30	*
Trichlorofluoromethane	2750			ug/kg	2500		110	60-145	9.28	30	Q
Acrolein	12200			ug/kg	12500		97.6	45-149	12.20	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	2800			ug/kg	2500		112	70-133	9.09	30	
Acetone	12700			ug/kg	12500		102	45-147	6.02	30	
1,1-Dichloroethene	2720			ug/kg	2500		109	67-132	6.90	30	
Bromoethane	2640			ug/kg	2500		106	68-135	1.92	30	
Iodomethane	2630			ug/kg	2500		105	42-187	7.29	30	
Methylene Chloride	2550			ug/kg	2500		102	53-169	4.03	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Acrylonitrile	2530			ug/kg	2500		101	63-133	3.05	30	
Carbon Disulfide	2820			ug/kg	2500		113	62-140	9.48	30	
trans-1,2-Dichloroethene	2700			ug/kg	2500		108	71-136	6.88	30	
Vinyl Acetate	2600			ug/kg	2500		104	72-127	4.62	30	
1,1-Dichloroethane	2700			ug/kg	2500		108	76-121	5.05	30	
2-Butanone	14500			ug/kg	12500		116	65-136	14.40	30	
2,2-Dichloropropane	2770			ug/kg	2500		111	73-129	7.84	30	
cis-1,2-Dichloroethene	2670			ug/kg	2500		107	77-121	1.09	30	
Chloroform	2620			ug/kg	2500		105	76-123	2.75	30	
Bromochloromethane	2520			ug/kg	2500		101	78-120	0.21	30	
1,1,1-Trichloroethane	2700			ug/kg	2500		108	76-125	5.71	30	
1,1-Dichloropropene	2770			ug/kg	2500		111	78-120	8.78	30	
Carbon tetrachloride	2580			ug/kg	2500		103	78-120	5.56	30	
1,2-Dichloroethane	2340			ug/kg	2500		93.6	75-120	1.87	30	
Benzene	2580			ug/kg	2500		103	80-120	3.93	30	
Trichloroethene	2550			ug/kg	2500		102	77-120	5.12	30	
1,2-Dichloropropane	2490			ug/kg	2500		99.6	78-120	2.52	30	
Bromodichloromethane	2480			ug/kg	2500		99.0	73-128	3.31	30	
Dibromomethane	2490			ug/kg	2500		99.6	78-120	2.74	30	
2-Chloroethyl vinyl ether	2420			ug/kg	2500		96.8	66-128	1.55	30	
4-Methyl-2-Pentanone	12800			ug/kg	12500		102	80-120	6.14	30	
cis-1,3-Dichloropropene	2580			ug/kg	2500		103	83-120	2.47	30	
Toluene	2540			ug/kg	2500		102	77-120	4.78	30	
trans-1,3-Dichloropropene	2530			ug/kg	2500		101	82-120	1.42	30	
2-Hexanone	12300			ug/kg	12500		98.7	73-122	5.39	30	
1,1,2-Trichloroethane	2360			ug/kg	2500		94.5	79-120	0.53	30	
1,3-Dichloropropane	2390			ug/kg	2500		95.5	80-120	0.89	30	
Tetrachloroethene	2570			ug/kg	2500		103	76-120	11.10	30	
Dibromochloromethane	2470			ug/kg	2500		98.9	79-120	2.69	30	
1,2-Dibromoethane	2460			ug/kg	2500		98.3	79-120	1.70	30	
Chlorobenzene	2480			ug/kg	2500		99.2	77-120	5.12	30	
Ethylbenzene	2510			ug/kg	2500		100	79-122	6.43	30	
1,1,1,2-Tetrachloroethane	2470			ug/kg	2500		98.7	78-120	2.14	30	
m,p-Xylene	5060			ug/kg	5000		101	81-122	6.69	30	
o-Xylene	2490			ug/kg	2500		99.6	79-120	3.34	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Xylenes, total	7550			ug/kg	7500		101	80-120	5.57	30	
Styrene	2520			ug/kg	2500		101	77-124	2.89	30	
Bromoform	2430			ug/kg	2500		97.1	80-120	1.57	30	
1,1,2,2-Tetrachloroethane	2460			ug/kg	2500		98.3	79-120	2.61	30	
1,2,3-Trichloropropane	2620			ug/kg	2500		105	79-120	9.12	30	
trans-1,4-Dichloro 2-Butene	2650			ug/kg	2500		106	75-123	10.30	30	
n-Propylbenzene	2650			ug/kg	2500		106	80-125	7.56	30	
Bromobenzene	2500			ug/kg	2500		100	76-120	3.50	30	
Isopropyl Benzene	2670			ug/kg	2500		107	74-130	6.43	30	
2-Chlorotoluene	2560			ug/kg	2500		102	77-120	5.75	30	
4-Chlorotoluene	2580			ug/kg	2500		103	77-121	7.30	30	
t-Butylbenzene	2580			ug/kg	2500		103	74-126	5.61	30	
1,3,5-Trimethylbenzene	2600			ug/kg	2500		104	79-124	5.08	30	
1,2,4-Trimethylbenzene	2610			ug/kg	2500		104	79-125	6.24	30	
s-Butylbenzene	2610			ug/kg	2500		104	80-127	6.05	30	
4-Isopropyl Toluene	2660			ug/kg	2500		106	75-132	6.64	30	
1,3-Dichlorobenzene	2520			ug/kg	2500		101	75-120	6.99	30	
1,4-Dichlorobenzene	2490			ug/kg	2500		99.4	76-120	6.47	30	
n-Butylbenzene	2640			ug/kg	2500		106	79-130	9.15	30	
1,2-Dichlorobenzene	2450			ug/kg	2500		98.1	76-120	5.54	30	
1,2-Dibromo-3-Chloropropane	2510			ug/kg	2500		100	75-120	6.69	30	
1,2,4-Trichlorobenzene	2540			ug/kg	2500		101	74-121	5.78	30	
Hexachloro-1,3-Butadiene	2500			ug/kg	2500		100	74-120	5.04	30	
Naphthalene	2550			ug/kg	2500		102	75-120	3.59	30	
1,2,3-Trichlorobenzene	2480			ug/kg	2500		99.0	75-120	4.12	30	
Dichlorodifluoromethane	2780			ug/kg	2500		111	62-143	2.29	30	
Methyl tert-butyl Ether	2580			ug/kg	2500		103	68-132	2.86	30	
2-Pentanone	12700			ug/kg	12500		101	77-120	4.67	30	
Surrogate: Dibromofluoromethane	53.1			ug/kg	*50.0*		*106*	*30-160*			
Surrogate: 1,2-Dichloroethane-d4	52.9			ug/kg	*50.0*		*106*	*80-124*			
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.7			ug/kg	*50.0*		*99.4*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.2			ug/kg	*50.0*		*100*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	DoD-ELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-Chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

08 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19F0377	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day
ARI Client Company: Farallon	Phone: 425-394-4146
Client Contact: Pete Kingston	
Client Project Name: Emerald Gateway	
Client Project #:	Samplers: YP/CB

Page: 1 of 2	
Date: 6/26/19	Ice Present? Yes
No. of Coolers: 1	Cooler Temps: 5.8°C

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-DX	GRO NWTPH-Gx	BTEX 8260C	VOC 5 8260C					Notes/Comments
FMW-01-2.5	6/26/19	0909	S	6									
FMW-01-5.0	"	1030	"	6	X	X	X						
FMW-01-10.0		1035		6	X	X	X						
FMW-01-14.0		1050		6	X	X	X						
FMW-01-19.0		1100		6	X	X	X						
FMW-02-2.5		1045		1									
FMW-02-6.0		1250		1	X								
FMW-02-11.0		1255		1	X								
FMW-02-17.0		1300		1									
FMW-03-2.5	↓	1205	↓	6									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day	Page: 2 of 2	
ARI Client Company: Farallon	Phone: 425-394-4146	Date: 6/26/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 1	Cooler Temps: 5.8°C
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: YP/CB		

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Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	BTEX 8260C	VOCs 8260C					Notes/Comments
FMW-03-6.0	6/26/19	1400	S	6	X	X		X					
FMW-03-13.0	"	1410	"	6	X	X		X					
FMW-03-18.0	"	1415	"	6	X	X		X					
~~FMW~~ F-25-2.5	"	1450	"	6									
F-26-2.5	"	1623	S	1									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FMW-01-5.0	19F0377-02	Solid	26-Jun-2019 10:30	26-Jun-2019 16:50
FMW-01-10.0	19F0377-03	Solid	26-Jun-2019 10:35	26-Jun-2019 16:50
FMW-01-14.0	19F0377-04	Solid	26-Jun-2019 10:50	26-Jun-2019 16:50
FMW-01-19.0	19F0377-05	Solid	26-Jun-2019 11:00	26-Jun-2019 16:50
FMW-02-6.0	19F0377-07	Solid	26-Jun-2019 12:50	26-Jun-2019 16:50
FMW-02-11.0	19F0377-08	Solid	26-Jun-2019 12:55	26-Jun-2019 16:50
FMW-03-6.0	19F0377-11	Solid	26-Jun-2019 14:00	26-Jun-2019 16:50
FMW-03-13.0	19F0377-12	Solid	26-Jun-2019 14:10	26-Jun-2019 16:50
FMW-03-18.0	19F0377-13	Solid	26-Jun-2019 14:15	26-Jun-2019 16:50

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 26, 2019 under ARI work order 19F0377. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

Samples FMW-01-10.0 and FMW-01-14.0 were reanalyzed at dilutions due to the gas concentration exceeding the upper calibration range. The initial analyses have been flagged with "E" qualifiers. No further corrective action was taken.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrgates associated with sample FMW-01-14.0
which are outside of the control limits for the original analysis. The sample was re-analyzed at a dilution with surrogate recoveries in control.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception the ICV for NT5 on 6/28/19 which is outside of control limits high for Trichlorofluoromethane. The samples are non-detect for this compound. Associated QC has been flagged with "Q" qualifiers. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCSD has high RPD for Chloroethane. All other LCS/LCSD percent recoveries and RPD were within control limits. No corrective action was taken.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

19F0377

Client: Farallon Consulting, LLC
Project Manager: Amanda Volgardsen
Project: Emerald Gateway Site 1071-026
Project Number: Emerald Gateway Site 1071-026

Report To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone: (425) 394-4415
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due: 05-Jul-2019 18:00 (5 day TAT)
Received By: Jacob Walter
Date Received: 26-Jun-2019 16:50
Logged In By: Erin I. Salle
Date Logged In: 27-Jun-2019 08:01

Samples Received at: **5.8°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-01 FMW-01-2.5 [Solid] Sampled 26-Jun-2019 09:09 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
19F0377-02 FMW-01-5.0 [Solid] Sampled 26-Jun-2019 10:30 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:30	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
19F0377-03 FMW-01-10.0 [Solid] Sampled 26-Jun-2019 10:35 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:35	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
19F0377-04 FMW-01-14.0 [Solid] Sampled 26-Jun-2019 10:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-05 FMW-01-19.0 [Solid] Sampled 26-Jun-2019 11:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 11:00	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
19F0377-06 FMW-02-2.5 [Solid] Sampled 26-Jun-2019 10:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:45	
19F0377-07 FMW-02-6.0 [Solid] Sampled 26-Jun-2019 12:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:50	
19F0377-08 FMW-02-11.0 [Solid] Sampled 26-Jun-2019 12:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:55	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:55	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:55	
19F0377-09 FMW-02-17.0 [Solid] Sampled 26-Jun-2019 13:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 13:00	
19F0377-10 FMW-03-2.5 [Solid] Sampled 26-Jun-2019 12:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:05	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 12:05	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:05	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-11 FMW-03-6.0 [Solid] Sampled 26-Jun-2019 14:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
19F0377-12 FMW-03-13.0 [Solid] Sampled 26-Jun-2019 14:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:10	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
19F0377-13 FMW-03-18.0 [Solid] Sampled 26-Jun-2019 14:15 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:15	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
19F0377-14 F-25-2.5 [Solid] Sampled 26-Jun-2019 14:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-15 F-26-2.5 [Solid] Sampled 26-Jun-2019 16:23 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 16:23	

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon — Project Name: Emerald Gateway

COC No(s): NA — Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ____

Assigned ARI Job No: 19F0377 — Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1650 — 5.8°C

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: DOO 5206

Cooler Accepted by: JSW — Date: 06/26/19 — Time: 1650

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES (GS 6/27/19)	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	____	

Were the sample(s) split by ARI? NA YES — Date/Time: ____ — Equipment: ____ — Split by: ____

Samples Logged by: [signature] — Date: 6/27/19 — Time: 0801 — Labels checked by: GS

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
FMW-01-	FMW-01-19.0		

Additional Notes, Discrepancies, & Resolutions:

By: [signature] Date: 6/27/19

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-5.0

19F0377-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:30

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:13

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0377-02 B

Preparation Batch: BHF0741 — Sample Size: 5.38 g (wet) — Dry Weight:4.28 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 79.48

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.35	1.17	**4.97**	ug/kg	
Toluene	108-88-3	1	0.18	1.17	**1.89**	ug/kg	
Ethylbenzene	100-41-4	1	0.24	1.17	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.46	2.34	**0.85**	ug/kg	J
o-Xylene	95-47-6	1	0.26	1.17	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*99.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-5.0

19F0377-02 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 10:30

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 16:50

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-02 D

Preparation Batch: BHF0698 — Sample Size: 4.676 g (wet) — Dry Weight:3.72 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 79.48

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	8020	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*97.8*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-5.0

19F0377-02 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 10:30
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 00:51

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-02 A 01
Preparation Batch: BHF0697 — Sample Size: 10.04 g (wet) — Dry Weight:7.98 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 79.48

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.27	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.5	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*78.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-03 E

Preparation Batch: BHF0743 — Sample Size: 5.015 g (wet) — Dry Weight:3.79 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1000	269	1640	ND	ug/kg	U
Toluene	108-88-3	1000	282	1640	ND	ug/kg	U
Ethylbenzene	100-41-4	1000	446	1640	**3500**	ug/kg	D
m,p-Xylene	179601-23-1	1000	916	3280	**13400**	ug/kg	D
o-Xylene	95-47-6	1000	374	1640	ND	ug/kg	U
Surrogate: Toluene-d8				*80-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*99.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 10:35

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 17:17

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-03 D

Preparation Batch: BHF0698 — Sample Size: 5.026 g (wet) — Dry Weight:3.80 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1000	164000	**12300000**	ug/kg	D, E
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*117*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*100*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-10.0

19F0377-03 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 10:35
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 01:11

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-03 A 01
Preparation Batch: BHF0697 — Sample Size: 10.02 g (wet) — Dry Weight:7.58 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.60	**68.4**	mg/kg	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	13.2	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*92.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-10.0

19F0377-03RE1 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 10:35
Instrument: NT3 Analyst: PKC — Analyzed: 06/28/2019 17:45

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-03RE1 D
Preparation Batch: BHF0745 — Sample Size: 5.026 g (wet) — Dry Weight:3.80 g
Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	5000	819000	**5360000**	ug/kg	D
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*98.0*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-14.0

19F0377-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:50
Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:58

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-04 E
Preparation Batch: BHF0743 — Sample Size: 5.177 g (wet) — Dry Weight:4.09 g
Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 79.04

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1000	244	1490	ND	ug/kg	U
Toluene	108-88-3	1000	256	1490	ND	ug/kg	U
Ethylbenzene	100-41-4	1000	404	1490	**5840**	ug/kg	D
m,p-Xylene	179601-23-1	1000	830	2970	**27000**	ug/kg	D
o-Xylene	95-47-6	1000	339	1490	ND	ug/kg	U
Surrogate: Toluene-d8				*80-120 %*	*104*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*98.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-14.0

19F0377-04 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 10:50

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 17:43

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-04 D

Preparation Batch: BHF0698 — Sample Size: 5.304 g (wet) — Dry Weight:4.19 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 79.04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1000	146000	**8940000**	ug/kg	D, E
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*124*	*%*	*
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*103*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-14.0

19F0377-04 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 10:50
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 01:32

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-04 A 01
Preparation Batch: BHF0697 — Sample Size: 10.04 g (wet) — Dry Weight:7.94 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 79.04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.30	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.6	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*74.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-14.0

19F0377-04RE1 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 10:50
Instrument: NT3 Analyst: PKC — Analyzed: 06/28/2019 18:11

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-04RE1 D
Preparation Batch: BHF0745 — Sample Size: 5.304 g (wet) — Dry Weight:4.19 g
Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 79.04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	5000	729000	**4700000**	ug/kg	D
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*106*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*99.7*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-19.0

19F0377-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 11:00

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 18:20

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0377-05 B

Preparation Batch: BHF0741 — Sample Size: 5.3 g (wet) — Dry Weight:4.42 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 83.40

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.33	1.13	ND	ug/kg	U
Toluene	108-88-3	1	0.17	1.13	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.23	1.13	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.44	2.26	ND	ug/kg	U
o-Xylene	95-47-6	1	0.25	1.13	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*104*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*101*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-19.0

19F0377-05 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 11:00
Instrument: NT3 Analyst: PKC — Analyzed: 06/28/2019 18:37

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-05 D
Preparation Batch: BHF0745 — Sample Size: 5.448 g (wet) — Dry Weight:4.54 g
Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 83.40

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	6500	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*98.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-01-19.0

19F0377-05 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 11:00
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 01:53

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-05 A 01
Preparation Batch: BHF0697 — Sample Size: 10.01 g (wet) — Dry Weight:8.35 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 83.40

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.99	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.0	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*87.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-02-6.0

19F0377-07 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 12:50
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 02:14

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-07 A 01
Preparation Batch: BHF0697 — Sample Size: 10.04 g (wet) — Dry Weight:8.30 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 82.68

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.02	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.0	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*79.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-02-11.0

19F0377-08 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 12:55
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 03:16

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-08 A 01
Preparation Batch: BHF0697 — Sample Size: 10 g (wet) — Dry Weight:6.27 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 62.65

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	7.98	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	16.0	**93.8**	mg/kg	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*72.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-6.0

19F0377-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:00

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 18:43

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0377-11 B

Preparation Batch: BHF0741 — Sample Size: 4.63 g (wet) — Dry Weight:3.57 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 77.10

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.37	1.40	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.33	1.40	ND	ug/kg	U
Bromomethane	74-83-9	1	0.26	1.40	ND	ug/kg	U
Chloroethane	75-00-3	1	0.65	1.40	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.37	1.40	ND	ug/kg	U
Acrolein	107-02-8	1	5.34	7.00	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.40	2.80	ND	ug/kg	U
Acetone	67-64-1	1	0.68	7.00	ND	ug/kg	U
1,1-Dichloroethene	75-35-4	1	0.47	1.40	ND	ug/kg	U
Bromoethane	74-96-4	1	0.62	2.80	ND	ug/kg	U
Iodomethane	74-88-4	1	0.30	1.40	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.89	2.80	**1.75**	ug/kg	J
Acrylonitrile	107-13-1	1	1.44	7.00	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.78	1.40	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.37	1.40	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.53	7.00	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.28	1.40	ND	ug/kg	U
2-Butanone	78-93-3	1	0.72	7.00	**6.56**	ug/kg	J
2,2-Dichloropropane	594-20-7	1	0.41	1.40	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.34	1.40	ND	ug/kg	U
Chloroform	67-66-3	1	0.33	1.40	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.45	1.40	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.32	1.40	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.44	1.40	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.30	1.40	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.27	1.40	ND	ug/kg	U
Benzene	71-43-2	1	0.41	1.40	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.30	1.40	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.23	1.40	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.36	1.40	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.21	1.40	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.39	7.00	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.59	7.00	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.32	1.40	ND	ug/kg	U
Toluene	108-88-3	1	0.21	1.40	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.30	1.40	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-6.0

19F0377-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:00

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 18:43

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.61	7.00	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.40	1.40	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.29	1.40	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.36	1.40	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.37	1.40	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.25	1.40	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.31	1.40	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.28	1.40	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.33	1.40	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.55	2.80	ND	ug/kg	U
o-Xylene	95-47-6	1	0.31	1.40	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.86	2.80	ND	ug/kg	U
Styrene	100-42-5	1	0.19	1.40	ND	ug/kg	U
Bromoform	75-25-2	1	0.42	1.40	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.35	1.40	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.72	2.80	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.61	7.00	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.38	1.40	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.21	1.40	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.33	1.40	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.42	1.40	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.39	1.40	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.43	1.40	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.36	1.40	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.32	1.40	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.34	1.40	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.33	1.40	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.32	1.40	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.32	1.40	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.37	1.40	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.41	1.40	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.82	7.00	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.47	7.00	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.57	7.00	ND	ug/kg	U
Naphthalene	91-20-3	1	0.60	7.00	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.43	7.00	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.29	1.40	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.32	1.40	ND	ug/kg	U
2-Pentanone	107-87-9	1	7.00	7.00	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-6.0

19F0377-11 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:00

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 18:43

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*132*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*104*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*101*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*103*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-6.0

19F0377-11 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 14:00

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 18:36

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-11 D

Preparation Batch: BHF0698 — Sample Size: 4.651 g (wet) — Dry Weight:3.59 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 77.10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	8460	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*98.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-6.0

19F0377-11 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 14:00
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 03:36

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-11 A 01
Preparation Batch: BHF0697 — Sample Size: 10.01 g (wet) — Dry Weight:7.72 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 77.10

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.48	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	13.0	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*83.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-13.0

19F0377-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:10

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:05

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0377-12 B

Preparation Batch: BHF0741 — Sample Size: 5.5 g (wet) — Dry Weight:3.57 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 64.98

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.37	1.40	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.33	1.40	ND	ug/kg	U
Bromomethane	74-83-9	1	0.26	1.40	ND	ug/kg	U
Chloroethane	75-00-3	1	0.65	1.40	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.37	1.40	ND	ug/kg	U
Acrolein	107-02-8	1	5.33	7.00	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.40	2.80	ND	ug/kg	U
Acetone	67-64-1	1	0.67	7.00	**52.3**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.47	1.40	ND	ug/kg	U
Bromoethane	74-96-4	1	0.62	2.80	ND	ug/kg	U
Iodomethane	74-88-4	1	0.30	1.40	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.89	2.80	**1.99**	ug/kg	J
Acrylonitrile	107-13-1	1	1.44	7.00	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.78	1.40	**1.43**	ug/kg	
trans-1,2-Dichloroethene	156-60-5	1	0.37	1.40	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.53	7.00	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.28	1.40	ND	ug/kg	U
2-Butanone	78-93-3	1	0.72	7.00	**6.09**	ug/kg	J
2,2-Dichloropropane	594-20-7	1	0.41	1.40	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.34	1.40	ND	ug/kg	U
Chloroform	67-66-3	1	0.33	1.40	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.45	1.40	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.32	1.40	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.44	1.40	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.30	1.40	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.27	1.40	ND	ug/kg	U
Benzene	71-43-2	1	0.41	1.40	**0.47**	ug/kg	J
Trichloroethene	79-01-6	1	0.30	1.40	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.23	1.40	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.36	1.40	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.21	1.40	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.39	7.00	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.59	7.00	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.32	1.40	ND	ug/kg	U
Toluene	108-88-3	1	0.21	1.40	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.30	1.40	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-13.0

19F0377-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:10

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:05

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.61	7.00	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.40	1.40	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.29	1.40	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.36	1.40	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.37	1.40	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.25	1.40	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.31	1.40	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.28	1.40	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.33	1.40	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.55	2.80	ND	ug/kg	U
o-Xylene	95-47-6	1	0.31	1.40	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.86	2.80	ND	ug/kg	U
Styrene	100-42-5	1	0.19	1.40	ND	ug/kg	U
Bromoform	75-25-2	1	0.42	1.40	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.35	1.40	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.72	2.80	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.61	7.00	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.38	1.40	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.21	1.40	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.33	1.40	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.42	1.40	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.39	1.40	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.43	1.40	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.36	1.40	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.32	1.40	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.34	1.40	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.33	1.40	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.32	1.40	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.32	1.40	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.37	1.40	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.41	1.40	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.82	7.00	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.46	7.00	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.57	7.00	ND	ug/kg	U
Naphthalene	91-20-3	1	0.60	7.00	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.43	7.00	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.29	1.40	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.32	1.40	ND	ug/kg	U
2-Pentanone	107-87-9	1	7.00	7.00	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-13.0

19F0377-12 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:10

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:05

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*133*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*99.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*105*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-13.0

19F0377-12 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 14:10

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 19:02

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-12 D

Preparation Batch: BHF0698 — Sample Size: 4.741 g (wet) — Dry Weight:3.08 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 64.98

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	10800	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*104*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*96.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-13.0

19F0377-12 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 14:10

Instrument: FID4 Analyst: VTS — Analyzed: 07/05/2019 14:13

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-12 A 01

Preparation Batch: BHF0697 — Sample Size: 10.02 g (wet) — Dry Weight:6.51 g

Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 64.98

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	7.68	**14.8**	mg/kg	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	15.4	**89.5**	mg/kg	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*70.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-18.0

19F0377-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:15

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:28

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0377-13 B

Preparation Batch: BHF0741 — Sample Size: 4.93 g (wet) — Dry Weight:4.15 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 84.18

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.32	1.20	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.28	1.20	ND	ug/kg	U
Bromomethane	74-83-9	1	0.23	1.20	ND	ug/kg	U
Chloroethane	75-00-3	1	0.56	1.20	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.32	1.20	ND	ug/kg	U
Acrolein	107-02-8	1	4.59	6.02	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.35	2.41	ND	ug/kg	U
Acetone	67-64-1	1	0.58	6.02	**24.8**	ug/kg	
1,1-Dichloroethene	75-35-4	1	0.40	1.20	ND	ug/kg	U
Bromoethane	74-96-4	1	0.53	2.41	ND	ug/kg	U
Iodomethane	74-88-4	1	0.26	1.20	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.77	2.41	**1.14**	ug/kg	J
Acrylonitrile	107-13-1	1	1.24	6.02	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.67	1.20	**1.91**	ug/kg	
trans-1,2-Dichloroethene	156-60-5	1	0.32	1.20	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.46	6.02	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.24	1.20	ND	ug/kg	U
2-Butanone	78-93-3	1	0.62	6.02	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	0.35	1.20	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.29	1.20	ND	ug/kg	U
Chloroform	67-66-3	1	0.28	1.20	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.39	1.20	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.27	1.20	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.38	1.20	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.26	1.20	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.23	1.20	ND	ug/kg	U
Benzene	71-43-2	1	0.36	1.20	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.26	1.20	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.20	1.20	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.31	1.20	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.18	1.20	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.33	6.02	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	0.51	6.02	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.27	1.20	ND	ug/kg	U
Toluene	108-88-3	1	0.18	1.20	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.26	1.20	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-18.0

19F0377-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:15

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:28

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.53	6.02	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.34	1.20	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.25	1.20	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.31	1.20	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.32	1.20	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.21	1.20	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.26	1.20	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.24	1.20	ND	ug/kg	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.28	1.20	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.47	2.41	ND	ug/kg	U
o-Xylene	95-47-6	1	0.27	1.20	ND	ug/kg	U
Xylenes, total	1330-20-7	1	0.74	2.41	ND	ug/kg	U
Styrene	100-42-5	1	0.17	1.20	ND	ug/kg	U
Bromoform	75-25-2	1	0.36	1.20	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.30	1.20	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.62	2.41	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.53	6.02	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.33	1.20	ND	ug/kg	U
Bromobenzene	108-86-1	1	0.18	1.20	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.28	1.20	ND	ug/kg	U
2-Chlorotoluene	95-49-8	1	0.36	1.20	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.33	1.20	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.37	1.20	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.31	1.20	ND	ug/kg	U
1,2,4-Trimethylbenzene	95-63-6	1	0.28	1.20	ND	ug/kg	U
s-Butylbenzene	135-98-8	1	0.29	1.20	ND	ug/kg	U
4-Isopropyl Toluene	99-87-6	1	0.28	1.20	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	0.27	1.20	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.28	1.20	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.32	1.20	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	0.35	1.20	ND	ug/kg	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.71	6.02	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	0.40	6.02	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.49	6.02	ND	ug/kg	U
Naphthalene	91-20-3	1	0.52	6.02	ND	ug/kg	U
1,2,3-Trichlorobenzene	87-61-6	1	0.37	6.02	ND	ug/kg	U
Dichlorodifluoromethane	75-71-8	1	0.25	1.20	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.28	1.20	ND	ug/kg	U
2-Pentanone	107-87-9	1	6.02	6.02	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-18.0

19F0377-13 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 14:15

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 19:28

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-149 %*	*136*	*%*	
Surrogate: Toluene-d8		*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*99.9*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*106*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-18.0

19F0377-13 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/26/2019 14:15

Instrument: NT3 Analyst: PKC — Analyzed: 06/27/2019 19:29

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-13 D

Preparation Batch: BHF0698 — Sample Size: 4.977 g (wet) — Dry Weight:4.19 g

Prepared: 27-Jun-2019 — Final Volume: 5 mL — % Solids: 84.18

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	6910	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*95.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

FMW-03-18.0

19F0377-13 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/26/2019 14:15
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 04:17

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0377-13 A 01
Preparation Batch: BHF0697 — Sample Size: 10.06 g (wet) — Dry Weight:8.47 g
Prepared: 28-Jun-2019 — Final Volume: 1 mL — % Solids: 84.18

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.90	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	11.8	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*84.6*	*%*	

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Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0698 - EPA 5035 (Methanol Extraction)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0698-BLK1)				Prepared: 27-Jun-2019 Analyzed: 27-Jun-2019 11:57						
Gasoline Range Organics (Tol-Nap)	ND	5000	ug/kg							U
Surrogate: Toluene-d8	5.04		ug/kg	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08		ug/kg	*5.00*		*102*	*78-123*			
LCS (BHF0698-BS1)				Prepared: 27-Jun-2019 Analyzed: 27-Jun-2019 11:03						
Gasoline Range Organics (Tol-Nap)	44700	5000	ug/kg	50000		89.4	70-121			
Surrogate: Toluene-d8	5.14		ug/kg	*5.00*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.14		ug/kg	*5.00*		*103*	*78-123*			
LCS Dup (BHF0698-BSD1)				Prepared: 27-Jun-2019 Analyzed: 27-Jun-2019 11:30						
Gasoline Range Organics (Tol-Nap)	46200	5000	ug/kg	50000		92.4	70-121	3.35	30	
Surrogate: Toluene-d8	5.07		ug/kg	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.97		ug/kg	*5.00*		*99.4*	*78-123*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0741-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Chloromethane	ND	0.26	1.00	ug/kg							U
Vinyl Chloride	ND	0.24	1.00	ug/kg							U
Bromomethane	ND	0.19	1.00	ug/kg							U
Chloroethane	ND	0.46	1.00	ug/kg							U
Trichlorofluoromethane	ND	0.27	1.00	ug/kg							U
Acrolein	ND	3.81	5.00	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.29	2.00	ug/kg							U
Acetone	ND	0.48	5.00	ug/kg							U
1,1-Dichloroethene	ND	0.34	1.00	ug/kg							U
Bromoethane	ND	0.44	2.00	ug/kg							U
Iodomethane	ND	0.22	1.00	ug/kg							U
Methylene Chloride	1.07	0.64	2.00	ug/kg							J
Acrylonitrile	ND	1.03	5.00	ug/kg							U
Carbon Disulfide	ND	0.56	1.00	ug/kg							U
trans-1,2-Dichloroethene	ND	0.27	1.00	ug/kg							U
Vinyl Acetate	ND	0.38	5.00	ug/kg							U
1,1-Dichloroethane	ND	0.20	1.00	ug/kg							U
2-Butanone	ND	0.51	5.00	ug/kg							U
2,2-Dichloropropane	ND	0.29	1.00	ug/kg							U
cis-1,2-Dichloroethene	ND	0.24	1.00	ug/kg							U
Chloroform	ND	0.23	1.00	ug/kg							U
Bromochloromethane	ND	0.32	1.00	ug/kg							U
1,1,1-Trichloroethane	ND	0.23	1.00	ug/kg							U
1,1-Dichloropropene	ND	0.31	1.00	ug/kg							U
Carbon tetrachloride	ND	0.21	1.00	ug/kg							U
1,2-Dichloroethane	ND	0.19	1.00	ug/kg							U
Benzene	ND	0.30	1.00	ug/kg							U
Trichloroethene	ND	0.21	1.00	ug/kg							U
1,2-Dichloropropane	ND	0.16	1.00	ug/kg							U
Bromodichloromethane	ND	0.25	1.00	ug/kg							U
Dibromomethane	ND	0.15	1.00	ug/kg							U
2-Chloroethyl vinyl ether	ND	0.28	5.00	ug/kg							U
4-Methyl-2-Pentanone	ND	0.42	5.00	ug/kg							U
cis-1,3-Dichloropropene	ND	0.23	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0741-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
trans-1,3-Dichloropropene	ND	0.22	1.00	ug/kg							U
2-Hexanone	ND	0.44	5.00	ug/kg							U
1,1,2-Trichloroethane	ND	0.29	1.00	ug/kg							U
1,3-Dichloropropane	ND	0.21	1.00	ug/kg							U
Tetrachloroethene	ND	0.26	1.00	ug/kg							U
Dibromochloromethane	ND	0.27	1.00	ug/kg							U
1,2-Dibromoethane	ND	0.18	1.00	ug/kg							U
Chlorobenzene	ND	0.22	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	0.23	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Xylenes, total	ND	0.62	2.00	ug/kg							U
Styrene	ND	0.14	1.00	ug/kg							U
Bromoform	ND	0.30	1.00	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	0.25	1.00	ug/kg							U
1,2,3-Trichloropropane	ND	0.52	2.00	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	0.44	5.00	ug/kg							U
n-Propylbenzene	ND	0.27	1.00	ug/kg							U
Bromobenzene	ND	0.15	1.00	ug/kg							U
Isopropyl Benzene	ND	0.23	1.00	ug/kg							U
2-Chlorotoluene	ND	0.30	1.00	ug/kg							U
4-Chlorotoluene	ND	0.28	1.00	ug/kg							U
t-Butylbenzene	ND	0.31	1.00	ug/kg							U
1,3,5-Trimethylbenzene	ND	0.25	1.00	ug/kg							U
1,2,4-Trimethylbenzene	ND	0.23	1.00	ug/kg							U
s-Butylbenzene	ND	0.24	1.00	ug/kg							U
4-Isopropyl Toluene	ND	0.24	1.00	ug/kg							U
1,3-Dichlorobenzene	0.25	0.23	1.00	ug/kg							J
1,4-Dichlorobenzene	0.33	0.23	1.00	ug/kg							J
n-Butylbenzene	ND	0.26	1.00	ug/kg							U
1,2-Dichlorobenzene	0.33	0.29	1.00	ug/kg							J
1,2-Dibromo-3-chloropropane	ND	0.59	5.00	ug/kg							U
1,2,4-Trichlorobenzene	0.89	0.33	5.00	ug/kg							J
Hexachloro-1,3-Butadiene	0.50	0.41	5.00	ug/kg							J

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Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0741-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Naphthalene	1.30	0.43	5.00	ug/kg							J
1,2,3-Trichlorobenzene	1.16	0.31	5.00	ug/kg							J
Dichlorodifluoromethane	ND	0.21	1.00	ug/kg							U
Methyl tert-butyl Ether	ND	0.23	1.00	ug/kg							U
2-Pentanone	ND	5.00	5.00	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	51.3			ug/kg	*50.0*		*103*	*80-149*			
Surrogate: Toluene-d8	50.3			ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	51.5			ug/kg	*50.0*		*103*	*80-120*			
LCS (BHF0741-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Chloromethane	50.3			ug/kg	50.0		101	64-132			
Vinyl Chloride	53.2			ug/kg	50.0		106	74-135			
Bromomethane	54.5			ug/kg	50.0		109	53-144			
Chloroethane	40.6			ug/kg	50.0		81.2	55-149			
Trichlorofluoromethane	60.3			ug/kg	50.0		121	61-164			Q
Acrolein	216			ug/kg	250		86.4	59-140			
1,1,2-Trichloro-1,2,2-Trifluoroethane	51.1			ug/kg	50.0		102	74-143			
Acetone	239			ug/kg	250		95.7	48-137			
1,1-Dichloroethene	50.7			ug/kg	50.0		101	77-134			
Bromoethane	51.8			ug/kg	50.0		104	65-145			
Iodomethane	48.9			ug/kg	50.0		97.7	31-162			
Methylene Chloride	49.0			ug/kg	50.0		98.0	69-129			
Acrylonitrile	49.1			ug/kg	50.0		98.2	69-134			
Carbon Disulfide	51.2			ug/kg	50.0		102	71-137			
trans-1,2-Dichloroethene	50.4			ug/kg	50.0		101	79-130			
Vinyl Acetate	49.7			ug/kg	50.0		99.5	66-141			
1,1-Dichloroethane	51.3			ug/kg	50.0		103	80-126			
2-Butanone	252			ug/kg	250		101	70-132			
2,2-Dichloropropane	51.2			ug/kg	50.0		102	77-138			
cis-1,2-Dichloroethene	52.9			ug/kg	50.0		106	80-125			
Chloroform	51.0			ug/kg	50.0		102	80-126			
Bromochloromethane	50.3			ug/kg	50.0		101	80-129			
1,1,1-Trichloroethane	51.0			ug/kg	50.0		102	78-133			
1,1-Dichloropropene	50.7			ug/kg	50.0		101	79-120			

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Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0741-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Carbon tetrachloride	48.9			ug/kg	50.0		97.8	71-129			
1,2-Dichloroethane	45.9			ug/kg	50.0		91.9	76-120			
Benzene	49.7			ug/kg	50.0		99.3	80-120			
Trichloroethene	48.5			ug/kg	50.0		97.1	80-120			
1,2-Dichloropropane	48.6			ug/kg	50.0		97.1	79-120			
Bromodichloromethane	47.9			ug/kg	50.0		95.8	80-122			
Dibromomethane	48.4			ug/kg	50.0		96.9	80-120			
2-Chloroethyl vinyl ether	47.7			ug/kg	50.0		95.3	51-129			
4-Methyl-2-Pentanone	240			ug/kg	250		96.0	73-121			
cis-1,3-Dichloropropene	50.3			ug/kg	50.0		101	80-120			
Toluene	48.4			ug/kg	50.0		96.8	75-120			
trans-1,3-Dichloropropene	49.9			ug/kg	50.0		99.8	80-124			
2-Hexanone	234			ug/kg	250		93.5	68-122			
1,1,2-Trichloroethane	47.5			ug/kg	50.0		95.0	79-120			
1,3-Dichloropropane	47.3			ug/kg	50.0		94.6	78-120			
Tetrachloroethene	46.0			ug/kg	50.0		92.0	74-124			
Dibromochloromethane	48.1			ug/kg	50.0		96.3	74-125			
1,2-Dibromoethane	48.3			ug/kg	50.0		96.7	80-120			
Chlorobenzene	47.1			ug/kg	50.0		94.3	78-120			
Ethylbenzene	47.1			ug/kg	50.0		94.2	80-125			
1,1,1,2-Tetrachloroethane	48.3			ug/kg	50.0		96.6	80-120			
m,p-Xylene	94.7			ug/kg	100		94.7	76-121			
o-Xylene	48.2			ug/kg	50.0		96.3	67-132			
Xylenes, total	143			ug/kg	150		95.2	67-132			
Styrene	48.9			ug/kg	50.0		97.8	80-120			
Bromoform	47.8			ug/kg	50.0		95.6	64-128			
1,1,2,2-Tetrachloroethane	47.9			ug/kg	50.0		95.7	74-120			
1,2,3-Trichloropropane	47.8			ug/kg	50.0		95.5	73-120			
trans-1,4-Dichloro 2-Butene	47.8			ug/kg	50.0		95.5	65-125			
n-Propylbenzene	49.1			ug/kg	50.0		98.1	72-124			
Bromobenzene	48.3			ug/kg	50.0		96.6	76-120			
Isopropyl Benzene	50.0			ug/kg	50.0		100	74-121			
2-Chlorotoluene	48.3			ug/kg	50.0		96.5	75-120			
4-Chlorotoluene	48.0			ug/kg	50.0		96.0	69-124			
t-Butylbenzene	48.8			ug/kg	50.0		97.5	72-122			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0741-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
1,3,5-Trimethylbenzene	49.4			ug/kg	50.0		98.8	74-122			
1,2,4-Trimethylbenzene	49.1			ug/kg	50.0		98.1	75-121			
s-Butylbenzene	49.1			ug/kg	50.0		98.2	70-128			
4-Isopropyl Toluene	49.7			ug/kg	50.0		99.5	75-125			
1,3-Dichlorobenzene	47.1			ug/kg	50.0		94.2	75-120			
1,4-Dichlorobenzene	46.6			ug/kg	50.0		93.2	73-120			
n-Butylbenzene	48.2			ug/kg	50.0		96.5	73-130			
1,2-Dichlorobenzene	46.4			ug/kg	50.0		92.8	76-120			
1,2-Dibromo-3-chloropropane	47.0			ug/kg	50.0		94.0	65-126			
1,2,4-Trichlorobenzene	47.9			ug/kg	50.0		95.7	66-140			
Hexachloro-1,3-Butadiene	47.6			ug/kg	50.0		95.2	67-133			
Naphthalene	49.2			ug/kg	50.0		98.4	69-125			
1,2,3-Trichlorobenzene	47.5			ug/kg	50.0		95.0	68-132			
Dichlorodifluoromethane	54.3			ug/kg	50.0		109	67-142			
Methyl tert-butyl Ether	50.1			ug/kg	50.0		100	79-127			
2-Pentanone	242			ug/kg	250		96.9	77-120			
Surrogate: 1,2-Dichloroethane-d4	52.0			ug/kg	*50.0*		*104*	*80-149*			
Surrogate: Toluene-d8	51.2			ug/kg	*50.0*		*102*	*77-120*			
Surrogate: 4-Bromofluorobenzene	49.5			ug/kg	*50.0*		*99.1*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.5			ug/kg	*50.0*		*101*	*80-120*			
LCS Dup (BHF0741-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Chloromethane	55.9			ug/kg	50.0		112	64-132	10.50	30	
Vinyl Chloride	57.6			ug/kg	50.0		115	74-135	7.87	30	
Bromomethane	57.9			ug/kg	50.0		116	53-144	6.05	30	
Chloroethane	57.0			ug/kg	50.0		114	55-149	33.70	30	*
Trichlorofluoromethane	55.0			ug/kg	50.0		110	61-164	9.28	30	Q
Acrolein	244			ug/kg	250		97.6	59-140	12.20	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	56.0			ug/kg	50.0		112	74-143	9.09	30	
Acetone	254			ug/kg	250		102	48-137	6.02	30	
1,1-Dichloroethene	54.3			ug/kg	50.0		109	77-134	6.90	30	
Bromoethane	52.8			ug/kg	50.0		106	65-145	1.92	30	
Iodomethane	52.6			ug/kg	50.0		105	31-162	7.29	30	
Methylene Chloride	51.0			ug/kg	50.0		102	69-129	4.03	30	
Acrylonitrile	50.6			ug/kg	50.0		101	69-134	3.05	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0741-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Carbon Disulfide	56.3			ug/kg	50.0		113	71-137	9.48	30	
trans-1,2-Dichloroethene	54.0			ug/kg	50.0		108	79-130	6.88	30	
Vinyl Acetate	52.1			ug/kg	50.0		104	66-141	4.62	30	
1,1-Dichloroethane	53.9			ug/kg	50.0		108	80-126	5.05	30	
2-Butanone	291			ug/kg	250		116	70-132	14.40	30	
2,2-Dichloropropane	55.4			ug/kg	50.0		111	77-138	7.84	30	
cis-1,2-Dichloroethene	53.5			ug/kg	50.0		107	80-125	1.09	30	
Chloroform	52.4			ug/kg	50.0		105	80-126	2.75	30	
Bromochloromethane	50.4			ug/kg	50.0		101	80-129	0.21	30	
1,1,1-Trichloroethane	53.9			ug/kg	50.0		108	78-133	5.71	30	
1,1-Dichloropropene	55.3			ug/kg	50.0		111	79-120	8.78	30	
Carbon tetrachloride	51.7			ug/kg	50.0		103	71-129	5.56	30	
1,2-Dichloroethane	46.8			ug/kg	50.0		93.6	76-120	1.87	30	
Benzene	51.7			ug/kg	50.0		103	80-120	3.93	30	
Trichloroethene	51.1			ug/kg	50.0		102	80-120	5.12	30	
1,2-Dichloropropane	49.8			ug/kg	50.0		99.6	79-120	2.52	30	
Bromodichloromethane	49.5			ug/kg	50.0		99.0	80-122	3.31	30	
Dibromomethane	49.8			ug/kg	50.0		99.6	80-120	2.74	30	
2-Chloroethyl vinyl ether	48.4			ug/kg	50.0		96.8	51-129	1.55	30	
4-Methyl-2-Pentanone	255			ug/kg	250		102	73-121	6.14	30	
cis-1,3-Dichloropropene	51.5			ug/kg	50.0		103	80-120	2.47	30	
Toluene	50.8			ug/kg	50.0		102	75-120	4.78	30	
trans-1,3-Dichloropropene	50.6			ug/kg	50.0		101	80-124	1.42	30	
2-Hexanone	247			ug/kg	250		98.7	68-122	5.39	30	
1,1,2-Trichloroethane	47.2			ug/kg	50.0		94.5	79-120	0.53	30	
1,3-Dichloropropane	47.7			ug/kg	50.0		95.5	78-120	0.89	30	
Tetrachloroethene	51.4			ug/kg	50.0		103	74-124	11.10	30	
Dibromochloromethane	49.5			ug/kg	50.0		98.9	74-125	2.69	30	
1,2-Dibromoethane	49.2			ug/kg	50.0		98.3	80-120	1.70	30	
Chlorobenzene	49.6			ug/kg	50.0		99.2	78-120	5.12	30	
Ethylbenzene	50.2			ug/kg	50.0		100	80-125	6.43	30	
1,1,1,2-Tetrachloroethane	49.4			ug/kg	50.0		98.7	80-120	2.14	30	
m,p-Xylene	101			ug/kg	100		101	76-121	6.69	30	
o-Xylene	49.8			ug/kg	50.0		99.6	67-132	3.34	30	
Xylenes, total	151			ug/kg	150		101	67-132	5.57	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0741-BSD1)	Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56										
Styrene	50.4			ug/kg	50.0		101	80-120	2.89	30	
Bromoform	48.6			ug/kg	50.0		97.1	64-128	1.57	30	
1,1,2,2-Tetrachloroethane	49.1			ug/kg	50.0		98.3	74-120	2.61	30	
1,2,3-Trichloropropane	52.3			ug/kg	50.0		105	73-120	9.12	30	
trans-1,4-Dichloro 2-Butene	53.0			ug/kg	50.0		106	65-125	10.30	30	
n-Propylbenzene	52.9			ug/kg	50.0		106	72-124	7.56	30	
Bromobenzene	50.0			ug/kg	50.0		100	76-120	3.50	30	
Isopropyl Benzene	53.3			ug/kg	50.0		107	74-121	6.43	30	
2-Chlorotoluene	51.1			ug/kg	50.0		102	75-120	5.75	30	
4-Chlorotoluene	51.6			ug/kg	50.0		103	69-124	7.30	30	
t-Butylbenzene	51.6			ug/kg	50.0		103	72-122	5.61	30	
1,3,5-Trimethylbenzene	52.0			ug/kg	50.0		104	74-122	5.08	30	
1,2,4-Trimethylbenzene	52.2			ug/kg	50.0		104	75-121	6.24	30	
s-Butylbenzene	52.2			ug/kg	50.0		104	70-128	6.05	30	
4-Isopropyl Toluene	53.1			ug/kg	50.0		106	75-125	6.64	30	
1,3-Dichlorobenzene	50.5			ug/kg	50.0		101	75-120	6.99	30	
1,4-Dichlorobenzene	49.7			ug/kg	50.0		99.4	73-120	6.47	30	
n-Butylbenzene	52.9			ug/kg	50.0		106	73-130	9.15	30	
1,2-Dichlorobenzene	49.1			ug/kg	50.0		98.1	76-120	5.54	30	
1,2-Dibromo-3-chloropropane	50.2			ug/kg	50.0		100	65-126	6.69	30	
1,2,4-Trichlorobenzene	50.7			ug/kg	50.0		101	66-140	5.78	30	
Hexachloro-1,3-Butadiene	50.1			ug/kg	50.0		100	67-133	5.04	30	
Naphthalene	51.0			ug/kg	50.0		102	69-125	3.59	30	
1,2,3-Trichlorobenzene	49.5			ug/kg	50.0		99.0	68-132	4.12	30	
Dichlorodifluoromethane	55.6			ug/kg	50.0		111	67-142	2.29	30	
Methyl tert-butyl Ether	51.5			ug/kg	50.0		103	79-127	2.86	30	
2-Pentanone	254			ug/kg	250		101	77-120	4.67	30	
Surrogate: 1,2-Dichloroethane-d4	52.9			ug/kg	*50.0*		*106*	*80-149*			
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene	49.7			ug/kg	*50.0*		*99.4*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.2			ug/kg	*50.0*		*100*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Benzene	ND	8.20	50.0	ug/kg							U
Toluene	ND	8.60	50.0	ug/kg							U
Ethylbenzene	ND	13.6	50.0	ug/kg							U
m,p-Xylene	ND	27.9	100	ug/kg							U
o-Xylene	ND	11.4	50.0	ug/kg							U
Surrogate: Toluene-d8	50.3			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Benzene	2480			ug/kg	2500		99.3	80-120			
Toluene	2420			ug/kg	2500		96.8	77-120			
Ethylbenzene	2360			ug/kg	2500		94.2	79-122			
m,p-Xylene	4730			ug/kg	5000		94.7	81-122			
o-Xylene	2410			ug/kg	2500		96.3	79-120			
Surrogate: Toluene-d8	51.2			ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.5			ug/kg	*50.0*		*99.1*	*80-120*			
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Benzene	2580			ug/kg	2500		103	80-120	3.93	30	
Toluene	2540			ug/kg	2500		102	77-120	4.78	30	
Ethylbenzene	2510			ug/kg	2500		100	79-122	6.43	30	
m,p-Xylene	5060			ug/kg	5000		101	81-122	6.69	30	
o-Xylene	2490			ug/kg	2500		99.6	79-120	3.34	30	
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.7			ug/kg	*50.0*		*99.4*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Volatile Organic Compounds - Quality Control

Batch BHF0745 - EPA 5035 (Methanol Extraction)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0745-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:59						
Gasoline Range Organics (Tol-Nap)	ND	5000	ug/kg							U
Surrogate: Toluene-d8	4.96		ug/kg	*5.00*		*99.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08		ug/kg	*5.00*		*102*	*78-123*			
LCS (BHF0745-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:06						
Gasoline Range Organics (Tol-Nap)	45300	5000	ug/kg	50000		90.6	70-121			
Surrogate: Toluene-d8	4.96		ug/kg	*5.00*		*99.3*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08		ug/kg	*5.00*		*102*	*78-123*			
LCS Dup (BHF0745-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:33						
Gasoline Range Organics (Tol-Nap)	44700	5000	ug/kg	50000		89.3	70-121	1.38	30	
Surrogate: Toluene-d8	4.89		ug/kg	*5.00*		*97.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08		ug/kg	*5.00*		*102*	*78-123*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Petroleum Hydrocarbons - Quality Control

Batch BHF0697 - EPA 3546 (Microwave)

Instrument: FID4 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0697-BLK1)				Prepared: 28-Jun-2019 Analyzed: 03-Jul-2019 00:10						
Diesel Range Organics (C12-C24)	ND	5.00	mg/kg							U
Motor Oil Range Organics (C24-C38)	ND	10.0	mg/kg							U
Surrogate: o-Terphenyl	10.3		mg/kg	*11.3*		*91.7*	*50-150*			
LCS (BHF0697-BS1)				Prepared: 28-Jun-2019 Analyzed: 03-Jul-2019 00:30						
Diesel Range Organics (C12-C24)	142	5.00	mg/kg	150		94.9	63-120			
Surrogate: o-Terphenyl	10.7		mg/kg	*11.3*		*95.3*	*50-150*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	WADOE,DoD-ELAP,NELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	DoD-ELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-Chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

NWTPH-Dx in Solid

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Solid

Gasoline Range Organics (Tol-Nap)	DoD-ELAP
Gasoline Range Organics (2MP-TMB)	DoD-ELAP
Gasoline Range Organics (Tol-C12)	DoD-ELAP
Gasoline Range Organics (C6-C10)	DoD-ELAP
Gasoline Range Organics (C5-C12)	DoD-ELAP
4-Bromofluorobenzene (field spiked)	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	08-Jul-2019 13:16

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

17 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19F0377	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day
ARI Client Company: Farallon	Phone: 425-394-4146
Client Contact: Pete Kingston	
Client Project Name: Emerald Gateway	
Client Project #:	Samplers: YP/CB

Page: 1 of 2	
Date: 6/26/19	Ice Present? Yes
No. of Coolers: 1	Cooler Temps: 5.8°C

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-DX	GRO NWTPH-Gx	BTEX 8260C	VOC's 8260C					Notes/Comments
FMW-01-2.5	6/26/19	0909	S	6									
FMW-01-5.0	"	1030	"	6	X	X	X						
FMW-01-10.0		1035		6	X	X	X						
FMW-01-14.0		1050		6	X	X	X						
FMW-01-19.0		1100		6	X	X	X						
FMW-02-2.5		1045		1									
FMW-02-6.0		1250		1	X								
FMW-02-11.0		1255		1	X								
FMW-02-17.0		1300		1									
FMW-03-2.5	↓	1205	↓	6									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0377	Turn-around Requested: 5 day
ARI Client Company: Farallon	Phone: 425-394-4146
Client Contact: Pete Kingston	
Client Project Name: Emerald Gateway	
Client Project #: 1071-026	Samplers: YP/CB

Page: 2	of 2
Date: 6/26/19	Ice Present? Yes
No. of Coolers: 1	Cooler Temps: 5.8°C

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	BTEX 8260C	VOCs 8260C					Notes/Comments
FMW-03-6.0	6/26/19	1400	S	6	X	X		X					
FMW-03-13.0	"	1410	"	6	X	X		X					
FMW-03-18.0	"	1415	"	6	X	X		X					
~~FMW~~ F-25-2.5	"	1450	"	6									
F-26-2.5	"	1623	S	1									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Waltz	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/26/19 1650	Date & Time: 06/26/19 1650	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

RE: 19F0377 Emerald Gateway Report and EDD

Yusuf Pehlivan <ypehlivan@farallonconsulting.com>

Tue 7/16/2019 8:36 AM

To: Amanda Volgardsen <amanda.volgardsen@arilabs.com>;

Cc: Peter Kingston <pkingston@farallonconsulting.com>;

Hi Amanda,

Can you please analyze sample FMW-01-10.0, collected on 6/26 for VOCs by 8260C? We would like to run the analysis even though it is outside of the hold time.

Thanks

Yusuf Pehlivan, L.G., Project Geologist
D: 425-394-4415 | C: 425-606-7051 | Bio | LinkedIn

From: Amanda Volgardsen <amanda.volgardsen@arilabs.com>
Sent: Monday, July 8, 2019 1:26 PM
To: Peter Kingston <pkingston@farallonconsulting.com>; Yusuf Pehlivan <ypehlivan@farallonconsulting.com>
Subject: 19F0377 Emerald Gateway Report and EDD

Hello,

Attached is the final data for 19F0377. Please let me know if you have any questions.

Regards,
Amanda Volgardsen
Analytical Resources, Inc.
Project Manager

206-695-6220

https://www.arilabs.com

Version changes coming this summer to SW-846 8260 and 8270 organic *and* 6010 and 6020 metals *analysis methods.*

"Humor is the universal solvent against the abrasive elements of life." - Alan Simpson

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FMW-01-10.0	19F0377-03	Solid	26-Jun-2019 10:35	26-Jun-2019 16:50

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 26, 2019 under ARI work order 19F0377. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

Samples FMW-01-10.0 and FMW-01-14.0 were reanalyzed at dilutions due to the gas concentration exceeding the upper calibration range. The initial analyses have been flagged with "E" qualifiers. No further corrective action was taken.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits with the exception of surrgates associated with sample FMW-01-14.0
which are outside of the control limits for the original analysis. The sample was re-analyzed at a dilution with surrogate recoveries in control.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements, with the exception the ICV for NT5 on 6/28/19 which is outside of control limits high for Trichlorofluoromethane. The samples are non-detect for this compound. Associated QC has been flagged with "Q" qualifiers. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCSD has high RPD for Chloroethane. All other LCS/LCSD percent recoveries and RPD were within control limits. No corrective action was taken.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

19F0377

Client: Farallon Consulting, LLC
Project Manager: Amanda Volgardsen
Project: Emerald Gateway Site 1071-026
Project Number: Emerald Gateway Site 1071-026

Report To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone: (425) 394-4415
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due: 05-Jul-2019 18:00 (5 day TAT)
Received By: Jacob Walter
Date Received: 26-Jun-2019 16:50
Logged In By: Erin I. Salle
Date Logged In: 27-Jun-2019 08:01

Samples Received at: **5.8°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-01 FMW-01-2.5 [Solid] Sampled 26-Jun-2019 09:09 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 09:09	
19F0377-02 FMW-01-5.0 [Solid] Sampled 26-Jun-2019 10:30 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:30	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:30	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:30	
19F0377-03 FMW-01-10.0 [Solid] Sampled 26-Jun-2019 10:35 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:35	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:35	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:35	
19F0377-04 FMW-01-14.0 [Solid] Sampled 26-Jun-2019 10:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 10:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 10:50	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 10:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-05 FMW-01-19.0 [Solid] Sampled 26-Jun-2019 11:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 11:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 11:00	
8260C VOA	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 11:00	
19F0377-06 FMW-02-2.5 [Solid] Sampled 26-Jun-2019 10:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 10:45	
19F0377-07 FMW-02-6.0 [Solid] Sampled 26-Jun-2019 12:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:50	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:50	
19F0377-08 FMW-02-11.0 [Solid] Sampled 26-Jun-2019 12:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 12:55	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:55	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:55	
19F0377-09 FMW-02-17.0 [Solid] Sampled 26-Jun-2019 13:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 13:00	
19F0377-10 FMW-03-2.5 [Solid] Sampled 26-Jun-2019 12:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 12:05	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 12:05	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 12:05	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-11 FMW-03-6.0 [Solid] Sampled 26-Jun-2019 14:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:00	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:00	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:00	
19F0377-12 FMW-03-13.0 [Solid] Sampled 26-Jun-2019 14:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:10	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:10	
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:10	
19F0377-13 FMW-03-18.0 [Solid] Sampled 26-Jun-2019 14:15 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:15	
Solids, Total, Dried at 103 -105 °C, Soli	05-Jul-2019 15:00	5	24-Jul-2019 14:15	
TPH NW (Extractables) low level	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C Gas (NWTPH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
8260C VOA Solid (MeOH)	05-Jul-2019 15:00	5	10-Jul-2019 14:15	
19F0377-14 F-25-2.5 [Solid] Sampled 26-Jun-2019 14:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
Freeze and Hold - VOC	05-Jul-2019 15:00	5	25-Jun-2020 14:50	
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 14:50	

WORK ORDER

19F0377

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** Emerald Gateway Site 1071-026

Analysis	Due	TAT	Expires	Comments
19F0377-15 F-26-2.5 [Solid] Sampled 26-Jun-2019 16:23 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Freeze and Hold Extractions Container	05-Jul-2019 15:00	5	25-Jun-2020 16:23	

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon — Project Name: Emerald Gateway

COC No(s): NA — Delivered by: Fed-Ex UPS Courier Hand Delivered Other: ____

Assigned ARI Job No: 19F0377 — Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1650 — 5.8°C

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: DOO 5206

Cooler Accepted by: JJW — Date: 06/26/19 — Time: 1650

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ...	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: ____		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES (GS 6/27/19)	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	____	

Were the sample(s) split by ARI? NA YES — Date/Time: ____ — Equipment: ____ — Split by: ____

Samples Logged by: [signature] — Date: 6/27/19 — Time: 0801 — Labels checked by: GS

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC
FMW-01-	FMW-01-19.0		

Additional Notes, Discrepancies, & Resolutions:

By: [signature] Date: 6/27/19

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0377-03 E

Preparation Batch: BHF0743 — Sample Size: 5.015 g (wet) — Dry Weight:3.79 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 75.62

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.42	1.64	ND	ug/kg	U
Vinyl Chloride	75-01-4	1	0.26	1.64	ND	ug/kg	U
Bromomethane	74-83-9	1	0.33	1.64	ND	ug/kg	U
Chloroethane	75-00-3	1	0.61	1.64	ND	ug/kg	U
Trichlorofluoromethane	75-69-4	1	0.39	1.64	ND	ug/kg	U
Acrolein	107-02-8	1	1.87	8.20	ND	ug/kg	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.27	3.28	ND	ug/kg	U
Acetone	67-64-1	1	1.48	8.20	ND	ug/kg	U
1,1-Dichloroethene	75-35-4	1	0.26	1.64	ND	ug/kg	U
Bromoethane	74-96-4	1	0.26	3.28	ND	ug/kg	U
Iodomethane	74-88-4	1	0.95	1.64	ND	ug/kg	U
Methylene Chloride	75-09-2	1	0.31	3.28	**2.04**	ug/kg	J, D
Acrylonitrile	107-13-1	1	0.48	8.20	ND	ug/kg	U
Carbon Disulfide	75-15-0	1	0.51	1.64	ND	ug/kg	U
trans-1,2-Dichloroethene	156-60-5	1	0.37	1.64	ND	ug/kg	U
Vinyl Acetate	108-05-4	1	0.61	8.20	ND	ug/kg	U
1,1-Dichloroethane	75-34-3	1	0.27	1.64	ND	ug/kg	U
2-Butanone	78-93-3	1	1.35	8.20	ND	ug/kg	U
2,2-Dichloropropane	594-20-7	1	0.34	1.64	ND	ug/kg	U
cis-1,2-Dichloroethene	156-59-2	1	0.30	1.64	ND	ug/kg	U
Chloroform	67-66-3	1	0.35	1.64	ND	ug/kg	U
Bromochloromethane	74-97-5	1	0.38	1.64	ND	ug/kg	U
1,1,1-Trichloroethane	71-55-6	1	0.33	1.64	ND	ug/kg	U
1,1-Dichloropropene	563-58-6	1	0.32	1.64	ND	ug/kg	U
Carbon tetrachloride	56-23-5	1	0.43	1.64	ND	ug/kg	U
1,2-Dichloroethane	107-06-2	1	0.32	1.64	ND	ug/kg	U
Benzene	71-43-2	1000	269	1640	ND	ug/kg	U
Trichloroethene	79-01-6	1	0.30	1.64	ND	ug/kg	U
1,2-Dichloropropane	78-87-5	1	0.21	1.64	ND	ug/kg	U
Bromodichloromethane	75-27-4	1	0.22	1.64	ND	ug/kg	U
Dibromomethane	74-95-3	1	0.40	1.64	ND	ug/kg	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	8.20	ND	ug/kg	U
4-Methyl-2-Pentanone	108-10-1	1	1.25	8.20	ND	ug/kg	U
cis-1,3-Dichloropropene	10061-01-5	1	0.31	1.64	ND	ug/kg	U
Toluene	108-88-3	1000	282	1640	ND	ug/kg	U
trans-1,3-Dichloropropene	10061-02-6	1	0.32	1.64	ND	ug/kg	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	1.96	8.20	ND	ug/kg	U
1,1,2-Trichloroethane	79-00-5	1	0.25	1.64	ND	ug/kg	U
1,3-Dichloropropane	142-28-9	1	0.25	1.64	ND	ug/kg	U
Tetrachloroethene	127-18-4	1	0.45	1.64	ND	ug/kg	U
Dibromochloromethane	124-48-1	1	0.29	1.64	ND	ug/kg	U
1,2-Dibromoethane	106-93-4	1	0.41	1.64	ND	ug/kg	U
Chlorobenzene	108-90-7	1	0.46	1.64	ND	ug/kg	U
Ethylbenzene	100-41-4	1000	446	1640	**3500**	ug/kg	D
1,1,1,2-Tetrachloroethane	630-20-6	1	0.17	1.64	ND	ug/kg	U
m,p-Xylene	179601-23-1	1000	916	3280	**13400**	ug/kg	D
o-Xylene	95-47-6	1000	374	1640	ND	ug/kg	U
Xylenes, total	1330-20-7	1	1.27	3.28	**13.4**	ug/kg	D
Styrene	100-42-5	1	0.45	1.64	ND	ug/kg	U
Bromoform	75-25-2	1	0.43	1.64	ND	ug/kg	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.35	1.64	ND	ug/kg	U
1,2,3-Trichloropropane	96-18-4	1	0.46	3.28	ND	ug/kg	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.84	8.20	ND	ug/kg	U
n-Propylbenzene	103-65-1	1	0.63	1.64	**4.22**	ug/kg	D
Bromobenzene	108-86-1	1	0.74	1.64	ND	ug/kg	U
Isopropyl Benzene	98-82-8	1	0.55	1.64	**2.17**	ug/kg	D
2-Chlorotoluene	95-49-8	1	0.65	1.64	ND	ug/kg	U
4-Chlorotoluene	106-43-4	1	0.74	1.64	ND	ug/kg	U
t-Butylbenzene	98-06-6	1	0.63	1.64	ND	ug/kg	U
1,3,5-Trimethylbenzene	108-67-8	1	0.62	1.64	**11.9**	ug/kg	D
1,2,4-Trimethylbenzene	95-63-6	1	0.74	1.64	**34.2**	ug/kg	D
s-Butylbenzene	135-98-8	1	0.70	1.64	**2.14**	ug/kg	D
4-Isopropyl Toluene	99-87-6	1	0.76	1.64	**3.95**	ug/kg	D
1,3-Dichlorobenzene	541-73-1	1	0.76	1.64	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	0.83	1.64	ND	ug/kg	U
n-Butylbenzene	104-51-8	1	0.94	1.64	**3.75**	ug/kg	D
1,2-Dichlorobenzene	95-50-1	1	0.80	1.64	ND	ug/kg	U
1,2-Dibromo-3-Chloropropane	96-12-8	1	0.80	8.20	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	1.69	8.20	ND	ug/kg	U
Hexachloro-1,3-Butadiene	87-68-3	1	1.36	8.20	ND	ug/kg	U
Naphthalene	91-20-3	1	2.52	8.20	**5.95**	ug/kg	J, D
1,2,3-Trichlorobenzene	87-61-6	1	1.96	8.20	ND	ug/kg	U
Methyl tert-butyl Ether	1634-04-4	1	0.38	1.64	ND	ug/kg	U
2-Pentanone	107-87-9	1	8.20	8.20	ND	ug/kg	U
Surrogate: 1,2-Dichloroethane-d4				*80-124 %*	*120*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

FMW-01-10.0

19F0377-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/26/2019 10:35

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 17:36

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Toluene-d8		*80-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*99.5*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*101*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Chloromethane	ND	12.7	50.0	ug/kg							U
Vinyl Chloride	ND	7.80	50.0	ug/kg							U
Bromomethane	ND	10.2	50.0	ug/kg							U
Chloroethane	ND	18.6	50.0	ug/kg							U
Trichlorofluoromethane	ND	12.0	50.0	ug/kg							U
Acrolein	ND	57.0	250	ug/kg							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	8.10	100	ug/kg							U
Acetone	ND	45.2	250	ug/kg							U
1,1-Dichloroethene	ND	7.90	50.0	ug/kg							U
Bromoethane	ND	8.00	100	ug/kg							U
Iodomethane	ND	28.8	50.0	ug/kg							U
Methylene Chloride	53.6	9.50	100	ug/kg							J
Acrylonitrile	ND	14.7	250	ug/kg							U
Carbon Disulfide	ND	15.4	50.0	ug/kg							U
trans-1,2-Dichloroethene	ND	11.2	50.0	ug/kg							U
Vinyl Acetate	ND	18.6	250	ug/kg							U
1,1-Dichloroethane	ND	8.20	50.0	ug/kg							U
2-Butanone	ND	41.1	250	ug/kg							U
2,2-Dichloropropane	ND	10.3	50.0	ug/kg							U
cis-1,2-Dichloroethene	ND	9.00	50.0	ug/kg							U
Chloroform	ND	10.8	50.0	ug/kg							U
Bromochloromethane	ND	11.7	50.0	ug/kg							U
1,1,1-Trichloroethane	ND	10.1	50.0	ug/kg							U
1,1-Dichloropropene	ND	9.70	50.0	ug/kg							U
Carbon tetrachloride	ND	13.0	50.0	ug/kg							U
1,2-Dichloroethane	ND	9.70	50.0	ug/kg							U
Benzene	ND	8.20	50.0	ug/kg							U
Trichloroethene	ND	9.00	50.0	ug/kg							U
1,2-Dichloropropane	ND	6.40	50.0	ug/kg							U
Bromodichloromethane	ND	6.70	50.0	ug/kg							U
Dibromomethane	ND	12.1	50.0	ug/kg							U
2-Chloroethyl vinyl ether	ND	7.50	250	ug/kg							U
4-Methyl-2-Pentanone	ND	38.0	250	ug/kg							U
cis-1,3-Dichloropropene	ND	9.40	50.0	ug/kg							U
Toluene	ND	8.60	50.0	ug/kg							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
trans-1,3-Dichloropropene	ND	9.60	50.0	ug/kg							U
2-Hexanone	ND	59.8	250	ug/kg							U
1,1,2-Trichloroethane	ND	7.70	50.0	ug/kg							U
1,3-Dichloropropane	ND	7.70	50.0	ug/kg							U
Tetrachloroethene	ND	13.8	50.0	ug/kg							U
Dibromochloromethane	ND	8.70	50.0	ug/kg							U
1,2-Dibromoethane	ND	12.5	50.0	ug/kg							U
Chlorobenzene	ND	14.1	50.0	ug/kg							U
Ethylbenzene	ND	13.6	50.0	ug/kg							U
1,1,1,2-Tetrachloroethane	ND	5.10	50.0	ug/kg							U
m,p-Xylene	ND	27.9	100	ug/kg							U
o-Xylene	ND	11.4	50.0	ug/kg							U
Xylenes, total	ND	38.7	100	ug/kg							U
Styrene	ND	13.8	50.0	ug/kg							U
Bromoform	ND	13.2	50.0	ug/kg							U
1,1,2,2-Tetrachloroethane	ND	10.7	50.0	ug/kg							U
1,2,3-Trichloropropane	ND	14.0	100	ug/kg							U
trans-1,4-Dichloro 2-Butene	ND	25.5	250	ug/kg							U
n-Propylbenzene	ND	19.3	50.0	ug/kg							U
Bromobenzene	ND	22.4	50.0	ug/kg							U
Isopropyl Benzene	ND	16.7	50.0	ug/kg							U
2-Chlorotoluene	ND	19.7	50.0	ug/kg							U
4-Chlorotoluene	ND	22.4	50.0	ug/kg							U
t-Butylbenzene	ND	19.2	50.0	ug/kg							U
1,3,5-Trimethylbenzene	ND	18.9	50.0	ug/kg							U
1,2,4-Trimethylbenzene	ND	22.7	50.0	ug/kg							U
s-Butylbenzene	ND	21.2	50.0	ug/kg							U
4-Isopropyl Toluene	ND	23.1	50.0	ug/kg							U
1,3-Dichlorobenzene	ND	23.3	50.0	ug/kg							U
1,4-Dichlorobenzene	ND	25.3	50.0	ug/kg							U
n-Butylbenzene	ND	28.6	50.0	ug/kg							U
1,2-Dichlorobenzene	ND	24.4	50.0	ug/kg							U
1,2-Dibromo-3-Chloropropane	ND	24.4	250	ug/kg							U
1,2,4-Trichlorobenzene	ND	51.5	250	ug/kg							U
Hexachloro-1,3-Butadiene	ND	41.4	250	ug/kg							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0743-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Naphthalene	ND	76.9	250	ug/kg							U
1,2,3-Trichlorobenzene	ND	59.8	250	ug/kg							U
Dichlorodifluoromethane	ND	10.4	50.0	ug/kg							U
Methyl tert-butyl Ether	ND	11.6	50.0	ug/kg							U
2-Pentanone	ND	250	250	ug/kg							U
Surrogate: 1,2-Dichloroethane-d4	51.3			ug/kg	*50.0*		*103*	*80-124*			
Surrogate: Toluene-d8	50.3			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	51.5			ug/kg	*50.0*		*103*	*80-120*			
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Chloromethane	2520			ug/kg	2500		101	42-153			
Vinyl Chloride	2660			ug/kg	2500		106	74-133			
Bromomethane	2730			ug/kg	2500		109	41-147			
Chloroethane	2030			ug/kg	2500		81.2	66-133			
Trichlorofluoromethane	3020			ug/kg	2500		121	60-145			Q
Acrolein	10800			ug/kg	12500		86.4	45-149			
1,1,2-Trichloro-1,2,2-Trifluoroethane	2560			ug/kg	2500		102	70-133			
Acetone	12000			ug/kg	12500		95.7	45-147			
1,1-Dichloroethene	2530			ug/kg	2500		101	67-132			
Bromoethane	2590			ug/kg	2500		104	68-135			
Iodomethane	2440			ug/kg	2500		97.7	42-187			
Methylene Chloride	2450			ug/kg	2500		98.0	53-169			
Acrylonitrile	2450			ug/kg	2500		98.2	63-133			
Carbon Disulfide	2560			ug/kg	2500		102	62-140			
trans-1,2-Dichloroethene	2520			ug/kg	2500		101	71-136			
Vinyl Acetate	2490			ug/kg	2500		99.5	72-127			
1,1-Dichloroethane	2560			ug/kg	2500		103	76-121			
2-Butanone	12600			ug/kg	12500		101	65-136			
2,2-Dichloropropane	2560			ug/kg	2500		102	73-129			
cis-1,2-Dichloroethene	2640			ug/kg	2500		106	77-121			
Chloroform	2550			ug/kg	2500		102	76-123			
Bromochloromethane	2520			ug/kg	2500		101	78-120			
1,1,1-Trichloroethane	2550			ug/kg	2500		102	76-125			
1,1-Dichloropropene	2530			ug/kg	2500		101	78-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Carbon tetrachloride	2440			ug/kg	2500		97.8	78-120			
1,2-Dichloroethane	2300			ug/kg	2500		91.9	75-120			
Benzene	2480			ug/kg	2500		99.3	80-120			
Trichloroethene	2430			ug/kg	2500		97.1	77-120			
1,2-Dichloropropane	2430			ug/kg	2500		97.1	78-120			
Bromodichloromethane	2400			ug/kg	2500		95.8	73-128			
Dibromomethane	2420			ug/kg	2500		96.9	78-120			
2-Chloroethyl vinyl ether	2380			ug/kg	2500		95.3	66-128			
4-Methyl-2-Pentanone	12000			ug/kg	12500		96.0	80-120			
cis-1,3-Dichloropropene	2510			ug/kg	2500		101	83-120			
Toluene	2420			ug/kg	2500		96.8	77-120			
trans-1,3-Dichloropropene	2500			ug/kg	2500		99.8	82-120			
2-Hexanone	11700			ug/kg	12500		93.5	73-122			
1,1,2-Trichloroethane	2370			ug/kg	2500		95.0	79-120			
1,3-Dichloropropane	2370			ug/kg	2500		94.6	80-120			
Tetrachloroethene	2300			ug/kg	2500		92.0	76-120			
Dibromochloromethane	2410			ug/kg	2500		96.3	79-120			
1,2-Dibromoethane	2420			ug/kg	2500		96.7	79-120			
Chlorobenzene	2360			ug/kg	2500		94.3	77-120			
Ethylbenzene	2360			ug/kg	2500		94.2	79-122			
1,1,1,2-Tetrachloroethane	2420			ug/kg	2500		96.6	78-120			
m,p-Xylene	4730			ug/kg	5000		94.7	81-122			
o-Xylene	2410			ug/kg	2500		96.3	79-120			
Xylenes, total	7140			ug/kg	7500		95.2	80-120			
Styrene	2450			ug/kg	2500		97.8	77-124			
Bromoform	2390			ug/kg	2500		95.6	80-120			
1,1,2,2-Tetrachloroethane	2390			ug/kg	2500		95.7	79-120			
1,2,3-Trichloropropane	2390			ug/kg	2500		95.5	79-120			
trans-1,4-Dichloro 2-Butene	2390			ug/kg	2500		95.5	75-123			
n-Propylbenzene	2450			ug/kg	2500		98.1	80-125			
Bromobenzene	2410			ug/kg	2500		96.6	76-120			
Isopropyl Benzene	2500			ug/kg	2500		100	74-130			
2-Chlorotoluene	2410			ug/kg	2500		96.5	77-120			
4-Chlorotoluene	2400			ug/kg	2500		96.0	77-121			
t-Butylbenzene	2440			ug/kg	2500		97.5	74-126			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHF0743-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
1,3,5-Trimethylbenzene	2470			ug/kg	2500		98.8	79-124			
1,2,4-Trimethylbenzene	2450			ug/kg	2500		98.1	79-125			
s-Butylbenzene	2460			ug/kg	2500		98.2	80-127			
4-Isopropyl Toluene	2490			ug/kg	2500		99.5	75-132			
1,3-Dichlorobenzene	2350			ug/kg	2500		94.2	75-120			
1,4-Dichlorobenzene	2330			ug/kg	2500		93.2	76-120			
n-Butylbenzene	2410			ug/kg	2500		96.5	79-130			
1,2-Dichlorobenzene	2320			ug/kg	2500		92.8	76-120			
1,2-Dibromo-3-Chloropropane	2350			ug/kg	2500		94.0	75-120			
1,2,4-Trichlorobenzene	2390			ug/kg	2500		95.7	74-121			
Hexachloro-1,3-Butadiene	2380			ug/kg	2500		95.2	74-120			
Naphthalene	2460			ug/kg	2500		98.4	75-120			
1,2,3-Trichlorobenzene	2380			ug/kg	2500		95.0	75-120			
Dichlorodifluoromethane	2720			ug/kg	2500		109	62-143			
Methyl tert-butyl Ether	2500			ug/kg	2500		100	68-132			
2-Pentanone	12100			ug/kg	12500		96.9	77-120			
Surrogate: Dibromofluoromethane	52.7			ug/kg	*50.0*		*105*	*30-160*			
Surrogate: 1,2-Dichloroethane-d4	52.0			ug/kg	*50.0*		*104*	*80-124*			
Surrogate: Toluene-d8	51.2			ug/kg	*50.0*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.5			ug/kg	*50.0*		*99.1*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.5			ug/kg	*50.0*		*101*	*80-120*			
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Chloromethane	2800			ug/kg	2500		112	42-153	10.50	30	
Vinyl Chloride	2880			ug/kg	2500		115	74-133	7.87	30	
Bromomethane	2900			ug/kg	2500		116	41-147	6.05	30	
Chloroethane	2850			ug/kg	2500		114	66-133	33.70	30	*
Trichlorofluoromethane	2750			ug/kg	2500		110	60-145	9.28	30	Q
Acrolein	12200			ug/kg	12500		97.6	45-149	12.20	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	2800			ug/kg	2500		112	70-133	9.09	30	
Acetone	12700			ug/kg	12500		102	45-147	6.02	30	
1,1-Dichloroethene	2720			ug/kg	2500		109	67-132	6.90	30	
Bromoethane	2640			ug/kg	2500		106	68-135	1.92	30	
Iodomethane	2630			ug/kg	2500		105	42-187	7.29	30	
Methylene Chloride	2550			ug/kg	2500		102	53-169	4.03	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Acrylonitrile	2530			ug/kg	2500		101	63-133	3.05	30	
Carbon Disulfide	2820			ug/kg	2500		113	62-140	9.48	30	
trans-1,2-Dichloroethene	2700			ug/kg	2500		108	71-136	6.88	30	
Vinyl Acetate	2600			ug/kg	2500		104	72-127	4.62	30	
1,1-Dichloroethane	2700			ug/kg	2500		108	76-121	5.05	30	
2-Butanone	14500			ug/kg	12500		116	65-136	14.40	30	
2,2-Dichloropropane	2770			ug/kg	2500		111	73-129	7.84	30	
cis-1,2-Dichloroethene	2670			ug/kg	2500		107	77-121	1.09	30	
Chloroform	2620			ug/kg	2500		105	76-123	2.75	30	
Bromochloromethane	2520			ug/kg	2500		101	78-120	0.21	30	
1,1,1-Trichloroethane	2700			ug/kg	2500		108	76-125	5.71	30	
1,1-Dichloropropene	2770			ug/kg	2500		111	78-120	8.78	30	
Carbon tetrachloride	2580			ug/kg	2500		103	78-120	5.56	30	
1,2-Dichloroethane	2340			ug/kg	2500		93.6	75-120	1.87	30	
Benzene	2580			ug/kg	2500		103	80-120	3.93	30	
Trichloroethene	2550			ug/kg	2500		102	77-120	5.12	30	
1,2-Dichloropropane	2490			ug/kg	2500		99.6	78-120	2.52	30	
Bromodichloromethane	2480			ug/kg	2500		99.0	73-128	3.31	30	
Dibromomethane	2490			ug/kg	2500		99.6	78-120	2.74	30	
2-Chloroethyl vinyl ether	2420			ug/kg	2500		96.8	66-128	1.55	30	
4-Methyl-2-Pentanone	12800			ug/kg	12500		102	80-120	6.14	30	
cis-1,3-Dichloropropene	2580			ug/kg	2500		103	83-120	2.47	30	
Toluene	2540			ug/kg	2500		102	77-120	4.78	30	
trans-1,3-Dichloropropene	2530			ug/kg	2500		101	82-120	1.42	30	
2-Hexanone	12300			ug/kg	12500		98.7	73-122	5.39	30	
1,1,2-Trichloroethane	2360			ug/kg	2500		94.5	79-120	0.53	30	
1,3-Dichloropropane	2390			ug/kg	2500		95.5	80-120	0.89	30	
Tetrachloroethene	2570			ug/kg	2500		103	76-120	11.10	30	
Dibromochloromethane	2470			ug/kg	2500		98.9	79-120	2.69	30	
1,2-Dibromoethane	2460			ug/kg	2500		98.3	79-120	1.70	30	
Chlorobenzene	2480			ug/kg	2500		99.2	77-120	5.12	30	
Ethylbenzene	2510			ug/kg	2500		100	79-122	6.43	30	
1,1,1,2-Tetrachloroethane	2470			ug/kg	2500		98.7	78-120	2.14	30	
m,p-Xylene	5060			ug/kg	5000		101	81-122	6.69	30	
o-Xylene	2490			ug/kg	2500		99.6	79-120	3.34	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Volatile Organic Compounds - Quality Control

Batch BHF0743 - EPA 5035 (Methanol Extraction)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHF0743-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Xylenes, total	7550			ug/kg	7500		101	80-120	5.57	30	
Styrene	2520			ug/kg	2500		101	77-124	2.89	30	
Bromoform	2430			ug/kg	2500		97.1	80-120	1.57	30	
1,1,2,2-Tetrachloroethane	2460			ug/kg	2500		98.3	79-120	2.61	30	
1,2,3-Trichloropropane	2620			ug/kg	2500		105	79-120	9.12	30	
trans-1,4-Dichloro 2-Butene	2650			ug/kg	2500		106	75-123	10.30	30	
n-Propylbenzene	2650			ug/kg	2500		106	80-125	7.56	30	
Bromobenzene	2500			ug/kg	2500		100	76-120	3.50	30	
Isopropyl Benzene	2670			ug/kg	2500		107	74-130	6.43	30	
2-Chlorotoluene	2560			ug/kg	2500		102	77-120	5.75	30	
4-Chlorotoluene	2580			ug/kg	2500		103	77-121	7.30	30	
t-Butylbenzene	2580			ug/kg	2500		103	74-126	5.61	30	
1,3,5-Trimethylbenzene	2600			ug/kg	2500		104	79-124	5.08	30	
1,2,4-Trimethylbenzene	2610			ug/kg	2500		104	79-125	6.24	30	
s-Butylbenzene	2610			ug/kg	2500		104	80-127	6.05	30	
4-Isopropyl Toluene	2660			ug/kg	2500		106	75-132	6.64	30	
1,3-Dichlorobenzene	2520			ug/kg	2500		101	75-120	6.99	30	
1,4-Dichlorobenzene	2490			ug/kg	2500		99.4	76-120	6.47	30	
n-Butylbenzene	2640			ug/kg	2500		106	79-130	9.15	30	
1,2-Dichlorobenzene	2450			ug/kg	2500		98.1	76-120	5.54	30	
1,2-Dibromo-3-Chloropropane	2510			ug/kg	2500		100	75-120	6.69	30	
1,2,4-Trichlorobenzene	2540			ug/kg	2500		101	74-121	5.78	30	
Hexachloro-1,3-Butadiene	2500			ug/kg	2500		100	74-120	5.04	30	
Naphthalene	2550			ug/kg	2500		102	75-120	3.59	30	
1,2,3-Trichlorobenzene	2480			ug/kg	2500		99.0	75-120	4.12	30	
Dichlorodifluoromethane	2780			ug/kg	2500		111	62-143	2.29	30	
Methyl tert-butyl Ether	2580			ug/kg	2500		103	68-132	2.86	30	
2-Pentanone	12700			ug/kg	12500		101	77-120	4.67	30	
Surrogate: Dibromofluoromethane	53.1			ug/kg	*50.0*		*106*	*30-160*			
Surrogate: 1,2-Dichloroethane-d4	52.9			ug/kg	*50.0*		*106*	*80-124*			
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	49.7			ug/kg	*50.0*		*99.4*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	50.2			ug/kg	*50.0*		*100*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Certified Analyses included in this Report

Analyte	Certifications
EPA 8260C in Solid	
Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	DoD-ELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-Chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	17-Jul-2019 12:04

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
J	Estimated concentration value detected below the reporting limit.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

09 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19F0407	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0407	Turn-around Requested: 5 days	Page: 1 of 3	
ARI Client Company: Farallon	Phone: 425.295.0800	Date: 6/27/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 2	Cooler Temps: 5.1°C 5.8°C
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: C. Banfield & Y. Pehlivan		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	GRO by NW TPH Gx	~~DRO~~ DRO/ORO NWTPH-Dx	BTEX 8260C	PCBs 8082A					Notes/Comments
F-24-9.0	6/27/19	0940	S	6	X	X	X						
F-24-12.5	↓	0950	S	6	X	X	X						
F-24-19.0	↓	1000	S	6	X	X	X						
F-25-9.0	↓	1055	S	6	X	X	X						
F-25-14.0	↓	1110	S	6	X	X	X						
F-25-19.0	↓	1120	S	6	X	X	X						
F-31-2.5	↓	1155	S	1									
F-31-6.0	↓	1255	S	1									
F-31-19.0	↓	1310	S	1									
F-30-1.0	↓	1120	S	1				X					

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
	(Signature) [signature]	(Signature) [signature]	(Signature)	(Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/27/19 1641	Date & Time: 06/27/19 1641	Date & Time:	Date & Time:

__Limits of Liability:__ ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0407	Turn-around Requested: 5 days	Page: 2 of 3	
ARI Client Company: Farallon	Phone: 425-295-0800	Date: 6/27/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 2	Cooler Temps: 5.1°C 5.8°C
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: C. Banfield / Y. Pehlivan		

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Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: GRO NWTPH-Gx	DRO/ORO NWTPH-Dx	BTEX 8260C	PCBs 8082A					Notes/Comments
F-30-3.0	6/27/19	1127	S	1									
F-32-1.0		1245	S	1				X					
F-32-3.0		1300	S	1									
F-33-1.0		1350	S	1				X					
F-33-3.0		1355	S	1									
F-27-2.5		0918	S	1				X					
F-27-5.0		1500	S	1									
F-27-10.0		1505	S	1				X					
F-27-15.0		1510	S	1									
F-28-2.5		0953	S	1				X					

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Salter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/27/19 1641	Date & Time: 06/27/19 1641	Date & Time:	Date & Time:

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0407	Turn-around Requested: 5 days	Page: 3 of 3	
ARI Client Company: Farallon	Phone: 425-295-0800	Date: 6/27/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 2	Cooler Temps: 5.1°C 5.8°C
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: C. Banfield / Y. Pehlivan		

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Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: GRO NWTPH-Gx	DRO/ORO NWTPH-Dx	BTEX 8260C	PCBs 8082A	Metals 6000 series				Notes/Comments
F-29-2.5	6/27/19	1026	S	~~2~~		X			X				
F-27-190627	↓	1530	W	2				X					
F-31-190627	↓	1335	W	2		X							
~~F-31~~-12.5	6/27/19	1305	S	1									

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/27/19 1641	Date & Time: 06/27/19 1641	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
F-24-9.0	19F0407-01	Solid	27-Jun-2019 09:40	27-Jun-2019 16:41
F-24-12.5	19F0407-02	Solid	27-Jun-2019 09:50	27-Jun-2019 16:41
F-24-19.0	19F0407-03	Solid	27-Jun-2019 10:00	27-Jun-2019 16:41
F-25-9.0	19F0407-04	Solid	27-Jun-2019 10:55	27-Jun-2019 16:41
F-25-14.0	19F0407-05	Solid	27-Jun-2019 11:10	27-Jun-2019 16:41
F-25-19.0	19F0407-06	Solid	27-Jun-2019 11:20	27-Jun-2019 16:41
F-30-1.0	19F0407-10	Solid	27-Jun-2019 11:20	27-Jun-2019 16:41
F-32-1.0	19F0407-12	Solid	27-Jun-2019 12:45	27-Jun-2019 16:41
F-33-1.0	19F0407-14	Solid	27-Jun-2019 13:50	27-Jun-2019 16:41
F-27-2.5	19F0407-16	Solid	27-Jun-2019 09:18	27-Jun-2019 16:41
F-27-10.0	19F0407-18	Solid	27-Jun-2019 15:05	27-Jun-2019 16:41
F-28-2.5	19F0407-20	Solid	27-Jun-2019 09:53	27-Jun-2019 16:41
F-29-2.5	19F0407-21	Solid	27-Jun-2019 10:26	27-Jun-2019 16:41
F-27-190627	19F0407-22	Water	27-Jun-2019 15:30	27-Jun-2019 16:41
F-31-190627	19F0407-23	Water	27-Jun-2019 13:35	27-Jun-2019 16:41

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 27, 2019 under ARI work order 19F0407. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Metals - EPA Method 6020A

The sample was digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Hg - EPA Method 7471B

The sample was digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

19F0407

Client: Farallon Consulting, LLC
Project: Emerald Gateway Site 1071-026
Project Manager: Amanda Volgardsen
Project Number: 1071-026

Report To:
Farallon Consulting, LLC
Pete Kingston
1809 7th Ave, Suite 1111
Seattle, WA 98101
Phone: (425) 394-4146
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due: 08-Jul-2019 18:00 (5 day TAT)

Received By: Jacob Walter
Date Received: 27-Jun-2019 16:41

Logged In By: Erin I. Salle
Date Logged In: 28-Jun-2019 07:50

Samples Received at: **5.8°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC).	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19F0407

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0407-01 F-24-9.0 [Solid] Sampled 27-Jun-2019 09:40 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 09:40	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 09:40	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 09:40	
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 09:40	
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 09:40	
19F0407-02 F-24-12.5 [Solid] Sampled 27-Jun-2019 09:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 09:50	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 09:50	
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 09:50	
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 09:50	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 09:50	
19F0407-03 F-24-19.0 [Solid] Sampled 27-Jun-2019 10:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 10:00	
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 10:00	
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 10:00	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 10:00	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 10:00	
19F0407-04 F-25-9.0 [Solid] Sampled 27-Jun-2019 10:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 10:55	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 10:55	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 10:55	
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 10:55	
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 10:55	

WORK ORDER

19F0407

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0407-05 F-25-14.0 [Solid] Sampled 27-Jun-2019 11:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 11:10	
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 11:10	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 11:10	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 11:10	
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 11:10	
19F0407-06 F-25-19.0 [Solid] Sampled 27-Jun-2019 11:20 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz B = VOA Vial, Clear, 40 mL, NaHSO4 C = VOA Vial, Clear, 40 mL, NaHSO4 D = VOA Vial, Clear, 40 mL, MeOH E = VOA Vial, Clear, 40 mL, MeOH F = VOA Vial, Clear, 40 mL, MeOH				
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 11:20	
8260C Gas (NWTPH)	08-Jul-2019 15:00	5	11-Jul-2019 11:20	
8260C VOA	08-Jul-2019 15:00	5	11-Jul-2019 11:20	
8260C VOA Solid (MeOH)	08-Jul-2019 15:00	5	11-Jul-2019 11:20	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 11:20	
19F0407-07 F-31-2.5 [Solid] Sampled 27-Jun-2019 11:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 11:55	
19F0407-08 F-31-6.0 [Solid] Sampled 27-Jun-2019 12:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 12:55	
19F0407-09 F-31-19.0 [Solid] Sampled 27-Jun-2019 13:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 13:10	
19F0407-10 F-30-1.0 [Solid] Sampled 27-Jun-2019 11:20 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 11:20	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 11:20	

WORK ORDER

19F0407

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0407-11 F-30-3.0 [Solid] Sampled 27-Jun-2019 11:27 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 11:27	
19F0407-12 F-32-1.0 [Solid] Sampled 27-Jun-2019 12:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 12:45	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 12:45	
19F0407-13 F-32-3.0 [Solid] Sampled 27-Jun-2019 13:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 13:00	
19F0407-14 F-33-1.0 [Solid] Sampled 27-Jun-2019 13:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 13:50	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 13:50	
19F0407-15 F-33-3.0 [Solid] Sampled 27-Jun-2019 13:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 13:55	
19F0407-16 F-27-2.5 [Solid] Sampled 27-Jun-2019 09:18 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 09:18	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 09:18	
19F0407-17 F-27-5.0 [Solid] Sampled 27-Jun-2019 15:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 15:00	
19F0407-18 F-27-10.0 [Solid] Sampled 27-Jun-2019 15:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 15:05	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 15:05	

WORK ORDER

19F0407

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0407-19 F-27-15.0 [Solid] Sampled 27-Jun-2019 15:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 15:10	
19F0407-20 F-28-2.5 [Solid] Sampled 27-Jun-2019 09:53 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	11-Jul-2019 09:53	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	25-Jul-2019 09:53	
19F0407-21 F-29-2.5 [Solid] Sampled 27-Jun-2019 10:26 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz *B = Glass WM, Clear, 4 oz*				
Met 6020A - Cu UCT	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	11-Jul-2019 10:26	
Met 7471B Hg	08-Jul-2019 15:00	5	25-Jul-2019 10:26	
Met 6020A - Zn UCT	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
Met 6020A - Mn	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
Met 6020A - Cd UCT	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
Met 6020A - As UCT	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
Met 6020A - Pb	08-Jul-2019 15:00	5	24-Dec-2019 10:26	
19F0407-22 F-27-190627 [Water] Sampled 27-Jun-2019 15:30 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL *B = Glass NM, Amber, 500 mL*				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	04-Jul-2019 15:30	
19F0407-23 F-31-190627 [Water] Sampled 27-Jun-2019 13:35 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL *B = Glass NM, Amber, 500 mL*				
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	04-Jul-2019 13:35	
19F0407-24 F-31-12.5 [Solid] Sampled 27-Jun-2019 13:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	26-Jun-2020 13:05	

Reviewed By Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon — Project Name: Emerald Gateway

COC No(s): _____ (NA) — Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19F0407 — Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1641 — 5.1°C 5.8°C ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F — Temp Gun ID#: DOO5206

Cooler Accepted by: JSm — Date: 06/27/19 — Time: 1641

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap, Wet Ice, Gel Packs, Baggies, Foam Block, Paper, Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
How were bottles sealed in plastic bags?	Individually	(Grouped)	Not
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	YES	NO
Were all VOC vials free of air bubbles?	(NA)	YES	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)	_____	

Were the sample(s) split by ARI? (NA) YES — Date/Time: _____ — Equipment: _____ — Split by: _____

Samples Logged by: [signature] — Date: 6/28/19 — Time: 0750 — Labels checked by: CW

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-9.0

19F0407-01 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 09:40

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 14:59

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-01 B

Preparation Batch: BHF0741 — Sample Size: 4.65 g (wet) — Dry Weight:4.35 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 93.47

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.34	1.15	ND	ug/kg	U
Toluene	108-88-3	1	0.17	1.15	ND	ug/kg	U
Ethylbenzene	100-41-4	1	0.23	1.15	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.45	2.30	ND	ug/kg	U
o-Xylene	95-47-6	1	0.26	1.15	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*100*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-9.0

19F0407-01 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 09:40

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 15:54

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-01 D

Preparation Batch: BHG0061 — Sample Size: 6.561 g (wet) — Dry Weight:6.13 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 93.47

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	4430	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*96.1*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*93.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-9.0

19F0407-01 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 09:40
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 08:24

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-01 A 01
Preparation Batch: BHF0752 — Sample Size: 10 g (wet) — Dry Weight:9.35 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 93.47

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.35	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	10.7	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*90.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-12.5

19F0407-02 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 09:50

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 15:21

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-02 B

Preparation Batch: BHF0741 — Sample Size: 5.12 g (wet) — Dry Weight:3.74 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 73.07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.40	1.34	**0.42**	ug/kg	J
Toluene	108-88-3	1	0.20	1.34	**0.43**	ug/kg	J
Ethylbenzene	100-41-4	1	0.27	1.34	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.52	2.67	ND	ug/kg	U
o-Xylene	95-47-6	1	0.30	1.34	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*101*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-12.5

19F0407-02 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 09:50

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 16:14

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-02 D

Preparation Batch: BHG0061 — Sample Size: 5.497 g (wet) — Dry Weight:4.02 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 73.07

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	8070	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*97.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*92.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-12.5

19F0407-02 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 09:50

Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 08:44

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-02 A 01

Preparation Batch: BHF0752 — Sample Size: 10.06 g (wet) — Dry Weight:7.35 g

Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 73.07

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.80	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	13.6	**32.9**	mg/kg	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*98.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-19.0

19F0407-03 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 10:00

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 15:44

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-03 B

Preparation Batch: BHF0741 — Sample Size: 5.76 g (wet) — Dry Weight:4.66 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 80.93

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.32	1.07	ND	ug/kg	U
Toluene	108-88-3	1	0.16	1.07	**0.36**	ug/kg	J
Ethylbenzene	100-41-4	1	0.22	1.07	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.42	2.15	ND	ug/kg	U
o-Xylene	95-47-6	1	0.24	1.07	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*99.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-19.0

19F0407-03 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 10:00

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 16:35

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-03 D

Preparation Batch: BHG0061 — Sample Size: 5.254 g (wet) — Dry Weight:4.25 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 80.93

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	7060	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*96.4*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*89.8*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-24-19.0

19F0407-03 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 10:00
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 09:04

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-03 A 01
Preparation Batch: BHF0752 — Sample Size: 10.05 g (wet) — Dry Weight:8.13 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 80.93

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.15	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.3	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*87.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-9.0

19F0407-04 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 10:55

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 16:06

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-04 B

Preparation Batch: BHF0741 — Sample Size: 5.23 g (wet) — Dry Weight:4.92 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 94.02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.30	1.02	ND	ug/kg	U
Toluene	108-88-3	1	0.15	1.02	**0.26**	ug/kg	J
Ethylbenzene	100-41-4	1	0.21	1.02	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.40	2.03	ND	ug/kg	U
o-Xylene	95-47-6	1	0.23	1.02	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*99.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-9.0

19F0407-04 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 10:55

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 16:56

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-04 D

Preparation Batch: BHG0061 — Sample Size: 4.327 g (wet) — Dry Weight:4.07 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 94.02

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	6460	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*96.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*92.0*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-9.0

19F0407-04 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 10:55
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 09:25

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-04 A 01
Preparation Batch: BHF0752 — Sample Size: 10.04 g (wet) — Dry Weight:9.44 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 94.02

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.30	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	10.6	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*85.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-14.0

19F0407-05 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 11:10

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 16:29

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-05 B

Preparation Batch: BHF0741 — Sample Size: 4.58 g (wet) — Dry Weight:3.26 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 71.25

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.45	1.53	ND	ug/kg	U
Toluene	108-88-3	1	0.23	1.53	**0.42**	ug/kg	J
Ethylbenzene	100-41-4	1	0.31	1.53	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.60	3.06	ND	ug/kg	U
o-Xylene	95-47-6	1	0.34	1.53	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*99.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-14.0

19F0407-05 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 11:10

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 17:16

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-05 D

Preparation Batch: BHG0061 — Sample Size: 3.895 g (wet) — Dry Weight:2.78 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 71.25

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	11000	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*96.2*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*89.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-14.0

19F0407-05 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 11:10

Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 09:45

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-05 A 01

Preparation Batch: BHF0752 — Sample Size: 10.07 g (wet) — Dry Weight:7.17 g

Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 71.25

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.97	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	13.9	**29.0**	mg/kg	
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*88.1*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-19.0

19F0407-06 (Solid)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 06/27/2019 11:20

Instrument: NT5 Analyst: PB — Analyzed: 06/28/2019 16:51

Sample Preparation: Preparation Method: EPA 5035 (Sodium Bisulfate) — Extract ID: 19F0407-06 B

Preparation Batch: BHF0741 — Sample Size: 4.99 g (wet) — Dry Weight:4.05 g

Prepared: 28-Jun-2019 — Final Volume: 5 mL — % Solids: 81.17

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.37	1.23	ND	ug/kg	U
Toluene	108-88-3	1	0.19	1.23	**0.41**	ug/kg	J
Ethylbenzene	100-41-4	1	0.25	1.23	ND	ug/kg	U
m,p-Xylene	179601-23-1	1	0.48	2.47	ND	ug/kg	U
o-Xylene	95-47-6	1	0.28	1.23	ND	ug/kg	U
Surrogate: Toluene-d8				*77-120 %*	*103*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*102*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-19.0

19F0407-06 (Solid)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 06/27/2019 11:20

Instrument: NT2 Analyst: LH — Analyzed: 07/02/2019 17:37

Sample Preparation: Preparation Method: EPA 5035 (Methanol Extraction) — Extract ID: 19F0407-06 D

Preparation Batch: BHG0061 — Sample Size: 5.113 g (wet) — Dry Weight:4.15 g

Prepared: 02-Jul-2019 — Final Volume: 5 mL — % Solids: 81.17

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	50	7180	ND	ug/kg	U
Surrogate: Toluene-d8			*80-120 %*	*95.8*	*%*	
Surrogate: 4-Bromofluorobenzene			*78-123 %*	*91.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-25-19.0

19F0407-06 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 11:20
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 10:06

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-06 A 01
Preparation Batch: BHF0752 — Sample Size: 10.02 g (wet) — Dry Weight:8.13 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 81.17

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.15	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.3	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*87.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-30-1.0

19F0407-10 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 11:20

Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 19:11

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-10 A 01

Preparation Batch: BHG0007 — Sample Size: 5.79 g (wet) — Dry Weight:5.06 g

Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 87.34

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.9	19.8	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.9	19.8	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.9	19.8	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.9	19.8	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.2	19.8	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*95.0*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*97.0*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*95.5*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*90.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-32-1.0

19F0407-12 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 12:45

Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 19:32

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-12 A 01

Preparation Batch: BHG0007 — Sample Size: 5.43 g (wet) — Dry Weight:5.04 g

Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 92.82

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.9	19.8	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.9	19.8	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.9	19.8	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.9	19.8	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.2	19.8	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*89.4*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*90.6*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*89.7*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*86.5*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-33-1.0

19F0407-14 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 13:50

Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 20:34

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-14 A 01

Preparation Batch: BHG0007 — Sample Size: 5.15 g (wet) — Dry Weight:5.01 g

Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 97.20

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	8.0	20.0	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	8.0	20.0	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	8.0	20.0	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	8.0	20.0	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	8.0	20.0	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	8.0	20.0	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.3	20.0	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.3	20.0	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.3	20.0	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*93.3*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*97.5*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*94.2*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*90.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-27-2.5

19F0407-16 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 09:18

Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 20:55

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-16 A 01

Preparation Batch: BHG0007 — Sample Size: 5.69 g (wet) — Dry Weight:5.05 g

Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 88.67

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	7.9	19.8	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	7.9	19.8	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	7.9	19.8	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	7.9	19.8	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	7.9	19.8	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.2	19.8	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.2	19.8	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*94.6*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*95.4*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*94.7*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*89.2*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-27-10.0

19F0407-18 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 15:05

Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 21:16

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-18 A 01

Preparation Batch: BHG0007 — Sample Size: 6.51 g (wet) — Dry Weight:5.01 g

Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 76.90

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	8.0	20.0	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	8.0	20.0	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	8.0	20.0	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	8.0	20.0	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	8.0	20.0	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	8.0	20.0	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.3	20.0	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.3	20.0	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.3	20.0	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*88.8*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*90.2*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*88.4*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*85.2*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-28-2.5

19F0407-20 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 09:53
Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 21:37

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-20 A 01
Preparation Batch: BHG0007 — Sample Size: 5.73 g (wet) — Dry Weight:5.02 g
Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 87.57

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	8.0	19.9	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	8.0	19.9	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	8.0	19.9	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	8.0	19.9	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	8.0	19.9	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	8.0	19.9	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.2	19.9	**26.9**	ug/kg	
Aroclor 1262	37324-23-5	1	9.2	19.9	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.2	19.9	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*99.0*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*97.6*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*98.2*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*94.4*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-29-2.5

19F0407-21 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 10:26
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 19:26

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0407-21 A 01
Preparation Batch: BHF0752 — Sample Size: 10.08 g (wet) — Dry Weight:9.17 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 91.02

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	10	54.5	**134**	mg/kg	D
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	10	109	**1330**	mg/kg	D
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*61.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-29-2.5

19F0407-21 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 06/27/2019 10:26

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/03/2019 15:47

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 19F0407-21 B 01

Preparation Batch: BHG0004 — Sample Size: 1.019 g (wet) — Dry Weight:0.93 g

Prepared: 01-Jul-2019 — Final Volume: 50 mL — % Solids: 90.78

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	20	0.07	0.11	**45.1**	mg/kg	
Manganese	7439-96-5	20	0.09	0.54	**290**	mg/kg	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-29-2.5

19F0407-21 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 06/27/2019 10:26

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/03/2019 15:47

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 19F0407-21 B 01

Preparation Batch: BHG0004 — Sample Size: 1.019 g (wet) — Dry Weight:0.93 g

Prepared: 01-Jul-2019 — Final Volume: 50 mL — % Solids: 90.78

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.02	0.22	**7.64**	mg/kg	
Cadmium	7440-43-9	20	0.03	0.11	**0.64**	mg/kg	
Copper	7440-50-8	20	0.37	0.54	**60.6**	mg/kg	
Zinc	7440-66-6	20	0.9	4.3	**64.3**	mg/kg	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-29-2.5

19F0407-21 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 06/27/2019 10:26

Instrument: CVAA Analyst: SKM — Analyzed: 07/08/2019 16:04

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 19F0407-21 B

Preparation Batch: BHG0140 — Sample Size: 0.207 g (wet) — Dry Weight:0.19 g

Prepared: 05-Jul-2019 — Final Volume: 50 mL — % Solids: 90.78

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00559	0.0266	**0.357**	mg/kg	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-27-190627

19F0407-22 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/27/2019 15:30
Instrument: ECD7 Analyst: VTS — Analyzed: 06/29/2019 21:05

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19F0407-22 A 01
	Preparation Batch: BHF0748	Sample Size: 500 mL	
	Prepared: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19F0407-22 A 01
	Cleanup Batch: CHF0246	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19F0407-22 A 01
	Cleanup Batch: CHF0244	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19F0407-22 A 01
	Cleanup Batch: CHF0245	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.018	0.100	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.018	0.100	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.018	0.100	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.018	0.100	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.018	0.100	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.018	0.100	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.017	0.100	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.017	0.100	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.017	0.100	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*26-120 %*	*51.3*	*%*	
Surrogate: Tetrachlorometaxylene				*39-120 %*	*69.3*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*26-120 %*	*51.0*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*39-120 %*	*59.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

F-31-190627

19F0407-23 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/27/2019 13:35

Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 05:18

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19F0407-23 A 01

Preparation Batch: BHF0747 — Sample Size: 500 mL

Prepared: 28-Jun-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.580**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*70.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Volatile Organic Compounds - Quality Control

Batch BHF0741 - EPA 5035 (Sodium Bisulfate)

Instrument: NT5 Analyst: PB

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0741-BLK1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 11:19							
Benzene	ND	0.30	1.00	ug/kg							U
Toluene	ND	0.15	1.00	ug/kg							U
Ethylbenzene	ND	0.20	1.00	ug/kg							U
m,p-Xylene	ND	0.39	2.00	ug/kg							U
o-Xylene	ND	0.22	1.00	ug/kg							U
Surrogate: Toluene-d8	50.3			ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene	48.9			ug/kg	*50.0*		*97.9*	*80-120*			
LCS (BHF0741-BS1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:14							
Benzene	49.7			ug/kg	50.0		99.3	80-120			
Toluene	48.4			ug/kg	50.0		96.8	75-120			
Ethylbenzene	47.1			ug/kg	50.0		94.2	80-125			
m,p-Xylene	94.7			ug/kg	100		94.7	76-121			
o-Xylene	48.2			ug/kg	50.0		96.3	67-132			
Surrogate: Toluene-d8	51.2			ug/kg	*50.0*		*102*	*77-120*			
Surrogate: 4-Bromofluorobenzene	49.5			ug/kg	*50.0*		*99.1*	*80-120*			
LCS Dup (BHF0741-BSD1)				Prepared: 28-Jun-2019 Analyzed: 28-Jun-2019 10:56							
Benzene	51.7			ug/kg	50.0		103	80-120	3.93	30	
Toluene	50.8			ug/kg	50.0		102	75-120	4.78	30	
Ethylbenzene	50.2			ug/kg	50.0		100	80-125	6.43	30	
m,p-Xylene	101			ug/kg	100		101	76-121	6.69	30	
o-Xylene	49.8			ug/kg	50.0		99.6	67-132	3.34	30	
Surrogate: Toluene-d8	50.5			ug/kg	*50.0*		*101*	*77-120*			
Surrogate: 4-Bromofluorobenzene	49.7			ug/kg	*50.0*		*99.4*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Volatile Organic Compounds - Quality Control

Batch BHG0061 - EPA 5035 (Methanol Extraction)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0061-BLK1)				Prepared: 02-Jul-2019 Analyzed: 02-Jul-2019 10:19						
Gasoline Range Organics (Tol-Nap)	ND	5000	ug/kg							U
Surrogate: Toluene-d8	4.68		ug/kg	*5.00*		*93.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.49		ug/kg	*5.00*		*89.9*	*78-123*			
LCS (BHG0061-BS1)				Prepared: 02-Jul-2019 Analyzed: 02-Jul-2019 08:17						
Gasoline Range Organics (Tol-Nap)	50300		ug/kg	50000		101	70-121			
Surrogate: Toluene-d8	4.99		ug/kg	*5.00*		*99.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.90		ug/kg	*5.00*		*97.9*	*78-123*			
LCS Dup (BHG0061-BSD1)				Prepared: 02-Jul-2019 Analyzed: 02-Jul-2019 08:57						
Gasoline Range Organics (Tol-Nap)	49300		ug/kg	50000		98.6	70-121	1.99	30	
Surrogate: Toluene-d8	5.08		ug/kg	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.05		ug/kg	*5.00*		*101*	*78-123*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Petroleum Hydrocarbons - Quality Control

Batch BHF0747 - EPA 3510C SepF

Instrument: FID4 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0747-BLK1)				Prepared: 28-Jun-2019 Analyzed: 03-Jul-2019 04:37						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.193		mg/L	*0.225*		*85.9*	*50-150*			
LCS (BHF0747-BS1)				Prepared: 28-Jun-2019 Analyzed: 03-Jul-2019 04:58						
Diesel Range Organics (C12-C24)	2.49	0.100	mg/L	3.00		83.0	70-120			
Surrogate: o-Terphenyl	0.200		mg/L	*0.225*		*88.9*	*50-150*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Petroleum Hydrocarbons - Quality Control

Batch BHF0752 - EPA 3546 (Microwave)

Instrument: FID4 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0752-BLK1)				Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 07:43						
Diesel Range Organics (C12-C24)	ND	5.00	mg/kg							U
Motor Oil Range Organics (C24-C38)	ND	10.0	mg/kg							U
Surrogate: o-Terphenyl	10.8		mg/kg	*11.3*		*95.7*	*50-150*			
LCS (BHF0752-BS1)				Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 08:03						
Diesel Range Organics (C12-C24)	150	5.00	mg/kg	150		99.9	63-120			
Surrogate: o-Terphenyl	11.4		mg/kg	*11.3*		*101*	*50-150*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Aroclor PCB - Quality Control

Batch BHF0748 - EPA 3510C SepF

Instrument: ECD7 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0748-BLK1)				Prepared: 28-Jun-2019 Analyzed: 29-Jun-2019 20:23							
Aroclor 1016	ND	0.018	0.100	ug/L							U
Aroclor 1221	ND	0.018	0.100	ug/L							U
Aroclor 1232	ND	0.018	0.100	ug/L							U
Aroclor 1242	ND	0.018	0.100	ug/L							U
Aroclor 1248	ND	0.018	0.100	ug/L							U
Aroclor 1254	ND	0.018	0.100	ug/L							U
Aroclor 1260	ND	0.017	0.100	ug/L							U
Aroclor 1262	ND	0.017	0.100	ug/L							U
Aroclor 1268	ND	0.017	0.100	ug/L							U
Surrogate: Decachlorobiphenyl	0.0672			ug/L	*0.0800*		*84.0*	*26-120*			
Surrogate: Tetrachlorometaxylene	0.0474			ug/L	*0.0800*		*59.2*	*39-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0651			ug/L	*0.0800*		*81.4*	*26-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0394			ug/L	*0.0800*		*49.3*	*39-120*			
LCS (BHF0748-BS1)				Prepared: 28-Jun-2019 Analyzed: 29-Jun-2019 20:44							
Aroclor 1016	0.915	0.018	0.100	ug/L	1.00		91.5	51-120			
Aroclor 1260	0.943	0.017	0.100	ug/L	1.00		94.3	56-120			
Surrogate: Decachlorobiphenyl	0.0661			ug/L	*0.0800*		*82.6*	*26-120*			
Surrogate: Tetrachlorometaxylene	0.0557			ug/L	*0.0800*		*69.7*	*39-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0654			ug/L	*0.0800*		*81.7*	*26-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0473			ug/L	*0.0800*		*59.2*	*39-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Aroclor PCB - Quality Control

Batch BHG0007 - EPA 3546 (Microwave)

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0007-BLK1)				Prepared: 01-Jul-2019 Analyzed: 02-Jul-2019 18:29							
Aroclor 1016	ND	8.0	20.0	ug/kg							U
Aroclor 1221	ND	8.0	20.0	ug/kg							U
Aroclor 1232	ND	8.0	20.0	ug/kg							U
Aroclor 1242	ND	8.0	20.0	ug/kg							U
Aroclor 1248	ND	8.0	20.0	ug/kg							U
Aroclor 1254	ND	8.0	20.0	ug/kg							U
Aroclor 1260	ND	9.3	20.0	ug/kg							U
Aroclor 1262	ND	9.3	20.0	ug/kg							U
Aroclor 1268	ND	9.3	20.0	ug/kg							U
Surrogate: Decachlorobiphenyl	37.4			ug/kg	*40.0*		*93.5*	*40-133*			
Surrogate: Tetrachlorometaxylene	39.5			ug/kg	*40.0*		*98.8*	*53-120*			
Surrogate: Decachlorobiphenyl [2C]	37.4			ug/kg	*40.0*		*93.5*	*40-133*			
Surrogate: Tetrachlorometaxylene [2C]	35.7			ug/kg	*40.0*		*89.4*	*53-120*			
LCS (BHG0007-BS1)				Prepared: 01-Jul-2019 Analyzed: 02-Jul-2019 18:50							
Aroclor 1016	494	8.0	20.0	ug/kg	500		98.9	52-120			
Aroclor 1260	422	9.3	20.0	ug/kg	500		84.5	57-120			
Surrogate: Decachlorobiphenyl	38.6			ug/kg	*40.0*		*96.5*	*40-133*			
Surrogate: Tetrachlorometaxylene	40.1			ug/kg	*40.0*		*100*	*53-120*			
Surrogate: Decachlorobiphenyl [2C]	38.6			ug/kg	*40.0*		*96.6*	*40-133*			
Surrogate: Tetrachlorometaxylene [2C]	36.4			ug/kg	*40.0*		*90.9*	*53-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Metals and Metallic Compounds - Quality Control

Batch BHG0004 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0004-BLK1)					Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 14:15							
Lead	208	ND	0.07	0.10	mg/kg							U
Manganese	55	ND	0.09	0.50	mg/kg							U
Arsenic	75a	ND	0.02	0.20	mg/kg							U
Cadmium	111	ND	0.03	0.10	mg/kg							U
Cadmium	114	ND	0.04	0.10	mg/kg							U
Copper	63	ND	0.34	0.50	mg/kg							U
Copper	65	ND	0.35	0.50	mg/kg							U
Zinc	66	ND	0.8	4.0	mg/kg							U
Zinc	67	ND	0.9	4.0	mg/kg							U
LCS (BHG0004-BS1)					Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 14:20							
Lead	208	26.2	0.07	0.10	mg/kg	25.0		105	80-120			
Manganese	55	24.2	0.09	0.50	mg/kg	25.0		96.9	80-120			
Arsenic	75a	24.2	0.02	0.20	mg/kg	25.0		96.8	80-120			
Cadmium	111	24.3	0.03	0.10	mg/kg	25.0		97.2	80-120			
Cadmium	114	24.3	0.04	0.10	mg/kg	25.0		97.0	80-120			
Copper	63	26.1	0.34	0.50	mg/kg	25.0		104	80-120			
Copper	65	25.8	0.35	0.50	mg/kg	25.0		103	80-120			
Zinc	66	79.6	0.8	4.0	mg/kg	80.0		99.5	80-120			
Zinc	67	76.0	0.9	4.0	mg/kg	80.0		95.0	80-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Metals and Metallic Compounds - Quality Control

Batch BHG0140 - SMM EPA 7471B

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0140-BLK1)				Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:50							
Mercury	ND	0.00525	0.0250	mg/kg							U
LCS (BHG0140-BS1)				Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:52							
Mercury	0.541	0.00525	0.0250	mg/kg	0.500		108	80-120			

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Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Solid	
Manganese-55	NELAP,DoD-ELAP,WADOE
Lead-208	NELAP,DoD-ELAP,WADOE,ADEC
EPA 6020A UCT-KED in Solid	
Arsenic-75a	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-111	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-114	NELAP,DoD-ELAP,WADOE,ADEC
Copper-63	NELAP,DoD-ELAP,WADOE
Copper-65	NELAP,DoD-ELAP,WADOE
Zinc-66	NELAP,DoD-ELAP,WADOE
Zinc-67	NELAP,DoD-ELAP,WADOE
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Solid	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
EPA 8082A in Water	
Aroclor 1016	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1016 (1)	ADEC,CALAP

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Aroclor-1016 (2)	ADEC,CALAP
Aroclor-1016 (3)	ADEC,CALAP
Aroclor-1016 (4)	ADEC,CALAP
Aroclor 1016 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1016 (1) [2C]	ADEC,CALAP
Aroclor-1016 (2) [2C]	ADEC,CALAP
Aroclor-1016 (3) [2C]	ADEC,CALAP
Aroclor-1016 (4) [2C]	ADEC,CALAP
Aroclor 1221	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1221 (1)	ADEC,CALAP
Aroclor-1221 (2)	ADEC,CALAP
Aroclor-1221 (3)	ADEC,CALAP
Aroclor 1221 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1221 (1) [2C]	ADEC,CALAP
Aroclor-1221 (2) [2C]	ADEC,CALAP
Aroclor-1221 (3) [2C]	ADEC,CALAP
Aroclor-1221 (4) [2C]	ADEC,CALAP
Aroclor 1232	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1232 (1)	ADEC,CALAP
Aroclor-1232 (2)	ADEC,CALAP
Aroclor-1232 (3)	ADEC,CALAP
Aroclor-1232 (4)	ADEC,CALAP
Aroclor 1232 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1232 (1) [2C]	ADEC,CALAP
Aroclor-1232 (2) [2C]	ADEC,CALAP
Aroclor-1232 (3) [2C]	ADEC,CALAP
Aroclor-1232 (4) [2C]	ADEC,CALAP
Aroclor 1242	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1242 (1)	ADEC,CALAP
Aroclor-1242 (2)	ADEC,CALAP
Aroclor-1242 (3)	ADEC,CALAP
Aroclor-1242 (4)	ADEC,CALAP
Aroclor 1242 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1242 (1) [2C]	ADEC,CALAP
Aroclor-1242 (2) [2C]	ADEC,CALAP
Aroclor-1242 (3) [2C]	ADEC,CALAP
Aroclor-1242 (4) [2C]	ADEC,CALAP
Aroclor 1248	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1248 (1)	ADEC,CALAP
Aroclor-1248 (2)	ADEC,CALAP

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Aroclor-1248 (3)	ADEC,CALAP
Aroclor-1248 (4)	ADEC,CALAP
Aroclor 1248 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1248 (1) [2C]	ADEC,CALAP
Aroclor-1248 (2) [2C]	ADEC,CALAP
Aroclor-1248 (3) [2C]	ADEC,CALAP
Aroclor-1248 (4) [2C]	ADEC,CALAP
Aroclor 1254	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1254 (1)	ADEC,CALAP
Aroclor-1254 (2)	ADEC,CALAP
Aroclor-1254 (3)	ADEC,CALAP
Aroclor-1254 (4)	ADEC,CALAP
Aroclor-1254 (5)	ADEC,CALAP
Aroclor 1254 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1254 (1) [2C]	ADEC,CALAP
Aroclor-1254 (2) [2C]	ADEC,CALAP
Aroclor-1254 (3) [2C]	ADEC,CALAP
Aroclor-1254 (4) [2C]	ADEC,CALAP
Aroclor-1254 (5) [2C]	ADEC,CALAP
Aroclor 1260	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1260 (1)	ADEC,CALAP
Aroclor-1260 (2)	ADEC,CALAP
Aroclor-1260 (3)	ADEC,CALAP
Aroclor-1260 (4)	ADEC,CALAP
Aroclor-1260 (5)	ADEC,CALAP
Aroclor 1260 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1260 (1) [2C]	ADEC,CALAP
Aroclor-1260 (2) [2C]	ADEC,CALAP
Aroclor-1260 (3) [2C]	ADEC,CALAP
Aroclor-1260 (4) [2C]	ADEC,CALAP
Aroclor 1262	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1262 (1)	ADEC,CALAP
Aroclor-1262 (2)	ADEC,CALAP
Aroclor-1262 (3)	ADEC,CALAP
Aroclor-1262 (4)	ADEC,CALAP
Aroclor-1262 (5)	ADEC,CALAP
Aroclor 1262 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1262 (1) [2C]	ADEC,CALAP
Aroclor-1262 (2) [2C]	ADEC,CALAP
Aroclor-1262 (3) [2C]	ADEC,CALAP

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Aroclor-1262 (4) [2C]	ADEC,CALAP
Aroclor-1262 (5) [2C]	ADEC,CALAP
Aroclor 1268	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1268 (1)	ADEC,CALAP
Aroclor-1268 (2)	ADEC,CALAP
Aroclor-1268 (3)	ADEC,CALAP
Aroclor-1268 (4)	ADEC,CALAP
Aroclor 1268 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1268 (1) [2C]	ADEC,CALAP
Aroclor-1268 (2) [2C]	ADEC,CALAP
Aroclor-1268 (3) [2C]	ADEC,CALAP
Aroclor-1268 (4) [2C]	ADEC,CALAP

EPA 8260C in Solid

Chloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichlorofluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrolein	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloro-1,2,2-Trifluoroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acetone	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Iodomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methylene Chloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Acrylonitrile	WADOE,DoD-ELAP,NELAP,CALAP
Carbon Disulfide	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Vinyl Acetate	WADOE,DoD-ELAP,NELAP,CALAP
1,1-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Butanone	WADOE,DoD-ELAP,NELAP,CALAP
2,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,2-Dichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chloroform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Carbon tetrachloride	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

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Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Trichloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromodichloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromomethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chloroethyl vinyl ether	WADOE,DoD-ELAP,NELAP
4-Methyl-2-Pentanone	WADOE,DoD-ELAP,NELAP,CALAP
cis-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Toluene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,3-Dichloropropene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Hexanone	WADOE,DoD-ELAP,NELAP,CALAP
1,1,2-Trichloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,3-Dichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Tetrachloroethene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dibromochloromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2-Dibromoethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Chlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Ethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,1,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
m,p-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
o-Xylene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Xylenes, total	WADOE
Styrene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Bromoform	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,1,2,2-Tetrachloroethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,3-Trichloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
trans-1,4-Dichloro 2-Butene	WADOE,DoD-ELAP,NELAP
n-Propylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
Bromobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Isopropyl Benzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
2-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
4-Chlorotoluene	WADOE,DoD-ELAP,NELAP,CALAP
t-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,3,5-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,4-Trimethylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
s-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP
4-Isopropyl Toluene	WADOE,DoD-ELAP,NELAP,CALAP
1,3-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,4-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
n-Butylbenzene	WADOE,DoD-ELAP,NELAP,CALAP

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

1,2-Dichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP
1,2-Dibromo-3-chloropropane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
1,2,4-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Hexachloro-1,3-Butadiene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Naphthalene	WADOE,DoD-ELAP,NELAP,CALAP
1,2,3-Trichlorobenzene	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Dichlorodifluoromethane	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Methyl tert-butyl Ether	WADOE,DoD-ELAP,NELAP,CALAP
n-Hexane	WADOE
2-Pentanone	WADOE
Dibromofluoromethane	WADOE
4-Bromofluorobenzene	WADOE

NWTPH-Dx in Solid

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Solid

Gasoline Range Organics (Tol-Nap)	DoD-ELAP
Gasoline Range Organics (2MP-TMB)	DoD-ELAP
Gasoline Range Organics (Tol-C12)	DoD-ELAP
Gasoline Range Organics (C6-C10)	DoD-ELAP
Gasoline Range Organics (C5-C12)	DoD-ELAP
4-Bromofluorobenzene (field spiked)	DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:41

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
NRS	This surrogate not reported due to chromatographic interference
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

09 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19F0415	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19F0415	Turn-around Requested: 5 Day	Page: 1 of 1	
ARI Client Company: Farallon	Phone: 425-394-4146	Date: 6/28/19	Ice Present?
Client Contact: Pete Kingston		No. of Coolers: 1	Cooler Temps: 4.3
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: YP/JS		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: PCBs 8082	DRO/ORO NWTPH-Dx	Metals 6000 series						Notes/Comments
F-28-5.0	6/28/19	0845	S	1									
F-28-8.5		0850		1	X								
F-28-15.0		0855		1									
F-29-6.0		1000		2									
F-29-8.5		1005		2		X	X						
F-29-15.0		1010		2									
F-28-190628		~~0915~~ 0915	W	2	X								

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Erin Salle	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 6/28/19 1145	Date & Time: 6/28/19 1145	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
F-28-8.5	19F0415-02	Solid	28-Jun-2019 08:50	28-Jun-2019 11:45
F-29-8.5	19F0415-05	Solid	28-Jun-2019 10:05	28-Jun-2019 11:45
F-28-190628	19F0415-07	Water	28-Jun-2019 09:15	28-Jun-2019 11:45

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received June 28, 2019 under ARI work order 19F0415. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Metals - EPA Method 6020A

The sample was digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total Hg - EPA Method 7471B

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

The sample was digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

WORK ORDER

19F0415

Client: Farallon Consulting, LLC
Project Manager: Amanda Volgardsen
Project: Emerald Gateway Site 1071-026
Project Number: 1071-026

Report To:
Farallon Consulting, LLC
Pete Kingston
1809 7th Ave, Suite 1111
Seattle, WA 98101
Phone: (425) 394-4146
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due:	08-Jul-2019 18:00 (5 day TAT)		
Received By:	Erin I. Salle	Date Received:	28-Jun-2019 11:45
Logged In By:	Erin I. Salle	Date Logged In:	28-Jun-2019 12:05

Samples Received at: **4.3°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	No	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Analysis	Due	TAT	Expires	Comments

WORK ORDER

19F0415

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0415-01 F-28-5.0 [Solid] Sampled 28-Jun-2019 08:45 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 08:45	
19F0415-02 F-28-8.5 [Solid] Sampled 28-Jun-2019 08:50 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
8082A PCB (20 ug/kg) or (MTCA 0.1 u	08-Jul-2019 15:00	5	12-Jul-2019 08:50	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	26-Jul-2019 08:50	
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 08:50	
19F0415-03 F-28-15.0 [Solid] Sampled 28-Jun-2019 08:55 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz				
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 08:55	
19F0415-04 F-29-6.0 [Solid] Sampled 28-Jun-2019 10:00 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz *B = Glass WM, Clear, 4 oz*				
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 10:00	
19F0415-05 F-29-8.5 [Solid] Sampled 28-Jun-2019 10:05 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz *B = Glass WM, Clear, 4 oz*				
Met 6020A - Mn	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 10:05	
Met 6020A - As UCT	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
Met 6020A - Cu UCT	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
Met 6020A - Pb	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
Met 6020A - Zn UCT	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
Met 7471B Hg	08-Jul-2019 15:00	5	26-Jul-2019 10:05	
Solids, Total, Dried at 103 -105 °C, Soli	08-Jul-2019 15:00	5	26-Jul-2019 10:05	
TPH NW (Extractables) low level	08-Jul-2019 15:00	5	12-Jul-2019 10:05	
Met 6020A - Cd UCT	08-Jul-2019 15:00	5	25-Dec-2019 10:05	
19F0415-06 F-29-15.0 [Solid] Sampled 28-Jun-2019 10:10 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass WM, Clear, 8 oz *B = Glass WM, Clear, 4 oz*				
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 10:10	

WORK ORDER

19F0415

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19F0415-07 F-28-190628 [Water] Sampled 28-Jun-2019 09:15 (GMT-08:00) Pacific Time (US & Canada)				
A = Glass NM, Amber, 500 mL	*B = Glass NM, Amber, 500 mL*			
Hold Sample	08-Jul-2019 15:00	5	27-Jun-2020 09:15	
8082A PCB Water 0.01	08-Jul-2019 15:00	5	05-Jul-2019 09:15	

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon
Project Name: Emerald Gateway
COC No(s): _____ NA
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No: PPF0415
Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 4.3

Time 1145

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOC3565

Cooler Accepted by: [signature] Date: 6/28/19 Time: 1145

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [signature] Date: 6/28/19 Time: 1205 Labels checked by: WS

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

F-28-8.5

19F0415-02 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/28/2019 08:50
Instrument: ECD7 Analyst: JGR — Analyzed: 07/02/2019 21:57

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0415-02 A 01
Preparation Batch: BHG0007 — Sample Size: 6.28 g (wet) — Dry Weight:5.02 g
Prepared: 01-Jul-2019 — Final Volume: 5 mL — % Solids: 79.89

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	8.0	19.9	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	8.0	19.9	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	8.0	19.9	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	8.0	19.9	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	8.0	19.9	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	8.0	19.9	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	9.2	19.9	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	9.2	19.9	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	9.2	19.9	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-133 %*	*92.1*	*%*	
Surrogate: Tetrachlorometaxylene				*53-120 %*	*92.5*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-133 %*	*90.1*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*53-120 %*	*86.4*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

F-29-8.5

19F0415-05 (Solid)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 06/28/2019 10:05
Instrument: FID4 Analyst: VTS — Analyzed: 07/03/2019 10:46

Sample Preparation: Preparation Method: EPA 3546 (Microwave) — Extract ID: 19F0415-05 A 01
Preparation Batch: BHF0752 — Sample Size: 10.07 g (wet) — Dry Weight:8.08 g
Prepared: 01-Jul-2019 — Final Volume: 1 mL — % Solids: 80.26

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.19	ND	mg/kg	U
Motor Oil Range Organics (C24-C38)	RRO	1	12.4	ND	mg/kg	U
Surrogate: o-Terphenyl			*50-150 %*	*85.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

F-29-8.5

19F0415-05 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 06/28/2019 10:05
Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/03/2019 15:55

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 19F0415-05 B 01
Preparation Batch: BHG0004 — Sample Size: 1.084 g (wet) — Dry Weight:0.87 g
Prepared: 01-Jul-2019 — Final Volume: 50 mL — % Solids: 80.26

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	20	0.08	0.11	**1.58**	mg/kg	
Manganese	7439-96-5	20	0.10	0.57	**33.0**	mg/kg	

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F-29-8.5

19F0415-05 (Solid)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 06/28/2019 10:05

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/03/2019 15:55

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 19F0415-05 B 01

Preparation Batch: BHG0004 — Sample Size: 1.084 g (wet) — Dry Weight:0.87 g

Prepared: 01-Jul-2019 — Final Volume: 50 mL — % Solids: 80.26

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.03	0.23	**2.63**	mg/kg	
Cadmium	7440-43-9	20	0.03	0.11	ND	mg/kg	U
Copper	7440-50-8	20	0.39	0.57	**27.3**	mg/kg	
Zinc	7440-66-6	20	0.9	4.6	**11.6**	mg/kg	

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F-29-8.5

19F0415-05 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 06/28/2019 10:05

Instrument: CVAA Analyst: SKM — Analyzed: 07/08/2019 16:06

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 19F0415-05 B

Preparation Batch: BHG0140 — Sample Size: 0.288 g (wet) — Dry Weight:0.23 g

Prepared: 05-Jul-2019 — Final Volume: 50 mL — % Solids: 80.26

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00454	0.0216	**0.0142**	mg/kg	J

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F-28-190628

19F0415-07 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 06/28/2019 09:15

Instrument: ECD7 Analyst: VTS — Analyzed: 06/29/2019 21:26

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19F0415-07 A 01
	Preparation Batch: BHF0748	Sample Size: 500 mL	
	Prepared: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19F0415-07 A 01
	Cleanup Batch: CHF0246	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19F0415-07 A 01
	Cleanup Batch: CHF0244	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19F0415-07 A 01
	Cleanup Batch: CHF0245	Initial Volume: 1 mL	
	Cleaned: 28-Jun-2019	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.018	0.100	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.018	0.100	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.018	0.100	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.018	0.100	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.018	0.100	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.018	0.100	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.017	0.100	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.017	0.100	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.017	0.100	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*26-120 %*	*68.9*	*%*	
Surrogate: Tetrachlorometaxylene				*39-120 %*	*69.0*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*26-120 %*	*68.0*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*39-120 %*	*59.7*	*%*	

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Petroleum Hydrocarbons - Quality Control

Batch BHF0752 - EPA 3546 (Microwave)

Instrument: FID4 Analyst: VTS

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0752-BLK1)				Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 07:43						
Diesel Range Organics (C12-C24)	ND	5.00	mg/kg							U
Motor Oil Range Organics (C24-C38)	ND	10.0	mg/kg							U
Surrogate: o-Terphenyl	10.8		mg/kg	*11.3*		*95.7*	*50-150*			
LCS (BHF0752-BS1)				Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 08:03						
Diesel Range Organics (C12-C24)	150	5.00	mg/kg	150		99.9	63-120			
Surrogate: o-Terphenyl	11.4		mg/kg	*11.3*		*101*	*50-150*			

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Aroclor PCB - Quality Control

Batch BHF0748 - EPA 3510C SepF

Instrument: ECD7 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHF0748-BLK1)				Prepared: 28-Jun-2019 Analyzed: 29-Jun-2019 20:23							
Aroclor 1016	ND	0.018	0.100	ug/L							U
Aroclor 1221	ND	0.018	0.100	ug/L							U
Aroclor 1232	ND	0.018	0.100	ug/L							U
Aroclor 1242	ND	0.018	0.100	ug/L							U
Aroclor 1248	ND	0.018	0.100	ug/L							U
Aroclor 1254	ND	0.018	0.100	ug/L							U
Aroclor 1260	ND	0.017	0.100	ug/L							U
Aroclor 1262	ND	0.017	0.100	ug/L							U
Aroclor 1268	ND	0.017	0.100	ug/L							U
Surrogate: Decachlorobiphenyl	0.0672			ug/L	*0.0800*		*84.0*	*26-120*			
Surrogate: Tetrachlorometaxylene	0.0474			ug/L	*0.0800*		*59.2*	*39-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0651			ug/L	*0.0800*		*81.4*	*26-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0394			ug/L	*0.0800*		*49.3*	*39-120*			
LCS (BHF0748-BS1)				Prepared: 28-Jun-2019 Analyzed: 29-Jun-2019 20:44							
Aroclor 1016	0.915	0.018	0.100	ug/L	1.00		91.5	51-120			
Aroclor 1260	0.943	0.017	0.100	ug/L	1.00		94.3	56-120			
Surrogate: Decachlorobiphenyl	0.0661			ug/L	*0.0800*		*82.6*	*26-120*			
Surrogate: Tetrachlorometaxylene	0.0557			ug/L	*0.0800*		*69.7*	*39-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0654			ug/L	*0.0800*		*81.7*	*26-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.0473			ug/L	*0.0800*		*59.2*	*39-120*			

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Aroclor PCB - Quality Control

Batch BHG0007 - EPA 3546 (Microwave)

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0007-BLK1)				Prepared: 01-Jul-2019 Analyzed: 02-Jul-2019 18:29							
Aroclor 1016	ND	8.0	20.0	ug/kg							U
Aroclor 1221	ND	8.0	20.0	ug/kg							U
Aroclor 1232	ND	8.0	20.0	ug/kg							U
Aroclor 1242	ND	8.0	20.0	ug/kg							U
Aroclor 1248	ND	8.0	20.0	ug/kg							U
Aroclor 1254	ND	8.0	20.0	ug/kg							U
Aroclor 1260	ND	9.3	20.0	ug/kg							U
Aroclor 1262	ND	9.3	20.0	ug/kg							U
Aroclor 1268	ND	9.3	20.0	ug/kg							U
Surrogate: Decachlorobiphenyl	37.4			ug/kg	*40.0*		*93.5*	*40-133*			
Surrogate: Tetrachlorometaxylene	39.5			ug/kg	*40.0*		*98.8*	*53-120*			
Surrogate: Decachlorobiphenyl [2C]	37.4			ug/kg	*40.0*		*93.5*	*40-133*			
Surrogate: Tetrachlorometaxylene [2C]	35.7			ug/kg	*40.0*		*89.4*	*53-120*			
LCS (BHG0007-BS1)				Prepared: 01-Jul-2019 Analyzed: 02-Jul-2019 18:50							
Aroclor 1016	494	8.0	20.0	ug/kg	500		98.9	52-120			
Aroclor 1260	422	9.3	20.0	ug/kg	500		84.5	57-120			
Surrogate: Decachlorobiphenyl	38.6			ug/kg	*40.0*		*96.5*	*40-133*			
Surrogate: Tetrachlorometaxylene	40.1			ug/kg	*40.0*		*100*	*53-120*			
Surrogate: Decachlorobiphenyl [2C]	38.6			ug/kg	*40.0*		*96.6*	*40-133*			
Surrogate: Tetrachlorometaxylene [2C]	36.4			ug/kg	*40.0*		*90.9*	*53-120*			

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Metals and Metallic Compounds - Quality Control

Batch BHG0004 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0004-BLK1)					Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 14:15							
Lead	208	ND	0.07	0.10	mg/kg							U
Manganese	55	ND	0.09	0.50	mg/kg							U
Arsenic	75a	ND	0.02	0.20	mg/kg							U
Cadmium	111	ND	0.03	0.10	mg/kg							U
Cadmium	114	ND	0.04	0.10	mg/kg							U
Copper	63	ND	0.34	0.50	mg/kg							U
Copper	65	ND	0.35	0.50	mg/kg							U
Zinc	66	ND	0.8	4.0	mg/kg							U
Zinc	67	ND	0.9	4.0	mg/kg							U
LCS (BHG0004-BS1)					Prepared: 01-Jul-2019 Analyzed: 03-Jul-2019 14:20							
Lead	208	26.2	0.07	0.10	mg/kg	25.0		105	80-120			
Manganese	55	24.2	0.09	0.50	mg/kg	25.0		96.9	80-120			
Arsenic	75a	24.2	0.02	0.20	mg/kg	25.0		96.8	80-120			
Cadmium	111	24.3	0.03	0.10	mg/kg	25.0		97.2	80-120			
Cadmium	114	24.3	0.04	0.10	mg/kg	25.0		97.0	80-120			
Copper	63	26.1	0.34	0.50	mg/kg	25.0		104	80-120			
Copper	65	25.8	0.35	0.50	mg/kg	25.0		103	80-120			
Zinc	66	79.6	0.8	4.0	mg/kg	80.0		99.5	80-120			
Zinc	67	76.0	0.9	4.0	mg/kg	80.0		95.0	80-120			

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Metals and Metallic Compounds - Quality Control

Batch BHG0140 - SMM EPA 7471B

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0140-BLK1)				Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:50							
Mercury	ND	0.00525	0.0250	mg/kg							U
LCS (BHG0140-BS1)				Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:52							
Mercury	0.541	0.00525	0.0250	mg/kg	0.500		108	80-120			

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Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Solid	
Manganese-55	NELAP,DoD-ELAP,WADOE
Lead-208	NELAP,DoD-ELAP,WADOE,ADEC
EPA 6020A UCT-KED in Solid	
Arsenic-75a	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-111	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-114	NELAP,DoD-ELAP,WADOE,ADEC
Copper-63	NELAP,DoD-ELAP,WADOE
Copper-65	NELAP,DoD-ELAP,WADOE
Zinc-66	NELAP,DoD-ELAP,WADOE
Zinc-67	NELAP,DoD-ELAP,WADOE
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Solid	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
EPA 8082A in Water	
Aroclor 1016	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1016 (1)	ADEC,CALAP

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Aroclor-1016 (2)	ADEC,CALAP
Aroclor-1016 (3)	ADEC,CALAP
Aroclor-1016 (4)	ADEC,CALAP
Aroclor 1016 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1016 (1) [2C]	ADEC,CALAP
Aroclor-1016 (2) [2C]	ADEC,CALAP
Aroclor-1016 (3) [2C]	ADEC,CALAP
Aroclor-1016 (4) [2C]	ADEC,CALAP
Aroclor 1221	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1221 (1)	ADEC,CALAP
Aroclor-1221 (2)	ADEC,CALAP
Aroclor-1221 (3)	ADEC,CALAP
Aroclor 1221 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1221 (1) [2C]	ADEC,CALAP
Aroclor-1221 (2) [2C]	ADEC,CALAP
Aroclor-1221 (3) [2C]	ADEC,CALAP
Aroclor-1221 (4) [2C]	ADEC,CALAP
Aroclor 1232	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1232 (1)	ADEC,CALAP
Aroclor-1232 (2)	ADEC,CALAP
Aroclor-1232 (3)	ADEC,CALAP
Aroclor-1232 (4)	ADEC,CALAP
Aroclor 1232 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1232 (1) [2C]	ADEC,CALAP
Aroclor-1232 (2) [2C]	ADEC,CALAP
Aroclor-1232 (3) [2C]	ADEC,CALAP
Aroclor-1232 (4) [2C]	ADEC,CALAP
Aroclor 1242	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1242 (1)	ADEC,CALAP
Aroclor-1242 (2)	ADEC,CALAP
Aroclor-1242 (3)	ADEC,CALAP
Aroclor-1242 (4)	ADEC,CALAP
Aroclor 1242 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1242 (1) [2C]	ADEC,CALAP
Aroclor-1242 (2) [2C]	ADEC,CALAP
Aroclor-1242 (3) [2C]	ADEC,CALAP
Aroclor-1242 (4) [2C]	ADEC,CALAP
Aroclor 1248	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1248 (1)	ADEC,CALAP
Aroclor-1248 (2)	ADEC,CALAP

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Aroclor-1248 (3)	ADEC,CALAP
Aroclor-1248 (4)	ADEC,CALAP
Aroclor 1248 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1248 (1) [2C]	ADEC,CALAP
Aroclor-1248 (2) [2C]	ADEC,CALAP
Aroclor-1248 (3) [2C]	ADEC,CALAP
Aroclor-1248 (4) [2C]	ADEC,CALAP
Aroclor 1254	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1254 (1)	ADEC,CALAP
Aroclor-1254 (2)	ADEC,CALAP
Aroclor-1254 (3)	ADEC,CALAP
Aroclor-1254 (4)	ADEC,CALAP
Aroclor-1254 (5)	ADEC,CALAP
Aroclor 1254 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1254 (1) [2C]	ADEC,CALAP
Aroclor-1254 (2) [2C]	ADEC,CALAP
Aroclor-1254 (3) [2C]	ADEC,CALAP
Aroclor-1254 (4) [2C]	ADEC,CALAP
Aroclor-1254 (5) [2C]	ADEC,CALAP
Aroclor 1260	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1260 (1)	ADEC,CALAP
Aroclor-1260 (2)	ADEC,CALAP
Aroclor-1260 (3)	ADEC,CALAP
Aroclor-1260 (4)	ADEC,CALAP
Aroclor-1260 (5)	ADEC,CALAP
Aroclor 1260 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1260 (1) [2C]	ADEC,CALAP
Aroclor-1260 (2) [2C]	ADEC,CALAP
Aroclor-1260 (3) [2C]	ADEC,CALAP
Aroclor-1260 (4) [2C]	ADEC,CALAP
Aroclor 1262	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1262 (1)	ADEC,CALAP
Aroclor-1262 (2)	ADEC,CALAP
Aroclor-1262 (3)	ADEC,CALAP
Aroclor-1262 (4)	ADEC,CALAP
Aroclor-1262 (5)	ADEC,CALAP
Aroclor 1262 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1262 (1) [2C]	ADEC,CALAP
Aroclor-1262 (2) [2C]	ADEC,CALAP
Aroclor-1262 (3) [2C]	ADEC,CALAP

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Aroclor-1262 (4) [2C]	ADEC,CALAP
Aroclor-1262 (5) [2C]	ADEC,CALAP
Aroclor 1268	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1268 (1)	ADEC,CALAP
Aroclor-1268 (2)	ADEC,CALAP
Aroclor-1268 (3)	ADEC,CALAP
Aroclor-1268 (4)	ADEC,CALAP
Aroclor 1268 [2C]	ADEC,CALAP,DoD-ELAP,NELAP,WADOE
Aroclor-1268 (1) [2C]	ADEC,CALAP
Aroclor-1268 (2) [2C]	ADEC,CALAP
Aroclor-1268 (3) [2C]	ADEC,CALAP
Aroclor-1268 (4) [2C]	ADEC,CALAP

NWTPH-Dx in Solid

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	09-Jul-2019 11:49

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
NRS	This surrogate not reported due to chromatographic interference
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

12 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19G0017	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in it entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19G0017	Turn-around Requested: 5 Day	Page: 1 of 2	
ARI Client Company: Foraller	Phone: 206-200-2346	Date: 7/1/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 6	Cooler Temps: See CRF
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: VP, JS, GP		

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Analytical Chemists and Consultants
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Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	BTEX 8260C	VOCs 8260C	Total Metals 200.7/200.8/7470A/245.1	Diss. Metals 200.7/200.8/7470A/245.1	PCBs 8082A	PAHs 8270 SIM	Notes/Comments
DOF-4-190701	7/1/19	1040	W	13	X	X	X		X	X	X	X	
DOF-5-190701		1155			X	X	X		X	X	X	X	
MW-AG2-190701		1305			X	X	X		X	X	X	X	
MW-AG1-190701		1420			X	X	X		X	X	X	X	
MW-101-190701		1535			X	X	X		X	X	X	X	
FMW-03-190701		1640			X	X	X	X	X	X	X	X	
DOF-1-190701		1636			X	X	X		X	X	X	X	
DOF-2-190701		1103			X	X	X		X	X	X	X	
MW-4-190701		1520			X	X	X		X	X	X	X	
MW-203-190701		1421			X	X	X		X	X	X	X	

Comments/Special Instructions: Metals = As, Cd, Cu, Pb, Hg, Mn, Zn	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Salter	Printed Name:	Printed Name:
	Company: Foraller	Company: ARI	Company:	Company:
	Date & Time: 7/1/19 1800	Date & Time: 07/01/19 1800	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19G0017	Turn-around Requested: 5 Day	Page: 2 of 2	
ARI Client Company: Farallon	Phone: 206-200-2346	Date: 7/1/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 6	Cooler Temps: See CRF
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: YP / GP / JS		

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Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	~~BTEX~~ 8260C	Total Metals 200.7/200.8/7470/7471	Diss Metals 200.7/200.8/7470/7471	PCBs 8082A	PAH 8270 SIM		Notes/Comments
MW-207-190701	7/1/19	1323	W	13	X	X	X	X	X	X	X		
DOF-3-190701	↓	1207	↓	↓	X	X	X	X	X	X	X		

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
Metals = As, Cd, Cu, Pb, Hg, Mn, Zn	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 7/1/19 1800	Date & Time: 07/01/19 1800	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
DOF-4-190701	19G0017-01	Water	01-Jul-2019 10:40	01-Jul-2019 18:00
DOF-5-190701	19G0017-02	Water	01-Jul-2019 11:55	01-Jul-2019 18:00
MW-AG2-190701	19G0017-03	Water	01-Jul-2019 13:05	01-Jul-2019 18:00
MW-AG1-190701	19G0017-04	Water	01-Jul-2019 14:20	01-Jul-2019 18:00
MW-101-190701	19G0017-05	Water	01-Jul-2019 15:35	01-Jul-2019 18:00
FMW-03-190701	19G0017-06	Water	01-Jul-2019 16:40	01-Jul-2019 18:00
DOF-1-190701	19G0017-07	Water	01-Jul-2019 16:36	01-Jul-2019 18:00
DOF-2-190701	19G0017-08	Water	01-Jul-2019 11:03	01-Jul-2019 18:00
MW-4-190701	19G0017-09	Water	01-Jul-2019 15:20	01-Jul-2019 18:00
MW-203-190701	19G0017-10	Water	01-Jul-2019 14:21	01-Jul-2019 18:00
MW-207-190701	19G0017-11	Water	01-Jul-2019 13:23	01-Jul-2019 18:00
DOF-3-190701	19G0017-12	Water	01-Jul-2019 12:07	01-Jul-2019 18:00
DOF-4-190701	19G0017-13	Water	01-Jul-2019 10:40	01-Jul-2019 18:00
DOF-5-190701	19G0017-14	Water	01-Jul-2019 11:55	01-Jul-2019 18:00
MW-AG2-190701	19G0017-15	Water	01-Jul-2019 13:05	01-Jul-2019 18:00
MW-AG1-190701	19G0017-16	Water	01-Jul-2019 14:20	01-Jul-2019 18:00
MW-101-190701	19G0017-17	Water	01-Jul-2019 15:35	01-Jul-2019 18:00
FMW-03-190701	19G0017-18	Water	01-Jul-2019 16:40	01-Jul-2019 18:00
DOF-1-190701	19G0017-19	Water	01-Jul-2019 16:36	01-Jul-2019 18:00
DOF-2-190701	19G0017-20	Water	01-Jul-2019 11:03	01-Jul-2019 18:00
MW-4-190701	19G0017-21	Water	01-Jul-2019 15:20	01-Jul-2019 18:00
MW-203-190701	19G0017-22	Water	01-Jul-2019 14:21	01-Jul-2019 18:00
MW-207-190701	19G0017-23	Water	01-Jul-2019 13:23	01-Jul-2019 18:00
DOF-3-190701	19G0017-24	Water	01-Jul-2019 12:07	01-Jul-2019 18:00

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received July 1, 2019 under ARI work order 19G0017. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Data reported from bubble free volume.

Initial and continuing calibrations were within method requirements, with the exception of the ICV which is outside of control limits low for 1,2-Dibromo-3-Chloropropane. The samples are non-detect for this compound. Associated LCS/LCSD have been flagged with "Q" qualifiers. No further corrective action was taken.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

The data was reported from bubble free volume.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times.

Sample FMW-03-190701 was reanalyzed at a dilution due to the 1-Methylnaphthalene concentration exceeding the upper

calibration range. The initial analysis has been flagged with an "E" qualifier. No further corrective action was taken.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Sample DOF-5-190701 has low surrogate percent recovery. The sample was reanalyzed with the same outcome. The volume was consumed so a re-extraction was not possible. Data was reported as is. All other surrogate percent recoveries were within control limits. No further corrective action was taken.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

Samples MW-101-190701, FMW-03-190701 and MW-4-190701 have low surrogate percent recoveries for both columns of Decachlorobiphenyl. Sample DOF-5-190701 has low surrogate percent recovery for the second column Decachlorobiphenyl. Sample MW-AGI-190701 has low surrogate percent recoveries for the second column surrogates Decachlorobiphenyl and Tetrachlorometaxylene. The method blank has low surrogate percent recovery for the second column Tetrachlorometaxylene. The samples are non-detect. All other surrogate percent recoveries were within control limits. No corrective action was taken.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Total and Dissolved Metals - EPA Method 6020A

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

A total matrix spike and duplicate were prepared in conjunction with sample DOF-4-190701. The matrix spike percent recoveries and duplicate RPD were within QC limits.

Total and Dissolved Hg - EPA Method 7470A

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank was clean at the reporting limits.

The LCS percent recoveries were within control limits.

Matrix spikes and duplicates were prepared in conjunction with sample MW-101-190701. The matrix spike percent recoveries and duplicate RPD were within QC limits.

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WORK ORDER

19G0017

Client: Farallon Consulting, LLC	**Project Manager: Amanda Volgardsen**
Project: Emerald Gateway Site 1071-026	**Project Number: 1071-026**

Report To:
Farallon Consulting, LLC
Pete Kingston
1809 7th Ave, Suite 1111
Seattle, WA 98101
Phone: (425) 394-4146
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due:	10-Jul-2019 18:00 (5 day TAT)		
Received By:	Jacob Walter	Date Received:	01-Jul-2019 18:00
Logged In By:	Erin I. Salle	Date Logged In:	02-Jul-2019 08:05

Samples Received at: **4.5°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	No
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	Yes	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Reviewed By

Date

WORK ORDER

19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19G0017-01 DOF-4-190701 [Water] Sampled 01-Jul-2019 10:40				
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8260C VOA	07/10/2019	5	7/15/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
19G0017-02 DOF-5-190701 [Water] Sampled 01-Jul-2019 11:55				
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
19G0017-03 MW-AG2-190701 [Water] Sampled 01-Jul-2019 13:05				
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	

Reviewed By _____ Date _____

WORK ORDER

19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
19G0017-04 MW-AG1-190701 [Water] Sampled 01-Jul-2019 14:20				
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
19G0017-05 MW-101-190701 [Water] Sampled 01-Jul-2019 15:35				
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
19G0017-06 FMW-03-190701 [Water] Sampled 01-Jul-2019 16:40				
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	

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Date

WORK ORDER

19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8260C VOA	07/10/2019	5	7/15/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
19G0017-07 DOF-1-190701 [Water] Sampled 01-Jul-2019 16:36				
Met 7470A Hg	07/10/2019	5	7/29/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
19G0017-08 DOF-2-190701 [Water] Sampled 01-Jul-2019 11:03				
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
8260C VOA	07/10/2019	5	7/15/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	

Reviewed By

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
19G0017-09 MW-4-190701 [Water] Sampled 01-Jul-2019 15:20				
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8260C VOA	07/10/2019	5	7/15/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
19G0017-10 MW-203-190701 [Water] Sampled 01-Jul-2019 14:21				
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
8260C VOA	07/10/2019	5	7/15/2019	
19G0017-11 MW-207-190701 [Water] Sampled 01-Jul-2019 13:23				
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
8260C VOA	07/10/2019	5	7/15/2019	
19G0017-12 DOF-3-190701 [Water] Sampled 01-Jul-2019 12:07				
Met 6020A - Cu UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH (0.1 ug/L or 5 ug/kg)	07/10/2019	5	7/8/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/8/2019	
Met 7470A Hg	07/10/2019	5	7/29/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/28/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/8/2019	
Met 6020A - As UCT	07/10/2019	5	12/28/2019	
8260C VOA	07/10/2019	5	7/15/2019	
Met 6020A - Pb	07/10/2019	5	12/28/2019	
Met 6020A - Mn	07/10/2019	5	12/28/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/15/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/28/2019	
8082A PCB (20 ug/kg) or (MTCA 0.1 ug/L)	07/10/2019	5	7/8/2019	
8082A PCB Water 0.01	07/10/2019	5	7/8/2019	
19G0017-13 DOF-4-190701 [Water] Sampled 01-Jul-2019 10:40				
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
19G0017-14 DOF-5-190701 [Water] Sampled 01-Jul-2019 11:55				
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
19G0017-15 MW-AG2-190701 [Water] Sampled 01-Jul-2019 13:05				

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
19G0017-16 MW-AG1-190701 [Water] Sampled 01-Jul-2019 14:20				
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
19G0017-17 MW-101-190701 [Water] Sampled 01-Jul-2019 15:35				
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
19G0017-18 FMW-03-190701 [Water] Sampled 01-Jul-2019 16:40				
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
19G0017-19 DOF-1-190701 [Water] Sampled 01-Jul-2019 16:36				
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19G0017-20 DOF-2-190701 [Water] Sampled 01-Jul-2019 11:03				
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
19G0017-21 MW-4-190701 [Water] Sampled 01-Jul-2019 15:20				
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
19G0017-22 MW-203-190701 [Water] Sampled 01-Jul-2019 14:21				
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
19G0017-23 MW-207-190701 [Water] Sampled 01-Jul-2019 13:23				
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	
19G0017-24 DOF-3-190701 [Water] Sampled 01-Jul-2019 12:07				
Met Diss 6020A - Pb	07/10/2019	5	12/28/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/28/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/28/2019	
Met Diss 7470A Hg	07/10/2019	5	7/29/2019	

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Date

WORK ORDER

19G0017

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
Met Diss 6020A - Zn UCT	07/10/2019	5	12/28/2019	

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Date

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Preservation Confirmation

Container ID	Container Type	pH	
19G0017-01 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-01 B	Glass NM, Amber, 500 mL		
19G0017-01 C	Glass NM, Amber, 500 mL		
19G0017-01 D	Glass NM, Amber, 500 mL		
19G0017-01 E	Glass NM, Amber, 500 mL		
19G0017-01 F	Glass NM, Amber, 500 mL		
19G0017-01 G	Glass NM, Amber, 500 mL		
19G0017-01 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-01 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-01 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-01 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-01 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-02 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-02 B	Glass NM, Amber, 500 mL		
19G0017-02 C	Glass NM, Amber, 500 mL		
19G0017-02 D	Glass NM, Amber, 500 mL		
19G0017-02 E	Glass NM, Amber, 500 mL		
19G0017-02 F	Glass NM, Amber, 500 mL		
19G0017-02 G	Glass NM, Amber, 500 mL		
19G0017-02 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-02 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-02 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-02 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-02 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-03 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-03 B	Glass NM, Amber, 500 mL		
19G0017-03 C	Glass NM, Amber, 500 mL		
19G0017-03 D	Glass NM, Amber, 500 mL		
19G0017-03 E	Glass NM, Amber, 500 mL		
19G0017-03 F	Glass NM, Amber, 500 mL		
19G0017-03 G	Glass NM, Amber, 500 mL		
19G0017-03 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-03 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-03 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-03 K	VOA Vial, Clear, 40 mL, HCL		

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

19G0017-03 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-04 A	HDPE NM, 500 mL, 1:1 HNO3	LL	PASS
19G0017-04 B	Glass NM, Amber, 500 mL		
19G0017-04 C	Glass NM, Amber, 500 mL		
19G0017-04 D	Glass NM, Amber, 500 mL		
19G0017-04 E	Glass NM, Amber, 500 mL		
19G0017-04 F	Glass NM, Amber, 500 mL		
19G0017-04 G	Glass NM, Amber, 500 mL		
19G0017-04 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-04 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-04 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-04 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-04 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-05 A	HDPE NM, 500 mL, 1:1 HNO3	LL	PASS
19G0017-05 B	Glass NM, Amber, 500 mL		
19G0017-05 C	Glass NM, Amber, 500 mL		
19G0017-05 D	Glass NM, Amber, 500 mL		
19G0017-05 E	Glass NM, Amber, 500 mL		
19G0017-05 F	Glass NM, Amber, 500 mL		
19G0017-05 G	Glass NM, Amber, 500 mL		
19G0017-05 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-05 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-05 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-05 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-05 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-06 A	HDPE NM, 500 mL, 1:1 HNO3	LL	PASS
19G0017-06 B	Glass NM, Amber, 500 mL		
19G0017-06 C	Glass NM, Amber, 500 mL		
19G0017-06 D	Glass NM, Amber, 500 mL		
19G0017-06 E	Glass NM, Amber, 500 mL		
19G0017-06 F	Glass NM, Amber, 500 mL		
19G0017-06 G	Glass NM, Amber, 500 mL		
19G0017-06 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-06 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-06 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-06 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-06 L	VOA Vial, Clear, 40 mL, HCL		

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19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

19G0017-07 A	HDPE NM, 500 mL, 1:1 HNO3	LZ	pass
19G0017-07 B	Glass NM, Amber, 500 mL		
19G0017-07 C	Glass NM, Amber, 500 mL		
19G0017-07 D	Glass NM, Amber, 500 mL		
19G0017-07 E	Glass NM, Amber, 500 mL		
19G0017-07 F	Glass NM, Amber, 500 mL		
19G0017-07 G	Glass NM, Amber, 500 mL		
19G0017-07 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-07 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-07 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-07 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-07 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-08 A	HDPE NM, 500 mL, 1:1 HNO3	LZ	pass
19G0017-08 B	Glass NM, Amber, 500 mL		
19G0017-08 C	Glass NM, Amber, 500 mL		
19G0017-08 D	Glass NM, Amber, 500 mL		
19G0017-08 E	Glass NM, Amber, 500 mL		
19G0017-08 F	Glass NM, Amber, 500 mL		
19G0017-08 G	Glass NM, Amber, 500 mL		
19G0017-08 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-08 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-08 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-08 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-08 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-09 A	HDPE NM, 500 mL, 1:1 HNO3	LZ	pass
19G0017-09 B	Glass NM, Amber, 500 mL		
19G0017-09 C	Glass NM, Amber, 500 mL		
19G0017-09 D	Glass NM, Amber, 500 mL		
19G0017-09 E	Glass NM, Amber, 500 mL		
19G0017-09 F	Glass NM, Amber, 500 mL		
19G0017-09 G	Glass NM, Amber, 500 mL		
19G0017-09 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-09 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-09 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-09 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-09 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-10 A	HDPE NM, 500 mL, 1:1 HNO3	LZ	pass

Reviewed By _____ Date _____

WORK ORDER

19G0017

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

19G0017-10 B	Glass NM, Amber, 500 mL		
19G0017-10 C	Glass NM, Amber, 500 mL		
19G0017-10 D	Glass NM, Amber, 500 mL		
19G0017-10 E	Glass NM, Amber, 500 mL		
19G0017-10 F	Glass NM, Amber, 500 mL		
19G0017-10 G	Glass NM, Amber, 500 mL		
19G0017-10 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-10 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-10 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-10 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-10 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-11 A	HDPE NM, 500 mL, 1:1 HNO3	LL	pass
19G0017-11 B	Glass NM, Amber, 500 mL		
19G0017-11 C	Glass NM, Amber, 500 mL		
19G0017-11 D	Glass NM, Amber, 500 mL		
19G0017-11 E	Glass NM, Amber, 500 mL		
19G0017-11 F	Glass NM, Amber, 500 mL		
19G0017-11 G	Glass NM, Amber, 500 mL		
19G0017-11 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-11 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-11 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-11 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-11 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-12 A	HDPE NM, 500 mL, 1:1 HNO3	LL	pass
19G0017-12 B	Glass NM, Amber, 500 mL		
19G0017-12 C	Glass NM, Amber, 500 mL		
19G0017-12 D	Glass NM, Amber, 500 mL		
19G0017-12 E	Glass NM, Amber, 500 mL		
19G0017-12 F	Glass NM, Amber, 500 mL		
19G0017-12 G	Glass NM, Amber, 500 mL		
19G0017-12 H	VOA Vial, Clear, 40 mL, HCL		
19G0017-12 I	VOA Vial, Clear, 40 mL, HCL		
19G0017-12 J	VOA Vial, Clear, 40 mL, HCL		
19G0017-12 K	VOA Vial, Clear, 40 mL, HCL		
19G0017-12 L	VOA Vial, Clear, 40 mL, HCL		
19G0017-13 A	HDPE NM, 500 mL, 1:1 HNO3	LL	pass
19G0017-14 A	HDPE NM, 500 mL, 1:1 HNO3	LL	pass

Reviewed By

Date

WORK ORDER

19G0017

Client: Farallon Consulting, LLC **Project Manager: Amanda Volgardsen**

Project: Emerald Gateway Site 1071-026 **Project Number: 1071-026**

19G0017-15 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-16 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-17 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-18 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-19 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-20 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-21 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-22 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-23 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0017-24 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass

Preservation Confirmed By

7/2/19
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon Project Name: Emerald Gateway

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 19G0017 Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1800 5.9°C 4.8°C 3.0°C 4.5°C 5.6°C 1.7°C

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520 6

Cooler Accepted by: JBW Date: 07/01/19 Time: 1800

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
How were bottles sealed in plastic bags?	Individually	Grouped	(Not) GS 7/2/19
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible? GS 7/2/19		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	(NA)		

Were the sample(s) split by ARI? (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [signature] Date: 7/2/19 Time: 0805 Labels checked by: GS

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

MW4-190701 dissolved metals bottle doesn't have the sample time written on the label. MW-AG1-190701 - All but 1 vial have air bubbles, FMW-03-190701 (1 vial) was air bubble. DUP-2-190701 does not have a sample date/time on total metals container. MW4-190701 - 1 vial has an air bubble, MW-203 190701 Sim PNA bottle doesn't have a sample time written on the container

By: [signature] Date: 7/2/19

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 10:40

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 16:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-01 J

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*96.0*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*87.5*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 10:40

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 16:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-01 J

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*87.2*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 10:40

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 13:48

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-01 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.001**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.001**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	**0.003**	ug/L	J
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	**0.003**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*85.2*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*105*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*92.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 10:40

Instrument: FID4 Analyst: JGR — Analyzed: 07/04/2019 22:35

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-01 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.185**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*71.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 10:40

Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 16:56

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-01 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-01 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-01 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-01 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*42.2*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*49.6*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*40.4*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*40.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:31

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-01 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**675**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:31

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-01 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**2.17**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**0.426**	ug/L	J
Zinc	7440-66-6	1	0.820	4.00	**10.2**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-01 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 10:40

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 15:58

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-01 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 11:55

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 16:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-02 L

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	**0.15**	ug/L	J
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*93.7*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*90.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 11:55

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 16:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-02 L

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*93.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*90.7*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 11:55

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 14:18

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-02 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.008**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.009**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.172**	ug/L	
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	**0.009**	ug/L	J
Dibenzofuran	132-64-9	1	0.002	0.010	**0.002**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	**0.003**	ug/L	J
Phenanthrene	85-01-8	1	0.001	0.010	**0.001**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	**0.003**	ug/L	J
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*77.4*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*80.7*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*80.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 11:55

Instrument: FID4 Analyst: JGR — Analyzed: 07/04/2019 22:55

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-02 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.108**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*41.9*	*%*	*

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 11:55
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 17:17

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-02 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-02 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-02 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-02 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*29.0*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*36.7*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*28.0*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*32.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 11:55

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:31

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-02 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	**2.27**	ug/L	
Manganese	7439-96-5	1	0.0850	0.500	**210**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 11:55

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:31

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-02 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.893**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**1.45**	ug/L	
Zinc	7440-66-6	1	0.940	4.00	**159**	ug/L	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 11:55

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:01

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-02 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000013**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-02RE1 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 11:55
Instrument: FID4 Analyst: VTS — Analyzed: 07/05/2019 15:57

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-02RE1 B 01
Preparation Batch: BHG0065 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.105**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
HC ID: MOTOR OIL						
Surrogate: o-Terphenyl			*50-150 %*	*40.7*	*%*	*

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 13:05

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 17:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-03 K

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*94.0*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*89.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 13:05

Instrument: NT2 Analyst: LH — Analyzed: 07/03/2019 17:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-03 K

Preparation Batch: BHG0047 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*94.0*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*89.1*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 13:05

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 14:47

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-03 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.001**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.001**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	**0.002**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	**0.014**	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*76.2*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*93.6*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*90.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 13:05
Instrument: FID4 Analyst: JGR — Analyzed: 07/04/2019 23:15

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-03 B 01
Preparation Batch: BHG0065 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*84.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 13:05
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 17:38

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-03 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-03 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-03 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-03 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*47.6*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*44.1*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*46.0*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*38.4*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 13:05

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:36

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-03 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	**0.576**	ug/L	
Manganese	7439-96-5	1	0.0850	0.500	**59.6**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 13:05

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:36

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-03 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**15.9**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**5.79**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**3.33**	ug/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-03 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 13:05

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:13

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-03 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000018**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 14:20
Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 16:14

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-04 K
Preparation Batch: BHG0064 — Sample Size: 2 mL
Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.13	1.00	ND	ug/L	U
Toluene	108-88-3	1	0.20	1.00	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.19	1.00	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.26	2.00	ND	ug/L	U
o-Xylene	95-47-6	1	0.17	1.00	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*99.5*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*97.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 14:20
Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 16:14

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-04 K
Preparation Batch: BHG0064 — Sample Size: 2 mL
Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	500	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.5*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 14:20

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 15:17

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-04 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.001**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.002**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	**0.003**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.001**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	**0.001**	ug/L	J
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	**0.084**	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*68.5*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*90.0*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*77.4*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 14:20
Instrument: FID4 Analyst: JGR — Analyzed: 07/04/2019 23:36

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-04 B 01
Preparation Batch: BHG0065 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*53.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 14:20
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 17:59

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-04 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-04 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-04 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-04 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*30.2*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*35.4*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*28.6*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*30.3*	*%*	*

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 14:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:40

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-04 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	2	0.136	0.200	**2.22**	ug/L	D
Manganese	7439-96-5	2	0.170	1.00	**94.3**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:20
Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:40

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-04 A 01
Preparation Batch: BHG0166 — Sample Size: 25 mL
Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0440	0.400	**7.57**	ug/L	D
Cadmium	7440-43-9	2	0.0600	0.200	ND	ug/L	U
Copper	7440-50-8	2	0.680	1.00	**30.2**	ug/L	D
Zinc	7440-66-6	2	1.64	8.00	**20.6**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-04 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 14:20

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:16

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-04 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000029**	mg/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 15:35

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 16:40

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-05 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*96.4*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*96.7*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 15:35
Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 16:40

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-05 J
Preparation Batch: BHG0064 — Sample Size: 10 mL
Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*96.4*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 15:35

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 15:47

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-05 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.007**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.003**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.002**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	**0.002**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*72.4*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*89.8*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*83.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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MW-101-190701

19G0017-05 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 15:35

Instrument: FID4 Analyst: JGR — Analyzed: 07/04/2019 23:56

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-05 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.107**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*80.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 15:35
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 18:20

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-05 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-05 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-05 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-05 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*26.1*	*%*	*
Surrogate: Tetrachlorometaxylene				*32-120 %*	*39.3*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*26.1*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*38.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 15:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:44

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-05 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	20	1.70	10.0	**4130**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:44

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-05 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**49.2**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 15:35

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 15:42

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-05 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-05RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:35
Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 19:34

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-05RE1 A 01
Preparation Batch: BHG0166 — Sample Size: 25 mL
Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc	7440-66-6	1	0.820	4.00	**7.22**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 16:40

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-06 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chloromethane	74-87-3	1	0.09	0.50	ND	ug/L	U
Vinyl Chloride	75-01-4	1	0.06	0.20	ND	ug/L	U
Bromomethane	74-83-9	1	0.25	1.00	ND	ug/L	U
Chloroethane	75-00-3	1	0.09	0.20	ND	ug/L	U
Trichlorofluoromethane	75-69-4	1	0.04	0.20	ND	ug/L	U
Acrolein	107-02-8	1	2.48	5.00	ND	ug/L	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1	0.04	0.20	ND	ug/L	U
Acetone	67-64-1	1	2.06	5.00	**8.47**	ug/L	
1,1-Dichloroethene	75-35-4	1	0.05	0.20	ND	ug/L	U
Bromoethane	74-96-4	1	0.04	0.20	ND	ug/L	U
Iodomethane	74-88-4	1	0.23	1.00	ND	ug/L	U
Methylene Chloride	75-09-2	1	0.49	1.00	ND	ug/L	U
Acrylonitrile	107-13-1	1	0.60	1.00	ND	ug/L	U
Carbon Disulfide	75-15-0	1	0.04	0.20	**0.09**	ug/L	J
trans-1,2-Dichloroethene	156-60-5	1	0.05	0.20	ND	ug/L	U
Vinyl Acetate	108-05-4	1	0.07	0.20	ND	ug/L	U
1,1-Dichloroethane	75-34-3	1	0.05	0.20	ND	ug/L	U
2-Butanone	78-93-3	1	0.81	5.00	ND	ug/L	U
2,2-Dichloropropane	594-20-7	1	0.05	0.20	ND	ug/L	U
cis-1,2-Dichloroethene	156-59-2	1	0.04	0.20	ND	ug/L	U
Chloroform	67-66-3	1	0.03	0.20	ND	ug/L	U
Bromochloromethane	74-97-5	1	0.06	0.20	ND	ug/L	U
1,1,1-Trichloroethane	71-55-6	1	0.04	0.20	ND	ug/L	U
1,1-Dichloropropene	563-58-6	1	0.03	0.20	ND	ug/L	U
Carbon tetrachloride	56-23-5	1	0.04	0.20	ND	ug/L	U
1,2-Dichloroethane	107-06-2	1	0.07	0.20	ND	ug/L	U
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Trichloroethene	79-01-6	1	0.05	0.20	ND	ug/L	U
1,2-Dichloropropane	78-87-5	1	0.04	0.20	ND	ug/L	U
Bromodichloromethane	75-27-4	1	0.05	0.20	ND	ug/L	U
Dibromomethane	74-95-3	1	0.15	0.20	ND	ug/L	U
2-Chloroethyl vinyl ether	110-75-8	1	0.25	1.00	ND	ug/L	U
4-Methyl-2-Pentanone	108-10-1	1	0.97	5.00	ND	ug/L	U
cis-1,3-Dichloropropene	10061-01-5	1	0.06	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
trans-1,3-Dichloropropene	10061-02-6	1	0.08	0.20	ND	ug/L	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 16:40

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:07

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2-Hexanone	591-78-6	1	0.90	5.00	ND	ug/L	U
1,1,2-Trichloroethane	79-00-5	1	0.13	0.20	ND	ug/L	U
1,3-Dichloropropane	142-28-9	1	0.06	0.20	ND	ug/L	U
Tetrachloroethene	127-18-4	1	0.05	0.20	ND	ug/L	U
Dibromochloromethane	124-48-1	1	0.05	0.20	ND	ug/L	U
1,2-Dibromoethane	106-93-4	1	0.07	0.20	ND	ug/L	U
Chlorobenzene	108-90-7	1	0.02	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
1,1,1,2-Tetrachloroethane	630-20-6	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Xylenes, total	1330-20-7	1	0.09	0.60	ND	ug/L	U
Styrene	100-42-5	1	0.05	0.20	ND	ug/L	U
Bromoform	75-25-2	1	0.06	0.20	ND	ug/L	U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.06	0.20	ND	ug/L	U
1,2,3-Trichloropropane	96-18-4	1	0.13	0.50	ND	ug/L	U
trans-1,4-Dichloro 2-Butene	110-57-6	1	0.32	1.00	ND	ug/L	U
n-Propylbenzene	103-65-1	1	0.02	0.20	ND	ug/L	U
Bromobenzene	108-86-1	1	0.06	0.20	ND	ug/L	U
Isopropyl Benzene	98-82-8	1	0.02	0.20	ND	ug/L	U
2-Chlorotoluene	95-49-8	1	0.02	0.20	ND	ug/L	U
4-Chlorotoluene	106-43-4	1	0.02	0.20	ND	ug/L	U
t-Butylbenzene	98-06-6	1	0.03	0.20	ND	ug/L	U
1,3,5-Trimethylbenzene	108-67-8	1	0.02	0.20	ND	ug/L	U
1,2,4-Trimethylbenzene	95-63-6	1	0.02	0.20	**0.06**	ug/L	J
s-Butylbenzene	135-98-8	1	0.02	0.20	ND	ug/L	U
4-Isopropyl Toluene	99-87-6	1	0.03	0.20	ND	ug/L	U
1,3-Dichlorobenzene	541-73-1	1	0.04	0.20	ND	ug/L	U
1,4-Dichlorobenzene	106-46-7	1	0.04	0.20	ND	ug/L	U
n-Butylbenzene	104-51-8	1	0.02	0.20	ND	ug/L	U
1,2-Dichlorobenzene	95-50-1	1	0.04	0.20	ND	ug/L	U
1,2-Dibromo-3-chloropropane	96-12-8	1	0.37	0.50	ND	ug/L	U
1,2,4-Trichlorobenzene	120-82-1	1	0.11	0.50	ND	ug/L	U
Hexachloro-1,3-Butadiene	87-68-3	1	0.07	0.50	ND	ug/L	U
Naphthalene	91-20-3	1	0.12	0.50	ND	ug/L	U
1,2,3-Trichlorobenzene	87-61-6	1	0.11	0.50	ND	ug/L	U
Dichlorodifluoromethane	75-71-8	1	0.05	0.20	**0.95**	ug/L	
Methyl tert-butyl Ether	1634-04-4	1	0.07	0.50	ND	ug/L	U
2-Pentanone	107-87-9	1	5.00	5.00	ND	ug/L	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 16:40

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:07

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: 1,2-Dichloroethane-d4		*80-129 %*	*106*	*%*	
Surrogate: Toluene-d8		*80-120 %*	*97.2*	*%*	
Surrogate: 4-Bromofluorobenzene		*80-120 %*	*95.3*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4		*80-120 %*	*103*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 16:40

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:07

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-06 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.2*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*95.3*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 16:40

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 16:17

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-06 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.025**	ug/L	
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.011**	ug/L	
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**1.26**	ug/L	E
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	**0.008**	ug/L	J
Acenaphthene	83-32-9	1	0.003	0.010	**0.096**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.023**	ug/L	
Fluorene	86-73-7	1	0.002	0.010	**0.051**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.048**	ug/L	
Anthracene	120-12-7	1	0.001	0.010	**0.002**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.002**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*69.3*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*63.6*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*75.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 16:40

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 00:16

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-06 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.141**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*74.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 16:40

Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 18:40

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-06 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-06 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-06 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-06 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*28.8*	*%*	*
Surrogate: Tetrachlorometaxylene				*32-120 %*	*40.2*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*28.5*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*34.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:49

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-06 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**612**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:49

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-06 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.450**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 16:40

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:19

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-06 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000011**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06RE1 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 16:40

Instrument: NT11 Analyst: VTS — Analyzed: 07/09/2019 14:53

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-06RE1 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	2	0.003	0.020	**0.005**	ug/L	J, D
2-Methylnaphthalene	91-57-6	2	0.002	0.020	**0.010**	ug/L	J, D
1-Methylnaphthalene	90-12-0	2	0.002	0.020	**1.31**	ug/L	D
2-Chloronaphthalene	91-58-7	2	0.002	0.020	ND	ug/L	U
Acenaphthylene	208-96-8	2	0.004	0.020	**0.007**	ug/L	J, D
Acenaphthene	83-32-9	2	0.006	0.020	**0.092**	ug/L	D
Dibenzofuran	132-64-9	2	0.003	0.020	**0.021**	ug/L	D
Fluorene	86-73-7	2	0.003	0.020	**0.047**	ug/L	D
Phenanthrene	85-01-8	2	0.003	0.020	**0.044**	ug/L	D
Anthracene	120-12-7	2	0.002	0.020	ND	ug/L	U
Carbazole	86-74-8	2	0.002	0.020	ND	ug/L	U
Fluoranthene	206-44-0	2	0.003	0.020	ND	ug/L	U
Pyrene	129-00-0	2	0.002	0.020	ND	ug/L	U
Benzo(a)anthracene	56-55-3	2	0.002	0.020	ND	ug/L	U
Chrysene	218-01-9	2	0.002	0.020	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	2	0.0009	0.020	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	2	0.006	0.020	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	2	0.004	0.020	ND	ug/L	U
Benzofluoranthenes, Total		2	0.007	0.020	ND	ug/L	U
Benzo(a)pyrene	50-32-8	2	0.005	0.020	ND	ug/L	U
Perylene	1985-5-0	2	0.012	0.020	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	2	0.002	0.020	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	2	0.003	0.020	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	2	0.003	0.020	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*67.1*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*56.1*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*71.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-06RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 19:40

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-06RE1 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc	7440-66-6	1	0.820	4.00	**3.07**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 16:36

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:33

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-07 K

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*97.7*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*96.3*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 16:36

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:33

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-07 K

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*97.7*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*96.3*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 16:36

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 16:46

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-07 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.001**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	**0.002**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	**0.0009**	ug/L	J
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*70.8*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*100*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*88.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 16:36

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 01:18

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-07 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*77.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 16:36
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 19:43

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-07 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-07 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-07 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-07 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*46.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*45.3*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*45.4*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*38.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 16:36

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:53

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-07 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**931**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:36

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:53

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-07 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**1.29**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	**0.0440**	ug/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 16:36

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:22

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-07 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000015**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-07RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:36

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 19:45

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-07RE1 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	**0.363**	ug/L	J
Zinc	7440-66-6	1	0.820	4.00	**4.98**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 11:03

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:59

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-08 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	**0.19**	ug/L	J
Toluene	108-88-3	1	0.04	0.20	**0.22**	ug/L	
Ethylbenzene	100-41-4	1	0.04	0.20	**0.26**	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	**0.28**	ug/L	J
o-Xylene	95-47-6	1	0.03	0.20	**0.10**	ug/L	J
Surrogate: Toluene-d8				*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*97.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 11:03

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 17:59

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-08 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	**131**	ug/L	
HC ID: GRO						
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.7*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 11:03

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 17:16

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-08 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.400**	ug/L	
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.609**	ug/L	
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.646**	ug/L	
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	**0.004**	ug/L	J
Acenaphthene	83-32-9	1	0.003	0.010	**0.128**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.045**	ug/L	
Fluorene	86-73-7	1	0.002	0.010	**0.147**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.045**	ug/L	
Anthracene	120-12-7	1	0.001	0.010	**0.004**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	**0.110**	ug/L	
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.002**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*72.6*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*92.0*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*87.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 11:03

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 01:38

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-08 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.336**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	**0.223**	mg/L	
HC ID: RRO						
Surrogate: o-Terphenyl			*50-150 %*	*74.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 11:03

Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 20:04

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-08 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-08 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-08 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-08 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*53.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*47.0*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*51.6*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*42.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 11:03

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:58

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-08 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	**0.440**	ug/L	
Manganese	7439-96-5	1	0.0850	0.500	**18.4**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 11:03

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 00:58

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-08 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**10.1**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**2.95**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**3.56**	ug/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-08 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 11:03

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:25

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-08 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000024**	mg/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 15:20

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 18:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-09 L

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*94.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 15:20
Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 18:26

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-09 L
Preparation Batch: BHG0064 — Sample Size: 10 mL
Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*94.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 15:20
Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 17:46

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-09 E 01
Preparation Batch: BHG0068 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.003**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.003**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.005**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	**0.084**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.003**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	**0.011**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.012**	ug/L	
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	**0.002**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	**0.011**	ug/L	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*83.4*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*92.1*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*88.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 15:20
Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 01:59

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-09 B 01
Preparation Batch: BHG0065 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.474**	mg/L	
HC ID: DIESEL						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*83.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 15:20
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 20:25

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-09 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-09 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-09 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-09 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*28.0*	*%*	*
Surrogate: Tetrachlorometaxylene				*32-120 %*	*36.1*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*26.8*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*32.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 15:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:02

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-09 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	2	0.136	0.200	**0.216**	ug/L	D
Manganese	7439-96-5	5	0.425	2.50	**904**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:02

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-09 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	2	0.0440	0.400	**12.3**	ug/L	D
Cadmium	7440-43-9	2	0.0600	0.200	ND	ug/L	U

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 15:20

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:28

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-09 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000015**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-09RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:03

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-09RE1 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	**2.21**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**3.56**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 14:21

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 18:52

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-10 K

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*99.6*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*94.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 14:21

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 18:52

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-10 K

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*99.6*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*94.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 14:21

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 18:15

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-10 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*75.7*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*100*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*87.2*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 14:21
Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 02:20

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-10 B 01
Preparation Batch: BHG0065 — Sample Size: 500 mL
Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*87.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 14:21

Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 20:45

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-10 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-10 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-10 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-10 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*59.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*46.8*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*57.6*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*38.6*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:07

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-10 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**483**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:07

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-10 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.629**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 14:21

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:31

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-10 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000019**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-10RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:08

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-10RE1 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	**2.09**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**3.97**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 13:23

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 19:19

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-11 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*93.9*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 13:23

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 19:19

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-11 J

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*100*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*93.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 13:23

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 18:45

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-11 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.002**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	ND	ug/L	U
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	ND	ug/L	U
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*74.3*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*95.3*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*84.9*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 13:23

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 02:41

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-11 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*90.3*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 13:23

Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 21:06

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-11 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-11 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-11 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-11 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*45.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*40.5*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*42.5*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*35.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 13:23

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:11

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-11 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	**0.466**	ug/L	
Manganese	7439-96-5	1	0.0850	0.500	**140**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 13:23

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:11

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-11 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**8.50**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	**0.0730**	ug/L	J
Copper	7440-50-8	1	0.340	0.500	**1.64**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**7.04**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-11 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 13:23

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:34

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-11 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000019**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/01/2019 12:07

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 19:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-12 I

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	ND	ug/L	U
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*95.5*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/01/2019 12:07

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 19:46

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0017-12 I

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*102*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*95.5*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/01/2019 12:07

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 19:15

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-12 E 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.003**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.001**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.001**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	**0.002**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	ND	ug/L	U
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*74.2*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*92.2*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*83.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/01/2019 12:07

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 03:01

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0017-12 B 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	**0.125**	mg/L	
HC ID: DRO						
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*76.8*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/01/2019 12:07
Instrument: ECD7 Analyst: JGR — Analyzed: 07/03/2019 21:27

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0017-12 C 01
	Preparation Batch: BHG0066	Sample Size: 1000 mL	
	Prepared: 02-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0017-12 C 01
	Cleanup Batch: CHG0019	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0017-12 C 01
	Cleanup Batch: CHG0017	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0017-12 C 01
	Cleanup Batch: CHG0018	Initial Volume: 0.5 mL	
	Cleaned: 03-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*41.8*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*43.1*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*39.9*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*36.7*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:29

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-12 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**991**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:29

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-12 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.857**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	**0.0530**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/01/2019 12:07

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:37

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-12 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000031**	mg/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-12RE1 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:13

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-12RE1 A 01

Preparation Batch: BHG0166 — Sample Size: 25 mL

Prepared: 08-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	1	0.340	0.500	**9.43**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**7.80**	ug/L	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-13 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**702**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:33

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-13 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**2.00**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-13 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 10:40

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:11

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-13 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-4-190701

19G0017-13RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 10:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:18

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-13RE1 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.92**	ug/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-14 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 11:55

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:38

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-14 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.140**	ug/L	
Manganese, Dissolved	7439-96-5	1	0.0850	0.500	**216**	ug/L	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-14 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 11:55

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:38

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-14 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.812**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**1.14**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**3.20**	ug/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-5-190701

19G0017-14 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 11:55

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:14

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-14 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000016**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-15 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 13:05

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-15 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.223**	ug/L	
Manganese, Dissolved	7439-96-5	1	0.0850	0.500	**60.6**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-15 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 13:05

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:42

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-15 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**14.8**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**2.11**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.17**	ug/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG2-190701

19G0017-15 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 13:05

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:24

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-15 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000017**	mg/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-16 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 14:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-16 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.400**	ug/L	
Manganese, Dissolved	7439-96-5	2	0.170	1.00	**74.6**	ug/L	D

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-16 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-16 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**5.74**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**7.75**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**3.05**	ug/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-AG1-190701

19G0017-16 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 14:20

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:27

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-16 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000018**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-17 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 15:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:51

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-17 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	20	1.70	10.0	**4060**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-17 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:51

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-17 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**50.1**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-17 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 15:35

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:02

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-17 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	ND	mg/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-101-190701

19G0017-17RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:35

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:22

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-17RE1 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.59**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-18 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:56

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-18 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**628**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-18 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 01:56

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-18 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.435**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-18 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 16:40

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:30

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-18 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000016**	mg/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

FMW-03-190701

19G0017-18RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:40

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 20:27

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-18RE1 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**3.10**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-19 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 16:36

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:00

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-19 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**928**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-19 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 16:36

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:00

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-19 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**1.32**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	**0.0840**	ug/L	J
Copper, Dissolved	7440-50-8	1	0.340	0.500	ND	ug/L	U
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**5.03**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-1-190701

19G0017-19 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 16:36

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:33

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-19 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000016**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-20 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 11:03

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:05

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-20 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.479**	ug/L	
Manganese, Dissolved	7439-96-5	1	0.0850	0.500	**19.1**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-20 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 11:03

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:05

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-20 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**9.87**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**2.38**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**5.35**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-2-190701

19G0017-20 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 11:03

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:36

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-20 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000022**	mg/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-21 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 15:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:09

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-21 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	2	0.136	0.200	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**937**	ug/L	D

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-21 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 15:20

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:09

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-21 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	2	0.0440	0.400	**11.6**	ug/L	D
Cadmium, Dissolved	7440-43-9	2	0.0600	0.200	ND	ug/L	U
Copper, Dissolved	7440-50-8	2	0.680	1.00	**1.07**	ug/L	D
Zinc, Dissolved	7440-66-6	2	1.64	8.00	**3.11**	ug/L	J, D

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-4-190701

19G0017-21 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 15:20

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:39

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-21 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000014**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-22 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:43

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-22 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**481**	ug/L	D

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-22 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:43

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-22 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.476**	ug/L	
Copper, Dissolved	7440-50-8	1	0.340	0.500	**2.03**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**4.43**	ug/L	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-22 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 14:21

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:42

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-22 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000017**	mg/L	J

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Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-203-190701

19G0017-22RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 14:21

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 21:14

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-22RE1 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-23 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 13:23

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-23 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	1	0.0850	0.500	**137**	ug/L	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-23 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 13:23

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:47

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-23 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**2.96**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	**0.0610**	ug/L	J
Copper, Dissolved	7440-50-8	1	0.340	0.500	**0.905**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**4.86**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

MW-207-190701

19G0017-23 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 13:23

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:45

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-23 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000018**	mg/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-24 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:52

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-24 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**953**	ug/L	D

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-24 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/09/2019 02:52

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-24 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.776**	ug/L	
Copper, Dissolved	7440-50-8	1	0.340	0.500	**8.87**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**7.52**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-24 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/01/2019 12:07

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 17:48

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0017-24 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000026**	mg/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

DOF-3-190701

19G0017-24RE1 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/01/2019 12:07

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/10/2019 21:18

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0017-24RE1 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	**0.0620**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0047 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result		Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0047-BLK1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:20						
Gasoline Range Organics (Tol-Nap)	ND		100	ug/L							U
Surrogate: Toluene-d8	4.70			ug/L	*5.00*		*94.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.55			ug/L	*5.00*		*91.0*	*80-120*			
Blank (BHG0047-BLK2)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:20						
Benzene	ND	0.03	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Surrogate: Toluene-d8	4.70			ug/L	*5.00*		*94.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.55			ug/L	*5.00*		*91.0*	*80-120*			
LCS (BHG0047-BS1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 07:58						
Gasoline Range Organics (Tol-Nap)	1040		100	ug/L	1000		104	72-128			
Surrogate: Toluene-d8	5.03			ug/L	*5.00*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.03			ug/L	*5.00*		*101*	*80-120*			
LCS (BHG0047-BS2)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 08:18						
Benzene	10.5	0.03	0.20	ug/L	10.0		105	80-120			
Toluene	10.2	0.04	0.20	ug/L	10.0		102	80-120			
Ethylbenzene	10.7	0.04	0.20	ug/L	10.0		107	80-120			
m,p-Xylene	21.6	0.05	0.40	ug/L	20.0		108	80-121			
o-Xylene	10.9	0.03	0.20	ug/L	10.0		109	80-121			
Surrogate: Toluene-d8	4.93			ug/L	*5.00*		*98.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08			ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BHG0047-BSD1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 08:38						
Gasoline Range Organics (Tol-Nap)	992		100	ug/L	1000		99.2	72-128	5.09	30	
Surrogate: Toluene-d8	5.00			ug/L	*5.00*		*100*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.09			ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BHG0047-BSD2)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 08:59						
Benzene	10.6	0.03	0.20	ug/L	10.0		106	80-120	0.92	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0047 - EPA 5030 (Purge and Trap)

Instrument: NT2 Analyst: LH

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0047-BSD2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 08:59							
Toluene	10.3	0.04	0.20	ug/L	10.0		103	80-120	0.77	30	
Ethylbenzene	10.6	0.04	0.20	ug/L	10.0		106	80-120	0.84	30	
m,p-Xylene	21.5	0.05	0.40	ug/L	20.0		108	80-121	0.11	30	
o-Xylene	11.0	0.03	0.20	ug/L	10.0		110	80-121	0.78	30	
Surrogate: Toluene-d8	4.97			ug/L	*5.00*		*99.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.01			ug/L	*5.00*		*100*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0064-BLK1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
Chloromethane	ND	0.09	0.50	ug/L							U
Vinyl Chloride	ND	0.06	0.20	ug/L							U
Bromomethane	ND	0.25	1.00	ug/L							U
Chloroethane	ND	0.09	0.20	ug/L							U
Trichlorofluoromethane	ND	0.04	0.20	ug/L							U
Acrolein	ND	2.48	5.00	ug/L							U
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.04	0.20	ug/L							U
Acetone	ND	2.06	5.00	ug/L							U
1,1-Dichloroethene	ND	0.05	0.20	ug/L							U
Bromoethane	ND	0.04	0.20	ug/L							U
Iodomethane	ND	0.23	1.00	ug/L							U
Methylene Chloride	ND	0.49	1.00	ug/L							U
Acrylonitrile	ND	0.60	1.00	ug/L							U
Carbon Disulfide	ND	0.04	0.20	ug/L							U
trans-1,2-Dichloroethene	ND	0.05	0.20	ug/L							U
Vinyl Acetate	ND	0.07	0.20	ug/L							U
1,1-Dichloroethane	ND	0.05	0.20	ug/L							U
2-Butanone	ND	0.81	5.00	ug/L							U
2,2-Dichloropropane	ND	0.05	0.20	ug/L							U
cis-1,2-Dichloroethene	ND	0.04	0.20	ug/L							U
Chloroform	ND	0.03	0.20	ug/L							U
Bromochloromethane	ND	0.06	0.20	ug/L							U
1,1,1-Trichloroethane	ND	0.04	0.20	ug/L							U
1,1-Dichloropropene	ND	0.03	0.20	ug/L							U
Carbon tetrachloride	ND	0.04	0.20	ug/L							U
1,2-Dichloroethane	ND	0.07	0.20	ug/L							U
Benzene	ND	0.03	0.20	ug/L							U
Trichloroethene	ND	0.05	0.20	ug/L							U
1,2-Dichloropropane	ND	0.04	0.20	ug/L							U
Bromodichloromethane	ND	0.05	0.20	ug/L							U
Dibromomethane	ND	0.15	0.20	ug/L							U
2-Chloroethyl vinyl ether	ND	0.25	1.00	ug/L							U
4-Methyl-2-Pentanone	ND	0.97	5.00	ug/L							U
cis-1,3-Dichloropropene	ND	0.06	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0064-BLK1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
trans-1,3-Dichloropropene	ND	0.08	0.20	ug/L							U
2-Hexanone	ND	0.90	5.00	ug/L							U
1,1,2-Trichloroethane	ND	0.13	0.20	ug/L							U
1,3-Dichloropropane	ND	0.06	0.20	ug/L							U
Tetrachloroethene	ND	0.05	0.20	ug/L							U
Dibromochloromethane	ND	0.05	0.20	ug/L							U
1,2-Dibromoethane	ND	0.07	0.20	ug/L							U
Chlorobenzene	ND	0.02	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
1,1,1,2-Tetrachloroethane	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Xylenes, total	ND	0.09	0.60	ug/L							U
Styrene	ND	0.05	0.20	ug/L							U
Bromoform	ND	0.06	0.20	ug/L							U
1,1,2,2-Tetrachloroethane	ND	0.06	0.20	ug/L							U
1,2,3-Trichloropropane	ND	0.13	0.50	ug/L							U
trans-1,4-Dichloro 2-Butene	ND	0.32	1.00	ug/L							U
n-Propylbenzene	ND	0.02	0.20	ug/L							U
Bromobenzene	ND	0.06	0.20	ug/L							U
Isopropyl Benzene	ND	0.02	0.20	ug/L							U
2-Chlorotoluene	ND	0.02	0.20	ug/L							U
4-Chlorotoluene	ND	0.02	0.20	ug/L							U
t-Butylbenzene	ND	0.03	0.20	ug/L							U
1,3,5-Trimethylbenzene	ND	0.02	0.20	ug/L							U
1,2,4-Trimethylbenzene	0.03	0.02	0.20	ug/L							J
s-Butylbenzene	ND	0.02	0.20	ug/L							U
4-Isopropyl Toluene	ND	0.03	0.20	ug/L							U
1,3-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,4-Dichlorobenzene	ND	0.04	0.20	ug/L							U
n-Butylbenzene	ND	0.02	0.20	ug/L							U
1,2-Dichlorobenzene	ND	0.04	0.20	ug/L							U
1,2-Dibromo-3-chloropropane	ND	0.37	0.50	ug/L							U
1,2,4-Trichlorobenzene	ND	0.11	0.50	ug/L							U
Hexachloro-1,3-Butadiene	ND	0.07	0.50	ug/L							U

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0064-BLK1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
Naphthalene	ND	0.12	0.50	ug/L							U
1,2,3-Trichlorobenzene	ND	0.11	0.50	ug/L							U
Dichlorodifluoromethane	ND	0.05	0.20	ug/L							U
Methyl tert-butyl Ether	ND	0.07	0.50	ug/L							U
2-Pentanone	ND	5.00	5.00	ug/L							U
Surrogate: 1,2-Dichloroethane-d4	5.09			ug/L	*5.00*		*102*	*80-129*			
Surrogate: Toluene-d8	4.88			ug/L	*5.00*		*97.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.72			ug/L	*5.00*		*94.3*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.95			ug/L	*5.00*		*99.0*	*80-120*			
Blank (BHG0064-BLK2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
Gasoline Range Organics (Tol-Nap)	ND		100	ug/L							U
Surrogate: Toluene-d8	4.88			ug/L	*5.00*		*97.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.72			ug/L	*5.00*		*94.3*	*80-120*			
LCS (BHG0064-BS1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:44							
Chloromethane	9.35	0.09	0.50	ug/L	10.0		93.5	60-138			
Vinyl Chloride	9.72	0.06	0.20	ug/L	10.0		97.2	66-133			
Bromomethane	9.41	0.25	1.00	ug/L	10.0		94.1	72-131			
Chloroethane	9.45	0.09	0.20	ug/L	10.0		94.5	60-155			
Trichlorofluoromethane	9.59	0.04	0.20	ug/L	10.0		95.9	80-129			
Acrolein	41.9	2.48	5.00	ug/L	50.0		83.8	52-144			
1,1,2-Trichloro-1,2,2-Trifluoroethane	9.92	0.04	0.20	ug/L	10.0		99.2	76-129			
Acetone	48.0	2.06	5.00	ug/L	50.0		96.1	58-142			
1,1-Dichloroethene	9.29	0.05	0.20	ug/L	10.0		92.9	69-135			
Bromoethane	10.4	0.04	0.20	ug/L	10.0		104	78-128			
Iodomethane	9.36	0.23	1.00	ug/L	10.0		93.6	56-147			
Methylene Chloride	8.53	0.49	1.00	ug/L	10.0		85.3	65-135			
Acrylonitrile	9.51	0.60	1.00	ug/L	10.0		95.1	64-134			
Carbon Disulfide	9.60	0.04	0.20	ug/L	10.0		96.0	78-125			
trans-1,2-Dichloroethene	9.82	0.05	0.20	ug/L	10.0		98.2	78-128			
Vinyl Acetate	8.99	0.07	0.20	ug/L	10.0		89.9	55-138			
1,1-Dichloroethane	9.70	0.05	0.20	ug/L	10.0		97.0	76-124			
2-Butanone	44.7	0.81	5.00	ug/L	50.0		89.4	61-140			
2,2-Dichloropropane	10.2	0.05	0.20	ug/L	10.0		102	78-125			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHG0064-BS1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:44						
cis-1,2-Dichloroethene	9.43	0.04	0.20	ug/L	10.0		94.3	80-121			
Chloroform	9.65	0.03	0.20	ug/L	10.0		96.5	80-122			
Bromochloromethane	9.53	0.06	0.20	ug/L	10.0		95.3	80-121			
1,1,1-Trichloroethane	9.79	0.04	0.20	ug/L	10.0		97.9	79-123			
1,1-Dichloropropene	9.51	0.03	0.20	ug/L	10.0		95.1	80-120			
Carbon tetrachloride	9.81	0.04	0.20	ug/L	10.0		98.1	53-137			
1,2-Dichloroethane	8.88	0.07	0.20	ug/L	10.0		88.8	75-123			
Benzene	9.52	0.03	0.20	ug/L	10.0		95.2	80-120			
Trichloroethene	9.73	0.05	0.20	ug/L	10.0		97.3	80-120			
1,2-Dichloropropane	9.23	0.04	0.20	ug/L	10.0		92.3	80-120			
Bromodichloromethane	9.26	0.05	0.20	ug/L	10.0		92.6	80-121			
Dibromomethane	8.18	0.15	0.20	ug/L	10.0		81.8	80-120			
2-Chloroethyl vinyl ether	8.97	0.25	1.00	ug/L	10.0		89.7	74-127			
4-Methyl-2-Pentanone	44.3	0.97	5.00	ug/L	50.0		88.6	67-133			
cis-1,3-Dichloropropene	9.68	0.06	0.20	ug/L	10.0		96.8	80-124			
Toluene	9.55	0.04	0.20	ug/L	10.0		95.5	80-120			
trans-1,3-Dichloropropene	9.65	0.08	0.20	ug/L	10.0		96.5	71-127			
2-Hexanone	43.4	0.90	5.00	ug/L	50.0		86.9	69-133			
1,1,2-Trichloroethane	9.01	0.13	0.20	ug/L	10.0		90.1	80-121			
1,3-Dichloropropane	9.14	0.06	0.20	ug/L	10.0		91.4	80-120			
Tetrachloroethene	9.39	0.05	0.20	ug/L	10.0		93.9	80-120			
Dibromochloromethane	9.32	0.05	0.20	ug/L	10.0		93.2	65-135			
1,2-Dibromoethane	9.34	0.07	0.20	ug/L	10.0		93.4	80-121			
Chlorobenzene	9.45	0.02	0.20	ug/L	10.0		94.5	80-120			
Ethylbenzene	9.36	0.04	0.20	ug/L	10.0		93.6	80-120			
1,1,1,2-Tetrachloroethane	9.06	0.04	0.20	ug/L	10.0		90.6	80-120			
m,p-Xylene	18.8	0.05	0.40	ug/L	20.0		93.9	80-121			
o-Xylene	9.58	0.03	0.20	ug/L	10.0		95.8	80-121			
Xylenes, total	28.4	0.09	0.60	ug/L	30.0		94.5	76-127			
Styrene	9.30	0.05	0.20	ug/L	10.0		93.0	80-124			
Bromoform	9.02	0.06	0.20	ug/L	10.0		90.2	51-134			
1,1,2,2-Tetrachloroethane	8.65	0.06	0.20	ug/L	10.0		86.5	77-123			
1,2,3-Trichloropropane	8.30	0.13	0.50	ug/L	10.0		83.0	76-125			
trans-1,4-Dichloro 2-Butene	9.45	0.32	1.00	ug/L	10.0		94.5	55-129			
n-Propylbenzene	9.53	0.02	0.20	ug/L	10.0		95.3	78-130			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHG0064-BS1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:44							
Bromobenzene	9.07	0.06	0.20	ug/L	10.0		90.7	80-120			
Isopropyl Benzene	9.37	0.02	0.20	ug/L	10.0		93.7	80-128			
2-Chlorotoluene	9.46	0.02	0.20	ug/L	10.0		94.6	78-122			
4-Chlorotoluene	9.48	0.02	0.20	ug/L	10.0		94.8	80-121			
t-Butylbenzene	9.34	0.03	0.20	ug/L	10.0		93.4	78-125			
1,3,5-Trimethylbenzene	9.56	0.02	0.20	ug/L	10.0		95.6	80-129			
1,2,4-Trimethylbenzene	9.58	0.02	0.20	ug/L	10.0		95.8	80-127			
s-Butylbenzene	9.49	0.02	0.20	ug/L	10.0		94.9	78-129			
4-Isopropyl Toluene	9.35	0.03	0.20	ug/L	10.0		93.5	79-130			
1,3-Dichlorobenzene	8.97	0.04	0.20	ug/L	10.0		89.7	80-120			
1,4-Dichlorobenzene	8.94	0.04	0.20	ug/L	10.0		89.4	80-120			
n-Butylbenzene	9.81	0.02	0.20	ug/L	10.0		98.1	74-129			
1,2-Dichlorobenzene	9.13	0.04	0.20	ug/L	10.0		91.3	80-120			
1,2-Dibromo-3-chloropropane	7.68	0.37	0.50	ug/L	10.0		76.8	62-123			Q
1,2,4-Trichlorobenzene	9.05	0.11	0.50	ug/L	10.0		90.5	64-124			
Hexachloro-1,3-Butadiene	9.71	0.07	0.50	ug/L	10.0		97.1	58-123			
Naphthalene	9.02	0.12	0.50	ug/L	10.0		90.2	50-134			
1,2,3-Trichlorobenzene	8.44	0.11	0.50	ug/L	10.0		84.4	49-133			
Dichlorodifluoromethane	9.84	0.05	0.20	ug/L	10.0		98.4	48-147			
Methyl tert-butyl Ether	9.37	0.07	0.50	ug/L	10.0		93.7	71-132			
2-Pentanone	44.7	5.00	5.00	ug/L	50.0		89.4	69-134			
Surrogate: 1,2-Dichloroethane-d4	5.20			ug/L	*5.00*		*104*	*80-129*			
Surrogate: Toluene-d8	4.93			ug/L	*5.00*		*98.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.83			ug/L	*5.00*		*96.6*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4.95			ug/L	*5.00*		*99.0*	*80-120*			
LCS (BHG0064-BS2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:38							
Gasoline Range Organics (Tol-Nap)	1020		100	ug/L	1000		102	72-128			
Surrogate: Toluene-d8	5.20			ug/L	*5.00*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08			ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BHG0064-BSD1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11							
Chloromethane	9.47	0.09	0.50	ug/L	10.0		94.7	60-138	1.25	30	
Vinyl Chloride	9.83	0.06	0.20	ug/L	10.0		98.3	66-133	1.17	30	
Bromomethane	10.0	0.25	1.00	ug/L	10.0		100	72-131	6.24	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0064-BSD1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11						
Chloroethane	9.21	0.09	0.20	ug/L	10.0		92.1	60-155	2.63	30	
Trichlorofluoromethane	9.67	0.04	0.20	ug/L	10.0		96.7	80-129	0.77	30	
Acrolein	43.8	2.48	5.00	ug/L	50.0		87.5	52-144	4.27	30	
1,1,2-Trichloro-1,2,2-Trifluoroethane	10.0	0.04	0.20	ug/L	10.0		100	76-129	1.04	30	
Acetone	49.7	2.06	5.00	ug/L	50.0		99.4	58-142	3.35	30	
1,1-Dichloroethene	9.48	0.05	0.20	ug/L	10.0		94.8	69-135	2.01	30	
Bromoethane	9.86	0.04	0.20	ug/L	10.0		98.6	78-128	5.09	30	
Iodomethane	9.57	0.23	1.00	ug/L	10.0		95.7	56-147	2.23	30	
Methylene Chloride	8.55	0.49	1.00	ug/L	10.0		85.5	65-135	0.26	30	
Acrylonitrile	9.60	0.60	1.00	ug/L	10.0		96.0	64-134	0.97	30	
Carbon Disulfide	9.75	0.04	0.20	ug/L	10.0		97.5	78-125	1.56	30	
trans-1,2-Dichloroethene	9.70	0.05	0.20	ug/L	10.0		97.0	78-128	1.23	30	
Vinyl Acetate	9.46	0.07	0.20	ug/L	10.0		94.6	55-138	5.05	30	
1,1-Dichloroethane	9.94	0.05	0.20	ug/L	10.0		99.4	76-124	2.46	30	
2-Butanone	47.8	0.81	5.00	ug/L	50.0		95.5	61-140	6.65	30	
2,2-Dichloropropane	10.3	0.05	0.20	ug/L	10.0		103	78-125	0.67	30	
cis-1,2-Dichloroethene	9.74	0.04	0.20	ug/L	10.0		97.4	80-121	3.28	30	
Chloroform	9.65	0.03	0.20	ug/L	10.0		96.5	80-122	0.04	30	
Bromochloromethane	9.53	0.06	0.20	ug/L	10.0		95.3	80-121	0.03	30	
1,1,1-Trichloroethane	9.88	0.04	0.20	ug/L	10.0		98.8	79-123	0.86	30	
1,1-Dichloropropene	10.0	0.03	0.20	ug/L	10.0		100	80-120	5.04	30	
Carbon tetrachloride	9.91	0.04	0.20	ug/L	10.0		99.1	53-137	0.95	30	
1,2-Dichloroethane	9.54	0.07	0.20	ug/L	10.0		95.4	75-123	7.22	30	
Benzene	9.94	0.03	0.20	ug/L	10.0		99.4	80-120	4.38	30	
Trichloroethene	10.0	0.05	0.20	ug/L	10.0		100	80-120	3.07	30	
1,2-Dichloropropane	9.64	0.04	0.20	ug/L	10.0		96.4	80-120	4.36	30	
Bromodichloromethane	9.82	0.05	0.20	ug/L	10.0		98.2	80-121	5.85	30	
Dibromomethane	8.94	0.15	0.20	ug/L	10.0		89.4	80-120	8.84	30	
2-Chloroethyl vinyl ether	9.96	0.25	1.00	ug/L	10.0		99.6	74-127	10.40	30	
4-Methyl-2-Pentanone	49.1	0.97	5.00	ug/L	50.0		98.2	67-133	10.20	30	
cis-1,3-Dichloropropene	10.1	0.06	0.20	ug/L	10.0		101	80-124	4.45	30	
Toluene	9.94	0.04	0.20	ug/L	10.0		99.4	80-120	3.96	30	
trans-1,3-Dichloropropene	10.3	0.08	0.20	ug/L	10.0		103	71-127	6.35	30	
2-Hexanone	47.7	0.90	5.00	ug/L	50.0		95.4	69-133	9.40	30	
1,1,2-Trichloroethane	9.54	0.13	0.20	ug/L	10.0		95.4	80-121	5.75	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0064-BSD1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11						
1,3-Dichloropropane	9.73	0.06	0.20	ug/L	10.0		97.3	80-120	6.27	30	
Tetrachloroethene	9.75	0.05	0.20	ug/L	10.0		97.5	80-120	3.80	30	
Dibromochloromethane	10.0	0.05	0.20	ug/L	10.0		100	65-135	7.54	30	
1,2-Dibromoethane	10.4	0.07	0.20	ug/L	10.0		104	80-121	11.00	30	
Chlorobenzene	9.67	0.02	0.20	ug/L	10.0		96.7	80-120	2.28	30	
Ethylbenzene	9.63	0.04	0.20	ug/L	10.0		96.3	80-120	2.82	30	
1,1,1,2-Tetrachloroethane	9.42	0.04	0.20	ug/L	10.0		94.2	80-120	3.89	30	
m,p-Xylene	19.4	0.05	0.40	ug/L	20.0		97.2	80-121	3.46	30	
o-Xylene	9.79	0.03	0.20	ug/L	10.0		97.9	80-121	2.19	30	
Xylenes, total	29.2	0.09	0.60	ug/L	30.0		97.4	76-127	3.04	30	
Styrene	9.70	0.05	0.20	ug/L	10.0		97.0	80-124	4.21	30	
Bromoform	10.1	0.06	0.20	ug/L	10.0		101	51-134	11.00	30	
1,1,2,2-Tetrachloroethane	9.70	0.06	0.20	ug/L	10.0		97.0	77-123	11.50	30	
1,2,3-Trichloropropane	9.92	0.13	0.50	ug/L	10.0		99.2	76-125	17.70	30	
trans-1,4-Dichloro 2-Butene	10.5	0.32	1.00	ug/L	10.0		105	55-129	10.90	30	
n-Propylbenzene	10.0	0.02	0.20	ug/L	10.0		100	78-130	5.16	30	
Bromobenzene	10.0	0.06	0.20	ug/L	10.0		100	80-120	9.85	30	
Isopropyl Benzene	9.87	0.02	0.20	ug/L	10.0		98.7	80-128	5.23	30	
2-Chlorotoluene	9.91	0.02	0.20	ug/L	10.0		99.1	78-122	4.63	30	
4-Chlorotoluene	9.86	0.02	0.20	ug/L	10.0		98.6	80-121	3.92	30	
t-Butylbenzene	9.84	0.03	0.20	ug/L	10.0		98.4	78-125	5.20	30	
1,3,5-Trimethylbenzene	9.98	0.02	0.20	ug/L	10.0		99.8	80-129	4.29	30	
1,2,4-Trimethylbenzene	9.93	0.02	0.20	ug/L	10.0		99.3	80-127	3.57	30	
s-Butylbenzene	9.98	0.02	0.20	ug/L	10.0		99.8	78-129	5.00	30	
4-Isopropyl Toluene	9.85	0.03	0.20	ug/L	10.0		98.5	79-130	5.27	30	
1,3-Dichlorobenzene	9.72	0.04	0.20	ug/L	10.0		97.2	80-120	7.99	30	
1,4-Dichlorobenzene	9.44	0.04	0.20	ug/L	10.0		94.4	80-120	5.44	30	
n-Butylbenzene	10.1	0.02	0.20	ug/L	10.0		101	74-129	2.58	30	
1,2-Dichlorobenzene	9.75	0.04	0.20	ug/L	10.0		97.5	80-120	6.65	30	
1,2-Dibromo-3-chloropropane	8.41	0.37	0.50	ug/L	10.0		84.1	62-123	9.03	30	Q
1,2,4-Trichlorobenzene	10.0	0.11	0.50	ug/L	10.0		100	64-124	9.91	30	
Hexachloro-1,3-Butadiene	10.3	0.07	0.50	ug/L	10.0		103	58-123	5.93	30	
Naphthalene	10.1	0.12	0.50	ug/L	10.0		101	50-134	11.60	30	
1,2,3-Trichlorobenzene	9.52	0.11	0.50	ug/L	10.0		95.2	49-133	12.10	30	
Dichlorodifluoromethane	10.4	0.05	0.20	ug/L	10.0		104	48-147	5.71	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0064-BSD1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11							
Methyl tert-butyl Ether	9.79	0.07	0.50	ug/L	10.0		97.9	71-132	4.43	30	
2-Pentanone	49.0	5.00	5.00	ug/L	50.0		97.9	69-134	9.10	30	
Surrogate: 1,2-Dichloroethane-d4	5.13			ug/L	*5.00*		*103*	*80-129*			
Surrogate: Toluene-d8	5.12			ug/L	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.00			ug/L	*5.00*		*100*	*80-120*			
Surrogate: 1,2-Dichlorobenzene-d4	5.08			ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BHG0064-BSD2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:04							
Gasoline Range Organics (Tol-Nap)	1000		100	ug/L	1000		100	72-128	1.83	30	
Surrogate: Toluene-d8	5.09			ug/L	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.82			ug/L	*5.00*		*96.4*	*80-120*			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0068-BLK1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:19							
Naphthalene	0.002	0.001	0.010	ug/L							J
2-Methylnaphthalene	ND	0.001	0.010	ug/L							U
1-Methylnaphthalene	ND	0.0009	0.010	ug/L							U
2-Chloronaphthalene	ND	0.001	0.010	ug/L							U
Acenaphthylene	ND	0.002	0.010	ug/L							U
Acenaphthene	ND	0.003	0.010	ug/L							U
Dibenzofuran	ND	0.002	0.010	ug/L							U
Fluorene	ND	0.002	0.010	ug/L							U
Phenanthrene	ND	0.001	0.010	ug/L							U
Anthracene	ND	0.001	0.010	ug/L							U
Carbazole	ND	0.001	0.010	ug/L							U
Fluoranthene	ND	0.002	0.010	ug/L							U
Pyrene	ND	0.001	0.010	ug/L							U
Benzo(a)anthracene	ND	0.0008	0.010	ug/L							U
Chrysene	ND	0.0009	0.010	ug/L							U
Benzo(b)fluoranthene	ND	0.0005	0.010	ug/L							U
Benzo(k)fluoranthene	ND	0.003	0.010	ug/L							U
Benzo(j)fluoranthene	ND	0.002	0.010	ug/L							U
Benzofluoranthenes, Total	ND	0.004	0.010	ug/L							U
Benzo(a)pyrene	ND	0.002	0.010	ug/L							U
Perylene	ND	0.006	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.001	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.001	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.001	0.010	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	0.204			ug/L	*0.300*		*68.1*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.232			ug/L	*0.300*		*77.3*	*29-120*			
Surrogate: Fluoranthene-d10	0.224			ug/L	*0.300*		*74.6*	*57-120*			
LCS (BHG0068-BS1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:49							
Naphthalene	0.214	0.001	0.010	ug/L	0.300		71.4	37-120			
2-Methylnaphthalene	0.212	0.001	0.010	ug/L	0.300		70.7	37-120			
1-Methylnaphthalene	0.218	0.0009	0.010	ug/L	0.300		72.5	29-120			
2-Chloronaphthalene	0.208	0.001	0.010	ug/L	0.300		69.5	30-160			
Biphenyl	0.221	0.001	0.010	ug/L	0.300		73.7	30-160			
2,6-Dimethylnaphthalene	0.211	0.001	0.010	ug/L	0.300		70.5	30-160			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHG0068-BS1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:49						
Acenaphthylene	0.221	0.002	0.010	ug/L	0.300		73.6	41-120			
Acenaphthene	0.222	0.003	0.010	ug/L	0.300		74.0	41-120			
Dibenzofuran	0.226	0.002	0.010	ug/L	0.300		75.4	38-120			
2,3,5-Trimethylnaphthalene	0.219	0.001	0.010	ug/L	0.300		73.1	30-160			
Fluorene	0.232	0.002	0.010	ug/L	0.300		77.2	43-120			
Dibenzothiophene	0.233	0.001	0.010	ug/L	0.300		77.6	30-160			
Phenanthrene	0.234	0.001	0.010	ug/L	0.300		77.9	41-120			
Anthracene	0.218	0.001	0.010	ug/L	0.300		72.6	40-120			
Carbazole	0.238	0.001	0.010	ug/L	0.300		79.4	30-160			
Fluoranthene	0.237	0.002	0.010	ug/L	0.300		79.0	45-120			
Pyrene	0.235	0.001	0.010	ug/L	0.300		78.2	41-120			
1-Methylphenanthrene	0.236	0.002	0.010	ug/L	0.300		78.6	30-160			
Benzo(a)anthracene	0.235	0.0008	0.010	ug/L	0.300		78.2	42-120			
Chrysene	0.239	0.0009	0.010	ug/L	0.300		79.7	44-120			
Benzo(b)fluoranthene	0.219	0.0005	0.010	ug/L	0.300		73.0	44-120			
Benzo(k)fluoranthene	0.216	0.003	0.010	ug/L	0.300		71.9	50-120			
Benzo(j)fluoranthene	0.220	0.002	0.010	ug/L	0.300		73.2	39-160			
Benzofluoranthenes, Total	0.654	0.004	0.010	ug/L	0.900		72.7	46-120			
Benzo(e)pyrene	0.230	0.001	0.010	ug/L	0.300		76.6	30-160			
Benzo(a)pyrene	0.219	0.002	0.010	ug/L	0.300		73.1	35-120			
Perylene	0.224	0.006	0.010	ug/L	0.300		74.7	30-160			
Indeno(1,2,3-cd)pyrene	0.260	0.001	0.010	ug/L	0.300		86.7	37-120			
Dibenzo(a,h)anthracene	0.247	0.001	0.010	ug/L	0.300		82.2	34-120			
Benzo(g,h,i)perylene	0.243	0.001	0.010	ug/L	0.300		81.0	38-120			
Benzo(b)thiophene	0.217	0.001	0.010	ug/L	0.300		72.3	30-160			
Surrogate: 2-Methylnaphthalene-d10	0.222			ug/L	*0.300*		*74.0*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.272			ug/L	*0.300*		*90.5*	*29-120*			
Surrogate: Fluoranthene-d10	0.244			ug/L	*0.300*		*81.2*	*57-120*			
LCS Dup (BHG0068-BSD1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 13:18						
Naphthalene	0.244	0.001	0.010	ug/L	0.300		81.2	37-120	12.90	30	
2-Methylnaphthalene	0.242	0.001	0.010	ug/L	0.300		80.7	37-120	13.30	30	
1-Methylnaphthalene	0.249	0.0009	0.010	ug/L	0.300		83.1	29-120	13.60	30	
2-Chloronaphthalene	0.241	0.001	0.010	ug/L	0.300		80.3	30-160	14.50	30	
Biphenyl	0.252	0.001	0.010	ug/L	0.300		83.9	30-160	12.90	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0068-BSD1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 13:18						
2,6-Dimethylnaphthalene	0.245	0.001	0.010	ug/L	0.300		81.5	30-160	14.50	30	
Acenaphthylene	0.249	0.002	0.010	ug/L	0.300		82.9	41-120	11.90	30	
Acenaphthene	0.251	0.003	0.010	ug/L	0.300		83.8	41-120	12.40	30	
Dibenzofuran	0.257	0.002	0.010	ug/L	0.300		85.6	38-120	12.60	30	
2,3,5-Trimethylnaphthalene	0.251	0.001	0.010	ug/L	0.300		83.6	30-160	13.30	30	
Fluorene	0.259	0.002	0.010	ug/L	0.300		86.3	43-120	11.10	30	
Dibenzothiophene	0.256	0.001	0.010	ug/L	0.300		85.4	30-160	9.64	30	
Phenanthrene	0.261	0.001	0.010	ug/L	0.300		86.9	41-120	10.80	30	
Anthracene	0.243	0.001	0.010	ug/L	0.300		80.9	40-120	10.70	30	
Carbazole	0.265	0.001	0.010	ug/L	0.300		88.4	30-160	10.70	30	
Fluoranthene	0.263	0.002	0.010	ug/L	0.300		87.5	45-120	10.30	30	
Pyrene	0.262	0.001	0.010	ug/L	0.300		87.4	41-120	11.20	30	
1-Methylphenanthrene	0.263	0.002	0.010	ug/L	0.300		87.6	30-160	10.90	30	
Benzo(a)anthracene	0.262	0.0008	0.010	ug/L	0.300		87.2	42-120	10.80	30	
Chrysene	0.268	0.0009	0.010	ug/L	0.300		89.4	44-120	11.50	30	
Benzo(b)fluoranthene	0.243	0.0005	0.010	ug/L	0.300		81.1	44-120	10.50	30	
Benzo(k)fluoranthene	0.240	0.003	0.010	ug/L	0.300		80.2	50-120	10.80	30	
Benzo(j)fluoranthene	0.245	0.002	0.010	ug/L	0.300		81.8	39-160	11.10	30	
Benzofluoranthenes, Total	0.729	0.004	0.010	ug/L	0.900		81.0	46-120	10.80	30	
Benzo(e)pyrene	0.258	0.001	0.010	ug/L	0.300		86.2	30-160	11.70	30	
Benzo(a)pyrene	0.242	0.002	0.010	ug/L	0.300		80.8	35-120	10.00	30	
Perylene	0.251	0.006	0.010	ug/L	0.300		83.8	30-160	11.50	30	
Indeno(1,2,3-cd)pyrene	0.296	0.001	0.010	ug/L	0.300		98.7	37-120	12.90	30	
Dibenzo(a,h)anthracene	0.278	0.001	0.010	ug/L	0.300		92.7	34-120	12.00	30	
Benzo(g,h,i)perylene	0.278	0.001	0.010	ug/L	0.300		92.7	38-120	13.50	30	
Benzo(b)thiophene	0.244	0.001	0.010	ug/L	0.300		81.5	30-160	11.90	30	
Surrogate: 2-Methylnaphthalene-d10	0.241			ug/L	*0.300*		*80.3*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.299			ug/L	*0.300*		*99.7*	*29-120*			
Surrogate: Fluoranthene-d10	0.270			ug/L	*0.300*		*89.9*	*57-120*			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Petroleum Hydrocarbons - Quality Control

Batch BHG0065 - EPA 3510C SepF

Instrument: FID4 Analyst: JGR

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0065-BLK1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 21:33						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.171		mg/L	*0.225*		*76.0*	*50-150*			
LCS (BHG0065-BS1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 21:54						
Diesel Range Organics (C12-C24)	2.34	0.100	mg/L	3.00		77.8	70-120			
Surrogate: o-Terphenyl	0.173		mg/L	*0.225*		*76.9*	*50-150*			
LCS Dup (BHG0065-BSD1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 22:14						
Diesel Range Organics (C12-C24)	2.28	0.100	mg/L	3.00		76.1	70-120	2.25	30	
Surrogate: o-Terphenyl	0.169		mg/L	*0.225*		*75.0*	*50-150*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Aroclor PCB - Quality Control

Batch BHG0066 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0066-BLK1)				Prepared: 02-Jul-2019 Analyzed: 03-Jul-2019 15:54							
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
Surrogate: Decachlorobiphenyl	0.00870			ug/L	*0.0200*		*43.5*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.00666			ug/L	*0.0200*		*33.3*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.00821			ug/L	*0.0200*		*41.0*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.00561			ug/L	*0.0200*		*28.0*	*32-120*			*
LCS (BHG0066-BS1)				Prepared: 02-Jul-2019 Analyzed: 03-Jul-2019 16:15							
Aroclor 1016	0.039	0.002	0.010	ug/L	0.0500		78.8	54-120			
Aroclor 1260	0.037	0.003	0.010	ug/L	0.0500		73.7	51-128			
Surrogate: Decachlorobiphenyl	0.0118			ug/L	*0.0200*		*59.2*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.00957			ug/L	*0.0200*		*47.8*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.0116			ug/L	*0.0200*		*58.0*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.00815			ug/L	*0.0200*		*40.8*	*32-120*			
LCS Dup (BHG0066-BSD1)				Prepared: 02-Jul-2019 Analyzed: 03-Jul-2019 16:36							
Aroclor 1016	0.042	0.002	0.010	ug/L	0.0500		83.4	54-120	9.87	30	
Aroclor 1260	0.036	0.003	0.010	ug/L	0.0500		71.3	51-128	3.32	30	
Surrogate: Decachlorobiphenyl	0.0101			ug/L	*0.0200*		*50.5*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.0101			ug/L	*0.0200*		*50.7*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.00976			ug/L	*0.0200*		*48.8*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.00833			ug/L	*0.0200*		*41.7*	*32-120*			

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Metals and Metallic Compounds - Quality Control

Batch BHG0166 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0166-BLK1)					Prepared: 08-Jul-2019 Analyzed: 08-Jul-2019 17:08							
Lead	208	ND	0.0680	0.100	ug/L							U
Manganese	55	ND	0.0850	0.500	ug/L							U
Arsenic	75a	ND	0.0220	0.200	ug/L							U
Cadmium	111	ND	0.0300	0.100	ug/L							U
Cadmium	114	ND	0.0400	0.100	ug/L							U
Copper	63	ND	0.340	0.500	ug/L							U
Copper	65	ND	0.350	0.500	ug/L							U
Zinc	66	1.48	0.820	4.00	ug/L							J
Zinc	67	1.58	0.940	4.00	ug/L							J
LCS (BHG0166-BS1)					Prepared: 08-Jul-2019 Analyzed: 08-Jul-2019 17:12							
Lead	208	25.9	0.0680	0.100	ug/L	25.0		104	80-120			
Manganese	55	26.5	0.0850	0.500	ug/L	25.0		106	80-120			
Arsenic	75a	24.0	0.0220	0.200	ug/L	25.0		96.1	80-120			
Cadmium	111	25.2	0.0300	0.100	ug/L	25.0		101	80-120			
Cadmium	114	25.3	0.0400	0.100	ug/L	25.0		101	80-120			
Copper	63	26.2	0.340	0.500	ug/L	25.0		105	80-120			
Copper	65	26.3	0.350	0.500	ug/L	25.0		105	80-120			
Zinc	66	84.3	0.820	4.00	ug/L	80.0		105	80-120			
Zinc	67	81.5	0.940	4.00	ug/L	80.0		102	80-120			
Duplicate (BHG0166-DUP1)			**Source: 19G0017-01**		Prepared: 08-Jul-2019 Analyzed: 08-Jul-2019 21:36							
Lead	208	ND	0.0680	0.100	ug/L		ND					U
Arsenic	75a	2.08	0.0220	0.200	ug/L		2.17			4.34	20	
Cadmium	111	ND	0.0300	0.100	ug/L		ND					U
Copper	63	0.423	0.340	0.500	ug/L		0.426			0.71	20	J
Zinc	66	7.61	0.820	4.00	ug/L		10.2			29.20	20	
Duplicate (BHG0166-DUP2)			**Source: 19G0017-01**		Prepared: 08-Jul-2019 Analyzed: 09-Jul-2019 19:00							
Manganese	55	677	0.425	2.50	ug/L		675			0.32	20	D
Matrix Spike (BHG0166-MS1)			**Source: 19G0017-01**		Prepared: 08-Jul-2019 Analyzed: 08-Jul-2019 21:40							
Lead	208	25.7	0.0680	0.100	ug/L	25.0	ND	103	75-125			
Arsenic	75a	26.6	0.0220	0.200	ug/L	25.0	2.17	97.7	75-125			
Cadmium	111	25.5	0.0300	0.100	ug/L	25.0	ND	102	75-125			
Copper	63	26.7	0.340	0.500	ug/L	25.0	0.426	105	75-125			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Metals and Metallic Compounds - Quality Control

Batch BHG0166 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BHG0166-MS1)			**Source: 19G0017-01**			Prepared: 08-Jul-2019		Analyzed: 08-Jul-2019 21:40				
Zinc	66	87.6	0.820	4.00	ug/L	80.0	10.2	96.7	75-125			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												
Matrix Spike (BHG0166-MS2)			**Source: 19G0017-01**			Prepared: 08-Jul-2019		Analyzed: 09-Jul-2019 19:04				
Manganese	55	713	0.425	2.50	ug/L	25.0	675	151	75-125			D
Recovery limits for target analytes in MS/MSD QC samples are advisory only.												

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Metals and Metallic Compounds - Quality Control

Batch BHG0168 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0168-BLK1)					Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:36						
Mercury	ND	0.000010	0.000020	mg/L							U
LCS (BHG0168-BS1)					Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:39						
Mercury	0.000207	0.000010	0.000020	mg/L	0.000200		104	80-120			
Duplicate (BHG0168-DUP1)		**Source: 19G0017-05**			Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:46						
Mercury	ND	0.000010	0.000020	mg/L		ND					U
Matrix Spike (BHG0168-MS1)		**Source: 19G0017-05**			Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:49						
Mercury	0.000113	0.000010	0.000020	mg/L	0.000100	ND	113	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHG0132 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0132-BLK1)					Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:14							
Lead, Dissolved	208	ND	0.0680	0.100	ug/L							U
Manganese, Dissolved	55	ND	0.0850	0.500	ug/L							U
Arsenic, Dissolved	75a	ND	0.0220	0.200	ug/L							U
Cadmium, Dissolved	111	ND	0.0300	0.100	ug/L							U
Cadmium, Dissolved	114	ND	0.0400	0.100	ug/L							U
Copper, Dissolved	63	ND	0.340	0.500	ug/L							U
Copper, Dissolved	65	ND	0.350	0.500	ug/L							U
Zinc, Dissolved	66	1.18	0.820	4.00	ug/L							J
Zinc, Dissolved	67	0.999	0.940	4.00	ug/L							J
LCS (BHG0132-BS1)					Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:19							
Lead, Dissolved	208	23.7	0.0680	0.100	ug/L	25.0		95.0	80-120			
Manganese, Dissolved	55	24.0	0.0850	0.500	ug/L	25.0		96.1	80-120			
Arsenic, Dissolved	75a	23.3	0.0220	0.200	ug/L	25.0		93.1	80-120			
Cadmium, Dissolved	111	23.0	0.0300	0.100	ug/L	25.0		92.2	80-120			
Cadmium, Dissolved	114	22.8	0.0400	0.100	ug/L	25.0		91.2	80-120			
Copper, Dissolved	63	23.6	0.340	0.500	ug/L	25.0		94.6	80-120			
Copper, Dissolved	65	23.9	0.350	0.500	ug/L	25.0		95.5	80-120			
Zinc, Dissolved	66	77.3	0.820	4.00	ug/L	80.0		96.7	80-120			
Zinc, Dissolved	67	76.2	0.940	4.00	ug/L	80.0		95.2	80-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
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Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHG0169 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0169-BLK1)				Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 16:56							
Mercury, Dissolved	0.000014	0.000010	0.000020	mg/L							J
LCS (BHG0169-BS1)				Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 16:59							
Mercury, Dissolved	0.000212	0.000010	0.000020	mg/L	0.000200		106	80-120			
Duplicate (BHG0169-DUP1)		**Source: 19G0017-17**		Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 17:05							
Mercury, Dissolved	0.000015	0.000010	0.000020	mg/L		ND					J
Matrix Spike (BHG0169-MS1)		**Source: 19G0017-17**		Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 17:08							
Mercury, Dissolved	0.000118	0.000010	0.000020	mg/L	0.000100	ND	118	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Water	
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
EPA 6020A UCT-KED in Water	
Arsenic-75a	WADOE,WA-DW,DoD-ELAP,ADEC,NELAP
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Zinc-66	WADOE,WA-DW,DoD-ELAP
Zinc-67	WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Zinc-66	NELAP,WADOE,DoD-ELAP
Zinc-67	NELAP,WADOE,DoD-ELAP
EPA 7470A in Water	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Water	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

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Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

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2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8270D-SIM in Water

Naphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Biphenyl	NELAP
Acenaphthylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP,CALAP
Fluorene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Phenanthrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Carbazole	NELAP
Fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(a)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Chrysene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(b)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(k)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(j)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene	NELAP
Benzo(a)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Perylene	ADEC,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzo(a,h)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(g,h,i)perylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	12-Jul-2019 16:01

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

11 July 2019

Pete Kingston
Farallon Consulting, LLC
1809 7th Ave, Suite 1111
Seattle, WA 98101

RE: Emerald Gateway Site 1071-026

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
19G0023	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in it entirety.

ACCREDITED IN ACCORDANCE WITH nelac
Cert# 100006

PJLA Testing
Accreditation # 66169

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 19G0023	Turn-around Requested: 5 Day	Page: 1 of 1	
ARI Client Company: Farallon	Phone: 206-200-2346	Date: 7/2/19	Ice Present? Yes
Client Contact: Pete Kingston		No. of Coolers: 1	Cooler Temps: 5.2°C
Client Project Name: Emerald Gateway			
Client Project #: 1071-026	Samplers: YP/GP		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: DRO/ORO NWTPH-Dx	GRO NWTPH-Gx	BTEX 8260C	Total Metals 200.7/200.8/7470 245.1	Dissolved Metals 200.7/200.8/7470 245.1	PCBs 8082A	PAHs 8270 SIM		Notes/Comments
FMW-01-190702	7/2/19	1015	W	13	X	X	X	X	X	X	X		
FMW-02-190702	7/2/19	1115	W	13	X	X	X	X	X	X	X		

(10)

Comments/Special Instructions	Relinquished by:	Received by:	Relinquished by:	Received by:
Metals = As, Cd, Cu, Pb, Hg, Mn, Zn	(Signature) YP	(Signature)	(Signature)	(Signature)
	Printed Name: Yusuf Pehlivan	Printed Name: Jacob Walter	Printed Name:	Printed Name:
	Company: Farallon	Company: ARI	Company:	Company:
	Date & Time: 7/2/19 1202	Date & Time: 07/02/19 1202	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FMW-01-190702	19G0023-01	Water	02-Jul-2019 10:15	02-Jul-2019 12:02
FMW-01-190702	19G0023-02	Water	02-Jul-2019 10:15	02-Jul-2019 12:02
FMW-02-190702	19G0023-03	Water	02-Jul-2019 11:15	02-Jul-2019 12:02
FMW-02-190702	19G0023-04	Water	02-Jul-2019 11:15	02-Jul-2019 12:02

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Work Order Case Narrative

Sample receipt

Samples as listed on the preceding page were received July 2, 2019 under ARI work order 19G0023. For details regarding sample receipt, please refer to the Cooler Receipt Form.

Volatiles - EPA Method SW8260C

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Gasoline by NWTPH-g (GC/MS)

The samples were analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blanks were clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270D-SIM

The samples were extracted and analyzed within the recommended holding times.

Sample FMW-01-190702 was reanalyzed at a dilution due to the Naphthalene concentration exceeding the upper calibration range. The initial analysis has been flagged with an "E" qualifier. No further corrective action was taken.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The surrogate percent recoveries were within control limits.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

PCB Aroclors - EPA Method SW8082A

The samples were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

Sample FMW-01-190702 has low surrogate percent recoveries for both columns of Decachlorobiphenyl. The samples are non-detect, and due to the rush nature of the work order the sample was not re-extracted. All other surrogate percent recoveries were within control limits. No corrective action was taken.

The method blank was clean at the reporting limits.

The LCS/LCSD percent recoveries and RPD were within control limits.

Total and Dissolved Metals - EPA Method 6020A

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

Total and Dissolved Hg - EPA Method 7470A

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

The samples were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blanks were clean at the reporting limits.

The LCS percent recoveries were within control limits.

A dissolved matrix spike and duplicate were prepared in conjunction with sample FMW-01-190702. The matrix spike percent recovery and duplicate RPD were within QC limits.

WORK ORDER

19G0023

Client: Farallon Consulting, LLC | **Project Manager: Amanda Volgardsen**

Project: Emerald Gateway Site 1071-026 | **Project Number: 1071-026**

Report To:
Farallon Consulting, LLC
Pete Kingston
1809 7th Ave, Suite 1111
Seattle, WA 98101
Phone: (425) 394-4146
Fax: -

Invoice To:
Farallon Consulting, LLC
Yusuf Pehlivan
975 5th Avenue Northwest
Issaquah, WA 98027
Phone :(425) 394-4415
Fax: -

Date Due:	10-Jul-2019 18:00 (5 day TAT)		
Received By:	Jacob Walter	Date Received:	02-Jul-2019 12:02
Logged In By:	Erin I. Salle	Date Logged In:	02-Jul-2019 13:09

Samples Received at: **5.2°C**

Intact, properly signed and dated custody seals attached to outside of cooler(s)	No	Custody papers included with the cooler	Yes
Custody papers properly filled out (in, signed, analyses requested, etc)	Yes	Was a temperature blank included in the cooler	No
Was sufficient ice used (if appropriate)	Yes	All bottles sealed in individual plastic bags	No
All bottles arrived in good condition (unbroken)	Yes	All bottle labels complete and legible	Yes
Number of containers listed on COC match number received	Yes	Bottle labels and tags agree with COC	Yes
Correct bottles used for the requested analyses	Yes	All VOC vials free of air bubbles	Yes
Analyses/bottles require preservation (attach preservation sheet excluding VOC)	Yes	Sufficient amount of sample sent in each bottle	Yes
Sample split at ARI	No		

Reviewed By

Date

WORK ORDER

19G0023

Client: Farallon Consulting, LLC | **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 | **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
19G0023-01 FMW-01-190702 [Water] Sampled 02-Jul-2019 10:15				
TPH NW (Extractables) low level	07/10/2019	5	7/9/2019	
8082A PCB Water 0.01	07/10/2019	5	7/9/2019	
Met 7470A Hg Low Level	07/10/2019	5	7/30/2019	
Met 6020A - Pb	07/10/2019	5	12/29/2019	
Met 6020A - Mn	07/10/2019	5	12/29/2019	
Met 6020A - Cu UCT	07/10/2019	5	12/29/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/29/2019	
Met 6020A - As UCT	07/10/2019	5	12/29/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/9/2019	
8260C VOA	07/10/2019	5	7/16/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/29/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/16/2019	
19G0023-02 FMW-01-190702 [Water] Sampled 02-Jul-2019 10:15				
Met Diss 6020A - Zn UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/29/2019	
Met Diss 6020A - Mn	07/10/2019	5	12/29/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/29/2019	
Met Diss 7470A Hg	07/10/2019	5	7/30/2019	
Met Diss 7470A Hg Low level	07/10/2019	5	7/30/2019	
19G0023-03 FMW-02-190702 [Water] Sampled 02-Jul-2019 11:15				
Met 6020A - Cu UCT	07/10/2019	5	12/29/2019	
8260C Gas (NWTPH)	07/10/2019	5	7/16/2019	
8260C VOA	07/10/2019	5	7/16/2019	
8082A PCB Water 0.01	07/10/2019	5	7/9/2019	
8270D-SIM PAH Low (0.01 ug/L - 0.5 ug/kg	07/10/2019	5	7/9/2019	
Met 6020A - Zn UCT	07/10/2019	5	12/29/2019	
Met 6020A - Cd UCT	07/10/2019	5	12/29/2019	
Met 6020A - Mn	07/10/2019	5	12/29/2019	
Met 6020A - Pb	07/10/2019	5	12/29/2019	
TPH NW (Extractables) low level	07/10/2019	5	7/9/2019	
Met 7470A Hg Low Level	07/10/2019	5	7/30/2019	
Met 6020A - As UCT	07/10/2019	5	12/29/2019	
19G0023-04 FMW-02-190702 [Water] Sampled 02-Jul-2019 11:15				
Met Diss 6020A - Zn UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - Cu UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - Pb	07/10/2019	5	12/29/2019	

Reviewed By

Date

WORK ORDER

19G0023

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Analysis	Due	TAT	Expires	Comments
Met Diss 6020A - Mn	07/10/2019	5	12/29/2019	
Met Diss 6020A - Cd UCT	07/10/2019	5	12/29/2019	
Met Diss 6020A - As UCT	07/10/2019	5	12/29/2019	
Met Diss 7470A Hg Low level	07/10/2019	5	7/30/2019	
Met Diss 7470A Hg	07/10/2019	5	7/30/2019	

Reviewed By

Date

WORK ORDER

19G0023

Client: Farallon Consulting, LLC **Project Manager:** Amanda Volgardsen

Project: Emerald Gateway Site 1071-026 **Project Number:** 1071-026

Preservation Confirmation

Container ID	Container Type	pH	
19G0023-01 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0023-01 B	Glass NM, Amber, 500 mL		
19G0023-01 C	Glass NM, Amber, 500 mL		
19G0023-01 D	Glass NM, Amber, 500 mL		
19G0023-01 E	Glass NM, Amber, 500 mL		
19G0023-01 F	Glass NM, Amber, 500 mL		
19G0023-01 G	Glass NM, Amber, 500 mL		
19G0023-01 H	VOA Vial, Clear, 40 mL, HCL		
19G0023-01 I	VOA Vial, Clear, 40 mL, HCL		
19G0023-01 J	VOA Vial, Clear, 40 mL, HCL		
19G0023-01 K	VOA Vial, Clear, 40 mL, HCL		
19G0023-01 L	VOA Vial, Clear, 40 mL, HCL		
19G0023-02 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0023-03 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass
19G0023-03 B	Glass NM, Amber, 500 mL		
19G0023-03 C	Glass NM, Amber, 500 mL		
19G0023-03 D	Glass NM, Amber, 500 mL		
19G0023-03 E	Glass NM, Amber, 500 mL		
19G0023-03 F	Glass NM, Amber, 500 mL		
19G0023-03 G	Glass NM, Amber, 500 mL		
19G0023-03 H	VOA Vial, Clear, 40 mL, HCL		
19G0023-03 I	VOA Vial, Clear, 40 mL, HCL		
19G0023-03 J	VOA Vial, Clear, 40 mL, HCL		
19G0023-03 K	VOA Vial, Clear, 40 mL, HCL		
19G0023-03 L	VOA Vial, Clear, 40 mL, HCL		
19G0023-04 A	HDPE NM, 500 mL, 1:1 HNO3	<2	pass

Preservation Confirmed By

7/2/19
Date

Reviewed By

Date

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: Farallon Project Name: Emerald Gateway

COC No(s): NA Delivered by: Fed-Ex UPS Courier Hand Delivered Other:

Assigned ARI Job No: 19G0023 Tracking No: NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 5.0°C

Time 1202

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: D00520b

Cooler Accepted by: JBW Date: 07/02/19 Time: 1202

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used?	Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other:		
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA		

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: [signature] Date: 7/2/19 Time: 1304 Labels checked by: [signature]

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/02/2019 10:15

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 20:13

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0023-01 H

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	**0.06**	ug/L	J
Toluene	108-88-3	1	0.04	0.20	**0.08**	ug/L	J
Ethylbenzene	100-41-4	1	0.04	0.20	**6.38**	ug/L	
m,p-Xylene	179601-23-1	1	0.05	0.40	**29.6**	ug/L	
o-Xylene	95-47-6	1	0.03	0.20	**0.15**	ug/L	J
Surrogate: Toluene-d8				*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*97.3*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/02/2019 10:15

Instrument: NT3 Analyst: PKC — Analyzed: 07/03/2019 20:13

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0023-01 H

Preparation Batch: BHG0064 — Sample Size: 10 mL

Prepared: 03-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	**563**	ug/L	
HC ID: GAS						
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*97.3*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/02/2019 10:15

Instrument: NT11 Analyst: VTS — Analyzed: 07/06/2019 19:45

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0023-01 C 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**2.34**	ug/L	E
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.337**	ug/L	
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.152**	ug/L	
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	ND	ug/L	U
Dibenzofuran	132-64-9	1	0.002	0.010	ND	ug/L	U
Fluorene	86-73-7	1	0.002	0.010	ND	ug/L	U
Phenanthrene	85-01-8	1	0.001	0.010	**0.002**	ug/L	J
Anthracene	120-12-7	1	0.001	0.010	ND	ug/L	U
Carbazole	86-74-8	1	0.001	0.010	ND	ug/L	U
Fluoranthene	206-44-0	1	0.002	0.010	ND	ug/L	U
Pyrene	129-00-0	1	0.001	0.010	ND	ug/L	U
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*73.0*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*75.1*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*82.0*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/02/2019 10:15

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 03:22

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0023-01 F 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*58.1*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/02/2019 10:15

Instrument: ECD7 Analyst: JGR — Analyzed: 07/06/2019 02:13

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0023-01 B 01
	Preparation Batch: BHG0070	Sample Size: 1000 mL	
	Prepared: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0023-01 B 01
	Cleanup Batch: CHG0036	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0023-01 B 01
	Cleanup Batch: CHG0034	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0023-01 B 01
	Cleanup Batch: CHG0035	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*22.6*	*%*	*
Surrogate: Tetrachlorometaxylene				*32-120 %*	*38.9*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*21.7*	*%*	*
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*34.3*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/02/2019 10:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:22

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-01 A 01

Preparation Batch: BHG0082 — Sample Size: 25 mL

Prepared: 03-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	**0.126**	ug/L	
Manganese	7439-96-5	2	0.170	1.00	**528**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/02/2019 10:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:22

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-01 A 01

Preparation Batch: BHG0082 — Sample Size: 25 mL

Prepared: 03-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**0.996**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**0.750**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**22.5**	ug/L	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/02/2019 10:15

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:50

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0023-01 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000019**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-01RE1 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/02/2019 10:15

Instrument: NT11 Analyst: VTS — Analyzed: 07/09/2019 15:23

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0023-01RE1 C 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	5	0.007	0.050	**2.98**	ug/L	D
2-Methylnaphthalene	91-57-6	5	0.005	0.050	**0.328**	ug/L	D
1-Methylnaphthalene	90-12-0	5	0.005	0.050	**0.149**	ug/L	D
2-Chloronaphthalene	91-58-7	5	0.005	0.050	ND	ug/L	U
Acenaphthylene	208-96-8	5	0.009	0.050	ND	ug/L	U
Acenaphthene	83-32-9	5	0.014	0.050	ND	ug/L	U
Dibenzofuran	132-64-9	5	0.008	0.050	ND	ug/L	U
Fluorene	86-73-7	5	0.008	0.050	ND	ug/L	U
Phenanthrene	85-01-8	5	0.007	0.050	ND	ug/L	U
Anthracene	120-12-7	5	0.006	0.050	ND	ug/L	U
Carbazole	86-74-8	5	0.006	0.050	ND	ug/L	U
Fluoranthene	206-44-0	5	0.009	0.050	ND	ug/L	U
Pyrene	129-00-0	5	0.006	0.050	ND	ug/L	U
Benzo(a)anthracene	56-55-3	5	0.004	0.050	ND	ug/L	U
Chrysene	218-01-9	5	0.005	0.050	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	5	0.002	0.050	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	5	0.016	0.050	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	5	0.009	0.050	ND	ug/L	U
Benzofluoranthenes, Total		5	0.018	0.050	ND	ug/L	U
Benzo(a)pyrene	50-32-8	5	0.012	0.050	ND	ug/L	U
Perylene	1985-5-0	5	0.029	0.050	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	5	0.005	0.050	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	5	0.007	0.050	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	5	0.007	0.050	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*70.9*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*63.2*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*75.5*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/02/2019 10:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:13

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-02 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	**0.0740**	ug/L	J
Manganese, Dissolved	7439-96-5	2	0.170	1.00	**526**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/02/2019 10:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:13

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-02 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**0.882**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**0.374**	ug/L	J
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.17**	ug/L	J

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-01-190702

19G0023-02 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/02/2019 10:15

Instrument: CVAA Analyst: JPK — Analyzed: 07/03/2019 15:50

Sample Preparation: Preparation Method: TWM EPA 7470A — Extract ID: 19G0023-02 A

Preparation Batch: BHG0086 — Sample Size: 20 mL

Prepared: 03-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000013	0.000100	ND	mg/L	U

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0023-02 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000017**	mg/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Volatile Organic Compounds

Method: EPA 8260C — Sampled: 07/02/2019 11:15

Instrument: NT3 Analyst: PKC — Analyzed: 07/05/2019 16:08

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0023-03 J

Preparation Batch: BHG0144 — Sample Size: 10 mL

Prepared: 05-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Benzene	71-43-2	1	0.03	0.20	ND	ug/L	U
Toluene	108-88-3	1	0.04	0.20	ND	ug/L	U
Ethylbenzene	100-41-4	1	0.04	0.20	ND	ug/L	U
m,p-Xylene	179601-23-1	1	0.05	0.40	**0.07**	ug/L	J
o-Xylene	95-47-6	1	0.03	0.20	ND	ug/L	U
Surrogate: Toluene-d8				*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene				*80-120 %*	*93.8*	*%*	

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Volatile Organic Compounds

Method: NWTPHg — Sampled: 07/02/2019 11:15

Instrument: NT3 Analyst: PKC — Analyzed: 07/05/2019 16:08

Sample Preparation: Preparation Method: EPA 5030 (Purge and Trap) — Extract ID: 19G0023-03 J

Preparation Batch: BHG0144 — Sample Size: 10 mL

Prepared: 05-Jul-2019 — Final Volume: 10 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Gasoline Range Organics (Tol-Nap)	GRO	1	100	ND	ug/L	U
Surrogate: Toluene-d8			*80-120 %*	*101*	*%*	
Surrogate: 4-Bromofluorobenzene			*80-120 %*	*93.8*	*%*	

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Semivolatile Organic Compounds - SIM

Method: EPA 8270D-SIM — Sampled: 07/02/2019 11:15

Instrument: NT11 Analyst: VTS — Analyzed: 07/09/2019 14:23

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0023-03 C 01

Preparation Batch: BHG0068 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.001	0.010	**0.006**	ug/L	J
2-Methylnaphthalene	91-57-6	1	0.001	0.010	**0.005**	ug/L	J
1-Methylnaphthalene	90-12-0	1	0.0009	0.010	**0.005**	ug/L	J
2-Chloronaphthalene	91-58-7	1	0.001	0.010	ND	ug/L	U
Acenaphthylene	208-96-8	1	0.002	0.010	ND	ug/L	U
Acenaphthene	83-32-9	1	0.003	0.010	**0.016**	ug/L	
Dibenzofuran	132-64-9	1	0.002	0.010	**0.009**	ug/L	J
Fluorene	86-73-7	1	0.002	0.010	**0.015**	ug/L	
Phenanthrene	85-01-8	1	0.001	0.010	**0.022**	ug/L	
Anthracene	120-12-7	1	0.001	0.010	**0.004**	ug/L	J
Carbazole	86-74-8	1	0.001	0.010	**0.005**	ug/L	J
Fluoranthene	206-44-0	1	0.002	0.010	**0.003**	ug/L	J
Pyrene	129-00-0	1	0.001	0.010	**0.002**	ug/L	J
Benzo(a)anthracene	56-55-3	1	0.0008	0.010	ND	ug/L	U
Chrysene	218-01-9	1	0.0009	0.010	ND	ug/L	U
Benzo(b)fluoranthene	205-99-2	1	0.0005	0.010	ND	ug/L	U
Benzo(k)fluoranthene	207-08-9	1	0.003	0.010	ND	ug/L	U
Benzo(j)fluoranthene	205-82-3	1	0.002	0.010	ND	ug/L	U
Benzofluoranthenes, Total		1	0.004	0.010	ND	ug/L	U
Benzo(a)pyrene	50-32-8	1	0.002	0.010	ND	ug/L	U
Perylene	1985-5-0	1	0.006	0.010	ND	ug/L	U
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.001	0.010	ND	ug/L	U
Dibenzo(a,h)anthracene	53-70-3	1	0.001	0.010	ND	ug/L	U
Benzo(g,h,i)perylene	191-24-2	1	0.001	0.010	ND	ug/L	U
Surrogate: 2-Methylnaphthalene-d10				*42-120 %*	*72.4*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*29-120 %*	*82.0*	*%*	
Surrogate: Fluoranthene-d10				*57-120 %*	*79.8*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Petroleum Hydrocarbons

Method: NWTPH-Dx — Sampled: 07/02/2019 11:15

Instrument: FID4 Analyst: JGR — Analyzed: 07/05/2019 03:42

Sample Preparation: Preparation Method: EPA 3510C SepF — Extract ID: 19G0023-03 F 01

Preparation Batch: BHG0065 — Sample Size: 500 mL

Prepared: 03-Jul-2019 — Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	0.100	ND	mg/L	U
Motor Oil Range Organics (C24-C38)	RRO	1	0.200	ND	mg/L	U
Surrogate: o-Terphenyl			*50-150 %*	*94.2*	*%*	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Aroclor PCB

Method: EPA 8082A — Sampled: 07/02/2019 11:15
Instrument: ECD7 Analyst: JGR — Analyzed: 07/06/2019 02:33

Sample Preparation:	Preparation Method: EPA 3510C SepF		Extract ID: 19G0023-03 B 01
	Preparation Batch: BHG0070	Sample Size: 1000 mL	
	Prepared: 03-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 19G0023-03 B 01
	Cleanup Batch: CHG0036	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:19G0023-03 B 01
	Cleanup Batch: CHG0034	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:19G0023-03 B 01
	Cleanup Batch: CHG0035	Initial Volume: 0.5 mL	
	Cleaned: 05-Jul-2019	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1221	11104-28-2	1	0.002	0.010	ND	ug/L	U
Aroclor 1232	11141-16-5	1	0.002	0.010	ND	ug/L	U
Aroclor 1242	53469-21-9	1	0.002	0.010	ND	ug/L	U
Aroclor 1248	12672-29-6	1	0.002	0.010	ND	ug/L	U
Aroclor 1254	11097-69-1	1	0.002	0.010	ND	ug/L	U
Aroclor 1260	11096-82-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1262	37324-23-5	1	0.003	0.010	ND	ug/L	U
Aroclor 1268	11100-14-4	1	0.003	0.010	ND	ug/L	U
Surrogate: Decachlorobiphenyl				*29-120 %*	*40.7*	*%*	
Surrogate: Tetrachlorometaxylene				*32-120 %*	*44.0*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*29-120 %*	*38.2*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*32-120 %*	*37.9*	*%*	

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FMW-02-190702

19G0023-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A — Sampled: 07/02/2019 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:27

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-03 A 01

Preparation Batch: BHG0082 — Sample Size: 25 mL

Prepared: 03-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese	7439-96-5	5	0.425	2.50	**723**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-03 (Water)

Metals and Metallic Compounds

Method: EPA 6020A UCT-KED — Sampled: 07/02/2019 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:27

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-03 A 01

Preparation Batch: BHG0082 — Sample Size: 25 mL

Prepared: 03-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	1	0.0220	0.200	**7.14**	ug/L	
Cadmium	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper	7440-50-8	1	0.340	0.500	**1.03**	ug/L	
Zinc	7440-66-6	1	0.820	4.00	**8.20**	ug/L	

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FMW-02-190702

19G0023-03 (Water)

Metals and Metallic Compounds

Method: EPA 7470A — Sampled: 07/02/2019 11:15

Instrument: CVAA Analyst: SKM — Analyzed: 07/10/2019 16:53

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0023-03 A

Preparation Batch: BHG0168 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.000010	0.000020	**0.000016**	mg/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A — Sampled: 07/02/2019 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:18

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-04 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Lead, Dissolved	7439-92-1	1	0.0680	0.100	ND	ug/L	U
Manganese, Dissolved	7439-96-5	5	0.425	2.50	**685**	ug/L	D

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 6020A UCT-KED — Sampled: 07/02/2019 11:15

Instrument: ICPMS2 Analyst: MCB — Analyzed: 07/08/2019 21:18

Sample Preparation: Preparation Method: REN EPA 600/4-79-020 4.1.4 HNO3 matrix — Extract ID: 19G0023-04 A 01

Preparation Batch: BHG0132 — Sample Size: 25 mL

Prepared: 05-Jul-2019 — Final Volume: 25 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic, Dissolved	7440-38-2	1	0.0220	0.200	**6.75**	ug/L	
Cadmium, Dissolved	7440-43-9	1	0.0300	0.100	ND	ug/L	U
Copper, Dissolved	7440-50-8	1	0.340	0.500	**0.536**	ug/L	
Zinc, Dissolved	7440-66-6	1	0.820	4.00	**2.44**	ug/L	J

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1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

FMW-02-190702

19G0023-04 (Water)

Metals and Metallic Compounds (dissolved)

Method: EPA 7470A — Sampled: 07/02/2019 11:15

Instrument: CVAA Analyst: JPK — Analyzed: 07/03/2019 15:57

Sample Preparation: Preparation Method: TWM EPA 7470A — Extract ID: 19G0023-04 A

Preparation Batch: BHG0086 — Sample Size: 20 mL

Prepared: 03-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000013	0.000100	ND	mg/L	U

Sample Preparation: Preparation Method: TLM EPA 7470A low level — Extract ID: 19G0023-04 A

Preparation Batch: BHG0169 — Sample Size: 20 mL

Prepared: 08-Jul-2019 — Final Volume: 20 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury, Dissolved	7439-97-6	1	0.000010	0.000020	**0.000015**	mg/L	J

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0064-BLK1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
Benzene	ND	0.03	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Surrogate: Toluene-d8	4.88			ug/L	*5.00*		*97.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.72			ug/L	*5.00*		*94.3*	*80-120*			
Blank (BHG0064-BLK2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:58							
Gasoline Range Organics (Tol-Nap)	ND		100	ug/L							U
Surrogate: Toluene-d8	4.88			ug/L	*5.00*		*97.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.72			ug/L	*5.00*		*94.3*	*80-120*			
LCS (BHG0064-BS1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 10:44							
Benzene	9.52	0.03	0.20	ug/L	10.0		95.2	80-120			
Toluene	9.55	0.04	0.20	ug/L	10.0		95.5	80-120			
Ethylbenzene	9.36	0.04	0.20	ug/L	10.0		93.6	80-120			
m,p-Xylene	18.8	0.05	0.40	ug/L	20.0		93.9	80-121			
o-Xylene	9.58	0.03	0.20	ug/L	10.0		95.8	80-121			
Surrogate: Toluene-d8	4.93			ug/L	*5.00*		*98.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.83			ug/L	*5.00*		*96.6*	*80-120*			
LCS (BHG0064-BS2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:38							
Gasoline Range Organics (Tol-Nap)	1020		100	ug/L	1000		102	72-128			
Surrogate: Toluene-d8	5.20			ug/L	*5.00*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.08			ug/L	*5.00*		*102*	*80-120*			
LCS Dup (BHG0064-BSD1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11							
Benzene	9.94	0.03	0.20	ug/L	10.0		99.4	80-120	4.38	30	
Toluene	9.94	0.04	0.20	ug/L	10.0		99.4	80-120	3.96	30	
Ethylbenzene	9.63	0.04	0.20	ug/L	10.0		96.3	80-120	2.82	30	
m,p-Xylene	19.4	0.05	0.40	ug/L	20.0		97.2	80-121	3.46	30	
o-Xylene	9.79	0.03	0.20	ug/L	10.0		97.9	80-121	2.19	30	
Surrogate: Toluene-d8	5.12			ug/L	*5.00*		*102*	*80-120*			

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Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Volatile Organic Compounds - Quality Control

Batch BHG0064 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0064-BSD1)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 11:11							
Surrogate: 4-Bromofluorobenzene	5.00			ug/L	*5.00*		*100*	*80-120*			
LCS Dup (BHG0064-BSD2)				Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 12:04							
Gasoline Range Organics (Tol-Nap)	1000		100	ug/L	1000		100	72-128	1.83	30	
Surrogate: Toluene-d8	5.09			ug/L	*5.00*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.82			ug/L	*5.00*		*96.4*	*80-120*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Volatile Organic Compounds - Quality Control

Batch BHG0144 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0144-BLK1)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 13:09							
Benzene	ND	0.03	0.20	ug/L							U
Toluene	ND	0.04	0.20	ug/L							U
Ethylbenzene	ND	0.04	0.20	ug/L							U
m,p-Xylene	ND	0.05	0.40	ug/L							U
o-Xylene	ND	0.03	0.20	ug/L							U
Surrogate: Toluene-d8	4.92			ug/L	*5.00*		*98.3*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.85			ug/L	*5.00*		*97.0*	*80-120*			
Blank (BHG0144-BLK2)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 13:09							
Gasoline Range Organics (Tol-Nap)	ND		100	ug/L							U
Surrogate: Toluene-d8	4.92			ug/L	*5.00*		*98.3*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.85			ug/L	*5.00*		*97.0*	*80-120*			
LCS (BHG0144-BS1)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 10:55							
Benzene	9.93	0.03	0.20	ug/L	10.0		99.3	80-120			
Toluene	10.2	0.04	0.20	ug/L	10.0		102	80-120			
Ethylbenzene	9.86	0.04	0.20	ug/L	10.0		98.6	80-120			
m,p-Xylene	20.0	0.05	0.40	ug/L	20.0		99.8	80-121			
o-Xylene	9.82	0.03	0.20	ug/L	10.0		98.2	80-121			
Surrogate: Toluene-d8	4.93			ug/L	*5.00*		*98.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.87			ug/L	*5.00*		*97.3*	*80-120*			
LCS (BHG0144-BS2)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 11:49							
Gasoline Range Organics (Tol-Nap)	908		100	ug/L	1000		90.8	72-128			
Surrogate: Toluene-d8	4.83			ug/L	*5.00*		*96.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	4.74			ug/L	*5.00*		*94.8*	*80-120*			
LCS Dup (BHG0144-BSD1)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 11:22							
Benzene	9.94	0.03	0.20	ug/L	10.0		99.4	80-120	0.13	30	
Toluene	10.0	0.04	0.20	ug/L	10.0		100	80-120	1.35	30	
Ethylbenzene	9.69	0.04	0.20	ug/L	10.0		96.9	80-120	1.74	30	
m,p-Xylene	19.8	0.05	0.40	ug/L	20.0		98.8	80-121	0.98	30	
o-Xylene	9.78	0.03	0.20	ug/L	10.0		97.8	80-121	0.42	30	
Surrogate: Toluene-d8	4.93			ug/L	*5.00*		*98.5*	*80-120*			

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Volatile Organic Compounds - Quality Control

Batch BHG0144 - EPA 5030 (Purge and Trap)

Instrument: NT3 Analyst: PKC

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0144-BSD1)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 11:22							
Surrogate: 4-Bromofluorobenzene	4.88			ug/L	*5.00*		*97.7*	*80-120*			
LCS Dup (BHG0144-BSD2)				Prepared: 05-Jul-2019 Analyzed: 05-Jul-2019 12:16							
Gasoline Range Organics (Tol-Nap)	736		100	ug/L	1000		73.6	72-128	20.90	30	
Surrogate: Toluene-d8	4.92			ug/L	*5.00*		*98.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	5.01			ug/L	*5.00*		*100*	*80-120*			

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Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0068-BLK1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:19							
Naphthalene	0.002	0.001	0.010	ug/L							J
2-Methylnaphthalene	ND	0.001	0.010	ug/L							U
1-Methylnaphthalene	ND	0.0009	0.010	ug/L							U
2-Chloronaphthalene	ND	0.001	0.010	ug/L							U
Acenaphthylene	ND	0.002	0.010	ug/L							U
Acenaphthene	ND	0.003	0.010	ug/L							U
Dibenzofuran	ND	0.002	0.010	ug/L							U
Fluorene	ND	0.002	0.010	ug/L							U
Phenanthrene	ND	0.001	0.010	ug/L							U
Anthracene	ND	0.001	0.010	ug/L							U
Carbazole	ND	0.001	0.010	ug/L							U
Fluoranthene	ND	0.002	0.010	ug/L							U
Pyrene	ND	0.001	0.010	ug/L							U
Benzo(a)anthracene	ND	0.0008	0.010	ug/L							U
Chrysene	ND	0.0009	0.010	ug/L							U
Benzo(b)fluoranthene	ND	0.0005	0.010	ug/L							U
Benzo(k)fluoranthene	ND	0.003	0.010	ug/L							U
Benzo(j)fluoranthene	ND	0.002	0.010	ug/L							U
Benzofluoranthenes, Total	ND	0.004	0.010	ug/L							U
Benzo(a)pyrene	ND	0.002	0.010	ug/L							U
Perylene	ND	0.006	0.010	ug/L							U
Indeno(1,2,3-cd)pyrene	ND	0.001	0.010	ug/L							U
Dibenzo(a,h)anthracene	ND	0.001	0.010	ug/L							U
Benzo(g,h,i)perylene	ND	0.001	0.010	ug/L							U
Surrogate: 2-Methylnaphthalene-d10	0.204			ug/L	*0.300*		*68.1*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.232			ug/L	*0.300*		*77.3*	*29-120*			
Surrogate: Fluoranthene-d10	0.224			ug/L	*0.300*		*74.6*	*57-120*			
LCS (BHG0068-BS1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:49							
Naphthalene	0.214	0.001	0.010	ug/L	0.300		71.4	37-120			
2-Methylnaphthalene	0.212	0.001	0.010	ug/L	0.300		70.7	37-120			
1-Methylnaphthalene	0.218	0.0009	0.010	ug/L	0.300		72.5	29-120			
2-Chloronaphthalene	0.208	0.001	0.010	ug/L	0.300		69.5	30-160			
Biphenyl	0.221	0.001	0.010	ug/L	0.300		73.7	30-160			
2,6-Dimethylnaphthalene	0.211	0.001	0.010	ug/L	0.300		70.5	30-160			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BHG0068-BS1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 12:49						
Acenaphthylene	0.221	0.002	0.010	ug/L	0.300		73.6	41-120			
Acenaphthene	0.222	0.003	0.010	ug/L	0.300		74.0	41-120			
Dibenzofuran	0.226	0.002	0.010	ug/L	0.300		75.4	38-120			
2,3,5-Trimethylnaphthalene	0.219	0.001	0.010	ug/L	0.300		73.1	30-160			
Fluorene	0.232	0.002	0.010	ug/L	0.300		77.2	43-120			
Dibenzothiophene	0.233	0.001	0.010	ug/L	0.300		77.6	30-160			
Phenanthrene	0.234	0.001	0.010	ug/L	0.300		77.9	41-120			
Anthracene	0.218	0.001	0.010	ug/L	0.300		72.6	40-120			
Carbazole	0.238	0.001	0.010	ug/L	0.300		79.4	30-160			
Fluoranthene	0.237	0.002	0.010	ug/L	0.300		79.0	45-120			
Pyrene	0.235	0.001	0.010	ug/L	0.300		78.2	41-120			
1-Methylphenanthrene	0.236	0.002	0.010	ug/L	0.300		78.6	30-160			
Benzo(a)anthracene	0.235	0.0008	0.010	ug/L	0.300		78.2	42-120			
Chrysene	0.239	0.0009	0.010	ug/L	0.300		79.7	44-120			
Benzo(b)fluoranthene	0.219	0.0005	0.010	ug/L	0.300		73.0	44-120			
Benzo(k)fluoranthene	0.216	0.003	0.010	ug/L	0.300		71.9	50-120			
Benzo(j)fluoranthene	0.220	0.002	0.010	ug/L	0.300		73.2	39-160			
Benzofluoranthenes, Total	0.654	0.004	0.010	ug/L	0.900		72.7	46-120			
Benzo(e)pyrene	0.230	0.001	0.010	ug/L	0.300		76.6	30-160			
Benzo(a)pyrene	0.219	0.002	0.010	ug/L	0.300		73.1	35-120			
Perylene	0.224	0.006	0.010	ug/L	0.300		74.7	30-160			
Indeno(1,2,3-cd)pyrene	0.260	0.001	0.010	ug/L	0.300		86.7	37-120			
Dibenzo(a,h)anthracene	0.247	0.001	0.010	ug/L	0.300		82.2	34-120			
Benzo(g,h,i)perylene	0.243	0.001	0.010	ug/L	0.300		81.0	38-120			
Benzo(b)thiophene	0.217	0.001	0.010	ug/L	0.300		72.3	30-160			
Surrogate: 2-Methylnaphthalene-d10	0.222			ug/L	*0.300*		*74.0*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.272			ug/L	*0.300*		*90.5*	*29-120*			
Surrogate: Fluoranthene-d10	0.244			ug/L	*0.300*		*81.2*	*57-120*			
LCS Dup (BHG0068-BSD1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 13:18						
Naphthalene	0.244	0.001	0.010	ug/L	0.300		81.2	37-120	12.90	30	
2-Methylnaphthalene	0.242	0.001	0.010	ug/L	0.300		80.7	37-120	13.30	30	
1-Methylnaphthalene	0.249	0.0009	0.010	ug/L	0.300		83.1	29-120	13.60	30	
2-Chloronaphthalene	0.241	0.001	0.010	ug/L	0.300		80.3	30-160	14.50	30	
Biphenyl	0.252	0.001	0.010	ug/L	0.300		83.9	30-160	12.90	30	

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Semivolatile Organic Compounds - SIM - Quality Control

Batch BHG0068 - EPA 3510C SepF

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BHG0068-BSD1)					Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 13:18						
2,6-Dimethylnaphthalene	0.245	0.001	0.010	ug/L	0.300		81.5	30-160	14.50	30	
Acenaphthylene	0.249	0.002	0.010	ug/L	0.300		82.9	41-120	11.90	30	
Acenaphthene	0.251	0.003	0.010	ug/L	0.300		83.8	41-120	12.40	30	
Dibenzofuran	0.257	0.002	0.010	ug/L	0.300		85.6	38-120	12.60	30	
2,3,5-Trimethylnaphthalene	0.251	0.001	0.010	ug/L	0.300		83.6	30-160	13.30	30	
Fluorene	0.259	0.002	0.010	ug/L	0.300		86.3	43-120	11.10	30	
Dibenzothiophene	0.256	0.001	0.010	ug/L	0.300		85.4	30-160	9.64	30	
Phenanthrene	0.261	0.001	0.010	ug/L	0.300		86.9	41-120	10.80	30	
Anthracene	0.243	0.001	0.010	ug/L	0.300		80.9	40-120	10.70	30	
Carbazole	0.265	0.001	0.010	ug/L	0.300		88.4	30-160	10.70	30	
Fluoranthene	0.263	0.002	0.010	ug/L	0.300		87.5	45-120	10.30	30	
Pyrene	0.262	0.001	0.010	ug/L	0.300		87.4	41-120	11.20	30	
1-Methylphenanthrene	0.263	0.002	0.010	ug/L	0.300		87.6	30-160	10.90	30	
Benzo(a)anthracene	0.262	0.0008	0.010	ug/L	0.300		87.2	42-120	10.80	30	
Chrysene	0.268	0.0009	0.010	ug/L	0.300		89.4	44-120	11.50	30	
Benzo(b)fluoranthene	0.243	0.0005	0.010	ug/L	0.300		81.1	44-120	10.50	30	
Benzo(k)fluoranthene	0.240	0.003	0.010	ug/L	0.300		80.2	50-120	10.80	30	
Benzo(j)fluoranthene	0.245	0.002	0.010	ug/L	0.300		81.8	39-160	11.10	30	
Benzofluoranthenes, Total	0.729	0.004	0.010	ug/L	0.900		81.0	46-120	10.80	30	
Benzo(e)pyrene	0.258	0.001	0.010	ug/L	0.300		86.2	30-160	11.70	30	
Benzo(a)pyrene	0.242	0.002	0.010	ug/L	0.300		80.8	35-120	10.00	30	
Perylene	0.251	0.006	0.010	ug/L	0.300		83.8	30-160	11.50	30	
Indeno(1,2,3-cd)pyrene	0.296	0.001	0.010	ug/L	0.300		98.7	37-120	12.90	30	
Dibenzo(a,h)anthracene	0.278	0.001	0.010	ug/L	0.300		92.7	34-120	12.00	30	
Benzo(g,h,i)perylene	0.278	0.001	0.010	ug/L	0.300		92.7	38-120	13.50	30	
Benzo(b)thiophene	0.244	0.001	0.010	ug/L	0.300		81.5	30-160	11.90	30	
Surrogate: 2-Methylnaphthalene-d10	0.241			ug/L	*0.300*		*80.3*	*42-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	0.299			ug/L	*0.300*		*99.7*	*29-120*			
Surrogate: Fluoranthene-d10	0.270			ug/L	*0.300*		*89.9*	*57-120*			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Petroleum Hydrocarbons - Quality Control

Batch BHG0065 - EPA 3510C SepF

Instrument: FID4 Analyst: JGR

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0065-BLK1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 21:33						
Diesel Range Organics (C12-C24)	ND	0.100	mg/L							U
Motor Oil Range Organics (C24-C38)	ND	0.200	mg/L							U
Surrogate: o-Terphenyl	0.171		mg/L	*0.225*		*76.0*	*50-150*			
LCS (BHG0065-BS1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 21:54						
Diesel Range Organics (C12-C24)	2.34	0.100	mg/L	3.00		77.8	70-120			
Surrogate: o-Terphenyl	0.173		mg/L	*0.225*		*76.9*	*50-150*			
LCS Dup (BHG0065-BSD1)				Prepared: 03-Jul-2019 Analyzed: 04-Jul-2019 22:14						
Diesel Range Organics (C12-C24)	2.28	0.100	mg/L	3.00		76.1	70-120	2.25	30	
Surrogate: o-Terphenyl	0.169		mg/L	*0.225*		*75.0*	*50-150*			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Aroclor PCB - Quality Control

Batch BHG0070 - EPA 3510C SepF

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0070-BLK1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 01:31							
Aroclor 1016	ND	0.002	0.010	ug/L							U
Aroclor 1221	ND	0.002	0.010	ug/L							U
Aroclor 1232	ND	0.002	0.010	ug/L							U
Aroclor 1242	ND	0.002	0.010	ug/L							U
Aroclor 1248	ND	0.002	0.010	ug/L							U
Aroclor 1254	ND	0.002	0.010	ug/L							U
Aroclor 1260	ND	0.003	0.010	ug/L							U
Aroclor 1262	ND	0.003	0.010	ug/L							U
Aroclor 1268	ND	0.003	0.010	ug/L							U
Surrogate: Decachlorobiphenyl	0.0103			ug/L	*0.0200*		*51.7*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.0101			ug/L	*0.0200*		*50.7*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.00953			ug/L	*0.0200*		*47.7*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.00840			ug/L	*0.0200*		*42.0*	*32-120*			
LCS (BHG0070-BS1)				Prepared: 03-Jul-2019 Analyzed: 06-Jul-2019 01:52							
Aroclor 1016	0.037	0.002	0.010	ug/L	0.0500		74.5	54-120			
Aroclor 1260	0.035	0.003	0.010	ug/L	0.0500		69.5	51-128			
Surrogate: Decachlorobiphenyl	0.0102			ug/L	*0.0200*		*51.0*	*29-120*			
Surrogate: Tetrachlorometaxylene	0.00992			ug/L	*0.0200*		*49.6*	*32-120*			
Surrogate: Decachlorobiphenyl [2C]	0.00938			ug/L	*0.0200*		*46.9*	*29-120*			
Surrogate: Tetrachlorometaxylene [2C]	0.00832			ug/L	*0.0200*		*41.6*	*32-120*			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Metals and Metallic Compounds - Quality Control

Batch BHG0082 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0082-BLK1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 14:25							
Lead	208	ND	0.0680	0.100	ug/L							U
Manganese	55	ND	0.0850	0.500	ug/L							U
Arsenic	75a	ND	0.0220	0.200	ug/L							U
Cadmium	111	ND	0.0300	0.100	ug/L							U
Cadmium	114	ND	0.0400	0.100	ug/L							U
Copper	63	ND	0.340	0.500	ug/L							U
Copper	65	ND	0.350	0.500	ug/L							U
Zinc	66	1.30	0.820	4.00	ug/L							J
Zinc	67	1.11	0.940	4.00	ug/L							J
LCS (BHG0082-BS1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 14:30							
Lead	208	25.6	0.0680	0.100	ug/L	25.0		102	80-120			
Manganese	55	23.9	0.0850	0.500	ug/L	25.0		95.6	80-120			
Arsenic	75a	24.5	0.0220	0.200	ug/L	25.0		97.9	80-120			
Cadmium	111	24.7	0.0300	0.100	ug/L	25.0		98.8	80-120			
Cadmium	114	24.7	0.0400	0.100	ug/L	25.0		98.7	80-120			
Copper	63	24.9	0.340	0.500	ug/L	25.0		99.7	80-120			
Copper	65	24.8	0.350	0.500	ug/L	25.0		99.3	80-120			
Zinc	66	81.2	0.820	4.00	ug/L	80.0		101	80-120			
Zinc	67	77.4	0.940	4.00	ug/L	80.0		96.7	80-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Metals and Metallic Compounds - Quality Control

Batch BHG0168 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0168-BLK1)					Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:36						
Mercury	ND	0.000010	0.000020	mg/L							U
LCS (BHG0168-BS1)					Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 15:39						
Mercury	0.000207	0.000010	0.000020	mg/L	0.000200		104	80-120			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHG0086 - TWM EPA 7470A

Instrument: CVAA Analyst: JPK

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0086-BLK1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 15:45						
Mercury, Dissolved	ND	0.000013	0.000100	mg/L							U
LCS (BHG0086-BS1)					Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 15:48						
Mercury, Dissolved	0.00200	0.000013	0.000100	mg/L	0.00200		100	80-120			
Duplicate (BHG0086-DUP1)		**Source: 19G0023-02**			Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 15:53						
Mercury, Dissolved	ND	0.000013	0.000100	mg/L		ND					U
Matrix Spike (BHG0086-MS1)		**Source: 19G0023-02**			Prepared: 03-Jul-2019 Analyzed: 03-Jul-2019 15:55						
Mercury, Dissolved	0.00106	0.000013	0.000100	mg/L	0.00100	ND	106	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHG0132 - REN EPA 600/4-79-020 4.1.4 HNO3 matrix

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0132-BLK1)					Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:14							
Lead, Dissolved	208	ND	0.0680	0.100	ug/L							U
Manganese, Dissolved	55	ND	0.0850	0.500	ug/L							U
Arsenic, Dissolved	75a	ND	0.0220	0.200	ug/L							U
Cadmium, Dissolved	111	ND	0.0300	0.100	ug/L							U
Cadmium, Dissolved	114	ND	0.0400	0.100	ug/L							U
Copper, Dissolved	63	ND	0.340	0.500	ug/L							U
Copper, Dissolved	65	ND	0.350	0.500	ug/L							U
Zinc, Dissolved	66	1.18	0.820	4.00	ug/L							J
Zinc, Dissolved	67	0.999	0.940	4.00	ug/L							J
LCS (BHG0132-BS1)					Prepared: 05-Jul-2019 Analyzed: 08-Jul-2019 15:19							
Lead, Dissolved	208	23.7	0.0680	0.100	ug/L	25.0		95.0	80-120			
Manganese, Dissolved	55	24.0	0.0850	0.500	ug/L	25.0		96.1	80-120			
Arsenic, Dissolved	75a	23.3	0.0220	0.200	ug/L	25.0		93.1	80-120			
Cadmium, Dissolved	111	23.0	0.0300	0.100	ug/L	25.0		92.2	80-120			
Cadmium, Dissolved	114	22.8	0.0400	0.100	ug/L	25.0		91.2	80-120			
Copper, Dissolved	63	23.6	0.340	0.500	ug/L	25.0		94.6	80-120			
Copper, Dissolved	65	23.9	0.350	0.500	ug/L	25.0		95.5	80-120			
Zinc, Dissolved	66	77.3	0.820	4.00	ug/L	80.0		96.7	80-120			
Zinc, Dissolved	67	76.2	0.940	4.00	ug/L	80.0		95.2	80-120			

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Metals and Metallic Compounds (dissolved) - Quality Control

Batch BHG0169 - TLM EPA 7470A low level

Instrument: CVAA Analyst: SKM

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BHG0169-BLK1)				Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 16:56							
Mercury, Dissolved	0.000014	0.000010	0.000020	mg/L							J
LCS (BHG0169-BS1)				Prepared: 08-Jul-2019 Analyzed: 10-Jul-2019 16:59							
Mercury, Dissolved	0.000212	0.000010	0.000020	mg/L	0.000200		106	80-120			

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Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020A in Water	
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
Manganese-55	NELAP,WADOE,DoD-ELAP
Lead-208	NELAP,WADOE,DoD-ELAP,ADEC
EPA 6020A UCT-KED in Water	
Arsenic-75a	WADOE,WA-DW,DoD-ELAP,ADEC,NELAP
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Zinc-66	WADOE,WA-DW,DoD-ELAP
Zinc-67	WADOE,WA-DW,DoD-ELAP
Arsenic-75a	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-111	NELAP,WADOE,DoD-ELAP,ADEC
Cadmium-114	NELAP,WADOE,DoD-ELAP,ADEC
Copper-63	NELAP,WADOE,DoD-ELAP
Copper-65	NELAP,WADOE,DoD-ELAP
Zinc-66	NELAP,WADOE,DoD-ELAP
Zinc-67	NELAP,WADOE,DoD-ELAP
EPA 7470A in Water	
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
Mercury	WADOE,NELAP,DoD-ELAP,CALAP
EPA 8082A in Water	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Aroclor 1254	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,CALAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,CALAP,ADEC

EPA 8260C in Water

Chloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichlorofluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrolein	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloro-1,2,2-Trifluoroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acetone	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Iodomethane	DoD-ELAP,NELAP,CALAP,WADOE
Methylene Chloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Acrylonitrile	DoD-ELAP,NELAP,CALAP,WADOE
Carbon Disulfide	DoD-ELAP,NELAP,CALAP,WADOE
trans-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Vinyl Acetate	DoD-ELAP,NELAP,CALAP,WADOE
1,1-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Butanone	DoD-ELAP,NELAP,CALAP,WADOE
2,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
cis-1,2-Dichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Chloroform	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Carbon tetrachloride	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Benzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Trichloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Bromodichloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Dibromomethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Chloroethyl vinyl ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Methyl-2-Pentanone	DoD-ELAP,NELAP,CALAP,WADOE
cis-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Toluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,3-Dichloropropene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
2-Hexanone	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2-Trichloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,3-Dichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Tetrachloroethene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dibromochloromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromoethane	DoD-ELAP,NELAP,CALAP,WADOE
Chlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Ethylbenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,1,1,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
m,p-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
o-Xylene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Styrene	DoD-ELAP,NELAP,CALAP,WADOE
Bromoform	DoD-ELAP,NELAP,CALAP,WADOE
1,1,2,2-Tetrachloroethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,3-Trichloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
trans-1,4-Dichloro 2-Butene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Propylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
Bromobenzene	DoD-ELAP,NELAP,CALAP,WADOE
Isopropyl Benzene	DoD-ELAP,NELAP,CALAP,WADOE
2-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
4-Chlorotoluene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
t-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,3,5-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2,4-Trimethylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
s-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
4-Isopropyl Toluene	DoD-ELAP,NELAP,CALAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Butylbenzene	DoD-ELAP,NELAP,CALAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2-Dibromo-3-chloropropane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Hexachloro-1,3-Butadiene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Naphthalene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

1,2,3-Trichlorobenzene	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Dichlorodifluoromethane	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
Methyl tert-butyl Ether	DoD-ELAP,ADEC,NELAP,CALAP,WADOE
n-Hexane	WADOE
2-Pentanone	WADOE

EPA 8270D-SIM in Water

Naphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Biphenyl	NELAP
Acenaphthylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP,CALAP
Fluorene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Phenanthrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Carbazole	NELAP
Fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(a)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Chrysene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(b)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(k)fluoranthene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(j)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene	NELAP
Benzo(a)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Perylene	ADEC,NELAP,CALAP
Indeno(1,2,3-cd)pyrene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Dibenzo(a,h)anthracene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE
Benzo(g,h,i)perylene	ADEC,DoD-ELAP,NELAP,CALAP,WADOE

NWTPH-Dx in Water

Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C25)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
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Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

NWTPHg in Water

Gasoline Range Organics (Tol-Nap)	WADOE,DoD-ELAP
Gasoline Range Organics (2MP-TMB)	WADOE,DoD-ELAP
Gasoline Range Organics (Tol-C12)	WADOE,DoD-ELAP
Gasoline Range Organics (C6-C10)	WADOE,ADEC,DoD-ELAP
Gasoline Range Organics (C5-C12)	WADOE,DoD-ELAP

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	01/31/2021
CALAP	California Department of Public Health CAELAP	2748	06/30/2019
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	01/01/2021
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2020
WADOE	WA Dept of Ecology	C558	06/30/2019
WA-DW	Ecology - Drinking Water	C558	06/30/2019

Farallon Consulting, LLC	Project: Emerald Gateway Site 1071-026	
1809 7th Ave, Suite 1111	Project Number: 1071-026	**Reported:**
Seattle WA, 98101	Project Manager: Pete Kingston	11-Jul-2019 12:11

Notes and Definitions

*	Flagged value is not within established control limits.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
H	Hold time violation - Hold time was exceeded.
J	Estimated concentration value detected below the reporting limit.
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.

APPENDIX D
TERRESTRIAL ECOLOGICAL EVALUATION

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Voluntary Cleanup Program

Washington State Department of Ecology
Toxics Cleanup Program

TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation.

Completion of this form is not sufficient to document your evaluation. You still need to document your analysis and the basis for your conclusion in your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm.

Step 1: IDENTIFY HAZARDOUS WASTE SITE	
Please identify below the hazardous waste site for which you are documenting an evaluation.	
Facility/Site Name: Emerald Gateway SIte	
Facility/Site Address: 3301 South Norfolk Street, Seattle/Tukwila	
Facility/Site No: 73338176	VCP Project No.:

Step 2: IDENTIFY EVALUATOR		
Please identify below the person who conducted the evaluation and their contact information.		
Name: Pete Kingston		Title: Senior Geologist
Organization: Farallon Consulting, LLC		
Mailing address: 975 5th Avenue Northwest		
City: Issaquah	State: WA	Zip code: 98027
Phone: (425) 394-4146	Fax: (425) 295-0850	E-mail: pkingston@farallonconsulting.com

Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

A. Exclusion from further evaluation.

1. Does the Site qualify for an exclusion from further evaluation?

☐ Yes *If you answered **"YES,"** then answer **Question 2**.*

☒ No or Unknown *If you answered **"NO" or "UKNOWN,"** then skip to **Step 3B** of this form.*

2. What is the basis for the exclusion? *Check all that apply. Then skip to **Step 4** of this form.*

Point of Compliance: WAC 173-340-7491(1)(a)

☐ All soil contamination is, or will be,* at least 15 feet below the surface.

☐ All soil contamination is, or will be,* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

☐ All contaminated soil, is or will be,* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

☐ There is less than 0.25 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.

☐ For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous[#] undeveloped[±] land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

☐ Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

[±] "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

[#] "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

B. Simplified evaluation.

1. Does the Site qualify for a simplified evaluation?

- ■ Yes — *If you answered **"YES,"** then answer **Question 2** below.*
- ☐ No or Unknown — *If you answered **"NO"** or **"UNKNOWN,"** then skip to **Step 3C** of this form.*

2. Did you conduct a simplified evaluation?

- ■ Yes — *If you answered **"YES,"** then answer **Question 3** below.*
- ☐ No — *If you answered **"NO,"** then skip to **Step 3C** of this form.*

3. Was further evaluation necessary?

- ☐ Yes — *If you answered **"YES,"** then answer **Question 4** below.*
- ☐ No — *If you answered **"NO,"** then answer **Question 5** below.*

4. If further evaluation was necessary, what did you do?

- ☐ Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*
- ☐ Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

5. If no further evaluation was necessary, what was the reason? *Check all that apply. Then skip to **Step 4** of this form.*

Exposure Analysis: WAC 173-340-7492(2)(a)

- ☐ Area of soil contamination at the Site is not more than 350 square feet.
- ■ Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

Pathway Analysis: WAC 173-340-7492(2)(b)

- ■ No potential exposure pathways from soil contamination to ecological receptors.

Contaminant Analysis: WAC 173-340-7492(2)(c)

- ■ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
- ☐ No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

C. Site-specific evaluation. A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. *See* WAC 173-340-7493(1)(c).

1. Was there a problem? *See* WAC 173-340-7493(2).

☐ Yes *If you answered **"YES,"** then answer **Question 2** below.*

☐ No *If you answered **"NO,"** then identify the reason here and then skip to **Question 5** below:*

- ☐ No issues were identified during the problem formulation step.
- ☐ While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

2. What did you do to resolve the problem? *See* WAC 173-340-7493(3).

☐ Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*

☐ Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

3. If you conducted further site-specific evaluations, what methods did you use?
Check all that apply. See WAC 173-340-7493(3).

- ☐ Literature surveys.
- ☐ Soil bioassays.
- ☐ Wildlife exposure model.
- ☐ Biomarkers.
- ☐ Site-specific field studies.
- ☐ Weight of evidence.
- ☐ Other methods approved by Ecology. If so, please specify:

4. What was the result of those evaluations?

- ☐ Confirmed there was no problem.
- ☐ Confirmed there was a problem and established site-specific cleanup levels.

5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?

☐ Yes If so, please identify the Ecology staff who approved those steps:

☐ No

Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.

Northwest Region: Attn: VCP Coordinator 3190 160th Ave. SE Bellevue, WA 98008-5452	**Central Region:** Attn: VCP Coordinator 1250 West Alder St. Union Gap, WA 98903-0009
Southwest Region: Attn: VCP Coordinator P.O. Box 47775 Olympia, WA 98504-7775	**Eastern Region:** Attn: VCP Coordinator N. 4601 Monroe Spokane WA 99205-1295

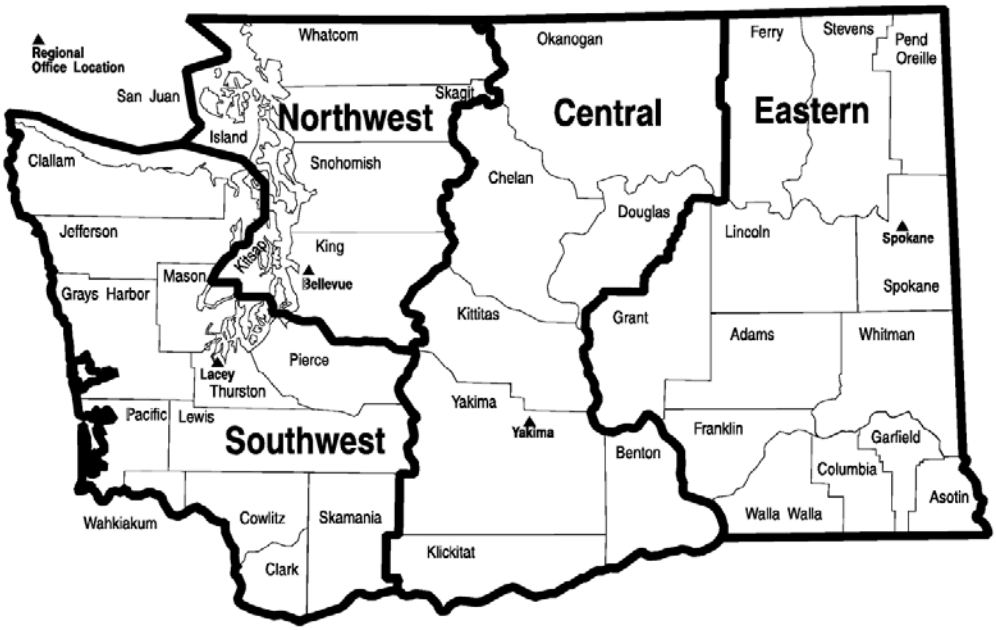


Table 749-1

Simplified Terrestrial Ecological Evaluation-Exposure Analysis Procedure

Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre).	
1) From the table below, find the number of points corresponding to the area and enter this number in the field to the right.	
Area (acres) / Points 0.25 or less / 4 0.5 / 5 1.0 / 6 1.5 / 7 2.0 / 8 2.5 / 9 3.0 / 10 3.5 / 11 4.0 or more / 12	8
2) Is this an industrial or commercial property? If yes, enter a score of 3. If no, enter a score of 1	3
3)[a] Enter a score in the box to the right for the habitat quality of the site, using the following rating system[b]. High=1, Intermediate=2, Low=3	3
4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2.[c]	2
5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.	4
6) Add the numbers in the boxes on lines 2-5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified evaluation may be ended.	12

Notes for Table 749-1

[a] It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score of (1) for questions 3 and 4.

[b] **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:

> **Low:** Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.

High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.

Intermediate: Area does not rate as either high or low.

[c] Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use b mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

[Area Calculation Aid] [Aerial Photo with Area Designations] [TEE Table 749-1] [Index of Tables]

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493]

[TEE Home]

Washington State Department of Ecology
Toxics Cleanup Program

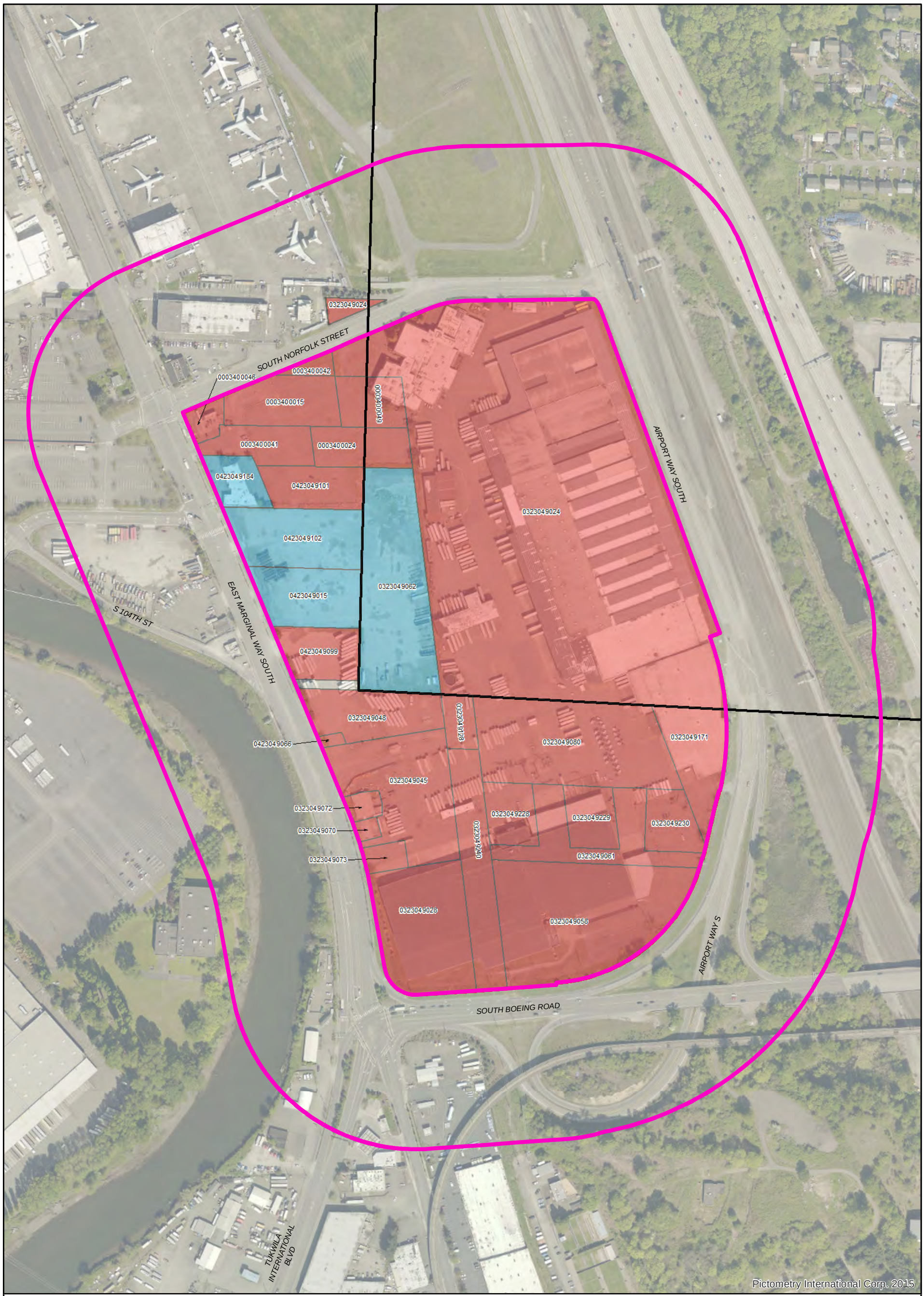
Terrestrial Ecological Evaluation Process- Simplified Evaluation

Documentation Form

Criteria # (Concern)	Criteria	Response (Circle One)
1 (exposure)	Is the total area of soil contamination at the site less than or equal to 350 square feet	**Yes (End TEE) / No**
2 (exposure)	Does land use at the site and surrounding area make substantial wildlife exposure unlikely based on completion of Table 749-1?	**Yes (End TEE) / No**
3 (pathway)	Is there a potential exposure pathway from soil contamination to soil biota, plants, or wildlife?	**Yes / No (End TEE)**
4 (contaminant)	Are the hazardous substances at your site listed in Table 749-2 and is (or will) their location in the soil at your site be at a depth not exceeding the point of compliance, and at concentrations that do not exceed the values provided in Table 749-2.	**Yes (End TEE) / No** **Note: You must perform bioassays for contaminants at your site if no table value is provided.**
5 (contaminant)	Will hazardous substances listed in Table 749-2 be present in the soil at your site within 6 feet of the ground surface at concentrations likely to be toxic, or with the potential to bioaccumulate, based on bioassays using methods approved by the department.	**Yes / No (End TEE)**

[Exclusions Main] [TEE Definitions] [Simplified or Site-Specific?] [Simplified Ecological Evaluation] [Site-Specific Ecological Evaluation] [WAC 173-340-7493] [Index of Tables]

[TEE Home]



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- PARCEL BOUNDARY (WITH PARCEL NUMBER)
- 10230 EAST MARGINAL WAY SOUTH
- 3301 SOUTH NORFOLK STREET
- PROPERTY BOUNDARY

DRAFT

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Feet

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500-FOOT PROPERTY RADIUS BOUNDARY FOR TERRESTRIAL ECOLOGICAL EVALUATION
3301 SOUTH NORFOLK STREET AND 10230 EAST MARGINAL WAY SOUTH SEATTLE/ TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: DML | Date: 11/1/2017 | Disc Reference:

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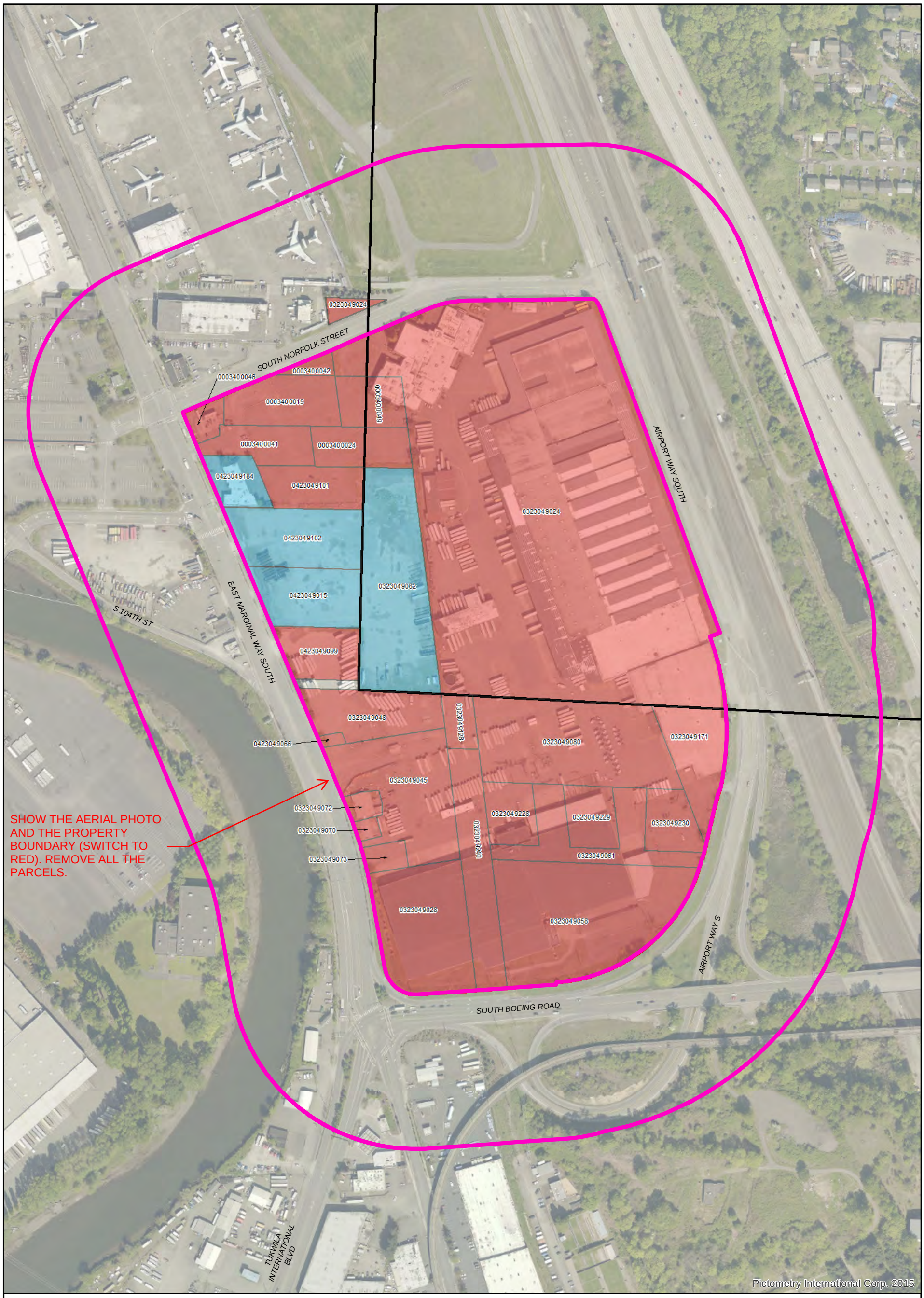

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- ~~10230 EAST MARGINAL WAY SOUTH~~
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- PROPERTY BOUNDARY

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EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA , EASHINGTON

APPENDIX E
SAMPLING AND ANALYSIS PLAN

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

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SAMPLING AND ANALYSIS PLAN
INTERIM ACTION DESIGN REPORT

EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 1071-026

For:
Prologis-Exchange 3301 South Norfolk LLC
Pier 1, Bay 1
San Francisco, California 94111

March 24, 2020

Prepared by:

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Senior Geologist

Reviewed by:

Peter Jewett, L.G., L.E.G.
Principal Engineering Geologist

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APPENDICES

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Sampling and Analysis Plan (SAP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) to present specific methodologies for the collection, handling, and analysis of samples that will be conducted during an interim action for the property at 3301 South Norfolk Street in Seattle/Tukwila, Washington (herein referred to as the Property) (Figure 1). This Interim Action Design Report has been prepared pursuant to Agreed Order No. DE 16659 between Prologis and the Washington State Department of Ecology (Ecology 2020). Additional information on the Emerald Gateway Site is provided in the Interim Action Work Plan (Farallon 2019) (IAWP).

This SAP has been prepared in accordance with the Washington State Model Toxics Control Act Cleanup Regulation (MTCA) as established in Section 820 of Chapter 173-340 of the Washington Administrative Code WAC 173-340-820) and *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies* revised December 2016, prepared by the Washington State Department of Ecology (Ecology) (2004).

1.1 PURPOSE

The purposes of this SAP are to:

- Describe the interim action scope of work;
- Identify sample locations and media, sample quantities, analytical methods, and documentation protocols for the sampling program;
- Describe standard operating procedures (SOPs) for field sampling of soil; and
- Provide quality assurance (QA) and quality control (QC) protocols for field activities and laboratory analysis to ensure collection of representative and useable data.

2.0 PROJECT DESCRIPTION

This section provides a summary of the scope of work and Farallon's project organization and schedule.

2.1 PROJECT ORGANIZATION AND RESPONSIBILITIES

The project organization for conducting the scope of work described in the SAP, including identification of key personnel and their responsibilities, is presented below.

Regulatory Agency. Ecology is the lead regulatory agency for the Site. Ecology's Site manager for the Emerald Gateway Site is:

Ms. Jing Liu
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008
Telephone: (425) 649-4310
jliu461@ecy.wa.gov

Project Contact. Farallon has been contracted by Prologis to plan and implement the SAP. The Project Contact for Prologis is:

Ms. Janet Frentzel
Prologis, Inc.
Pier 1, Bay 1
San Francisco, California 94111
Telephone: (425) 733-9431
jfrentzel@prologis.com

Project Principal. The Project Principal provides support for all project activities and reviews data and deliverables prior to their submittal to the Project Contact or Regulatory Agency.

Mr. Peter Jewett, L.G., L.E.G.
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027
Telephone: (425) 295-0800
pjewett@farallonconsulting.com

Project Manager. The Project Manager has day-to-day responsibility for project implementation. The Project Manager will be responsible monitoring the quality of the technical and managerial

aspects of the project, and implementing the SAP and corresponding corrective actions, if necessary. The Project Manager for Farallon is:

Mr. Pete Kingston, L.G.
Farallon Consulting, L.L.C.
1809 7th Avenue
Seattle, Washington 98101
Telephone: (425) 295-0800
pkingston@farallonconsulting.com

Project Data Manager. The Project Data Manager manages data as it is received from the laboratory and is responsible for data validation. Data validation responsibilities include reviewing laboratory reports, advising on data corrective action procedures, and performing QA/QC on analytical data reports. In addition, the Project Data Manager will directly transfer laboratory data into an EQuIS environmental data management system database (EQuIS database) and the Ecology Environmental Information Management System. The Data Manager for Farallon is:

Mr. Thomas Metos
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027
Telephone: (425) 295-0800
tmetos@farallonconsulting.com

Field Staff. Members of the field staff supervise contractor procedures, manage collection of samples, coordinate sample deliveries to the laboratory, and document field-sampling activities. Field Staff also will communicate progress updates to the Project Manager, including deviations from the SAP.

Laboratory – Analytical Resources, Inc. Analytical Resources, Inc. (ARI), of Tukwila, Washington will perform analytical services in support of the pre-interim action design investigation and will be responsible for implementing specific QA/QC requirements.

2.2 PROJECT SCHEDULE

The interim action will be completed in conjunction with Property redevelopment, and the schedule for completion is dependent on Property redevelopment following Ecology approval of IAWP and Interim Action Design Report.

3.0 FIELD PROCEDURES

This section summarizes the protocols and procedures that will be followed for field data collection. Farallon SOPs for fieldwork, including detailed step-by-step protocols, are provided in Appendix A.

3.1 FIELD SCREENING

Field screening will be performed by the Field Scientist to guide the interim action excavation work and to supplement soil sample analytical data, as needed, in identifying extents of the general categories of soil for purposes of soil handling and disposal.

Field screening will consist of any or all of the following:

- Visual and olfactory observations;
- Organic vapor screening; and
- Soil sheen testing.

Results of field screening will be recorded by the Field Scientist on a Field Report form.

3.1.1 Visual and Olfactory Observations

Field Scientist visual and olfactory observations will include at a minimum: elevation and soil lift identification, Unified Soil Classification System soil description, estimated soil moisture, physical indications of contamination (e.g., odor, staining), and estimate of percentage of wood debris by volume.

3.1.2 Organic Vapor Screening

Organic vapor screening may be performed by the Field Scientist using a calibrated photoionization detector (PID) for purposes of identifying soil containing volatile organic compounds (VOCs) or for health and safety monitoring. A PID reading exceeding ambient or background concentrations indicates potential confirmation of VOC concentrations in a soil sample. Organic vapor screening will be conducted as follows:

- Approximately 100 grams of the soil sample will be sealed in a heavy re-sealable plastic bag, and care will be taken to leave air (headspace) in the bag for the volatile organic vapors to collect;
- The sealed bag will be shaken to volatilize the contaminants in the soil;
- After waiting approximately 5 minutes, the Field Scientist will insert the PID probe tip into a small opening in the seal at the top of the bag, and the highest PID reading will be recorded on the Soil Sample Data Log form; and
- The bag will be resealed after taking the headspace reading in case further assessment of the sample is needed.

3.1.3 Soil Sheen Test

Soil sheen testing will be performed for purposes of identifying soil containing petroleum hydrocarbons. The Field Scientist will place a soil sample into a clean sample jar and add fresh water. The surface of the water will then be observed for the presence or absence of a sheen in accordance with Ecology (2011) guidance, with the following sheen descriptors noted:

- NS – No visible sheen on the water surface.
- SS – Slight (light, colorless, or dull) sheen on the water surface, with irregular non-rapid spread. Natural organic oils or iron bacteria in the soil may produce a slight sheen.
- MS – Moderate (pronounced over limited area) sheen. Sheen may have some color/iridescence, with irregular and possibly rapid spread, but does not spread over entire water surface.
- HS – Heavy sheen with pronounced color/iridescence and rapid spread, with the sheen covering the entire water surface.

Decaying organic matter and/or iron bacteria can produce a rainbow-like sheen similar to an oil sheen. However, these sheens typically can be broken up when agitated or disturbed, unlike oil sheens, which can be iridescent.

3.2 SOIL SAMPLING

The interim action provides for compliance monitoring soil sampling in accordance with WAC 173-340-410 to document the effectiveness of the interim action. The following sections summarize methodology for compliance monitoring. Performance soil sample results will be used to identify the limits of each interim action excavation and may also be used, as needed, to document compliance of soil with waste profiles approved by selected disposal facilities. Confirmation soil sampling results will confirm the compliance with remediation levels identified in the Interim Action Design Report. Data pertaining to soil sampling will be recorded by the Field Scientist on a Field Report form and a Soil Sample Data Log form.

3.2.1 Performance Soil Sampling

Performance soil sampling will involve collecting discrete in-situ soil samples for laboratory analysis to quantify concentrations of COPCs in soil. Discrete soil samples will be collected from the centers of excavation grids and the excavation bottom and sidewalls to guide the excavation and to serve as confirmational samples where remediation levels are attained.

The frequency and location of performance soil sampling will be dependent on the sampling data available at the time and results of field screening described in Section 3.1, Field Screening; and at the discretion of the Field Scientist. Performance soil sample locations and elevations will be measured using a geographic positioning system or by a construction land surveyor.

Figures will be continually updated with results of field screening and performance soil sampling, and will be used for planning of additional performance soil sampling. If soil contamination is confirmed within an excavation grid area, the grid area may be further divided into subareas and additional performance samples collected to assess the lateral extent of contamination, as needed. The frequency of performance soil sampling may be higher near the lateral and vertical limits of the interim action excavations to confirm that remediation levels are attained.

3.2.2 Confirmation Soil Sampling

Confirmation soil sampling will be conducted at each excavation location once performance soil sampling results and field screening procedures indicate that the remediation levels have been attained at the limits of each excavation. Confirmation soil sampling will consist of collecting discrete in-situ soil samples from the base and sidewalls of the final limits of each completed excavation area where COPCs for the interim action were previously present and/or where previous concentrations of constituents of concern exceeded remediation levels. Performance soil samples will be used as confirmation samples in cases where the analytical results of performance soil samples confirm that remediation levels have been attained.

3.2.3 General Field Procedures

Soil samples will be collected and handled in accordance with the general procedures listed below, and Farallon's SOP SL-02 (Appendix A):

- Don a new pair of powder-free nitrile gloves prior to collecting each individual soil sample to avoid potential cross-contamination.

- Collect soil samples directly from the top 6 inches of exposed surface of the sidewalls and/or bottom of the interim action excavations, unless otherwise directed by the Farallon Project Manager. If sampling personnel are not allowed into the excavation area due to health and safety concerns, samples can be collected directly from the excavator bucket, taking care to collect soil from the center of the bucket and to not collect soil samples that have come in contact with the excavator bucket. Samples collected for laboratory analysis should only come into contact with decontaminated stainless-steel equipment or laboratory certified-clean sample containers.

- Transfer the soil immediately into appropriate laboratory-supplied and certified-clean sampling containers. Care will be taken not to handle the seal or the inside cap of the container while placing the sample into the container. The container will be filled to eliminate headspace and the seal/cap will be secured. Non-dedicated sampling equipment will be decontaminated between uses, as appropriate.

- Record the following information, at a minimum, on the Soil Sample Data Log form during sampling: sample identification, sample depth, Unified Soil Classification System soil description, soil moisture, and physical indications of contamination (e.g., visual observations, PID readings).

- Label the sample container in accordance with the procedures described in Section 4, Sample Handing.

- Log the sample on a Chain of Custody form and place into a cooler on ice for transport to the laboratory under standard chain-of-custody protocols. The Chain of Custody form will clearly indicate that each sample is to be thoroughly homogenized by the laboratory.

- Deliver soil samples to the analytical laboratory as soon as possible after sampling in order for the laboratory to analyze the samples within regulatory holding times as described in Section 5, Laboratory Analysis.

3.3 DECONTAMINATION PROCEDURES

Reusable equipment will be decontaminated in accordance with Farallon SOP EQ-01 (Appendix A).

4.0 SAMPLE HANDLING

This section discusses the sample designation and labeling and sample-handling methods to be used during the pre-interim action design investigation. The protocols discussed include sample containers, preservation and holding times, sample documentation, collection of QA/QC samples, and sample packaging and shipment.

4.1 SAMPLE DOCUMENTATION

Sample documentation includes sample labels, Field Report forms, Soil Sample Data Log forms, and Chain of Custody forms. Other sample documentation to be maintained by field personnel are provided in Appendix B.

Each sample container will be marked with a durable adhesive label and labeled with a unique identifier. The sample identifier for each sample will be constructed according to Section 4.2, Sample Designation, and recorded in the Field Report forms and on the sample Chain of Custody form (Appendix B). Sample labels will include the client name, project name and number, date and time sampled, sample identifier, sampler's initials, requested sample analysis, and analyte preservative(s), if any. The Chain of Custody form will include the sample identifier, date and time of sample collection, sampler's initials, number of containers, and requested sample analysis. Entries for all samples will be made on the Chain of Custody form prior to the transfer of the samples off the area of interest.

4.2 SAMPLE DESIGNATION

Sample designation and labeling procedures for soil samples are presented below.

4.2.1 Soil Sample Identifiers

Soil samples will be assigned a unique sample identifier that will include the sample location (e.g., excavation grid identification), the number of the sample within that grid, and the depth of the sample stated in feet bgs. For example, the first soil sample collected from grid A1 at a depth of 5 feet bgs would be assigned the identifier A1-01-5.0. The next soil sample collected from grid A1 at a depth of 10 feet bgs would be assigned the identifier A1-02-10.0. The sample identifier will be recorded on the sample label, Field Report form, Soil Sample Data Log, and Chain of Custody form.

4.3 SAMPLE CONTAINERS, PRESERVATION PROCEDURES, AND HOLDING TIMES

Sample container requirements for soil sampling are based on the medium to be sampled and the type(s) of analysis to be performed. The containers, preservation procedures, and hold times for soil are shown in Table 1 and follow standard laboratory protocols.

4.4 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

Field duplicate samples will be collected during sampling to assess the precision of laboratory analytical and field sampling methods. Soil sampling is subject to potentially wide ranges of variability due to the heterogeneity of the sample and the limited mass of soil sampled. Field duplicate soil samples will not be collected.

4.5 SAMPLE PACKAGING AND SHIPMENT

The samples shipped for laboratory analysis will be packaged according to applicable regulations and the recommendations of the laboratory performing the analysis. Samples will be expeditiously transported to the analytical laboratory after being sealed in coolers.

The following procedures (representing the minimum shipping and handling requirements) will be used for sample packaging:

- A sample label will be affixed to the corresponding sample container at the time of sample collection.
- Bubble-wrap bags or an equivalent will be used to protect sample containers.
- Sample containers will be placed into a cooler and checked against the Chain of Custody form to ensure that all samples are listed and are placed into the correct cooler.
- One copy of the Chain of Custody form will be detached and retained by the Farallon Field Scientist.
- Remaining paperwork will be sealed in a resealable plastic bag and taped to the inside of the cooler lid.
- One to three resealable bags will be filled with ice and/or a chemical equivalent and included in the cooler. Ice will be double-bagged in heavy-duty bags.
- The cooler will be sealed with a chain-of-custody seal and taped shut using strapping tape.
- The laboratory address will be affixed to the cooler.
- Extraneous stickers will be removed from the cooler.
- The cooler will be examined to ensure that Farallon's return address is affixed.

Upon transfer of the samples to laboratory personnel or arrival of the samples at the laboratory facility, the laboratory will assume responsibility for custody of the samples. Laboratory personnel will document the status of shipping and handling containers and will adhere to standard chain-of-custody procedures to track each sample through all of the stages of laboratory processing.

5.0 LABORATORY ANALYSIS

This section describes the details of the laboratory analysis associated with soil samples that will be collected during this interim action. Laboratory analyses will be conducted by ARI. ARI is accredited by Ecology and meets the QA/QC requirements of Ecology and EPA.

5.1 LABORATORY ANALYSES

Soil samples will be analyzed for one or more of the following analytes, depending on the sample location:

- DRO and ORO by Northwest Method NWPTH-Dx;
- Total petroleum hydrocarbons as gasoline-range organics (GRO) by Northwest Method NWTPH-Gx;
- Polycyclic aromatic hydrocarbons by EPA Method 8270D/SIM;
- Metals (arsenic and copper) by EPA Methods 6010D/6020B/7471B/200.7/200.8/7470/245.1; and

Sample analysis will be determined by which COPCs are expected to be encountered at each excavation area.

5.2 REPORTING LIMITS

The analytical methods identified above result in the reporting limits (or practical quantitation limits) that are shown on Table 2. The laboratory reporting limits are based on current laboratory data and may be modified during the investigation as methodology is refined. Instances may arise where high sample concentration, nonhomogeneity of samples, or matrix interferences preclude achieving the laboratory reporting limits.

6.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Excavated soil, wastewater, and other products generated during the interim action may be contaminated and will be properly disposed of pending receipt of analytical results. Specific criteria that will be used to manage investigation-derived waste, including the profiling and selection of an appropriate disposal option for each of the expected waste streams, are discussed below.

6.1 WASTE SOIL

Excavated soil will be transported by haul trucks to an appropriate landfill during the interim action. A waste profile will be submitted to the selected disposal facility for approval before contaminated soil is excavated.

6.2 WASTEWATER

If necessary, wastewater generated during excavation dewatering will be conveyed to aboveground holding tanks and a groundwater pre-treatment system which will be installed at the Property. Groundwater will be pretreated on the Property and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program.

6.3 DISPOSABLES

Disposable personal protective clothing (e.g., Tyvek suits, rubber gloves, boot covers) and disposable sampling devices (e.g., plastic soil sample plungers) will be cleaned, placed into plastic garbage bags, and disposed of as nonhazardous waste.

7.0 FIELD DOCUMENTATION

Documentation of field activities will be provided on Field Report forms, Truck Tracking logs, Soil Sample Data Logs, sample and waste material labels, Waste Inventory forms, and Chain of Custody forms. Documentation generated during the field program will be retained in the project files and included in the reports generated, as appropriate. Filled forms and records will be maintained in the Farallon project files. Example forms and labels are provided in Appendix B.

7.1 FIELD REPORT FORM

Field personnel will be required to keep a daily field log on a Field Report form. Field notes will be as descriptive and inclusive as possible, enabling independent parties to reconstruct the sampling situation from the recorded information. Language will be objective, factual, and free of inappropriate or ambiguous terms and/or opinions.

A summary of each day's events will be provided on the Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and any activities performed in a manner other than as specified in this SAP. In addition, if other forms or documents such as well-head surveys or maps are completed or used, they will be cited in and attached to the Field Report form. Field personnel will sign the completed Field Report form.

7.2 TRUCK TRACKING LOG

Truck tracking logs will be prepared by a Farallon Scientist to determine the number of truckloads of soil removed during excavation activities. Truck tracking logs will include truck identification, container type, the time the truck left the Emerald Gateway Site, and the category of soil exported, if applicable.

7.3 SOIL SAMPLE DATA LOG

A Soil Sample Data Log will be used to record information pertaining to soil samples collected. This log includes entries for the sample location, identification, and depth; the time sampled; field-screening results; the types and number of containers collected; and a brief lithologic description.

7.4 SAMPLE LABEL

Sample labels will be filled out and affixed to appropriate sample containers immediately prior to sample collection. The label will be filled out with indelible ink and includes the medium, date, time sampled, sample identifier (see Section 4.2, Sample Designation), project name, project number, sampler’s initials, and analyte preservative(s) if any.

7.5 WASTE MATERIAL LABEL

A waste material label is filled out and affixed to the appropriate waste container immediately upon filling. The label is filled out in indelible ink and includes the job number and name, address where the waste was generated, container contents, date, consultant's name and phone number, and sampler's initials.

7.6 WASTE INVENTORY FORM

A Waste Inventory form will be used to document and track the wastes generated during the characterization field work. The form will include information on the waste container, origin of the waste, type of waste, date generated, date removed from the Site, transporter, and disposal location. A copy of the Waste Inventory form is included in Appendix B.

7.7 CHAIN OF CUSTODY FORM

The Chain of Custody form provides an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis and reporting of analytical values. The Chain of Custody form should be updated whenever samples are collected, transferred, stored, analyzed, or destroyed. The Chain of Custody form includes the client name, project name and number, date and time sampled, sample identifier, sampler's initials, and requested sample analysis.

8.0 QUALITY ASSURANCE PROJECT PLAN

This section describes the analytical program to be conducted for each sample selected for chemical analysis, as well as the laboratory QA objectives and QC protocols required to be met to ensure collection of representative and useable data.

8.1 DATA QUALITY OBJECTIVES

Data quality objectives (DQOs) for this project will be used to develop and implement procedures to ensure that the data collected are of sufficient quality to adequately address the interim action objectives. Observations and measurements will be made and recorded in a manner so as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness will be met by ensuring that sampling locations are selected properly, a sufficient number of samples are collected, and field screening and laboratory analyses are conducted properly.

DQOs for this project include:

- Collect performance and confirmation soil samples from each remedial excavation at the Emerald Gateway Site in order to determine the effectiveness of the interim action and expand excavation boundaries if necessary;
- Collect soil samples from borings advanced at the Emerald Gateway Site to further evaluate the lateral or vertical extent of COPCs if necessary;
- Collect water samples from the groundwater treatment system inlet and discharge to verify that dewatered groundwater is treated and discharged with concentrations of COPCs less than applicable discharge limits; and
- Implement QA/QC protocols described in this SAP so that data collected are scientifically defensible.

The quality of the field sampling methods and laboratory data will be assessed using the parameters of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS). QC procedures for PARCCS are described in the following sections. Quantitative DQOs for applicable parameters (i.e., precision, accuracy, and completeness) are provided following their definition. Laboratory DQOs have been established by the analytical laboratories and are specified in the individual analytical laboratory Quality Assurance Manuals. The applicable analytical laboratory Quality Assurance Manual will be kept on file at the Farallon corporate office in Issaquah, Washington.

8.1.1 PRECISION

Precision is defined as the degree of agreement between or among independent, similar, or repeated measures, and is expressed in terms of analytical variability. For this project, analytical variability will be measured as the relative percent difference (RPD) or coefficient of variation between

analytical laboratory duplicates, and between the matrix spike (MS) and matrix spike duplicate (MSD) analyses. Monitoring and sampling variability will be measured by analysis of blind field-replicate samples.

The tolerance limit for percent differences between laboratory duplicates will be ±20 percent; deviations from these criteria will be reported. If the criteria are not met, the laboratory will provide an explanation of why the limits were exceeded, and will implement appropriate corrective actions for laboratory control samples (LCSs)/LCS duplicates only. RPDs will be evaluated during data review and validation. If precision limit exceedances are linked to field sampling, those field sampling procedures will be reviewed, and any problems will be identified. Re-sampling and analysis may be required.

8.1.2 ACCURACY

Accuracy (bias) is a statistical measurement of correctness and includes components of random error (i.e., variability due to imprecision) and systematic error. It therefore reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ excessively from the known concentration of the spike or standard.

Accuracy measures the bias in a measurement system and is difficult to measure for the entire data collection activity. Sources of error include the sampling process, field contamination, preservative handling, sample matrix effects, and sample preparation and analysis techniques. To confirm that the samples collected are not contaminated, laboratory method blank samples will be analyzed.

Laboratory MSs and surrogates will be carried out at the analytical laboratory in accordance with EPA SW-846 requirements for organic chemical analyses. The frequency for both MSs and MSDs analysis will be one per batch of 20 or fewer samples. Quantitative percent recovery criteria for organic analyses will be based on laboratory-derived control limits for surrogate recovery and MS results.

The resultant percent recovery will be compared to the acceptance criteria defined in the SAP, and deviations from specified limits will be reported. If the objective criteria are not met, the laboratory will provide an explanation of why acceptability limits were exceeded, and will implement appropriate corrective actions. Percent recoveries will be reviewed during data validation, and deviations from the specified limits will be noted. The data reviewer will comment on the effect of the deviations on reported data.

8.1.3 REPRESENTATIVENESS

Representativeness is a qualitative assessment of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the matrix sampled. The sampling plan design, sample collection techniques, sample handling protocols, sample analysis methods, and data review procedures have been developed to ensure that the results obtained are representative of site conditions. Representativeness also will be determined by evaluating holding

times, sample preservation, and blank contamination. Samples with expired holding times, improper preservation, or blank contamination may not be representative.

8.1.4 COMPLETENESS

Completeness, defined as the number of acceptable data points relative to the total number of data points, will be assessed for all samples within a given media (i.e., soil). The QA/QC objective for completeness for all components of this project is 95 percent. Data that were qualified as estimated because the QA/QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that have been qualified as estimated will be further reviewed for usability. For this investigation, the primary use of the data is to perform initial screening of environmental chemical concentrations to identify potential chemicals and transport pathways of concern. Data that were qualified as rejected will not be considered valid for the purpose of assessing completeness. If a sample medium has an unacceptable completeness percentage after comparison to the individual data quality objectives described above, original samples will be re-analyzed if sufficient sample volume is available, archived samples will be analyzed if appropriate, or additional samples will be collected during the interim action and/or remedial investigation.

8.1.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared to another. In order to ensure results are comparable, samples will be analyzed using standard EPA or Ecology methods and protocols. Calibration and reference standards will be traceable to certified standards, and standard data reporting formats will be employed. Data will also be reviewed to verify that precision and accuracy criteria were achieved and, if not, that data were appropriately qualified.

8.2 DATA QUALITY CONTROL

Data will undergo two levels of QA/QC evaluation: one by the laboratory and one by Farallon. Initial data reduction, evaluation, and reporting will be performed by the laboratory, as specified in the laboratory Quality Assurance Manual. The analytical data will then be validated by Farallon under the supervision of the Project Data Manager. The following types of QC information will be reviewed, as appropriate:

- Method deviations;
- Sample extraction and hold times;
- Method reporting limits;
- Blank samples (e.g., equipment rinsate, trip, and laboratory method);
- Field duplicate samples;
- RPD (for precision);
- MS/MSD samples (for accuracy);

- Surrogate recoveries; and
- Percent completeness.

Farallon will review field records and the results of field observations and measurements to ensure that procedures were properly performed and documented. Field procedures will be reviewed for the following elements:

- Completeness and legibility of field logs;
- Preparation and frequency of field QC samples;
- Field equipment calibration and maintenance; and
- Chain of Custody forms.

8.3 LABORATORY DATA PACKAGE REQUIREMENTS

Laboratory data packages will consist of a laboratory report and electronic data deliverable. Laboratory reports will include the following elements:

- Case narrative;
- Analytical notes;
- QC narrative;
- Sample inventory report;
- Analytical results; and
- Data qualifiers and abbreviations.

The electronic data deliverable will include at a minimum:

- Sample identification information;
- Sample media;
- Sampling, laboratory receiving, extraction, and analysis dates;
- Analyte and Chemical Abstracts Service Reference No.;
- Reported concentrations and reporting units;
- Analytical method detection limits;
- Machine reporting limits and reporting units; and
- QA/QC results, including identification of MS/MSD and surrogate samples.

8.4 CORRECTIVE ACTION

Corrective action will be the joint responsibility of the Project Manager and the Project Data Manager. Corrective procedures may include:

- Identifying the source of deviation from the quality standards set forth in the SAP and its supporting documents;
- Re-analyzing soil samples if hold-time criteria permit;
- Re-sampling and analyzing soil if necessary to meet the quality standards set forth in this SAP;
- Evaluating and amending sampling, analytical, and/or data transfer procedures; and/or
- Qualifying data to indicate the level of uncertainty.

During field operations and sampling procedures, field team members will be responsible for identifying and correcting equipment malfunctions and documenting sampling procedures in a manner that will enable the Project Manager or the Project Data Manager to evaluate whether corrective action is warranted.

Equipment malfunctions, variances in sampling protocols, and corrective actions taken by field team members will be documented in the field notes. The Project Manager or the Project Data Manager will evaluate the field notes upon submittal to determine whether the corrective action taken was adequate to meet project quality standards or whether additional corrective action is required.

8.5 DATA MANAGEMENT

The final repository for sample analytical information will be an EQuIS database. The electronic data deliverables received from the laboratories will be directly transferred into the EQuIS database, reducing the likelihood of data entry errors. The Project Data Manager will manage and maintain the EQuIS database.

Farallon will directly transfer the analytical data provided by the laboratory into the Ecology Environmental Information Management System, thus eliminating the likelihood of data entry errors inherent with manual data entry.

Field measurements and other data requiring manual entry will be reviewed by Farallon personnel other than the data entry staff prior to submission to the Environmental Information Management System. Ecology's confirmation of receipt of the data will be maintained in Farallon project files.

8.6 DATA VALIDATION

Farallon will conduct a Level I Compliance Screening on all the analytical data.

All chemical data will be reviewed with regard to the following:

- Chain-of-custody/documentation;
- Sample preservation and holding times;
- Method blanks;
- Reporting limits;
- Surrogate recoveries;
- MS/MSD recoveries;
- LCS recoveries; and
- Laboratory and field duplicate RPDs.

Data validation will be based on the QA/QC criteria as recommended in the methods identified in this SAP and in the *National Functional Guidelines for Organic and/or Inorganic Methods Data Review* (EPA 2014a, 2014b).

Data usability, conformance with the QA/QC objectives, and any deviations that may have affected the quality of the data, as well as the basis of application of qualifiers, will be included in the final reporting of the data. Any required corrective actions based on the evaluation of the analytical data will be determined by the laboratory in consultation with the Farallon Project Manager and may include qualification or rejection of the data.

9.0 REFERENCES

U.S. Environmental Protection Agency (EPA). 2017a. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA Administrative Record EPA-540-R-2017-002. January.

———. 2017b. *National Functional Guidelines for Organic Superfund Methods Data Review*. EPA Administrative Record EPA-540-R-2017-001. January.

Washington Department of Ecology (Ecology). 2004. *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies*. Publication No. 04-03-030. Revised December 2016. July.

FIGURE

SAMPLING AND ANALYSIS PLAN INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

SOUTH NORFOLK STREET

AREA 12
FORMER
OLD HUMBLE
OIL SERVICE
STATION

AREA 9
FORMER
EMPLOYEE
PARKING LOT

AREA 6
FORMER TRUCK
REPAIR SHOP

AREA 5
FORMER
TRAILER
MAINTENANCE
SHOP

AREA 10
UP-GRADIENT AREAS

AIRPORT WAY SOUTH

AREA 13
FORMER NORTHWEST AUTO
WRECKING PROPERTY

AREA 8
RETURNS
BUIILDING

AREA 7
FORMER
AUTOMOBILE
SERVICE
STATIONS

LOWER DUWAMISH WATERWAY

AREA 4
FORMER
FUELING
AREA

AREA 1
DRY GROCERY
WAREHOUSE

AREA 3
FORMER
TRUCK
WASH

AREA 11
FORMER
SOUTH
MAINTENANCE
SHOP

AREA 2
PERISHABLES
WAREHOUSE

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

LEGEND

- INVESTIGATION AREA
- SITE BOUNDARY
- INITIAL BOUNDARIES OF THE PROPOSED INTERIM ACTION EXCAVATION AREAS

N

0 200

SCALE IN FEET

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 1

INITIAL BOUNDARIES OF THE
PROPOSED INTERIM ACTION EXCAVATION AREAS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 3/6/2020 | Disc Reference:

Path: \\edgefs02\GIS\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IADR\Appendix\Figure-01_ProposedExcavation.mxd

TABLES

SAMPLING AND ANALYSIS PLAN INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Table 1
Sample Containers, Preservatives, and Hold Times
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Analytical Method	Soil Sample Container(s)/ Preservation[1,2]	Soil Sample Hold Time[2]
Northwest Method NWTPH-Dx	1 x 8-oz CWMJ unpreserved	14 days to analyze
Northwest Method NWTPH-Gx	2 x 40 ml vials without a stir bar preserved with MeOH	14 days to analyze
EPA 8270D/SIM	1 x 8-oz CWMJ unpreserved	14 days to analyze
EPA 8260D	2 x 40 ml vials without a stir bar preserved with MeOH; and 1 x 40 ml vial without a stir bar preserved with sodium bisulfate	14 days to analyze
EPA 6000 Series	1 x 4-oz CWMJ unpreserved	6 months to analyze
EPA 7470/245.1	1 x 4-oz CWMJ unpreserved	28 days to analyze

NOTES:
[1]All samples must have a temperature ≤ 6 degrees Celsius.
[2]Information obtained from Analytical Resources, Inc. of Tukwila, Washington.

CWMJ = clear wide-mouthed jar
EPA = U.S. Environmental Protection Agency
MeOH = Methanol
ml = milliliters

Table 2
Soil Laboratory Reporting Limits
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Analyte	Laboratory Soil RL[1] (mg/kg)
Total cPAH TEQ	0.005
Arsenic	0.200
Copper	0.500
DRO	5.00
ORO	10.0
GRO	5.0
Benzene	0.001
Toluene	0.001
Ethylbenzene	0.001
Xylenes	0.002

NOTES:

[1] Laboratory reporting limits are based on current laboratory data and may be modified during the investigation as methodology is refined. Instances may arise where high sample concentrations, nonhomogeneity of samples, or matrix interferences preclude achieveing the laboratory reporting limits.

cPAH = carcinogenic polycyclic aromatic hydrocarbons

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

EPA = U.S. Environmental Protection Agency

GRO = TPH as gasoline-range organics

mg/kg = milligrams per kilogram

ORO = TPH as oil-range organics

RL = reporting limit

TEQ toxicity equivalency quotient

APPENDIX A
FARALLON STANDARD OPERATING PROCEDURES

SAMPLING AND ANALYSIS PLAN INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

STANDARD OPERATING PROCEDURE EQ-01
EQUIPMENT DECONTAMINATION PROCEDURES

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for decontaminating sampling equipment during various field activities. The step-by-step guidelines provided in this SOP are to be followed by the field crew during all site visits, as applicable.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly decontaminate field equipment during various field tasks:

- Rinse water or distilled water.
- Deionized water.
- Liquinox or other phosphate-free detergent.
- Paper towels.
- Labeled squirt bottles.
- Long-handled hard-bristle brushes (for sediment and soil).
- Cotton swabs.
- Plastic sheeting, garbage bags, and aluminum foil (for sediment and soil).
- Core liner caps or plastic wrap and rubber bands (for sediment and soil).
- Extension arm for cleaning core liners (for sediment and soil).
- Plastic 5-gallon bucket.
- U.S. Department of Transportation-approved drum(s) for decontamination water unless other water-handling arrangements have been made. Separate drums are needed for liquid and solid wastes (see Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste). Liquid wastes should not be added to drums containing solid wastes.

Dilute Liquinox with distilled water in a squirt bottle in accordance with the instructions on the Liquinox package, and label the bottle. Fill another squirt bottle with distilled water, and label the bottle.

FIELD EQUIPMENT TO BE DECONTAMINATED AFTER USE

Decontaminate the following field equipment at the conclusion of field work each day, in accordance with the procedures outlined in this SOP:

- Water-level meter.
- Horiba/YSI multiparameter probe.
- Bladder pump.
- Submersible pump.
- Sediment and soil collection and processing equipment.

WATER-LEVEL METER DECONTAMINATION

Decontaminate the water-level meter after measuring the water level at a monitoring well before moving to a new monitoring well, using the following procedures:

- Spray the bottom half of a paper towel with the diluted Liquinox solution, and the upper half with deionized water.
- Grip the measuring tape of the water-level meter with the paper towel in one hand with the Liquinox side down toward the monitoring well casing.
- Begin slowly reeling up the water-level meter while maintaining firm contact between the measuring tape and the paper towel.
- Ensure that no debris or contamination remains on the measuring tape of the water-level meter once it has been reeled up.
- Use a clean new paper towel for each successive decontamination of the measuring tape of the water-level meter.

HORIBA/YSI MULTIPARAMETER PROBE DECONTAMINATION

Decontaminate the Horiba/YSI multiparameter probe at the end of each workday or after sampling a monitoring well with high concentrations of contamination, using the following procedures:

- Remove the multiparameter probe from the flow-through cell, and thoroughly spray each component with deionized water.
- Use a cotton swab to gently clean around each sensor probe, ensuring that all contaminated water and material has been washed away.
- Refill the protective dissolved oxygen and pH probe caps with deionized water, and replace prior to storage.
- Once the multiparameter probe has been adequately cleaned, replace the protective shield, and return the probe to the case. If the device appears to be overly wet, allow it to air-dry with the case open.

- Do not use Liquinox to clean any probes on the Horiba multiparameter probe, as it may damage the device.

BLADDER PUMP DECONTAMINATION

Decontaminate the bladder pump after sampling a well and at the end of each workday, using the following procedures:

- After extracting the bladder pump from the well, break down the pump, remove and dispose of the used bladder, and spray each component with the diluted Liquinox solution, followed by deionized water.
- Wipe away any visible contamination or debris with a paper towel.
- Capture cleaning water in a liquid waste drum for proper disposal in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.
- Ensure that all contamination and Liquinox solution is washed off all components before reassembling the device, installing a new bladder, and moving to sample a new well.

SUBMERSIBLE PUMP DECONTAMINATION

Decontaminate the submersible pump after purging water from any well, using the following procedures:

- After extracting the submersible pump from the well, thoroughly spray down the pump with the diluted Liquinox solution, followed by deionized water.
- Wipe away any visible contamination or debris with a paper towel.
- Purge clean water through the pump and tubing to ensure that contaminated water has been cleared from all lines.
- Capture cleaning water in a liquid waste drum for proper disposal in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.

SEDIMENT AND SOIL SAMPLING AND PROCESSING EQUIPMENT DECONTAMINATION

Decontaminate sampling equipment used to collect and process sediment and soil samples, using the following procedures:

- Place contaminated equipment and decontamination tools on plastic sheeting.
- Thoroughly rinse all used equipment with distilled water in a 5-gallon bucket to remove excess sediment or soil.
- Pour one capful of Liquinox solution into a 5-gallon bucket filled with tap water or distilled water.
- Using a long-handled hard-bristle brush, thoroughly scrub the equipment with the Liquinox solution until no sediment or soil particles remain.

- Holding the equipment over a 5-gallon bucket, double-rinse the equipment with distilled water until no Liquinox solution remains. Do not allow clean equipment to come into contact with a contaminated surface.
- Drain the equipment and place it in a clean, dry place to prevent recontamination.
- If decontaminated equipment will not be re-used immediately, wrap stainless steel equipment (e.g., bowls, spoons) in aluminum foil with the dull side facing the equipment. Seal polycarbonate core liners with core caps or cellophane plastic. Rubber-band ends to ensure a proper seal.
- After decontamination has been completed, place disposable items into a garbage bag, and store decontamination water in a drum in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.

STANDARD OPERATING PROCEDURE (SOP) GN-02

UTILITY LOCATE

PURPOSE

The purpose of this SOP is to provide Farallon Consulting, L.L.C. (Farallon) personnel with the specific information needed to identify and locate utilities on sites where drilling or excavation activities will occur. Excavation is defined by Section 20 of Chapter 19.122 of the Revised Code of Washington (RCW 19.122.020) as "any operation, including the installation of signs, in which earth, rock, or other material on or below the ground is moved or otherwise displaced by any means." For the purposes of this SOP, the excavation area refers to the area of an excavation or a perimeter around all proposed borings, test pits, soil gas sampling locations, and subslab soil gas sampling locations. Identifying utilities within the boundaries of a proposed excavation area prior to any digging is required by law and is necessary for the safety of Farallon personnel and contractors.

The guidelines provided in this SOP are to be followed by Farallon personnel who coordinate utility locating, mark locate boundaries, and/or observe field work that involves any type of excavation.

EQUIPMENT AND SUPPLIES

The following equipment and supplies are necessary to arrange and conduct utility locating:

- A map of the site with the proposed excavation area(s);
- Readable side sewer card figures, if applicable;
- Geographic information system (GIS) utility figures, if applicable;
- Readable American Land Title Association (ALTA) survey figures, if applicable;
- Any previous utility figures associated with the site;
- White marking products (e.g., paint, flags, stakes, grease marking pen, tape, chalk);
- Materials necessary to provide required documentation (e.g., Field Report form, camera, measuring wheel, global positioning system); and
- Personal protective equipment (PPE) as described in the site-specific Health and Safety Plan, or Level D PPE at a minimum.

PROCEDURES

The following utility locating procedures have been developed for use before excavation occurs on a site. The procedures are divided into the following five parts:

- Call Before You Dig System;
- Private Utility Locating Services;
- Hand-Clearing Proposed Excavation Areas;
- Maintaining Public Utility Locate Marks; and
- Utility Line Damage.

The Project Manager should discuss the scope of work, details of the project location, and any essential information with the project field team before any of the procedures described below commence. When practicable, an on-site kickoff meeting involving a member of the field team and the Project Manager should be conducted to discuss the work to be performed, mark the boundaries of the excavation area, and mark potential boring locations, if applicable.

Call Before You Dig System

According to RCW 19.122.030, excavators are required to mark the boundary of a proposed excavation area using white marking products. Marking products include paint, flags, and stakes. Boundary marks should conform to the following guidelines:

- A continuous line, hashed line, dots, or corner marks with arrows are acceptable ways to mark the boundary.
- Flags and stakes can be used if paint is not adequate.

The location(s) of the proposed excavation area(s) must be reviewed to verify that no visible utilities that would interfere with the proposed excavation area(s) are present. If utilities are present, the Project Manager and field personnel should communicate the changes to the excavation that are area necessary before the boundaries are marked with white paint.

After marking the boundaries of the proposed excavation area, Farallon personnel must provide notice of the scheduled excavation to the owner/operators of buried utilities at least 2 but no more than 10 business days in advance by calling 811 or 1-800-424-5555, or using the online tool at www.callbeforeyoudig.org. Use of the online tool is preferred.

A map with the excavation area boundaries depicted and/or photos of the white paint marks is helpful in conveying the scope of work to the Call Before You Dig service.

The following information should be available to provide the Call Before You Dig service at the time of initial contact:

- Scope of work, including the start date and time.
- Contact information for the Project Manager and a field person able to answer questions from public utility locators regarding project details.

- Site address, township/range/section quarter, and name of property owner.

Once the Call Before You Dig system has been notified of the upcoming work, the system provides a ticket number, which

- Should be referenced whenever the Call Before You Dig service is contacted about the job.
- Provides proof that the Call Before You Dig system was notified prior to excavation. Public utility locators, inspectors, and law enforcement personnel may ask for the ticket number.
- Should be supplied to any subcontractors doing work on the site for reference when contacting the system for their own ticket number.

Call Before You Dig personnel will provide a list of public utilities present on the site, and will notify public utility operators of the planned work.

Public utility operators have 2 full business days after the day notification was received to locate and mark their lines, or to provide reasonable information on lines that they are not able to locate. The day notice is given is not included as 1 of these 2 days. Therefore, if excavation work is planned to start on a Monday, for example, the Call Before You Dig system must be notified by Wednesday the week before.

Two full business days must elapse between Call Before You Dig notification and the start of excavation. No excavation is to take place until all known utilities are marked or otherwise accounted for with information provided by the facility operator.

Locators mark their lines with colored hash marks. The American Public Works Association determines the colors to be used to denote different kinds of lines:

Red: Power Lines and Cable	Yellow: Gas, Oil, Petroleum
Orange: Telephone and Cable	Blue: Drinking Water
Green: Sewer (Storm and Sanitary)	Purple: Non-Potable Water
Pink: Survey Marks	White: Excavator Marks

Public utility operators are required to mark their lines only to the meter. Utility lines located beyond the meter are the responsibility of the property owner. Public utility operators should indicate by marking if no public utilities are present.

Public utility locators are required to mark their lines with reasonable accuracy. According to RCW 19.122.020, “reasonable accuracy means location within twenty-four inches of the outside dimensions of both sides of an underground facility.”

At this time, public utility companies are not required to mark abandoned or deactivated lines in Washington.

An individual not following the protocols established by the Call Before You Dig system can be held liable for up to three times the cost to repair a utility line damaged during excavation.

Records of ticket numbers and communications with the Call Before You Dig service should be stored in the project folder and supplied to on-site project personnel.

Before any excavation work is started, Farallon personnel should verify that all public utility marks are present on the site. The public utility company/ies listed on the Call Before You Dig system ticket should be contacted if marks for that utility/ies are not present.

Private Utility Locating Services

After the public utility companies have marked their lines and before excavation begins, it is standard practice to have a private utility locating service clear areas that will be excavated.

Private locates generally are scheduled for the day before or the morning of the start of excavation.

Areas where excavation will occur must be cleared for conductible utilities by a private locator. Depending on the nature of the site and the proximity of utility lines, the private locator may also mark non-conductible utilities.

If possible, the excavation contractor should be on the site during the private utility locating to verify with the private locator that all proposed excavation areas are accessible.

When working with private utility locators, Farallon personnel should:

- Study existing figures of the site, noting the locations of known utilities.
- Use available side sewer cards or geographic information system utility figures to verify utility locations at the site.
- Verify that all public utilities have been marked by physically verifying that colored paint marks are present for all of the public utility companies listed on the One Call Before You Dig ticket. If any public utilities have not been marked, the utility company must be contacted and requested to mark the area, or to provide confirmation that the area is clear of their utility.
- Discuss the scope of work/excavation areas with the private locator.
- Document the name of the locating company and the name of the locator.
- Observe the locator clear the excavation area(s).
- Document the locate marks with photos, and note any uncertainties in the Field Report form.
- Identify the locations of shut-off valves for utilities such as water and natural gas.
- Contact the Project Manager or Principal to discuss relocating the excavation area if a proposed excavation area is in conflict with a utility identified by the private locator.
- Sign the locator's paperwork, if necessary, and depart the site if no additional field work is to be performed that day.

Private location of conductible utilities should sweep the excavation area in two perpendicular directions.

Private location of non-conductible utilities (typically storm and sanitary sewer) can use either a probe or a camera for accessible lines. Appropriately colored paint marks are applied by the private locator based on a signal sent from the probe or camera. For inaccessible lines, a ground-penetrating radar or magnetometer can be used to approximate the line locations. Marks based on this method should be considered approximate.

Hand-Clearing Excavation Areas

Prior to conducting certain excavation activities, excavators will clear the proposed excavation area to verify that no utilities are present. This can be accomplished through use of an air knife/vacuum truck, post-hole digging, hand-augering, or use of other hand tools that allow the excavation location be explored sufficiently to verify that no utilities are present. Farallon Project Managers will confirm the method of clearing and depths with the field team before the excavation work is performed. Farallon Project Managers also need to discuss shallow soil sampling needs with the field team if clearing activities are being performed. Clearing activities should be conducted according to the following guidelines:

- Hollow-Stem Auger Drilling: Hand-clear to a minimum depth of 5 feet below ground surface (bgs) using an air knife/vacuum truck whenever possible. Alternative methods such as post-hole digging or hand-augering also may be used.
- Sonic Drilling: Hand-clear to a minimum depth of 5 feet bgs using an air knife/vacuum truck whenever possible. Alternative methods such as post-hole digging or hand-augering also may be used.
- Geoprobe Drilling: Clearing activity requirements are dependent on known utilities and results of the public and private utility location procedures completed above. Hand-clear using a post-hole digger or hand-auger to a maximum depth of 5 feet bgs is necessary. An air knife/vacuum truck may be used to hand clear each boring location to a maximum depth of 5 feet bgs, if available.
- Test Pit Excavation: No hand-clearing is necessary. Excavation contractors should be directed to dig cautiously in the upper 5 feet bgs in the event an unknown utility is present. A test pit excavation or regular excavation using machinery (e.g., track hoe, backhoe) should include using a spotter to watch for unidentified utility lines. Ideally, the spotter should be provided by the excavation contractor.
- Rotary Hammer for Soil Gas Sampling: No hand-clearing is necessary.
- Rotary Hammer for Subslab Soil Gas Sampling: No-hand clearing is necessary.

Some drilling contractors require that a utility line be exposed prior to drilling if the proposed drilling location is within a certain distance of the utility line. Farallon personnel should confirm drilling contractor requirements prior to conducting drilling activities.

If a utility line is encountered during clearing, excavators should verify that the utility has not been damaged, and Farallon personnel should document the encounter on the Field Report form with photos and details. RCW 19.122.020 states that “damage” includes the substantial weakening of

structural or lateral support of an underground facility, penetration, impairment, or destruction of any underground protective coating, housing, or other protective device, or the severance, partial or complete, of any underground facility to the extent that the project owner of the affected facility operator determines that repairs are required. The Project Manager or Principal should be notified immediately if a utility line is encountered during hand-clearing, and an alternate location will be proposed. A hand-cleared area having an exposed utility line should be backfilled with a bentonite seal and finished to match existing grade.

Maintaining Public Utility Locate Marks

According to RCW 19.122.030, "public utility locate marks expire 45 days from the date the excavator provides notice," and "it is the responsibility of the excavator to maintain the public utility marks for 45 days, or for the length of the project–whichever is shortest. In any case, the public utility locate marks expire after 45 days."

Locate marks can be maintained digitally through both photos and figures drawn to scale.

Locate marks can be maintained in the field using white paint. White paint can be applied between original hash marks, on either side of the hash marks, or on both ends. Offset paint or staking can be used if placed a uniform distance from the original marks with a clear indication of the direction and distance from the original marks. The original marks should not be painted over, and white paint should never be applied over colored paint. White marks should include a letter identifying the type of buried line.

Utility Line Damage

A utility line does not need to be ruptured or severed to be considered damaged. Scratching or denting a utility line or its protective tape also is considered damage, as the integrity of the line may have damaged even if the damage does not appear to be significant. Before excavation work begins, shut-off valve locations for applicable utilities should be documented. If a utility is believed to be damaged, the utility should be shut down if practicable and safe to do so. According to RCW 19.122.053, "all facility operators and excavators who observe or cause damage to an underground facility must report the damage event to the Washington State Utilities and Transportation Commission."

If a utility line is hit and public safety is a concern, 911 should be the first call made after the immediate area has been evacuated. If a utility line is hit and the public is not at risk, the field team should notify the Project Manager, who will notify the Principal and the corporate Health and Safety Coordinator immediately. The Project Manager should then contact the utility that owns the damaged line, and report to the field team any instructions issued by the utility owner, and an expected timeframe for arrival of a utility owner representative at the site. Repairs to a utility line will not be attempted by Farallon personnel or contractors.

Damage must be reported through the Common Ground Alliance Damage Information Reporting Tool website, hosted by the Washington State Utilities and Transportation Commission: http://www.utc.wa.gov/publicSafety/pipelineSafety/Pages/Damagereportingrequirements.aspx

Access to damaged utility lines should be maintained to allow inspection by the utility company. An exposed utility should not be backfilled or patched until instruction to do so has been provided by the Project Manager or Principal.

DOCUMENTATION

Farallon personnel should document in the Field Report form the work performed and methods used by private utility locators, and photos from multiple angles with good reference points for each utility line in the excavation area(s).

REFERENCES

Washington Utilities Coordinating Council. 2014. *Guide to Safe Digging, Washington State Law and Industry Best Practices.*

STANDARD OPERATING PROCEDURE SL-01
SOIL CORE SAMPLING

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for collecting and documenting soil core samples using a hollow-stem-auger drill rig, a direct-push drill rig, and a sonic drill rig. All drilling operations will be conducted by a licensed drilling subcontractor in accordance with subcontractor SOPs. This SOP presents the procedures that will be performed by Farallon field staff once the soil core has been collected by the drilling subcontractor. The step-by-step guidelines provided in this SOP are to be followed by the field crew conducting subsurface soil sampling.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly collect soil samples from borings:

- Personal protective equipment (PPE) as described in the site-specific Health and Safety Plan.
- Differential global positioning system, if required in project-specific plans. Discuss the methodology for recording the location of the sample point with the Project Manager before conducting the field work.
- Photoionization detector (PID) to monitor and record soil headspace readings.
- Applicable soil sampling equipment, including:
    - Stainless steel hand-auger.
    - Wooden or steel stakes to stabilize cores on table while sampling.
    - Folding table.
    - Utility knife.
    - Stainless steel spoons or scoops.
    - Six-mil plastic sheeting.
    - Resealable plastic bags.
    - Duct tape.
    - Aluminum foil.
    - Tape measure.
    - Five-gallon buckets, and scrub brushes.
    - Alconox phosphate-free cleanser.
    - Laboratory-provided certified pre-cleaned sample containers.

  - Soil sample plunger and syringes for sampling volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 5035A.

- Materials necessary to provide required documentation, including:
  - Camera.
  - White board and dry-erase markers, if specified in project-specific plan.
  - Sample labels.
  - Field Report forms.
  - Boring Log forms.
  - Chain of Custody forms.
  - Chain-of-custody seals for the sample cooler(s).
- U.S. Department of Transportation-approved drum(s) for decontamination wastewater and excess soil cuttings. Separate drums are needed for liquid and solid wastes (refer to Farallon SOP WM-01, Field Handling of Investigation-Derived Waste). Liquid wastes should not be added to drums containing solid wastes.
- Decontamination equipment as specified in Farallon SOP EQ-01, Equipment Decontamination Procedures.
- Sampling support equipment (e.g., sample coolers, ice, bubble wrap, clear packing tape, heavy resealable plastic bags, razor knives, garbage bags, paper towels, distilled water, nitrile gloves).

DECONTAMINATION

Reusable equipment that will come into contact with soil boring samples or will be used to acquire soil samples is to be decontaminated before arrival at the site, between soil samples collected, upon relocation at the site, and upon demobilization from the site, in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures.

PROCEDURES

Prior to drilling, all underground utilities must be located, and cleared with an air-knife or other method approved by the Farallon Health and Safety Coordinator.

Collect soil samples from areas known or suspected to have the lowest concentrations of constituents of concern first, with areas of higher concentrations of constituents of concern sampled last, unless the Project Manager indicates a different project-specific sampling protocol. The procedures listed below may be modified, with approval from the field team lead and the Project Manager. Any modifications must be identified in the project-specific sampling plans or, at a minimum, details must be noted on the Field Report form.

Soil core collection methods differ for hollow-stem-auger, direct-push, and sonic drilling techniques, each summarized below:

- Hollow-stem-auger: Collect soil core samples using a standard 18-inch-length (6-inch waste barrel) Dames & Moore split-spoon sampler with a 2.5-inch inner diameter that can be used with or without brass or stainless steel liners.
- Direct-push: Collect soil core samples using 5-foot macrocore samplers with acetate sample liners.
- Sonic: Collect soil core samples using a standard 6-inch-diameter stainless steel sampling rod. Use a 2.5-, 5.0-, or 10-foot polyethylene liner inside the sampling rod for soil sample collection.

Record the specific drilling and soil sampling equipment used on the Boring Log form and on the Field Report form.

Setup

The instructions below are to be followed at each boring site:

- Don appropriate PPE as described in the site-specific Health and Safety Plan.
- Ensure that each borehole has been cleared to a minimum depth of 5 feet below ground surface using an air knife, per the Farallon health and safety policy.
- Set up a temporary sampling table adjacent to the drill rig to log and collect soil samples from the soil cores as they are recovered during drilling. During sunny conditions, consider using a portable canopy for protection from the sun. Lay plastic sheeting over the table to keep the surface clean and to prevent potential cross-contamination between borings and soil samples. Designate clean areas for decontaminated sampling equipment and laboratory-provided certified pre-cleaned soil sample containers.
- Set up 5-gallon buckets for decontaminating soil sampling equipment between samples. These decontamination buckets are separate from the buckets provided by the drillers for their split spoons and core barrels. (Refer to Farallon SOP EQ-01, Equipment Decontamination Procedures.)
- Calibrate the PID to monitor headspace for selected soil core samples in accordance with the equipment manual.

Sample Collection and Processing

The instructions listed below are to be followed for collecting samples using lined and unlined split-spoon and tube samplers:

- Don a new pair of nitrile sampling gloves for each individual soil sample collected, and prior to decontaminating sampling equipment to avoid potential cross-contamination.

- Ensure that the drillers have properly decontaminated all drill shoes and caps prior to initiating drilling operations. Drill shoes and caps must be decontaminated between sampling intervals and stations in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures. Replace dirty or ineffective decontamination water as needed throughout the workday.
- Ensure that the drillers position the sampling rig over the sample station and remove any surface material or debris that would interfere with sampling. Note on the Field Report form any surface material removed.
- Note on the Field Report form and the Boring Log forms any difficulties encountered during drilling operations. Include the number of blow counts (if applicable) or any resistance encountered during drilling operations.
- Place the core tube, core liner, or split spoon on a new piece of aluminum foil on the sample logging/processing table. If necessary, use wood or metal stakes as shims to stabilize the tube, liner, or split spoon on the sample logging/processing table.
- If a core liner is used, split the liner open with a decontaminated utility knife, taking care not to penetrate the soil in the liner with the blade or knife.
- Briefly examine the soil sample visually for obvious signs of contamination, and take PID readings.
- Take care to:
    - **Not** collect soil in contact with the sidewalls of the sampler or liner.
    - **Always** use decontaminated stainless-steel spoons or scoops to handle the soil within a given sample interval.
    - **Always** don a new pair of nitrile gloves before processing each sample interval in each soil core to prevent cross-contamination in the soil core.
- When sampling for VOCs, collect them as soon as possible after opening the core tube, split spoon, or core liner. Use a decontaminated stainless steel spoon to collect the VOC samples with minimal disturbance to soil by placing a representative amount of soil from the length and depth of the desired sample interval directly into the laboratory-provided VOC sample container with no headspace, and seal it tightly. Follow the sample collection guidelines provided by the manufacturer or the analytical laboratory when using a plunger-type sampling device in accordance with EPA Method 5035A.
- Retain approximately 100 grams of the soil sample in a heavy resealable plastic bag or glass sample container, shake the sealed bag to volatilize the contaminants in the soil, and wait approximately 5 minutes before measuring for headspace analysis using the PID (Washington State Department of Ecology 2011). Insert the PID probe tip into a small opening in the top of the bag, and record the PID units on the Boring Log form. Reseal the bag after taking the headspace reading in case further assessment of the sample is needed. Do not puncture the resealable plastic bag to obtain headspace readings.

- If specified in the project-specific plans, photograph each section of the boring, including in the photograph notations on a white board documenting sample location identifier, date, orientation, depth, and site markers.
- Describe the soil samples in accordance with ASTM International Standard D-2488-00, *Standard Practice for Description and Identification of Soils*.
- Record on the Field Report form any deviations from the project-specified sampling procedures or from this SOP, or any obstacle encountered.
- Examine the remaining soil core sample for lithology using the Unified Soil Classification System, and record the lithology on the Boring Log form.
- Discard excess soil cuttings in a labeled waste drum or a soil bin in accordance with Farallon SOP WM-01, Field Handling of Investigation-Derived Waste. Do not add soil to a liquid waste drum.
- Backfill the borehole, as appropriate.
- Upon completion of sampling at a boring, measure the boring's location to an on-site permanent datum, collect the location using the differential global positioning system, or have the sample location surveyed by a licensed surveyor.
- Decontaminate the soil sampling equipment, and don a new pair of sampling gloves before collecting each new soil sample.

DOCUMENTATION

Document the soil sampling activities on the Boring Log form, the Chain of Custody form, and the Field Report form.

REFERENCE

American Society for Testing Materials. 1989. *Standard Method for Penetration Test and Split-Barrel Sampling of Soils.* Method D-1586-11.

U.S. Environmental Protection Agency. 1987. *A Compendium of Superfund Field Operation Methods.* EPA Document No. 540-P-87-001. December 1.

Washington State Department of Ecology. 2011. *Guidance for Remediation of Petroleum Contaminated Sites.* Ecology Publication No. 10-09-057. Toxics Cleanup Program. September.

APPENDIX B
FARALLON FIELD FORMS AND RECORDS

SAMPLING AND ANALYSIS PLAN INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Bend | Baker City
California
Oakland | Folsom | Irvine

FIELD REPORT

Page ___ of ___

Date: _____ **Project #:** _____ **Task #:**_____

Project: _____ **Site Address:** _____

Client: _____ **Contractor:** _____

Weather: _____ **Temp:** _____

Equipment Used: _____

Hours: _____ _____ **Mileage:** _____ **Project Manager:** _____

Contractor *Staff*

Prepared By: _____ **Reviewed By:** _____

Comments:

FIELD REPORT (continued)

Page ___ of ___

Project: _____ **Date:** _____ **Project #:** _____ **Task #:**_____

FARALLON CONSULTING

Sheet ____ of ____

Soil Sample Data Log

Date: _____ **Project Name:** _____ **Farallon P/N:** _____

PID Model & Serial No: _____ **Calibration Date/Standard:** _____

Headspace Container: ☐ 16 oz glass ☐ 8 oz glass ☐ Zip-loc ☐ Other

Sample Method: ☐ Hand auger ☐ Direct push ☐ Split spoon ☐ Corer ☐ Other

Equip Decon: ☐ Tap water wash ☐ DIST/DEION 1 Rinse ☐ Isopropanol ☐ Analyte-free final rinse ☐ Tap water final rinse

☐ Alconox wash ☐ Liquinox Wash ☐ DIST/DEION 2 rinse ☐ Other solvent ☐ DIST/DEION final rinse ☐Air Dry

Test Pit/Boring Location	Sample ID	Time	Depth	PID	Odor	Sheen Tare Weight	Staining Field Weight	Containers	Lithological Description Remarks

2 oz = two-ounce jars

4 oz = four-ounce jars

WASTE INVENTORY TRACKING SHEET

Project Number: _____ **Page:** _____ **of**

Project Name: _____ **Generation Date:** _____

Project Address: _____ **Prepared By:** _____

Field Work Description: _____ **Date Waste Removed:** _____

Project Manager: _____ **Waste Transporter:** _____

Waste Disposal Location:

Unique Container ID	Container Size	% Capacity Used	Contents (Soil/GW/Decon Water)/ Origin (Boring or Well ID)	Date(s) Accumulated	Labeling (Contents Under Test/ Haz/Non-Haz/Other-Specify)	Sampled (Y/N)	Comments

NOTES: Contents should be specified and include identification of well/boring, media, source, depth of soil (if applicable), and any other helpful information.

Container ID should be unique when compared against other nearby containers. Special waste labels may include flammable, corrosive, dangerous when wet, and/or oxidizer.

Location of Drums (sketch or describe):

FARALLON CONSULTING

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:	Date:	
ARI Client Company:	Phone: (425) 394-4146	Page: of	
Client Contact: Pete Kingston		No. of Coolers:	Cooler Temps:
Client Project Name:			
Client Project #:	Samplers:		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested								Notes/Comments

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name:	Printed Name:	Printed Name:	Printed Name:
	Company:	Company:	Company:	Company:
	Date & Time:	Date & Time:	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: Unless specified by workorder or contract, all water/soil samples submitted to ARI will be discarded or returned, no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer. Sediment samples submitted under PSDDA/PSEP/SMS protocol will be stored frozen for up to one year and then discarded.

APPENDIX F
HEALTH AND SAFETY PLAN

INTERIM ACTION DESIGN REPORT
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

HEALTH AND SAFETY PLAN

EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 1071-026

For:
Prologis, Inc.
Pier 1, Bay 1
San Francisco, California 94111

January 24, 2020

HEALTH AND SAFETY PLAN
REVIEW AND APPROVAL

Client: Prologis, Inc. **Facility Name**: Emerald Gateway Site
Type of Work: Interim Action **Project No.**: 1071-026

Plan Expiration Date: The Health and Safety Plan will expire when the interim action is completed. The Health and Safety Plan will be reviewed whenever the scope of work for the interim action is modified or at a minimum of every 6 months.

APPROVED BY:

Pete Kingston, L.G.
Project Manager

_____	_____
Signature	***Date***

Joseph Rounds
Health and Safety Coordinator

_____	_____
Signature	***Date***

Peter Jewett, L.G., L.E.G.
Principal-in-Charge

_____	_____
Signature	***Date***

This Health and Safety Plan (HASP) was written for the use of Farallon Consulting, L.L.C. (Farallon) and its employees. It may be used also by trained and experienced Farallon subcontractors as a guidance document. However, Farallon does not guarantee the health or safety of any person entering this site.

Due to the potentially hazardous nature of the site and the activities occurring thereon, it is not possible to discover, evaluate, or provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but does not eliminate, the potential for injury. The health and safety guidelines in this HASP were prepared specifically for this site, its conditions, purposes, dates of field work, and personnel, and must be amended if conditions change.

Farallon claims no responsibility for the use of this HASP by others. This HASP will provide useful information to subcontractors and will assist them in developing their own HASP, but it should not be construed as a substitute for their own HASP. Subcontractors should sign this HASP (see Attachment 1, *Health and Safety Plan Acknowledgment and Agreement Form*) as an acknowledgement of hazard information and as notice that this HASP does not satisfy their requirement to develop their own HASP.

CONTENTS

ATTACHMENTS

1.0 SITE-SPECIFIC INFORMATION

Information specifically pertaining to the project site, the scope of work for the project, and related safety concerns are discussed in this section.

1.1 BACKGROUND INFORMATION

Farallon Consulting, L.L.C. (Farallon) has prepared this Health and Safety Plan (HASP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) for the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington (herein referred to as the Property). Prologis is conducting an interim action at the Property in accordance with Agreed Order No. DE 16659.

Subsurface investigations have been conducted at the Property since 1989. Based on the results of the subsurface investigations, petroleum hydrocarbon constituents, metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls have been detected at concentrations exceeding regulatory screening levels in one or more of the following media: soil and groundwater. Numerous remedial actions have been conducted at the Property between 1989 and 2019 to reduce concentrations of contaminants.

This interim action partially addresses contamination with petroleum hydrocarbon constituents, metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls in soil and groundwater. The interim action will be conducted concurrent with Property redevelopment, which will correct a problem that may become substantially worse or cost substantially more to address if delayed, because extensive reconfiguration of the Property, including new structures, is part of the planned redevelopment.

The scope of work for the interim action includes:

- **Impacted Soil Excavation.** Soil with concentrations of petroleum hydrocarbons exceeding remediation levels will be excavated to the maximum extent practicable in three localized areas at the Property. Excavated soil will be transported to a permitted off-site facility for disposal.
- **Dewatering and Treatment.** Dewatering may be necessary to allow for excavation of contaminated soil located below the water table. If necessary, dewatering wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program.
- **Contingency Excavation.** Any contaminant materials encountered during redevelopment activities that exceed remediation levels will be excavated to the maximum extent practicable and transported to a permitted off-site facility for disposal.
- **Reconfiguration of Stormwater Infrastructure.** Existing stormwater infrastructure at the Property will be removed or abandoned in-place. New catch basins and conveyance piping

will be installed to collect and convey stormwater across the entire Property before it is treated and discharged to the Lower Duwamish Waterway.

1.2 SCOPE OF WORK

This HASP was prepared for the use of Farallon personnel while performing the interim action at the Property. The interim action includes mass excavation of contaminated soil, monitoring well decommissioning, UST decommissioning (if discovered during the interim action), drilling and/or test pitting, dewatering, and soil and groundwater sampling. Specific details on each component of the interim action are provided in the Pre-Interim Action Design Report.

1.3 SITE-SPECIFIC SAFETY CONCERNS

Specific hazards that the field employee(s) will encounter on this project include, but are not limited to:

- Working around heavy equipment;
- Working with hand tools and small mechanical equipment;
- Truck traffic;
- Pinch points;
- Work exclusion zone safety;
- Slips, trips, and falls;
- Loud noise;
- Chemical exposure related to contaminated soil, groundwater, and windblown dust; and
- Environmental hazards, including exposure to sun, heat, and cold.

2.0 DRUG AND ALCOHOL POLICY

It is Farallon's policy to maintain a drug-free workplace. Farallon has a responsibility to all of its staff members to provide a safe and inoffensive work environment, and a responsibility to its clients to provide accurate and consistent service. For these reasons, Farallon prohibits the following behavior by staff members in the field:

- Use of tobacco in any form by any person at any time in sensitive or hazardous areas that may pose a health and safety or environmental risk. The Site Health and Safety Officer (SHSO) may designate an area away from hazards that is safe for tobacco use.
- Possession or consumption of alcohol and/or marijuana, or being under the influence of alcohol and/or marijuana during field activities.
- Abuse of prescription and/or over-the-counter drugs in such a manner as to negatively impact performance or field safety.
- Possession, use, sale, or being under the influence of illicit drugs while in the field or during any work hours.

Violation of any of the above codes of conduct is grounds for immediate removal from the work site and discipline in accordance with Farallon company policy. If an incident occurs as a result of an employee's actions, drug and alcohol testing will be performed in accordance with Farallon company policy.

3.0 WEAPONS POLICY

Farallon employees, contractors, subcontractors, and their employees working at the Property are to ensure that they do not bring weapons onto the work site. Weapons include but are not limited to guns, knives, and explosives. Tools that are used during the course of field events, including but not limited to box knives, are exempt from this weapons policy. All vehicles and persons can be subjected to search while working at the Property.

Failure to comply with the weapons policy can result in disciplinary action for the individual(s) involved in accordance with Farallon company policy.

4.0 INCIDENT PREPAREDNESS AND RESPONSE

Farallon employees and subcontractors working at the Property must be prepared to respond appropriately to an incident involving injury, illness, death, spills, or utility breaches. This section outlines the degree of preparedness required for employees at a work site, and describes the actions to be taken in the event of a health and safety incident.

4.1 HEALTH AND SAFETY PREPAREDNESS

All individuals working at the Property are required to be familiar with the contents of this HASP. Additionally, the items on the following health and safety preparedness list should be reviewed prior to the commencement of work and during daily health and safety meetings:

- The directions to the hospital (provided in Attachment 2);
- The locations of first aid kits, personal eye washes, and fire extinguishers (located in field vehicles);
- The locations of the keys to field vehicles; and
- Hand sign language providing for the immediate stoppage of work (such as a horizontal hand movement in front of the neck).

Additional topics for daily health and safety meetings are included in Attachment 3, Potential Topics for Daily Health and Safety Meeting. Participation in daily health and safety meetings should be documented in Attachment 4, Daily Health and Safety Briefing Log.

4.2 INJURY OR ILLNESS

If an injury or illness occurs, the following actions should be taken, regardless of the severity of the injury or illness:

- Stop work.
- Determine whether emergency response staff (e.g., fire, ambulance) are necessary. If so, dial 911 on a cell phone or the closest available telephone. Describe the location of the injured person and provide other details as requested. If an individual requires non-emergency medical care at a hospital, follow the directions to the nearest hospital, which are provided in Attachment 2. IF EMERGENCY MEDICAL CARE IS NEEDED, CALL 911.
- Administer first aid to the individual immediately, using the first aid kit provided in the field vehicle. Use the bloodborne pathogens kit and personal eyewash, as needed.
- Notify the SHSO immediately. The SHSO is responsible for preparing and submitting an Incident Report form to Farallon's Health and Safety Coordinator (HSC) within 24 hours of the incident, and for notifying the employee's supervisor and the Principal-in-Charge. The Incident Report form is provided in Attachment 5.

- ***All incidents must be reported to the HSC within 24 hours; however, the actual investigation need not be completed within 24 hours***. **A telephone message that includes the date, time, and general incident circumstances should be left at one of the following numbers if the HSC cannot be reached directly**:
    - HSC work phone: (425) 295-0800
    - HSC cell phone: (206) 484-2748
    - If the HSC cannot be located, contact the Principal-in-Charge
- The SHSO will assume responsibility during a medical emergency until emergency response personnel arrive at the Property.

4.3 REPORTING PROCEDURES FOR MINOR CUTS, SCRATCHES, BRUISES, ETC.

Every occupational illness or injury is to be reported immediately by the employee to the SHSO. The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC.

4.4 NEAR MISSES

A near miss is defined as an incident in which no personal injury is sustained and no property damage is incurred, but in which injury and/or property damage could have occurred under slightly different timing or location.

In the event of a near miss, the following actions are to be taken:

- Stop work if there is immediate danger of injury or property damage;
- Report the near miss to the SHSO as soon as practicable;
- Resume work upon satisfactory resolution of the near-miss condition, if work was stopped, and document the corrective action(s) taken by the SHSO; and
- Complete and submit the Near Miss Report and Safety Observation Report form in Attachment 6 to the HSC within 2 business days.

4.5 MEDICAL INCIDENTS NOT REQUIRING AMBULANCE SERVICE

Medical incidents not requiring ambulance services include injuries and conditions such as minor lacerations and sprains. In the event of an injury, an illness, or a condition that does not require ambulance service, the following actions are to be taken:

- Stop work.
- Administer first aid as necessary to stabilize the individual for transport to the hospital.
- The SHSO is to facilitate prompt transportation of the individual to the hospital. Directions to the nearest hospital are provided in Attachment 2.

- A representative of Farallon or the subcontractor is to drive the individual to the medical facility and remain at the facility until the individual is able to return to the work site, or arrangements for further care have been established.
- If the driver is not familiar with the route to the hospital, a second person who is familiar with the route is to accompany the driver and the injured employee to the hospital.
- If it is necessary for the SHSO to accompany the injured employee to a medical facility, provisions must be made for another employee who is trained and certified in first aid to act as the temporary SHSO before work at the work site can resume.
- If the injured employee is able to return to the work site the same day, he/she is to bring a statement from the doctor that provides the following information:
    - Date of incident
    - Employee's name
    - Diagnosis
    - Date he/she is able to return to work, and whether regular or light duty
    - Date he/she is to return to the doctor for a follow-up appointment, if necessary
    - Signature and address of doctor
- The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC.
- If the injured employee is unable to return to the work site the same day, the employee who transported him/her should bring the statement from the doctor back to the work site. The information on this statement should be reported to the HSC immediately.

4.6 EMERGENCY CASES REQUIRING AMBULANCE SERVICE

In the event of an injury or illness that requires emergency response and transport to a hospital by ambulance the following actions should be taken:

- **Dial 911** to request ambulance service;
- Notify the SHSO;
- Administer first aid until the ambulance service arrives;
- One designated company representative should accompany the injured employee to the medical facility and remain there until final diagnosis, treatment plan, and other relevant information has been obtained; and
- The SHSO is to complete the Incident Report form provided in Attachment 5, and report the incident to the HSC immediately.

4.7 EMPLOYEE DEATH, OR HOSPITALIZATION OF ONE OR MORE EMPLOYEES

The procedures outlined in Section 6.2 should be followed in the event of an employee injury or illness. If an employee fatality occurs, the HSC, local emergency personnel, and the coroner must be notified **immediately**. **The HSC will initiate the required State of Washington Department of Labor and Industries and Occupational Safety and Health Administration (OSHA) notifications within 8 hours of a fatality or the hospitalization of one or more employees.**

4.8 RESPONSE TO SPILLS OR UTILITY BREACHES

The location of underground utilities (e.g., product, sewer, telephone, fiber optic) and facilities (e.g., underground storage tanks, septic tanks, utility vaults) is to be noted prior to commencement of intrusive subsurface work activities. Use the public and private locate services as required and complete the Utility Clearance Log (Attachment 7). If a utility line or tank is breached or a spill or release occurs, the event is to be documented on the Incident Report form provided in Attachment 5 as soon as possible. The date, time, name of the person(s) involved, actions taken, and discussions with other affected parties are to be included. The SHSO, Project Manager (PM), and client are to be notified immediately. The PM is to notify the regulatory authority and/or utility company, as necessary.

In the event of a spill or release, the following actions should be taken:

- Stay upwind of the spill or release.
- Don appropriate personal protective equipment (PPE).
- Turn off equipment and other sources of ignition.
- Turn off pumps and shut valves to stop the flow or leak.
- Plug the leak or collect drippings, if possible.
- Use sorbent pads to collect the product and impede its flow, if possible.
- Dial 911 or telephone the local fire department immediately if a fire or another emergency situation develops.
- Inform the Farallon PM of the situation.
- Determine whether the client would like Farallon to repair the damage or would rather use an emergency repair contractor.
- Advise the client of spill discharge notification requirements, and establish who will complete and submit the required forms. ***Do not report or submit information to an agency without the client's consent.*** Document each interaction with the client and regulators, and note in writing names, titles, authorizations, refusals, decisions, and commitments to any action.

- Do not transport or approve transportation of contaminated soils or product until proper manifests have been completed and approved. Be aware that soil and/or product may meet criteria for hazardous waste.
- Do not sign manifests as a generator of wastes. Contact the PM to discuss waste transportation.

4.9 NOTIFICATIONS

A spill or release requires completion of an Incident Report form (provided in Attachment 5) per Farallon's Health and Safety program. **The PM must involve the client and/or generator in the incident reporting process. The client and/or generator is under obligation to report the incident to the appropriate government agency(ies). If the spill extends into waterways, the Coast Guard and the National Response Center must be notified immediately by the client or with client permission (1-800-424-8802).**

4.10 SHUTOFF VALVES AND/OR SWITCHES FOR UTILITIES AND PRODUCTS

Before starting work, locate, discuss, and list on the Daily Health and Safety Briefing Log the locations of utility and product line shutoff valves and switches on the work site. Review the location of shutoff valves and switches with other field personnel before beginning work.

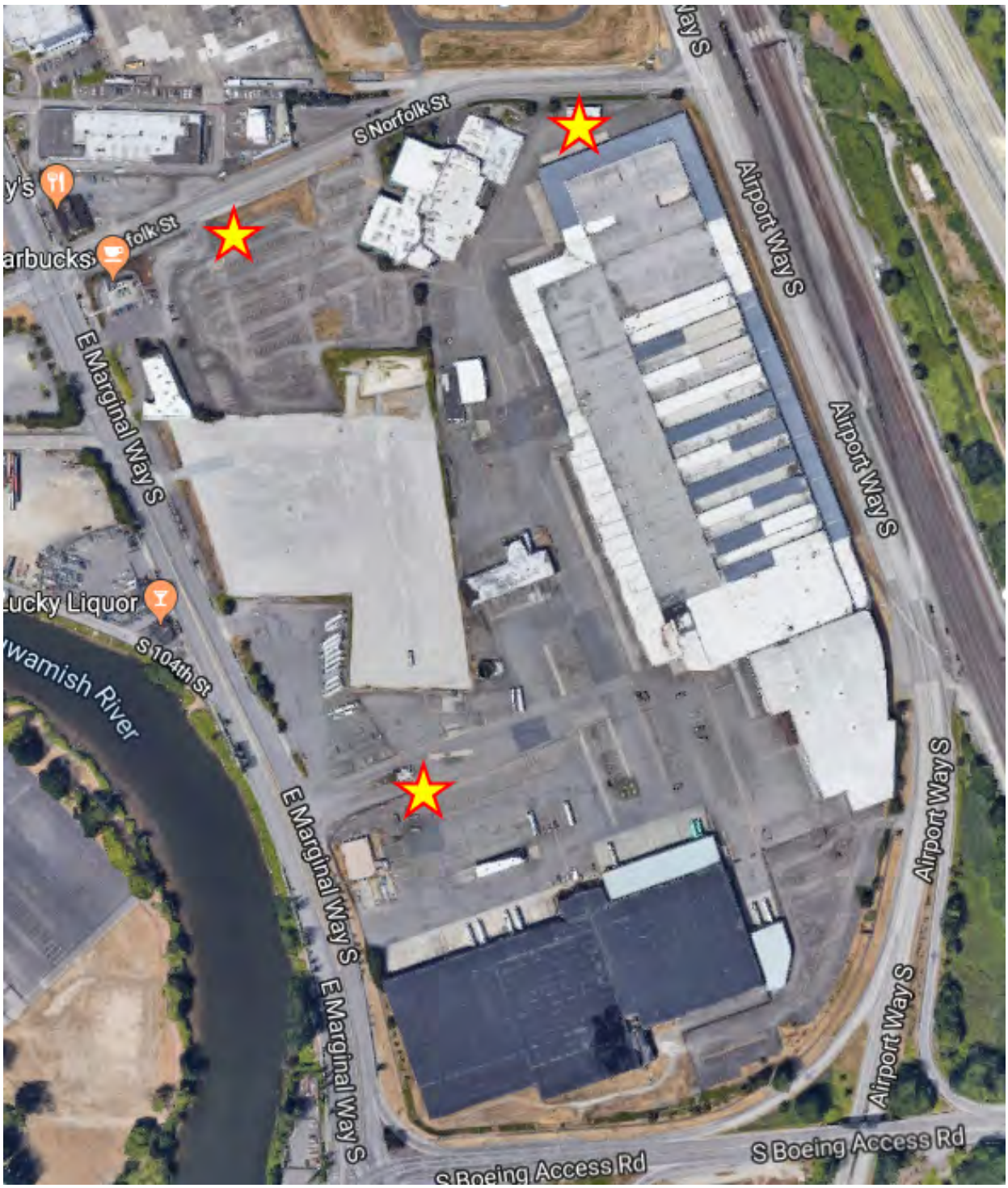
5.0 EMERGENCY RESPONSE AND EVACUATION PLAN

Farallon personnel and subcontractors working on the Property are to be aware of site-specific emergency and evacuation procedures, including alarm systems and evacuation plans and routes. If an incident occurs that requires emergency response, such as a fire or spill, **CALL 911 and request assistance**. Farallon staff, subcontractors, and/or others working in an area where an emergency occurs are to evacuate to a safe location away from the incident area, preferably upwind, and take attendance.

For this project, the emergency evacuation gathering location will be dependent on where work is being conducted due to the size of the Property**. Farallon has selected areas near the northwestern driveway, near the northeastern driveway, and near the southwestern driveway as emergency evacuation locations for this project. The emergency evacuation locations are marked by stars in the image below.**

If the emergency causes the route to be obstructed, Farallon personnel and subcontractors are to move to an open area upwind of the hazard area, and remain there until instructed by emergency response personnel (e.g., police, fire, ambulance personnel, paramedics) to do otherwise.

Subcontractors have the responsibility to account for their own employees and provide requested information to emergency response personnel immediately upon request. Farallon staff, subcontractors, and/or contractors may not reenter the scene of the emergency without specific approval from emergency response personnel.



= Emergency Evacuation Gathering Location

6.0 LOCAL EMERGENCY CONTACT NAMES AND TELEPHONE NUMBERS

Local emergency response personnel can be contacted at the following numbers. Directions and a map to the hospital are included in Attachment 2.

Emergency Contact	Name and Location	Telephone No.
Hospital	Virginia Mason Hospital and Seattle Medical Center 1100 9th Avenue Seattle, Washington	(206) 223-6600
Police	Tukwila Police Department 6200 Southcenter Boulevard Tukwila, Washington	**911** or (206) 433-1808
Fire	Seattle Fire Station 33 9645 Renton Avenue South Seattle, Washington	**911** or (206) 386-1433
National Response Center		**1-800-424-8802**
Washington State Department of Ecology		**(360) 407-6300**
Poison Control		**1-800-222-1222**

7.0 PROJECT PERSONNEL AND RELEVANT INFORMATION

The following section provides contact information for the project and the HSC and client-specific health and safety requirements. Farallon field personnel training and medical surveillance dates are included in Attachment 8.

7.1 PROJECT PERSONNEL CONTACT INFORMATION

Questions about this project that are posed by neighbors, the press, or other interested parties should be directed to the Principal-in-Charge at Farallon: (425) 295-0802.

PERSONNEL TITLE PERSONNEL NAME PERSONNEL CONTACT INFORMATION	GENERAL PROJECT RESPONSIBILITIES
Health and Safety Coordinator Joseph Rounds Office: (425) 295-0800 Cell: (206) 484-2748	Provide support in implementing HASP. Provide immediate support upon notice of any incident.
Principal-in-Charge Peter Jewett Office: (425) 295-0802 Cell: (425) 765-3366	Provide immediate support upon notice of any incident.
Project Manager Pete Kingston Office: (425) 394-4146 Cell: (206) 200-2346	Provide immediate support upon notice of any incident.
Client Contact Janet Frentzel Office: (415) 733-9451	Provide known analytical data from work performed by others. Provide notice of work site hazards. Provide access to work site. Provide information regarding available emergency supplies at the work site.

8.0 POTENTIAL CHEMICAL EXPOSURE

Farallon employees working at the Property may become exposed to the chemicals listed in the table below. These chemicals are present either due to current work site activities or due to the presence of contamination. This table should be reviewed prior to the start of work and questions directed to the SHSO. Air monitoring may be required at the Property based on the scope of work for the project. The Farallon Project Manager and SHSO will let the Farallon Field Scientists know if air monitoring will be required for the scope of work.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Toluene	PEL – 200 ppm TLV – 50 ppm	NIOSH REL – 100 ppm TWA; 150 ppm STEL ILDH – 500 ppm	Sweet, pungent, benzene-like odor.	Eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; weakness; fatigue.	CNS; liver; kidneys; skin.
Benzene	PEL – 1 ppm TLV – 0.5 ppm (skin)	PEL STEL – 5 ppm IDLH – 500 ppm	Characteristic benzene odor.	Inhalation; dermal; ingestion; eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; nausea.	Carcinogen; CNS; eye damage; bone marrow; blood; skin; leukemia.
Naphthalene	PEL – 10 ppm TLV – 10 ppm	TLV STEL – 15 ppm NIOSH REL – 10 ppm REL STEL – 15 ppm IDLH – 250 ppm	Mothball-like odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant, nausea.	Eyes, blood, skin, liver, kidney, RBC; CNS.
Xylenes	PEL – 100 ppm TLV – 100 ppm	TLV STEL – 500 ppm NIOSH REL – 100 ppm NIOSH REL STEL – 100 ppm IDLH – 900 ppm	Aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Throat, skin irritant (dermatitis); headache; nausea; drowsiness; fatigue.	CNS, liver, kidneys, skin, gastrointestinal damage; eye damage.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Ethylbenzene	PEL – 100 ppm TLV – 100 ppm	PEL STEL – 125 ppm TLV STEL – 125 ppm NIOSH REL – 100 ppm REL STEL – 125 ppm IDLH – 800 ppm	Pungent, aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant; headache; dizziness; drowsiness.	Eyes; respiratory tract; skin; CNS; blood; kidneys; liver.
Coal tar pitch volatiles (aka polycyclic aromatic hydrocarbons pyrene, phenanthrene, chrysene, anthracene, and benzo[a]pyrene)	PEL – 0.2 mg/m^3	NIOSH REL – 0.1 mg/m^3 (cyclohexane-extractable fraction) IDLH – 80 mg/m^3	Black or dark-brown amorphous residue.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin; nose, throat irritation that may cause difficulty breathing.	Skin and lung cancer; damage to the reproductive system; thickening and darkening of the skin.
Arsenic	PEL – 0.010 mg/m^3	NIOSH REL – CA C 0.002 mg/m^3 [15-minutes]	Metal: Silver-gray or tin-white, brittle, odorless solid.	Inhalation; skin absorption; skin and/or eye contact; ingestion.	Ulceration of nasal septum; peripheral neuropathy; gastrointestinal disturbances; dermatitis; respiratory irritation; hyperpigmentation of skin (potential occupational carcinogen).	Lung and lymphatic cancer; liver; kidneys; skin; lungs; lymphatic system.

POTENTIAL AIRBORNE CHEMICALS ON SITE FOR THIS PROJECT REVIEW THIS TABLE AND CONTACT THE SHSO WITH ANY QUESTION						
Chemical (or Class)	**OSHA PEL ACGIH TLV**	**Other Pertinent Limits**	**Properties**	**Routes of Exposure or Irritation**	**Acute Health Effects**	**Chronic Health Effects/ Target Organs**
Cadmium	PEL – 0.005 mg/m^3		Odorless, yellow-brown, finely divided particulate dispersed in air.	Inhalation.	Pulmonary edema; dyspnea (breathing difficulty); cough; chest tightness; substernal (occurring beneath the sternum) pain; headache; chills; muscle aches; nausea; vomiting; diarrhea; emphysema; proteinuria; anosmia (loss of the sense of smell); mild anemia; potential occupational carcinogen.	Prostate and lung cancer; respiratory system; kidneys; blood.
Copper	PEL – 1 mg/m^3 TLV – 1 mg/m^3	IDLH – 100 mg/m^3	Reddish, lustrous, malleable, odorless solid.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes, nose, and pharynx, nasal septum perforation; metallic taste; dermatitis.	Lung, liver, and/or kidney damage; anemia. Eyes, skin, respiratory system, liver, kidneys.

NOTES:
°F = degrees Fahrenheit
ACGIH = American Conference of Governmental Industrial Hygienists
AIHA = American Industrial Hygiene Association
AIHA WEEL = AIHA-set workplace environmental exposure limits
C = ceiling limit
CNS = central nervous system
CVS = cardiovascular system
IDLH = immediately dangerous to life or health
mg/m3 = milligrams per cubic meter
NIOSH = National Institute for Occupation Safety and Health
OSHA = Occupation Safety and Health Administration
PEL = permissible exposure limit
ppm = parts per million
RBC = red blood cells
REL = recommended exposure limit set by NIOSH
Skin = skin absorption
STEL = short-term exposure limit
TLV = threshold limit value set by ACGIH
TWA = time-weighted average

9.0 POTENTIAL SITE HAZARDS AND APPROPRIATE PRECAUTIONS

Activities listed may be associated with work performed by others. The information contained in this section is for the use of Farallon personnel and not intended for use by others. The following tables list potential hazards and appropriate precautions associated with planned field work.

The following are a few basic guidelines to remember while performing field work at the Property:

- No eating, drinking, or smoking on the work site;
- No wearing contact lenses on the work site;
- No facial hair that will interfere with proper respirator fit when respirators are required; and
- A safety meeting will be held every day, even if only one person is working on the project on a given day.

9.1 ENVIRONMENTAL DRILLING

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Clear drilling locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Traffic hazards. Overhead or underground installations. Product releases. Property damage. Occupant inconvenience.	• Refer to Utility Clearance Log (**Attachment 7**). • Coordinate with Site Manger (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed borehole locations. • Call underground utility locating service for public line location clearance and obtain a list of utilities being contacted. If necessary, coordinate private line locator for private property. • Maintain minimum distance of 5 feet from marked utilities. • Develop a traffic control plan with the client and local agencies, as applicable, which may include use of cones, barrier tape, jersey barriers, etc.
Mobilize with equipment/supplies suitable for drilling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Vehicle accident. Lifting hazards. Delay or improper performance of work due to improper equipment on Site.	• Begin each work day with tailgate safety meeting. • Follow safe driving procedures. • Employ safe lifting procedures. • Verify that subcontractors are aware of their responsibilities for labor, equipment, and supplies. • Review permit conditions.
Visually clear proposed drilling locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Underground or overhead installations.	• Complete Utilities and Structures checklist on the Utility Clearance Log (provided in **Attachment 7**) and adjust drilling locations as necessary. • If drilling within 3 feet of marked utilities, must daylight utility to verify location.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Struck by vehicle during placement. Vehicle accident resulting from improper placement of traffic control equipment.	• Use buddy system for implementing traffic control plan, such as setting out cones and tape to define the safety area.
Assist with setup of rig.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Vehicle accident during rig movement. Damage caused by rig while accessing set-up location. Contact with overhead installations. Soft terrain. Unexpected rig movement.	• All staff should know the location of the kill switch for the drilling rig. • Verify a clear pathway to the drilling location and clearance for raising mast. • Provide hand signals and guidance to the driver, as needed, to place rig. • Visually inspect rig (e.g., fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition). • Use wooden blocks under jacks to spread load, if necessary. Chock wheels.
Set up exclusion zone(s) and work stations (drilling and logging and/or sample collection).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, and work gloves.	Struck by vehicle during setup. Slip or fall hazards.	• Implement exclusion zone setup. Set up work stations with clear walking paths to and from rig. Use safety tape and cone(s).

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Clear upper 5 feet of drilling location using post-hole digger or hand auger.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, and work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, and chemical-resistant apron as required.	Back strain. Exposure to chemical hazards. Hitting an underground utility. Repetitive motion.	• Keep full-face respirator with organic vapor cartridges readily accessible. • Initiate air quality monitoring in accordance with the air monitoring protocol presented in **Attachment 9**. • Stand upwind to avoid exposure when possible. • Use the organic vapor monitor aggressively to track the airborne concentration of contaminants close to potential sources such as the core when it is raised from the hole, the core when opened, etc. • Evaluate any soil samples inside a resealable plastic bag at arm's length. DO NOT EVALUATE THE SAMPLE IN THE OPEN, IN ORDER TO AVOID UNNECESSARY EXPOSURE. • Use correct lifting techniques and tools. • Complete the Pre-Drilling section of the Borehole Clearance Review form.
Drilling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.
Manage cuttings.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Heat or cold. Eye injury. Noise. Exposure to chemical hazards. Breaching an underground utility. Trip or fall. Equipment failure.	• Stand clear of operating equipment. • Use correct lifting techniques. • Monitor air quality in accordance with the air monitoring protocol presented in **Attachment 9**. • Monitor drilling progress. • Keep work area clear of tripping or slipping hazards. • Perform periodic visual inspections of drill rig.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Backfill borehole.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Trip hazards. Eye injury from splashing or release of pressurized grout.	• Mix grout to specification and completely fill the hole. • Use proper lifting techniques. • Keep work area clear of tripping hazards. • Verify presence of and/or authorization by required grouting inspectors.
Develop well.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Physical injury from mechanical failure, drill rig, or air compressor. Trip hazards. Exposure to contaminants. Electric shock.	• Verify that equipment is in good working order and that pressurized hoses are whip-checked. • Keep full-face respirator with organic cartridges readily accessible. • Keep work area orderly. • Any generators must be equipped with a ground fault circuit interrupter.
Gauge water levels and product thickness in wells, where applicable.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation or dermal exposure to chemical hazards. Repetitive motion.	• Have full-face respirator with organic cartridges readily accessible. • Conduct air quality monitoring in accordance with the protocol presented in **Attachment 9.** • Maintain a safe distance from the well head. • Bend at knees rather than at the waist.
Purge well(s) and collect purge water.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation or dermal exposure to chemical hazards. Slip or fall. Contaminated water spill.	• Use proper lifting techniques. • Use PPE, and adhere to air monitoring guidelines as presented in **Attachment 9**. • Keep work area clear of tripping or slipping hazards. • Store purge water in appropriate containers.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Collect groundwater samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation or dermal exposure to chemical hazards. Slip or fall. Improper labeling or storage of samples. Injury from broken sample bottle (cuts or acid burns).	• Decontaminate sampling equipment between each well (unless disposable). • Use proper lifting techniques. • Have full-face respirator with organic cartridges within 3 to 5 feet of working location, and readily accessible. • Label samples in accordance with sampling plan. • Keep samples stored in appropriate containers, at correct temperature, and away from work area. • Handle bottles carefully.
Dispose of or store any purge water on the Site.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Exposure to contaminants.	• Use suitable equipment to transport water (e.g., pumps, drum dollies). • Have full-face respirator with organic cartridges within 3 to 5 feet of working location, and readily accessible. • Label storage containers properly, and locate in an isolated area away from traffic and other Site functions. • Coordinate off-Site disposal (where applicable).
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Traffic. Lifting hazards.	• Use buddy system to remove traffic control, as necessary. • Leave the Site clear of refuse and debris. • Clearly mark or barricade any borings that need topping off or curing at a later time. • Notify Site personnel of departure, final well locations, and any cuttings and/or purge water left on the Site. • Use proper lifting techniques.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Package and deliver samples to laboratory.		Back strain. Traffic accidents.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques. • Apply safe driving practices.
Typical work.	Steel-toed and -shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, leather gloves for non-chemical aspects of work. Chemical-resistant gloves and apron if chemical exposure is suspected.	Weather-related incidents: automobile accidents, slips or falls.	• Check weather reports daily. Project visits are not to be performed during inclement weather. Sampling may be performed during light rain mist. Wear raincoats. • Drive at speed limit or less, as needed, to keep a safe distance from vehicle in front. Avoid short stops.
Typical work.		Cold stress.	• For temperatures below 40°F, adequate insulating clothing must be worn. If the temperature is below 20°F, workers will be allowed to enter a heated shelter at regular intervals. Warm, sweet drinks should be available. Coffee intake should be limited. • No one should begin work or return to work from a heated shelter with wet clothes. • Workers should be aware of signs of cold stress, such as heavy shivering, pain in fingers or toes, drowsiness, or irritability. Onset of any of these signs is an indication that immediate return to a heated shelter is needed. • Refer to ACGIH TLV Booklet for the section on Cold Stress.

Job Steps	Personal Protective Equipment	Potential Hazards	Critical Actions
Typical work.		Heat stress.	• Discuss health effects and symptoms during daily health and safety meetings. • Drink water regularly (at least one cup every 20 to 30 minutes, depending upon level of effort and the PPE worn). • Refer to ACGIH TLV booklet for heat stress guidance, especially regarding PPE, type of work, and frequency of breaks. • Breaks should be taken in an area cooler than the work area. • Monitor temperature and relative humidity using a wetbulb globe temperature meter.
A safety meeting will be held every day, even if only one person is working on the project on a given day.			• Topics are to always include the work scheduled for the day and restatement of hazards and the means to avoid them. Other topics may include sampling in general, and advances in technology and how they may be applied to the project. • Use the *Daily Health and Safety Briefing Log* in **Attachment 4** to log the topics discussed.

9.2 EXCAVATION ACTIVITIES

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Clear excavation locations.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic hazards. Overhead and underground installations. Product releases. Property damage. Dealer inconvenience.	• Refer to Utility Clearance Log. • Coordinate with facility contact (or designee) to minimize potential conflicts. • Review proposed locations against available construction drawings and known utilities, tanks, product lines, etc. • Mark out the proposed excavation locations. • Call the underground utility locating service for public line location clearance. Obtain a list of utilities being contacted. If necessary, coordinate private line locator for private property. • Maintain minimum distance of 5 feet from marked utilities.
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Being struck by vehicle during placement. Vehicle accident as a result of improper traffic control equipment placement.	• Use buddy system to place traffic control. • Implement traffic control plan as required.
Set up exclusion zone(s) and stockpile area and establish work areas/heavy equipment pathways.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Injury or exposure to public or other Site personnel. Slip or fall hazards. On-Site vehicular accident with heavy equipment.	• Implement exclusion zone set-up instructions. • Establish clear walking paths between work stations.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Hand digging/post-holing where necessary to expose and protect underground installations as needed.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Damage to lines and associated physical hazards or property damage. Back strain. Injury or vehicle damage from falling into a hole.	• Use hand tools whenever possible. • Use proper lifting techniques. • Barricade or cover holes until job has been completed.
Assist with set up of heavy equipment.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Damage caused by heavy equipment while accessing set-up location. Being struck by equipment.	• Verify a clear pathway to excavation and stockpiling locations. • Provide hand signals and guidance to driver as needed to place rig. • Visually inspect equipment (e.g., fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition). • Maintain eye contact with operator.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Commence excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Heat or cold exposure. Exposure to chemical hazards. Hitting an underground or overhead utility. Flammable or oxygen-deficient atmosphere from accumulated vapors. Trip or fall. Side wall cave-in. Equipment failure. Noise.	• Monitor weather conditions and take breaks as needed for cold or hot weather. • Conduct air monitoring as presented in **Attachment 9.** Include Lower Explosive Limit (LEL) and oxygen (O_2) monitoring. If >10% LEL or O_2 <19.5%, discontinue work or ventilate area with explosion-proof equipment. • Maintain required excavation set-backs for workers and equipment. • Monitor condition of side walls and surrounding ground conditions. • Keep work area clear of tripping or slipping hazards. Perform periodic visual inspections of heavy equipment and keep equipment a minimum of 5 feet from excavation edge, or 1 foot away from the edge for every foot of depth, if greater than 5 feet deep. • Perform necessary soil classification. Slope or bench walls, or shore excavation to prevent cave-in. Keep all spoils more than 2 feet from excavation edge. Keep excavation entry controlled and equipped with required ladders and crosswalks.
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cave-in of side wall if entering excavation. Injury from heavy equipment. Exposure to Site contaminants.	• Stay out of excavation whenever possible (collect samples from backhoe bucket). • Use agreed-upon hand signals with heavy equipment operators. • Monitor air around excavation in accordance with the protocol presented in **Attachment 9**.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Store excavated materials according to Site-specific requirements.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Exposure to public. Traffic hazard, obstruction, or inconvenience to business operation. Improper storage or disposal.	• Have necessary storage containment and labeling available on the Site. • Place materials in isolated location away from traffic and other Site functions. • Stockpile excavated materials on suitable plastic or in appropriately designed container. Cover with plastic, and barricade access to waste in accordance with local regulations. • Coordinate proper disposal off the Site, where applicable.
Backfill excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Being struck by heavy equipment. Side wall collapse. Damage or accidents resulting from subsequent subsidence.	• Use agreed-upon hand signals with heavy equipment operators. • Compact soils to meet specifications. • Maintain eye contact with equipment operators.
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic. Safety hazard left on the Site. Lifting hazards.	• Use buddy system to remove traffic control, as necessary. • Leave Site clear of refuse and debris. • Notify business personnel of departure. • Use proper lifting techniques or use mechanical assistance.
Package and deliver samples to laboratory.		Back strain. Traffic accidents.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques. • Apply safe driving practices.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
General			
Typical work.	Steel-toed and -shank shoes, hard hat, safety glasses with side shields, hearing protection, reflective safety vest, and leather gloves for non-chemical aspects of the work. If equipment contamination is suspected, wear chemical-resistant gloves during decontamination of equipment.	Weather-related incidents: automobile accidents, slips or falls.	• Check weather reports daily. Project visits are not to be performed during inclement weather. Sampling may be performed during light rain mist. Wear raincoats. • Drive at the speed limit or less as needed to keep safe distance from vehicle in front. Avoid short stops.
A safety meeting will be held each day, even if only one person is working on the project on any given day.			• Topics are always to include the work scheduled for that day, and restatement of hazards and the means to avoid them. Other topics may include sampling in general, and advances in technology and how they may be applied to the project. • Use the *Daily Health and Safety Briefing Log* provided in **Attachment 4** to log the topics discussed.

9.3 UNDERGROUND STORAGE TANK DECOMMISSIONING

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Eliminate all potential sources of ignition.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire.	• Ban smoking. • Shut down all open-flame and spark-producing equipment within vapor hazard. • Use only explosion-proof equipment in hazard area. • Ground heavy equipment that will or may touch underground storage tank (UST).

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Clear overburden (e.g., concrete, pavement, rebar).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Release of product. Injury from heavy equipment. Back strain. Hand, eye, or foot injury from hand tools. Trip or fall. Noise. Traffic hazards.	• Watch for underground utilities and product piping. • Keep clear of heavy equipment. • Use agreed-upon hand signals. • Keep area as clear of loose debris and other trip hazards, as possible. • Heed vehicle backup alarm. Establish eye contact with operator.
Disconnect and drain product lines and vent lines.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Product spill. Chemical exposure.	• Use non-sparking tools. • Place containment (e.g., bucket) under points where lines will be disconnected or cut. • Cap or remove lines. • Conduct air monitoring for previous contents in accordance with **Attachment 9**.
Remove product and residues from UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Product spill. Chemical exposure.	• Locate vacuum truck and other vehicles upwind of UST and outside probable path of vapor dispersion. • Keep area vapor-free. • Discharge vacuum pump exhaust through a hose directed downwind of the tank area. • Use explosion-proof or air-driven pumps. Bond (or otherwise ground) pump motors and suction hoses to the tank. Avoid using plastic (PVC) or other non-conductive pick-up tubes on vacuum trucks to minimize static charge build-up.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Purge UST vapors rather than inerting them.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Inhalation of vapors (for both workers and the public).	• Frequently test the percentage of the Lower Explosion Limit (LEL) in the bottom, middle, and top of tank. O_2 must be <10% in tank. • Bond drop tube (if not already connected) to UST. • Use hot water spray rather than steam to clean UST to minimize static build up. If using steam, bond or ground all isolated conductors and objects, including discharge hose, that are subject to impingement or condensation. • Vent purged UST fumes a minimum of 12 feet above ground and/or 3 feet above adjacent rooflines.
Inert UST vapors rather than purging them.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Explosion. Fire. Inhalation of vapors (for both workers and the public). Skin burns from dry ice. Injury from compressed gas (nitrogen) cylinder failure. Bottled carbon dioxide (CO_2) condensation causing static electricity and associated explosion and/or fire hazard. Slip, trip, or fall when accessing tank. Risks from climbing ladder to access UST.	• Frequently test the percentage of O_2 in the bottom, middle, and top of tank. O_2 must be <10% in UST. • Carbon dioxide (dry ice): Avoid skin contact. Wear resistant gloves and long sleeves. • Nitrogen gas: Keep compressed gas cylinders secured; use correct regulators and cylinder caps. Introduce nitrogen, which is lighter than air, near bottom of UST to get effective purge. Bond or ground cylinder nozzle. • CO_2 (bottled gas): Not recommended because of condensation formation. If CO_2 is used, follow the precautions for nitrogen gas bottles. • Vent exhaust vapors a minimum of 12 feet above ground and/or 3 feet above adjacent rooflines.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Prepare UST for removal from excavation.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Product spill. Slip or fall from top of UST.	• Plug or cap all accessible holes. One plug should have a 0.125-inch vent hole to allow for pressure changes.
Excavate around UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Injury from heavy equipment. Cave in of excavation walls. Explosion. Fire. Slip or fall due to uneven work surfaces. Struck by excavator.	• Maintain safe distance from equipment and excavation—a minimum of 1 foot away from the edge of the excavation for each foot of depth. • Stay in sight lines of operators. Use agreed-upon hand signals. Heed equipment backup alarm. Establish eye contact with operator. • Monitor air for LEL conditions and wind direction. Ventilate as needed.
Remove UST.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Snapping cables/straps. Injury from heavy equipment. Explosion. Fire. Product spill. Exposure to vapors.	• Inspect cables and strapping. • Stay clear of equipment and tank removal pathway. • Monitor air for LEL conditions, personnel exposure, and wind direction. Ventilate as needed. • Stay away from UST ends in particular, the weakest point in the event of an explosion. • Have spill containment available.

Refer to Excavation Activities *for steps, hazards, and critical actions associated with excavation activities. This includes underground utility clearance, setting up traffic control and exclusion zones, and heavy equipment inspection and placement.*			
Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Collect samples according to sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Collapse of side walls. Injury from heavy equipment. Slip or fall due to uneven terrain.	• Stay out of excavation. Collect samples from backhoe bucket at safe distance from edge of excavation. • Keep footing secure.
Load and transport UST and associated piping.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Material falling from truck. Explosion. Fire. Risks from equipment backing up.	• Verify that all material is secured to truck. • Recheck vapor concentrations in UST and vent as needed. • Heed backup alarms on vehicles.

9.4 MONITORING WELL SAMPLING/GAUGING

Job Steps	**Personal Protective Equipment**	**Potential Hazard**	**Critical Actions**
Mobilize with equipment/supplies suitable for sampling.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Vehicle accident. Lifting hazards. Delay or unsafe performance of work due to lack of necessary equipment on Site. Cross-contamination of wells.	• Follow safe driving procedures. • Use proper lifting techniques. • Review work plan to determine equipment/supply needs. • Verify that all sampling/gauging equipment has been decontaminated. • Bring ice for sample storage. • Review the HASP. • Gather the necessary PPE.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Set up necessary traffic control.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Struck by vehicle during placement. Vehicle accident as a result of improper traffic-control equipment placement.	• Use buddy system for placing traffic control. Refer to the traffic control plan section of the HASP (which may include specific requirements based on encroachment permit).
Set up exclusion zone(s).	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Struck by vehicle. Slip or fall hazards to workers.	• Face incoming traffic. • Implement exclusion zone setup instructions of the HASP (e.g., barricades, caution tape, cones). • Set up work area free of trip hazards.
Gauge water levels and product thickness (where applicable) in wells.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Inhalation of, or dermal exposure to, chemical hazards. Repetitive motion.	• Wear required PPE. • Initiate air quality monitoring in accordance with the HASP. • Maintain a safe distance from wellhead. • Bend at knees rather than at waist.
Purge well(s) and collect purge water.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation of, or dermal exposure to, chemical hazards. Slip or fall. Contaminated water spill.	• Decontaminate purging equipment between each sampling location. • Use proper lifting techniques. • Use PPE and conduct monitoring in accordance with the HASP. • Keep work area clear of tripping or slipping hazards. • Store purge water in appropriate containers.

Job Steps	Personal Protective Equipment	Potential Hazard	Critical Actions
Collect samples in accordance with sampling plan.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Cross-contamination. Back strain. Inhalation of, or dermal exposure to, chemical hazards. Slip or fall. Improper labeling or storage. Injury from broken sample bottle (e.g., cut or acid burn).	• Decontaminate sampling equipment between each well (unless disposable equipment). • Use proper lifting techniques. • Use PPE in accordance with the HASP. • Label samples in accordance with sampling plan. • Keep samples stored in suitable containers, at correct temperature, and away from work area. • Handle bottles carefully.
Dispose of or store purge water on the Site.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves. Respirator with organic vapor cartridges, chemical-resistant gloves, chemical-resistant apron as required.	Back strain. Exposure to contaminants. Damage or injury from improper use of on-Site treatment system equipment. Improper storage or disposal.	• Use suitable equipment to transport water (e.g., pumps, drum dollies). • Wear PPE in accordance with the HASP. • Review any necessary instructions for use of on-Site treatment systems. • Label storage containers properly and locate in an isolated area away from traffic and other Site functions. • Coordinate off-Site disposal, where applicable.
Clean the Site; demobilize.	Reflective vest, steel-toed and -shank shoes, hard hat, safety glasses with side shields, ear plugs or muffs, work gloves.	Traffic. Safety hazard left on the Site. Lifting hazard.	• Use buddy system to remove traffic control, as necessary. • Leave the Site clear of refuse and debris. • Notify business personnel of departure, and of any purge water left on the Site. • Use proper lifting techniques.
Package and deliver samples to laboratory.		Bottle breakage. Back strain.	• Handle and pack bottles carefully (e.g., bubble wrap bags). • Use proper lifting techniques.

10.0 WASTE CHARACTERISTICS

Waste anticipated to be generated on the Site:

Type(s): ☒ Liquid ☒ Solid ☐ Sludge ☐ Other _____

The approximate volume for each anticipated waste stream:

Waste: Soil Approximate Volume: Unknown

Waste: Groundwater Approximate Volume: Unknown

Characteristics:

☐ Corrosive ☐ Flammable/Ignitable ☐ Radioactive ☒ Toxic

☐ Reactive ☐ Unknown ☐ Other *(specify)* _____

11.0 TRAFFIC CONTROL

An exclusion zone will be placed around the work area to prevent undesirable interface between pedestrian traffic and project workers and equipment. These devices may include:

- Cones;
- Tubular markers; and
- Barricade tape.

Cones/tubular markers and barricade tape will be used to inhibit access to the work area in locations where pedestrians will be encountered.

ATTACHMENT 1
HEALTH AND SAFETY PLAN ACKNOWLEDGEMENT AND AGREEMENT FORM

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM

(All Farallon and subcontractor personnel must sign on a daily basis.)

This Health and Safety Plan (HASP) has been developed for the purpose of informing Farallon employees of the hazards they are likely to encounter on the project site, and the precautions they should take to avoid those hazards. Subcontractors and other parties at the site must develop their own HASP to address the hazards faced by their own employees. Farallon will make a copy of this HASP available to subcontractors and other interested parties to fully disclose hazards we may be aware of, and to satisfy Farallon's responsibilities under the Occupational Safety and Health Administration (OSHA) Hazard Communication standard. Similarly, subcontractors and others on site are required to inform Farallon of any hazards they are aware of or that their work on site might possibly pose to Farallon employees, including but not limited to Material Safety Data Sheets for chemicals brought on site. This plan should NOT be understood by contractors to provide information pertaining to all of the hazards that a contractor's employees may be exposed to as a result of their work.

All parties conducting site activities are required to coordinate their activities and practices with the project Site Health and Safety Officer (SHSO). Your signature below affirms that you have read and understand the hazards discussed in this HASP, and that you understand that subcontractors and other parties working on site must develop their own HASP for their employees. Your signature also affirms that you understand that you could be prohibited by the SHSO or other Farallon personnel from working on this project for not complying with any aspect of this HASP. The SHSO will be noted on the sheet below on a daily basis.

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM					
Check for SHSO	**Name**	**Title**	**Signature**	**Company**	**Date**

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM					
Check for SHSO	**Name**	**Title**	**Signature**	**Company**	**Date**

ATTACHMENT 2
DIRECTIONS TO HOSPITAL

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

DIRECTIONS TO HOSPITAL

3301 S Norfolk St

Seattle, WA 98118

1. Head northeast on S Norfolk St toward Airport Way S

21 s (0.1 mi)

Continue on Airport Way S to Seneca St

21 min (7.7 mi)

2. Turn left at the 1st cross street onto Airport Way S
   Pass by Flying Squirrel Pizza Co. (on the left in 3.0 mi)

6.0 mi

3. Continue straight onto 7th Ave S

0.2 mi

4. Continue straight to stay on 7th Ave S
   Pass by KeyBank (on the left)

0.3 mi

5. Turn right onto S Jackson St
   Pass by Pacific Rim Center (on the left)

0.3 mi

6. Turn left onto 12th Ave S

0.1 mi

7. Turn left onto Boren Ave S

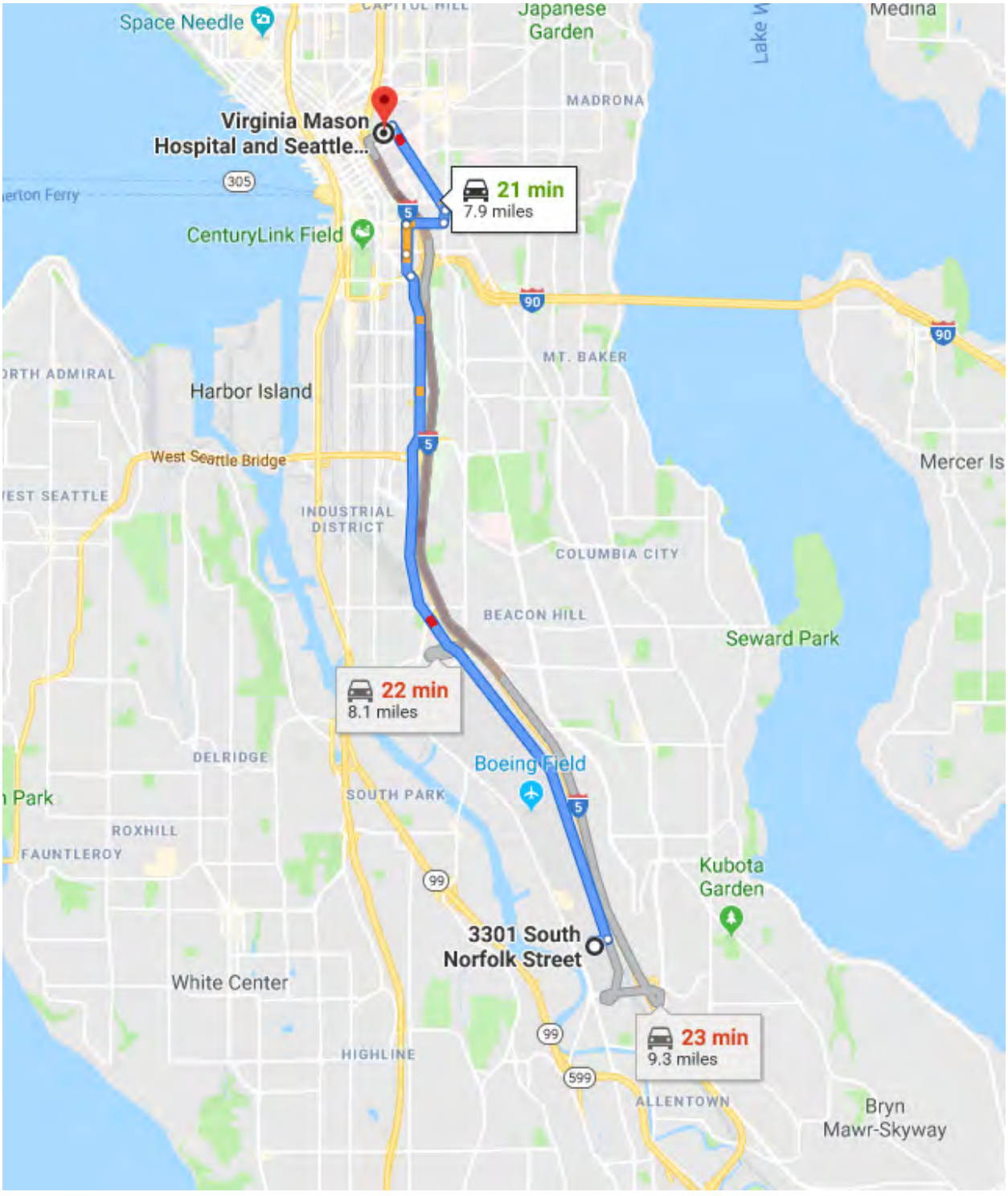
0.8 mi

8. Turn left onto Seneca St
   Destination will be on the left

31 s (354 ft)

Virginia Mason Hospital and Seattle Medical Center

1100 9th Ave, Seattle, WA 98101


Space Needle
Japanese Garden
Medina
Lake W
MADRONA
Virginia Mason Hospital and Seattle...
305
erton Ferry
21 min
7.9 miles
CenturyLink Field
5
90
MT. BAKER
RTH ADMIRAL
Harbor Island
West Seattle Bridge
Mercer Is
EST SEATTLE
INDUSTRIAL DISTRICT
COLUMBIA CITY
BEACON HILL
Seward Park
22 min
8.1 miles
DELRIDGE
Boeing Field
Park
SOUTH PARK
ROXHILL
FAUNTLEROY
99
Kubota Garden
3301 South Norfolk Street
White Center
23 min
9.3 miles
HIGHLINE
599
ALLENTOWN
Bryn Mawr-Skyway

ATTACHMENT 3
POTENTIAL TOPICS FOR DAILY HEALTH AND SAFETY MEETING

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

POTENTIAL TOPICS FOR DAILY HEALTH AND SAFETY MEETING

- ☐ Emergency response plan, emergency vehicle (full of fuel) and muster point
- ☐ Route to medical aid (hospital or other facility)
- ☐ Work hours. Is night work planned?
- ☐ Hand signals around heavy equipment
- ☐ Traffic control
- ☐ Pertinent legislation and regulations
- ☐ Above- and below-ground utilities (energized or de-energized)
- ☐ Material Safety Data Sheets
- ☐ Reporting an incident: to whom, what, why, and when to report
- ☐ Fire extinguisher and first aid kit locations
- ☐ Excavations, trenching, sloping, and shoring
- ☐ Personal protective equipment and training
- ☐ Safety equipment and training
- ☐ Emergency telephone location(s) and telephone numbers (in addition to 911)
- ☐ Eye wash stations and washroom locations
- ☐ Energy lock-out/tag-out procedures. Location of “kill switches,” etc.
- ☐ Weather restrictions
- ☐ Site security. Site hazards. Is special waste present?
- ☐ Traffic and people movement
- ☐ Working around machinery (both static and mobile)
- ☐ Sources of ignition, static electricity, etc.
- ☐ Stings, bites, large animals, and other nature-related injuries and conditions
- ☐ Working above grade
- ☐ Working at isolated sites
- ☐ Decontamination procedures (for both personnel and equipment)
- ☐ How to prevent falls, trips, sprains, and lifting injuries
- ☐ Right to refuse unsafe work
- ☐ Adjacent property issues (e.g., residence, business, school, daycare center)

ATTACHMENT 4
DAILY HEALTH AND SAFETY BRIEFING LOG

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

DAILY HEALTH AND SAFETY BRIEFING LOG

PROJECT INFORMATION	
Farallon PN:	Project Name:
Site Address:	City/State:
MEETING INFORMATION	
Conducted By:	Weather:
Major Job Task:	Date:

DAILY EQUIPMENT CHECKLIST

☐ Site Check In	☐ First Aid Kit Location(s)	☐ Ear Plugs (if required)
☐ Proper ID/Safety Credentials	☐ Fire Extinguisher Location(s)	☐ Hand Protection (if required)
☐ Hard Hat	☐ Eye Wash Station	☐ Face Shield (if required)
☐ Safety Glasses	☐ Traffic Control (if needed)	☐ Respirator (if required)
☐ Orange Reflective Vest (H or X back BNSF)		☐ _____
☐ Safety Toe Boots (lace up and leather BNSF)		☐ _____

HEALTH AND SAFETY BRIEFING

☐ Head Count (No. of employees:)	☐ Chemical/Contaminant Hazards
☐ Emergency Response	☐ Health Hazards
☐ Who will...? (Provide names below.)	☐ Environmental Hazards
Call 911:	☐ Physical Hazards
Alternate to call 911:	☐ Slips, Trips, and Falls
Provide First Aid/CPR:	☐ Utility Locates
☐ Emergency Exits/Rally Points/Hospital Route	☐ Utility/Product Shut-Off Valves/Switches
☐ Site Security and Exclusion Zone	☐ Near Miss Reporting (reminder to look)
☐ Vehicle/Equipment-Specific Safety Practices	☐ Incident Reporting (procedures and forms)
☐ Stop Work Authority	☐ Traffic Control
☐ Excavation Safety (if applicable)	☐ HASP Reviewed and Signed

OTHER SITE-SPECIFIC HEALTH AND SAFETY ISSUES DISCUSSED

1)
2)
3)
4)
5)

DAILY HEALTH AND SAFETY BRIEFING ATTENDEES

NAME	COMPANY	SIGNATURE

ATTACHMENT 5
INCIDENT REPORT FORM

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

INCIDENT REPORT FORM

This report must be completed by the employee or Health and Safety Coordinator (HSC) immediately upon learning of the incident. The completed report must be reviewed and signed by Project Principal, within 24 hours of the incident, even if the employee is not available to review and sign. The employee or employee's doctor must submit a copy of the doctor's report to Joe Rounds within 24 hours of the initial exam and any subsequent exams. After hours or weekends, please call Joe Rounds: Mobile (206) 484-2748. Document the incident with photographs if possible. For environmental releases, discuss possible regulatory spill reporting with the Project Principal.

EMPLOYEE INFORMATION

Employee Name:	Employee Title:
Employment Status: ☐ Full-Time ☐ Part-Time ☐ Hourly-As-Needed	Years Employed at Farallon Consulting, L.L.C. (Farallon)?

INCIDENT TYPE

☐ Fatality	☐ Industrial Non-Recordable	☐ Spill/Leak	☐ General Liability
☐ Lost Workday (LW)	☐ Non-Industrial	☐ Product Integrity	☐ Vandalism/Criminal Activity
☐ Restricted Duty	☐ Off-the-Job Injury	☐ Equipment	☐ Notice of Violation
☐ OSHA Medical or Illness w/o LW	☐ Motor Vehicle Accident	☐ Business Interruption	☐ Other
☐ First Aid	☐ Fire		

INCIDENT DESCRIPTION

Date of incident, injury, or onset of illness: Click or tap to enter a date.	Time of incident, injury or onset of illness: ☐AM ☐ PM
Brief description of incident. Provide full incident details on Page 2.	
Describe the equipment, materials, or chemicals that directly harmed the party (e.g., the machine employee struck against or which struck employee; the vapor inhaled, or material swallowed; what the employee was lifting, pulling, etc.):	
Date employer notified: Click or tap to enter a date.	Time employer notified: ☐ AM ☐ PM
To whom reported?	

INJURY OR ILLNESS INFORMATION

Exact Location of Incident (address, geographical location, floor, building, etc.):	
County:	On Employer's premises? ☐ Yes ☐ No
Describe the specific injury or illness (e.g., puncture, cut, contusion, strain, fracture, skin rash, etc.):	
Body part(s) affected (e.g., back, left wrist, right eye, etc.):	
Name and address of Health Care Provider:	Phone No.:
Treated in Emergency Room: ☐ Yes ☐ No	Hospitalized Overnight as Inpatient: ☐ Yes ☐ No

Injury/Illness Severity	**Time Loss (Check all that apply.)**	**Workday Phase**
☐ No treatment required.	☐ No time loss.	☐ Performing normal work duties.
	☐ Return to work the next day.	☐ During meal period.
☐ First aid only.	☐ Restricted activity.	☐ During rest period.
	Begin date:	☐ Entering/leaving work area or site.
☐ Professional medical treatment.	Return date:	☐ Chronic exposure.
	☐ Lost workday, not at work.	☐ Other, specify:
☐ Fatality. Enter date: Click or tap to enter a date.	Begin date:	
	Return date:	

MOTOR VEHICLE ACCIDENT (MVA)			
Professional Driver? ☐ Yes ☐ No	Total Years Driving:		Company Vehicle? ☐ Yes ☐ No
Vehicle Type:	Vehicle Owner (not Farallon):		Vehicle License Plate:
No. of Vehicles Towed:	No. of Injuries:	No. of Fatalities:	
Insurance information for other driver(s):			
Witness Name:	Address:	Phone No.:	
Witness Name:	Address:	Phone No.:	

THIRD PARTY PROPERTY DAMAGE (INCLUDING UTILITIES – PLEASE PROVIDE PHOTOS)		
Owner Name for Damaged Property:	Address:	Phone No.:
Description of Damage:		
Property Owner Insurance information:		
Witness Name:	Address:	Phone No.:
Witness Name:	Address:	Phone No.:

Detailed Description of Events
(Use space below to provide full detailed description of incident. Include Specific Activity During Incident (Lifting, Pushing, Walking, etc.)

SIGNATURES OF EMPLOYEE AND REVIEWERS			
Name (print):	**Signature:**	**Title:**	**Date:**
Employee:			
Employee's Group Manager:			
Regional Operations Manager:			
Farallon Corporate Health and Safety Coordinator:			
Entered into Database By:	**Date:**		

ATTACHMENT 6
NEAR MISS AND SAFETY OBSERVATION REPORT

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

NEAR MISS AND SAFETY OBSERVATION REPORT

This report is to be filled out by any employee involved in or witnessing a near miss, or making a safety observation. A near miss is an occurrence that did not result in any personal injury, property damage, environmental release, or production interruption, but could have under slightly different circumstances. A safety observation is witnessing any activity that places a person or property at risk of injury, accident, or damage but does not fit the definition of a near miss. These are very important indicators of potentially harmful future accidents, and provide valuable insights to preventing personal injury and/or property damage.

PROJECT INFORMATION	
Farallon PN:	Project Name:
Site Address:	City/State:
NEAR MISS/SAFETY OBSERVATION INFORMATION	
Employee Completing Report:	
Date: Click or tap to enter a date.	Time: ☐AM ☐ PM
Near Miss Category: Choose an item.	
Exact Location:	
Description of Potential Incident or Hazard:	
Corrective Action Taken:	
Lessons Learned:	
SIGNATURES AND NOTIFICATIONS	
Date employer notified: Click or tap to enter a date.	Time employer notified: ☐ AM ☐ PM
To whom reported?	
Employee Signature:	Date:
HSC Signature:	Date:
Entered into Database By:	Date:

ATTACHMENT 7
UTILITY CLEARANCE LOGS

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

UTILITY CLEARANCE LOG

Project Name: _____ **Project Number:** _____

Location: _____ **Date of Work:** _____

Instructions. This log must be completed by a Farallon staff member **before** any Farallon-directed excavation (e.g., test pit excavation) or drilling operation.

DRILLING OR EXCAVATION WORK MAY NOT COMMENCE UNTIL UTILITY LOCATES HAVE BEEN COMPLETED (see the One-Call Utility Locate Request Procedure on the following page)

Farallon is responsible for having underground utilities and structures located and marked when drilling or directing test pit excavation operations. Drilling locations should be a minimum of 5 feet from marked utilities if possible. Any excavation within 3 feet of a marked utility must be done with hand tools. Any drilling within 3 feet of marked utilities must include exposing the utility to confirm its location.

Owners of underground utilities are required by law to mark underground facilities on public and private property. Owners of underground utilities are **not required** to mark existing service laterals or appurtenances. Utility owners in Washington are required to subscribe to the One-Call service.

Private utility locate services must be hired to locate service laterals and other buried utilities (e.g., on-Site electric distribution lines, irrigation pipes) on private property.

Re-mark after 10 days or maintain as appropriate.

Utility Locate Checklist

☐ Attach map showing drilling and/or excavation sites and known utilities

☐ Attach copy of One-Call Utility Notification Ticket (http://www.searchandstatus.com/)

One-Call Utility Notification Ticket Number: _____

☐ Attach copy of Side Sewer Card (available for City of Seattle; check municipality for availability)

☐ Attach copy of Private Locate Receipt

☐ Photograph all excavation and/or drilling locations and download to project file

☐ Review utilities with Site Contact:

Name:_____ Phone: _____

Utilities and Structures

Utility Type	Utility Name	Public Utilities Marked (Y/N)	Private Utilities/Laterals Marked (Y/N)	Marking Method (flags, wooden stakes, paint on pavement, etc.)
Petroleum product lines				
Natural gas line				
Water line				
Sewer line				
Storm drain				
Telephone cable				
Electric power line				
Product tank				
Septic tank/drain field				
Other				

Farallon Consulting, L.L.C.

Field Team Leader: _____ Date: _____

Electric = **RED**	*Gas-Oil-Steam =* **YELLOW**	*Comm-CATV =* **ORANGE**	*Water =* **BLUE/PURPLE**	*Sewer =* **GREEN**	*Temp Survey =* **PINK**

ONE-CALL UTILITY LOCATE REQUEST PROCEDURE

THE ONE-CALL UTILITY NOTIFICATION CENTER REQUIRES 48 HOURS NOTICE TO MARK UTILITIES BEFORE YOU CAN DIG OR DRILL

Washington: 1-800-424-5555

Washington state law states that "before commencing **any** excavation," the excavator or driller must provide notice to all owners of underground utilities by use of the One-Call locator service, and that the excavator or driller shall not dig or drill until all known utilities are marked. To fully comply with the law, you **must** take the following steps:

1. **Call before you dig or drill:** Notify the One-Call Utility Notification Center (OCUNC) a minimum of 48 hours (2 full business days) before digging or drilling. Provide the following **required** information:
    a. Your name and phone number, company name and mailing address, and Farallon Account Number 25999.
    b. The type of work being done.
    c. Who the work is being done for.
    d. The county and city where the work is being done.
    e. The address or street where the work is being done.
    f. Marking Instructions: "Generally locate entire site including rights-of-way and easements."

    Provide the following information <u>if applicable or requested</u>:

    a. The name and phone number of an alternate contact person.
    b. If the work is being done within 10 feet of any overhead power lines.
    c. The nearest cross street.
    d. The distance and direction of the work site from the intersection.
    e. Township, range, section, and quarter section of the work site.
2. **Record the utilities that will be notified:** OCUNC will tell you the utilities that are on or adjacent to the work site, based on their database. Record the name(s) of the utility on the reverse side of this form.
3. **After the 48-hour waiting period, confirm that the utility locations have been marked:** Before digging or drilling, walk the work site and confirm that the utility companies have marked the utility locations in the field.
4. **If a locate appears to be missing:** If a utility locate appears to be missing and the utility company has not notified you that there are no utilities in the area, call OCUNC and:
    a. Provide the OCUNC locate number.
    b. Clearly state which utility has not been marked. The call is being recorded.
    c. Ask for a contact person at that utility.
    d. Call the contact person for the missing utility locate: Determine why there is no utility locate in the field.

Electric = **RED**	*Gas-Oil-Steam =* **YELLOW**	*Comm-CATV =* **ORANGE**	*Water =* **BLUE/PURPLE**	*Sewer =* **GREEN**	*Temp Survey =* **PINK**

e. **Record the reason(s) for the missing locate(s):** There are valid reasons that locates do not appear in the field (e.g., there are no utilities located on the work site or the utility has been abandoned). However, IF THEY ARE LATE, **YOU MUST WAIT** TO DRILL OR DIG. If the utility fails to mark a locate within the required 48 hours (2 full business days), the utility is liable for delay costs.

5. **Hand dig within 3 feet of a marked utility:** When digging or drilling within 3 feet of any marked utility, the utility must be exposed first by using hand tools.

6. **Record reason(s) for missing locate(s)**: There may be reasons that locates do not appear in the field (e.g., no utilities are located on the site, utility has been abandoned). Record the reason given. IF THEY ARE LATE – YOU WAIT TO DRILL OR DIG. If the utility failed to mark within the required two days, they are liable for delay costs.

Electric = **RED**	*Gas-Oil-Steam =* **YELLOW**	*Comm-CATV =* **ORANGE**	*Water =* **BLUE/PURPLE**	*Sewer =* **GREEN**	*Temp Survey =* **PINK**

FARALLON CONSULTING, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington
98027

TELEPHONE CONVERSATION
Date: _____ **Time:** _____
Project Name: _____
Job No.: _____
Phone No.: **1-800-424-5555** _____
Prepared By/Initials: _____
Call: ☐ **Placed** ☐ **Received**

Contact/Title: _____

Agency/Region: One-Call Utility Notification Center

PROJECT: _____

1. Your name and the Farallon Account No. #25999: _____

2. What is the type of work being conducted (e.g., environmental drilling, test pit excavation)?

_____

3. Who is the property owner? _____

4. County and city were work is being done? _____

5. Address or street where work is taking place? _____

_____

6. Nearest cross street? _____

7. Distance and direction of the work site from the intersection? _____

8. Marking Instructions (generally locate on entire Site, including rights-of-way and easements): _____

_____

_____

9. What time and date will the locate be completed? _____

10. Utility Locate Request Number? _____

11. Utilities that will be notified? _____

_____

12. Any Overhead Concerns? _____

_____

_____

cc:_____**Page**_____**of**_____

Note: Bold indicates required information.

ATTACHMENT 8
FARALLON FIELD PERSONNEL TRAINING DATES

HEALTH AND SAFETY PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Health and Safety
Certifications and Training

Name	Medical Monitoring		Annual/Biennial	Resp. Clearance	Respirator Fit Test	CPR	First Aid	Fire Extinguisher Training	Expiration Dates		Harassment Training	GHS Training		8 Hour Supervisor	40 Hour Training Taken (Initial)	8 Hour Refresher
	Date of Last Exam	Next Exam Due							BNSF E-Railsafe (Bi-annual)	BNSF Contractor Orientation (Annual)			Lead Awareness			
Bailey, Amber	04/08/19	04/08/21	B	04/19/17		11/02/18	11/02/18	06/16/16	12/06/19	11/28/19	06/04/18		02/07/19	10/30/17	11/22/13	02/07/19
Banfield, Chantal	10/15/18	10/15/20	B	10/15/18		11/02/18	11/02/18	06/14/17	06/14/19	11/13/19	10/16/18		01/25/19		10/11/18	01/25/19
Bowser, Matthew	04/05/19	04/05/21	B	04/12/17	07/25/19	11/02/18	11/02/18	05/16/16	07/21/19	07/30/19	05/11/18		01/29/19	10/30/17	06/11/15	01/29/19
Brand, Tegan	10/02/19	10/01/21	B	10/02/19				10/15/19			07/16/19				09/20/19	
Brown, Stuart	05/02/19	05/02/21	B	08/23/18		01/11/17	01/11/17	06/28/11			05/09/18		01/25/19	06/28/11	09/08/08	01/25/19
Burns, Anastasia	04/26/18	04/25/20	B	04/26/18		11/02/18	11/02/18	05/16/16	01/25/20	04/25/19	05/08/18		04/19/19	10/30/17	09/15/14	04/19/19
Cannon, George	09/19/19	09/19/21	B	09/19/19				09/30/19			09/30/19				09/26/19	
Charney, Ryan	02/12/19	02/12/21	B	02/12/19				02/11/19			02/11/19		02/22/19	02/06/18	01/03/15	02/22/19
Cordell, Phil	08/27/18	08/27/20	B	08/27/18		04/05/17	04/05/17	09/17/18			09/11/18		01/25/19	06/20/08	11/15/05	01/25/19
Emahiser, Parker	04/30/19	04/30/21	B	04/18/17		12/21/17	12/21/17	05/16/16			06/07/18		01/25/19		02/17/13	01/25/19
Ferreira, Gabriela	03/19/18	03/18/20	B	03/19/18		01/04/18	01/04/18	03/26/18			05/10/18		01/31/19		09/18/15	01/31/19
Fisco, Gavin	08/08/18	08/07/20	B	08/08/18		09/26/16	09/26/16	05/18/16			05/17/18		01/25/19	12/12/14	05/04/07	01/25/19
Gehring, Megan	07/10/19	07/10/21	B	07/10/19	07/15/19			06/05/18	06/05/20		07/12/19				07/19/19	
Loeb, Steffany	07/10/19	07/10/21	B	07/10/19				06/24/19			07/12/19				07/12/19	
Luiten, Russell	N/A	N/A	B	04/19/17		11/02/18	11/02/18	05/17/16	11/15/19	12/29/18	09/13/18		01/25/19	12/19/17	6/2012?	01/25/19
Ostrom, Ryan	04/15/19	04/15/21	B	04/11/17		11/02/18	11/02/18	06/06/16	11/15/19	07/31/18	05/07/18		01/25/19	10/30/17	05/09/13	01/25/19
Pehlivan, Yusuf	04/26/19	04/26/21	B	05/13/17		10/19/17	10/19/17	05/04/17			06/29/18		01/25/19	02/02/13	10/17/09	01/25/19
Peters, Greg	05/28/19	05/28/21	B	06/07/19		11/02/18	11/02/18	06/12/17	01/31/20	01/30/19	05/08/18		01/25/19		03/12/17	01/25/19
Rayl, Katie	10/02/19	10/01/21	B	10/02/19		10/10/16	10/10/16	10/26/17			05/08/18		01/25/19		11/19/14	01/25/19
Roskamp, Melissa	12/20/18	12/19/20	B	12/20/18				04/18/19			01/02/19		01/25/19		07/26/13	01/25/19
Scott, Ken	01/18/18	01/18/20	B	01/18/18		11/02/18	11/02/18	09/02/16	04/19/19	05/22/19	05/09/18		01/25/19	02/17/05	09/01/95	01/25/19
Taylor, Brenden	04/24/18	04/23/20	B	04/24/18		03/01/18	03/01/18	08/23/16		05/11/17	05/22/18		01/25/19	04/17/09	07/18/06	01/25/19
Thompson, Lisa	11/30/18	11/29/20	B	11/30/18		10/07/18	10/07/18	11/29/18	12/11/20	12/12/19	11/28/18		02/05/19		12/07/18	02/05/19
Train, Brittany	06/19/19	06/19/21	B	06/19/19				06/14/19			06/14/19				07/03/19	
Turpen, Nate	05/30/19	05/30/21	B	06/14/17		01/16/18	01/16/18	06/14/17	10/24/19	11/19/19	07/06/18		01/25/19	02/19/19	06/09/17	01/25/19
Wishnoff, Benjamin						11/24/15	04/16/16	06/24/16			06/29/18		01/25/19	06/09/15	05/29/07	01/25/19