# Volume 1 of 6:

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SUBMITTED TO: PACCAR Inc



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# FINAL COMPLIANCE MONITORING REPORT **Remedial Excavations** 8801 EAST MARGINAL WAY S., TUKWILA, WASHINGTON AGREED ORDER NO. 6069



**SHANNON & WILSON** 

October 17, 2023 Shannon & Wilson No: 108056-004 Submitted To: PACCAR Inc

#### Subject: FINAL COMPLIANCE MONITORING REPORT, REMEDIAL EXCAVATIONS, 8801 EAST MARGINAL WAY S., TUKWILA, WASHINGTON AGREED ORDER NO. 6069

Shannon & Wilson prepared this report and participated in this project as a consultant to PACCAR Inc. This submittal presents the Final Compliance Monitoring Report for remedial excavations completed at 8801 East Marginal Way S., Tukwila, Washington. This report was prepared by the undersigned.

This report is one of multiple documents that fulfills the Final Compliance Monitoring Report requirements discussed in Task 4 of Exhibit C to Agreed Order No. 6069.

We appreciate the opportunity to be of service to you on this project. If you have questions concerning this report, or we may be of further service, please contact us.

Sincerely,

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# EXECUTIVE SUMMARY

This Final Compliance Monitoring Report (CMR) summarizes soil remediation activities conducted at 8801 East Marginal Way S., Tukwila, Washington (8801 property), from September 15, 2021, through September 1, 2022. The remedial activities described in this CMR consist primarily of targeted excavations of impacted soil at Areas 1 through 8 at the 8801 property. This CMR also describes remedial actions implemented by the owner of the 8801 property, CenterPoint 8801 Marginal LLC (CenterPoint), during development including removal of polychlorinated biphenyl (PCB)-containing caulk, removal of PCB-containing soil, and removal of hydrocarbon-containing soil.

The Final Feasibility Study (FS), Interim Action Work Plan, Addendum to the Final FS and Interim Action Work Plan, Compliance Monitoring Plan, and Engineering Design Reports (EDRs) for the 8801 property describe the areas of concern, excavation-specific contaminants of concern (COCs), selected remedial actions, and compliance monitoring for the 8801 property. The selected remedial actions include eight targeted remedial excavations, groundwater treatment injections, removal of PCB-containing caulk, expansion of the airsparging/soil vapor extraction (AS/SVE) system, and installation of a sub-slab depressurization system. This CMR primarily describes the eight targeted remedial excavations. This CMR also briefly describes CenterPoint's removal of PCB-containing caulk, PCB-containing soil, and hydrocarbon-containing soil during development.

#### **Remedial Excavations**

Remedial activities included excavation of impacted soil from eight areas (Areas 1 through 8) on the 8801 property from September 15, 2021, through September 1, 2022. Approximately 11,300 tons of non-hazardous soil was disposed at Waste Management's Columbia Ridge Landfill in Arlington, Oregon, including approximately:

- 8,290 tons of PCB-impacted soil,
- 1,500 tons of metals-impacted soil,
- 1,090 tons of halogenated volatile organic compound (HVOC)-impacted soil,
- 340 tons of carcinogenic polycyclic aromatic hydrocarbon (cPAH)-impacted soil, and
- 80 tons of total petroleum hydrocarbon in the gasoline range (TPH-G) impacted soil.

Performance soil samples were collected from excavation sidewalls and bottoms and analyzed for excavation-specific COCs. Samples were submitted to Fremont Analytical of Seattle, Washington, for chemical analyses. Concentrations of excavation-specific COCs in performance samples were used to delineate the extents of the excavations. In addition to analytical results, excavation activities were guided by field screening (i.e., visual and olfactory indications of contamination).

Excavations were expanded until concentrations of excavation-specific COCs were below the remediation levels (RLs) (or cleanup level [CUL] if a RL was not established), until compliance with RLs or CULs was demonstrated with statistical evaluation, or until further excavation would potentially compromise the integrity of an existing structure. Excavations were backfilled with imported fill.

#### **Removal of PCB-Containing Caulk**

With the approval of the U.S. Environmental Protection Agency (EPA), CenterPoint removed PCB-containing caulk in pavement expansion joints and cracks in January 2022 in a separate remedial action from the targeted remedial excavations. A summary report discussing the remedial action and confirmation sampling was prepared by CenterPoint's environmental consultant and is attached as Appendix N.

#### **Removal of Impacted Soil During Property Development**

During CenterPoint's development activities on the 8801 property, soil was excavated for demolition of existing infrastructure and the placement of new infrastructure. Soil samples were collected in areas where potential contamination was observed and analyzed for COCs in accordance with the Soil Management Plan (Farallon, 2020). Soil sample results indicated that concentrations of COCs (primarily hydrocarbons) exceeded the RLs in multiple development excavations, confirming the presence of impacted soil. Except for three development excavations where PCBs were identified at concentrations exceeding the RL, the impacted soil encountered with the development excavations was managed in accordance with the Soil Management Plan and disposed at an appropriately licensed facility. For the three development excavations with elevated concentrations of PCBs, a sampling and disposal plan was approved by the EPA that was more stringent than the Soil Management Plan that required excavations of soil containing PCBs at concentrations exceeding the RL. Two summary reports (one for the PCB excavations and one for the other excavations) were prepared by CenterPoint's environmental consultant and are attached as Appendices O and P, respectively.

#### Conclusions

The remediation activities described in this CMR were effective at removing from the 8801 property all PCB-containing caulk and nearly all soil containing COCs at concentrations exceeding the RLs. Soil containing COCs at concentrations exceeding an RL

remains in a few locations on the 8801 property where (1) further excavation was not possible without potentially undermining the integrity of an existing structure, or (2) further excavation was not practicable and was not required by the Soil Management Plan.

Soil containing COCs at concentrations exceeding CULs are present throughout the 8801 property. The residual soil with COC concentrations exceeding RLs and/or CULs does not present a threat to human health or the environment because (1) it is covered by a building or concrete, pavement, clay liner, or other materials that serve as a cap over the soil and an environmental covenant will be recorded against the 8801 property to prohibit activities that would compromise the integrity of the cap without the advance approval by Ecology; and (2) it is not a source of contamination to the adjoining Lower Duwamish Waterway as indicated by groundwater samples previously collected along the shoreline of the 8801 property.

The preceding summary is intended for introductory use only and a thorough reading of the complete report is recommended.

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AO	Agreed Order
AS/SVE	air-sparging/soil vapor extraction system
bgs	below ground surface
COC	contaminant of concern
CMR	Compliance Monitoring Report
cPAH	carcinogenic polycyclic aromatic hydrocarbon
CUL	cleanup level
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
HVOC	halogenated volatile organic compound
IAWP	Interim Action Work Plan
LDW	Lower Duwamish Waterway
mg/kg	milligrams per kilogram
MOU	Memorandum of Understanding
MSL	mean sea level
MTCA	Model Toxics Control Act
РСВ	polychlorinated biphenyl
PCE	tetrachloroethylene
RL	remediation level
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TCE	trichloroethylene
TEQ	toxicity equivalency quotient
TPH	total petroleum hydrocarbon
TPH-G	total petroleum hydrocarbon in the gasoline range
VC	vinyl chloride
WAC	Washington Administrative Code

# 1 INTRODUCTION

This Final CMR was prepared by Shannon & Wilson on behalf of PACCAR Inc (PACCAR) to summarize soil remediation activities conducted between September 15, 2021, and September 1, 2022, at 8801 East Marginal Way S., Tukwila, Washington (8801 property) in accordance with the EDRs for the excavation of Areas 1,2, 6, and 7 (East Excavations EDR) and Areas 3, 4, 5, and 8 (West Excavations EDR) prepared by Shannon & Wilson (2021d and 2021g).

The remedial activities described in this CMR consist primarily of targeted excavations of impacted soil at Areas 1 through 8 on the 8801 property. The objective of the remedial excavations was to remove pathways for contamination to impact potential receptors. The remedial excavations are one of several remedial actions that were designed to fulfill this objective by eliminating high concentrations of contaminants and removing them from the 8801 property.

Additionally, separate remedial actions undertaken by CenterPoint are summarized in this CMR, including removal of PCB-containing caulk in accordance with the EDR (Shannon & Wilson, 2021b), and removal of impacted soil encountered during site development activities, in accordance with the Soil Management Plan (Farallon, 2020).

# 1.1 Purpose of the Compliance Monitoring Report

The purpose of this CMR is to document that the remedial excavations have been implemented in accordance with the East Excavations EDR and West Excavations EDR (Shannon & Wilson, 2021d and 2021g).

In addition to remedial excavations, this CMR provides CenterPoint's summary of the removal of PCB-containing caulk and removal of impacted soil encountered during development activities (Section 6). These development activities further reduced the overall mass of COCs remaining on the 8801 property.

# 1.2 Physical Description and Use

The 8801 property occupies 24.30 acres on the east bank of the Lower Duwamish Waterway (LDW) and is relatively flat, with a ground surface elevation of approximately 20 feet above mean sea level (MSL). A vicinity map is provided as Figure 1.

The current owner of the 8801 property, CenterPoint, redeveloped the 8801 property from 2021 through 2023. Development activities occurred concurrent with the remedial activities described in this CMR.

CenterPoint constructed an approximately 414,400-square-foot warehouse for industrial use and trailer storage on the 8801 property. Additionally, CenterPoint's development included a landscaped berm within the 100-foot river buffer located along the western edge of the 8801 property. Most of the remainder of the 8801 property that was not covered by the warehouse, or the landscaped berm, was covered with an asphalt/concrete parking lot and driveways.

# 1.3 Geology

Due to the development of the 8801 property, the subsurface material in some areas may have been reworked during demolition and grading activities. The eight targeted remedial excavations described in this CMR were completed prior to any development activities that may have disturbed soil in the remedial excavation areas. For the purposes of this CMR, we assume that the 8801 property geology has remained generally consistent with the geology encountered during pre-development investigations.

Based on pre-development investigations, fill material underlies the ground surface and is up to 10 feet thick in some locations. Fill material includes gravelly structural fill beneath former buildings and paved areas, poorly graded sand to silty sand fill deposits, and gravelly backfill materials in historical excavations. Fill material at the 8801 property is underlain by a layer of fine-grained material, including silt, sandy silt, and silty sand that extends to a depth of 5 to 15 feet below ground surface (bgs). A poorly graded sand layer, which typically contains less than 10% silt, is generally present beneath the fine-grained layer beginning at 10 to 15 feet bgs, although at some locations it is present immediately beneath the pavement surface or the fill material. A layer of fine-grained materials, consisting mainly of silt and silty sand, is typically present beneath the poorly graded, sandy layer at depths of approximately 30 to 50 feet bgs. This fine-grained silty material acts as a confining layer to groundwater flow on the western portion of the 8801 property (Amec Earth and Environmental, 2011). The lower, fine-grained layer is typically underlain by poorly graded sand to the maximum depth explored at the 8801 property (60 feet bgs).

In 1966, the southwest portion of the 8801 property sloped down to the adjacent LDW. In approximately 1967, a berm was constructed to enclose the western and southern sides and form the southwest corner of the 8801 property. The berm squared off the southwest boundary of the 8801 property to its current configuration. Based on permit drawings (not as-built drawings), the berm was designed to be approximately 30 feet wide at its base,

12 feet wide at its top, and 15 feet high. The area behind the berm was backfilled with fill to bring the area level with the remaining 8801 property. Based on recent observations during excavation and investigation work, the berm is densely compacted and constructed of large cobbles, concrete blocks, and boulders, as well as smaller pieces of concrete and rock. The fill material that was placed behind the berm has been observed during excavation work to be present in the interstitial spaces between the rock and concrete on the inward-facing sides of the berm. The outward-facing (LDW) sides of the berm are armored with large block rip rap.

During construction by CenterPoint in 2021 and 2022, imported fill material was placed beneath the footprint of the future warehouse building to allow delivery trucks to directly load from the new building. The finished floor elevation of the future warehouse is approximately 4 feet above the original 8801 property surface. In addition, a landscaped berm was constructed within the 100-foot shoreline buffer and extended approximately 5 feet above the original 8801 property surface and tapers downwards towards the interior of the property.

# 1.4 Hydrogeology

Results of groundwater monitoring at the 8801 property indicate that the shallow aquifer is typically 8 to 10 feet below the typical site elevation. The hydraulic gradient in the shallow aquifer is generally toward the west. Groundwater velocity is estimated to be 40 feet per year.

Evaluation of the tidal influence on monitoring wells on the 8801 property indicate that the maximum tidal fluctuation along the western boundary of the 8801 property ranges from -3.03 feet relative to MSL to +1.85 feet MSL in the southern portion of the 8801 property, where riprap demarcates the 8801 property boundary. Farther north, where the sheet piling bulkhead demarcates the 8801 property boundary, the maximum tidal fluctuation ranges between -1.80 feet MSL and +1.32 feet MSL.

# 1.5 Regulatory Framework

The 8801 site consists of both an upland portion (the 8801 property) and the adjoining sediments in the LDW that are part of a Superfund site designated by the EPA. The 8801 site is subject to two separate Agreed Orders (AOs) with the Washington State Department of Ecology (Ecology): AO No. 6069, which applies to the 8801 property, and AO No. 3599, which applies to the sediments adjacent to the 8801 property. PACCAR and CenterPoint are parties to AO No. 6069; PACCAR is a party to AO No. 3599. Under a Memorandum of Understanding (MOU), Ecology is working with the EPA to identify and remove sources of ongoing contamination to the LDW.

This CMR is one of multiple documents that fulfills the Final CMR requirements discussed in Task 4 of Exhibit C to AO No. 6069. Separate CMRs are being submitted for other remedial actions at the 8801 property as they are completed. Remedial actions required pursuant to AO No. 6069 and their status are shown in Exhibit 1-1.

Remedial Action	Status of Implementation
Removal of PCB-containing caulk in pavement expansion joints and cracks	Completed in January 2022. The PCB-containing caulk removal activities are reported in this CMR.
Excavation of hotspots, placement of clay/asphalt/concrete covers, and implementation of institutional controls	The hotspots identified in the East Excavations EDR and West Excavations EDR (Shannon & Wilson, 2021d and 2021g) were excavated between September 2021 and September 2022.
	CenterPoint encountered additional areas of impacted soil during development activities and that impacted soil was disposed of at an appropriately licensed facility. The hotspot excavation activities completed by PACCAR and the soil disposal activities completed by CenterPoint are reported in this CMR.
	The foundation of the warehouse, the clay liner installed in the footprint of the landscaped berm, and the asphalt/concrete parking areas and driveways will serve as a cap over the 8801 property. An environmental covenant will be imposed against the 8801 property to memorialize the institutional controls, which will include prohibitions on the use of groundwater and activities that could disturb or expose contamination that will remain under the cap. The environmental covenant is anticipated to be imposed in late 2023.
Injection of remediation compounds to promote enhanced reductive dechlorination of VOCs across the HVOC groundwater plume and TPH-G in the Northwest Area	Completed as described in the Final CMR for Groundwater Treatment Injections, dated March 30, 2023.
Extension and modification of the AS/SVE system	Substantially completed in May 2023. This action is described in the Final CMR for AS/SVE System Extension and Modification, dated September 26, 2023.
Installation of a sub-slab depressurization system and implementation of institutional controls to restrict extraction of groundwater and protect indoor air from vapor	Installation of the sub-slab depressurization system was substantially completed in April 2023. This action is described in the Final CMR for Sub-Slab Depressurization System, dated September 26, 2023.
Groundwater performance monitoring	Monitoring wells throughout the 8801 property, except some near the western property boundary, were decommissioned in Spring 2021 in preparation for development. Performance monitoring wells on the 8801 property were installed and developed in May 2023. Groundwater performance monitoring commenced in August 2023 and results will be reported to Ecology in a separate document.

#### Exhibit 1-1: Status of Remedial Actions

#### NOTES:

CMR = Compliance Monitoring Report; PCB = polychlorinated biphenyls; HVOC = halogenated volatile organic compound; TPH-G = total petroleum hydrocarbons as gasoline-range organics

Because the 8801 property is adjacent to the LDW, the remedial actions detailed in this CMR are designed to be protective of the sediments and surface water of the LDW, to achieve the

source sufficiency requirements in the MOU, and meet Model Toxics Control Act (MTCA) requirements. This CMR was prepared in accordance with MTCA and Ecology's Cleanup Regulation (Washington Administrative Code [WAC] Chapter 173-340) (Ecology, 2013).

# 2 PLANNING AND SELECTION OF REMEDIAL ACTIONS

This section provides an overview of the process used to select the remedial excavations as a component of the remedy for the 8801 property. Further details are provided in the reports referenced below.

In 2020, Ecology approved the Final FS for the 8801 property (Shannon & Wilson, 2020a). Analytical data from previous investigations at the 8801 property was screened against Ecology's LDW-specific preliminary CULs to establish COCs and areas of concern. The COCs and areas of concern were used as the basis for the remedial alternative analysis and selection presented in the Final FS.

In 2020, Ecology approved the Final Interim Action Work Plan for the 8801 property (Shannon & Wilson, 2020b). The Final Interim Action Work Plan was based on the findings from the Final FS and detailed the cleanup standards, remedial action alternatives, rationale for the selected remedial actions, and compliance monitoring requirements. The report was called an "Interim" Action Work Plan because it proposed a final remedy for only the upland portion of the 8801 site (i.e., the 8801 property), not a final remedy for the entire 8801 site.

In 2020, Ecology approved an Addendum to the Final FS and Final Interim Action Work Plan (Addendum) (Shannon & Wilson, 2020c). The Final Interim Action Work Plan and the Addendum together constitute the IAWP for the 8801 property. The remedial actions described in the IAWP constitute the final remedy for the 8801 property.

In 2021, Ecology approved several EDRs describing the selected remedial actions. The West Excavations EDR (Shannon & Wilson, 2021g), East Excavations EDR (Shannon & Wilson, 2021d), and PCB caulk removal EDR (Shannon & Wilson, 2021b) detail the engineering design for the remedial actions discussed in this CMR. Requirements for the protection monitoring, performance monitoring, and confirmation monitoring to be conducted during the remedial actions are described in the Ecology-approved Compliance Monitoring Plan (Shannon & Wilson, 2021a).

In 2022, a modified excavation plan for Area 4 was submitted to and approved by Ecology (Shannon & Wilson, 2022a). Additionally, an application for risk-based cleanup and disposal of PCBs from the Ecology-approved Area 4 excavation limits was submitted to and

accepted by the EPA (Shannon & Wilson, 2022b). The modified excavation plan and EPA application and approval are discussed in more detail in Section 5.4.

# 3 CLEANUP STANDARDS

Cleanup standards consist of site-specific concentrations of hazardous substances and points of compliance where the concentrations must be attained. A discussion about the development of cleanup standards for the 8801 property is provided in the IAWP (Shannon & Wilson, 2020b and 2020c).

The cleanup standards selected in the IAWP for the remedial excavations consist of RLs and CULs for COCs. Due to the stringent values required to ensure that soil is protective of the leaching pathway, soil RLs, consisting of concentrations of COCs in soil, were used to delineate the limits of the remedial excavations. For COCs with no established RLs, the site-specific CULs were used.

In accordance with the Compliance Monitoring Plan, each excavation area had a unique suite of COCs dependent upon the COCs historically detected in the excavation areas. Excavation-specific COCs and the associated soil RLs and soil CULs were used to delineate the extents of remedial excavations. The excavation-specific COCs were promulgated in Table 7 of the Compliance Monitoring Plan and are repeated below in Exhibit 3-1 for convenience.

Site-Specific Cleanup Level (CUL)	Remediation Level (RL)	Value (mg/kg)
	Х	5
	Х	5
	Х	5
	Х	0.6
	Х	250
	Х	0.5
Х		250
	Х	250
	Х	0.5
	Х	14.6
Х		5.1
Х		2,600
Х		250
	Х	0.5
	Х	14.6
Х		250
Х		250
	Level (CUL)	Level (CUL)       (RL)         X       X

NOTES:

1 Copper and PCBs were initially used to define the excavation limits of Area 4. After it was established that PCBs were more extensive than initially estimated, PCBs were then established as the COC used to delineate the excavation limit.

2 In Area 5, COCs in shallow soil (1 to 5 feet depth) were arsenic, cadmium, chromium, and lead. COCs in deeper soil were arsenic, lead, and PCBs.

mg/kg = milligrams per kilogram; PCE = tetrachloroethene; TCE = trichloroethylene; TEQ = toxicity equivalency quotient; VC = vinyl chloride

# 4 REMEDIAL EXCAVATIONS OVERVIEW

This section summarizes the remedial excavations completed on the 8801 property in accordance with the East and West Excavations EDRs (Shannon & Wilson, 2021d and 2021g). Further details are provided in Appendix B and other appendices as referenced in this section.

In preparation for the excavations, the following activities were completed.

- Utilities were disconnected. In addition, public and private utility locators surveyed the proposed excavation areas for utilities.
- Groundwater monitoring wells within the proposed excavation areas were decommissioned. The status of groundwater monitoring wells at the conclusion of excavation activities is provided in Table 1. Well decommissioning logs are provided in Appendix C.
- Soil samples were collected from borings advanced in the proposed excavations areas and analyzed for COCs to develop a waste disposal profile. The waste was determined to be non-hazardous. Further discussion of waste profiling activities is provided in Appendix B, Section B.2.5, and waste profiling documents are provided in Appendix J.
- Sources of imported fill material were selected based on chemical and geotechnical analytical results of representative samples. Further details of imported fill evaluation are provided in Appendix E.
- Soil samples were collected from borings and used to confirm the bottom excavation limits at Areas 4, 5, 7, and 8. Drilling was used because the excavations were to be completed below the groundwater table and collection of base samples during excavation activities would not be representative due to the submerged base and loose soil. Further details regarding pre-excavation soil sampling are provided in Appendix B, Section B.2.6.

Remedial activities included excavation of impacted soil from eight areas (Areas 1 through 8) on the 8801 property from September 15, 2021, through September 1, 2022, using several excavators. When practicable, soil was directly loaded into trucks for transport to a disposal facility, otherwise soil was stockpiled on the 8801 property until it was transported to a disposal facility. Representative photos of the excavation activities are provided in Appendix A. Disposal certificates and truck tickets are provided in Appendix K. Approximately 11,300 tons of non-hazardous soil was disposed at Waste Management's Columbia Ridge Landfill in Arlington, Oregon, including approximately:

- 8,290 tons of PCB-impacted soil,
- 1,500 tons of metals-impacted soil,
- 1,090 tons of HVOC-impacted soil,

- 340 tons of cPAH-impacted soil, and
- 80 tons of TPH-G-impacted soil.

Monitoring for airborne lead was conducted during excavation activities at Area 5 because concentrations of lead in soil at Area 5 were identified to potentially be a human health risk prior to the start of excavation. Air monitoring was used to evaluate the potential exposure of workers to airborne lead in excess of the action level of 0.03 milligram per cubic meter. Lead was not detected in excess of the action level. Further details of airborne lead monitoring are provided in Appendix B, Section B.3.4, and analytical reports of the airborne lead are provided in Appendix D.

Approximately 111,000 gallons of water were pumped from excavation Areas 2 through 5 and treated in an on-site temporary treatment system consisting of settling tanks, a sand filter, and treatment vessels filled with granular activated carbon. The treated water was discharged to the sanitary sewer under a King County Discharge Authorization. The treated water was periodically analyzed to verify conformance with the discharge criteria. Further details are provided in Appendix B, Section B.3.8. Documentation of water treatment and discharge is provided in Appendix I.

Archeological monitoring of ground-disturbing activities was undertaken by professional archeologists in accordance with the approved Monitoring and Inadvertent Discovery Plan. No significant archeological materials were identified during site work. The Cultural Resources Monitoring Report is provided in Appendix L.

Surveys of the lateral extent of excavations and the locations of confirmation samples were undertaken by a licensed land surveyor. The final depth of Areas 3 through 8 was measured from the sidewalls using a tape measure; surveyors did not enter Areas 3 through 8 due to safety considerations because the depth was greater than 4 feet. The surveyed features, measured excavation base depths, and sample locations are incorporated into figures in this CMR.

Imported fill was used to backfill excavation areas to the approximate level of the surrounding ground. Excavation spoils were not used as backfill. Approximately 7,847 tons of gravel borrow, 3,760 tons of quarry spalls, and 282 tons of crushed rock were used as backfill. Quarry spalls were used where the excavations extended below the water table and were overlain by a geotextile. Gravel borrow, quarry spalls, or crushed rock were placed above the groundwater table. Excavators were used to spread the fill in lifts.

Compaction of the lifts of imported fill was evaluated during placement. Quarry spalls were compacted at up to 1-foot lifts using an excavator bucket and by tracking the excavator over the lift. Quarry spalls were compacted until lifts were observed to have a dense and

unyielding condition. Gravel borrow and crushed rock were compacted at up to 8-inch lifts using a smooth drum vibratory roller. A walk-behind vibratory-plate compactor was used in areas where the larger vibratory roller was restricted due to excavation size. Gravel borrow and crushed rock were compacted to at least 95% of maximum dry density as measured by a nuclear densometer, except for Areas 2 through 5. Crushed rock at Area 2 was compacted to a dense and unyielding condition, as evaluated using a <sup>1</sup>/<sub>2</sub>-inch-diameter metal T-probe in a grid pattern throughout the individual lifts. Gravel borrow at Areas 3 through 5 was compacted to at least 90% of maximum dry density, as measured by a nuclear densometer. Further details of imported fill selection, placement, and compaction are provided in Section 5 and Appendix E.

# 5 PERFORMANCE MONITORING

In accordance with the Compliance Monitoring Plan, performance monitoring of remedial excavations included evaluation of residual concentrations of COCs in excavation sidewalls and bottoms and evaluation of imported fill.

Analytical testing of soil samples was used to evaluate residual concentrations of COCs in excavation sidewalls and bottoms. Typically, soil samples were collected from the sidewalls and bottom of each remedial excavation on 20-foot centers with a minimum of one sample collected from each sidewall and base. Samples were either collected (1) during pre-excavation drilling (discussed in Section B.2.6), (2) directly from the excavation sidewalls and bottom, or (3) from the excavator bucket. Samples were submitted for analysis at an Ecology-accredited laboratory: Fremont Analytical of Seattle, Washington. The selected analytical suite for performance samples was dependent on the COCs previously detected in the respective excavation area and was specified in the Compliance Monitoring Plan (Shannon & Wilson, 2021a). Further discussion of performance sample collection methods and the analytical suite is provided in Appendix B, Section B.3.3.

Concentrations of COCs in performance samples were used to delineate the extent of excavations. In addition to analytical results, excavation activities were guided by field screening (i.e., visual and olfactory indications of contamination). Excavations were expanded until concentrations of excavation-specific COCs were below the RLs (or CUL if an RL was not established), until compliance with RLs or CULs was demonstrated with statistical evaluation, or until further excavation would potentially compromise the integrity of an existing structure. The final limits of the excavations are shown in Figures 2 through 20.

Shannon & Wilson performed EPA Stage 2B (summary validation) on the chemical analysis results, except for the dioxin/furan results, on which EcoChem performed EPA Stage 2A validation. Validation procedures and criteria were consistent with requirements described in the Sampling and Analysis Plan. The Sampling and Analysis Plan is Appendix A of the Compliance Monitoring Plan. Based on the results of the data validation, all data was evaluated to be of known quality and acceptable for use as qualified. There was a usable result for all requested analytes for each sample. Data qualifiers assigned during validation were incorporated into the results tables (Tables 2 through 10). The quality assurance/quality control summary is provided in Appendix G.

The validated data was submitted to Ecology's Environmental Information Management System (EIM) in October 2022. The data has not been reviewed by the EIM Data Coordinator as of the date of this CMR.

A summary of methods, observations, and results is organized by remedial excavation area and is provided below.

## 5.1 Area 1

The remedial excavation at Area 1 was undertaken to remove concentrations of trichloroethylene (TCE) that exceeded the RL in shallow unsaturated soil. As described in the East Excavations EDR (Shannon & Wilson, 2021d), the excavation was expected to encompass 5,700 square feet and extend to 4 feet bgs. Once the initial excavation limits were reached, soil samples were collected from the sidewalls and the base of the excavation. The samples were analyzed for TCE, tetrachloroethylene (PCE), and vinyl chloride (VC). The excavation was expanded until results from the soil samples indicated that residual COCs were less than the RLs. Visual and olfactory indications of contamination were not observed in the excavation.

The final excavation encompassed approximately 6,300 square feet and extended to 4 feet bgs. The final excavation extent is shown in Figure 3 and cross sections are provided in Figure 9. Soil samples collected from the final extents of the excavation had TCE, PCE, and VC at less than their respective RLs. The analytical results of the confirmation soil samples are presented in Table 2. The analytical results of the overexcavated performance soil samples are presented in Table 10.

A photo of Area 1 is provided in Exhibit 5-1 below.



Exhibit 5-1: Photo of the Southwest Corner of Area 1 on September 21, 2021. View direction is southwest.

Imported gravel borrow was used as backfill in Area 1 from the base of the excavation to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

# 5.2 Area 2

The remedial excavation at Area 2 was undertaken to remove concentrations of cPAHs that exceeded the RL for total cPAHs toxicity equivalency quotient (TEQ) in shallow unsaturated soil. As described in the East Excavations EDR (Shannon & Wilson, 2021d), the excavation was expected to encompass 660 square feet and extend to 2.5 feet bgs. Once the initial excavation limits were reached, soil samples were collected from the sidewalls and the base of the excavation. The samples were analyzed for cPAHs. Groundwater was not observed in the excavation.

The initial excavation limits were expanded until analytical results from soil samples indicated that residual concentrations of cPAHs were less than the RL. The analytical results of the confirmation soil samples are presented in Table 3. The analytical results of the overexcavated performance soil samples are presented in Table 10.

The final excavation encompassed approximately 1,660 square feet, and the bottom of the excavation varied between 2.5, 4, and 7 feet bgs depending on the results of confirmation

samples. The final excavation extent is shown in Figure 4 and cross sections are provided in Figure 10.

Imported backfill from a previous excavation completed in 2004 referred to as H4 (Kennedy/Jenks Consultants, 2004) was observed in the northeast and east sidewalls (noted in Figure 4) and therefore confirmation samples were not collected from the northeast and east sidewalls in accordance with the Compliance Monitoring Plan (Shannon & Wilson, 2021a). A photo of the northeast sidewall is provided in Exhibit 5-2 below.



Exhibit 5-2: Photo of the Northeast Sidewall of Area 2 on September 20, 2021. View direction is northeast. The northeast sidewall was observed to have apparent imported backfill from the previous H4 excavation.

After the final extents of the Area 2 remedial excavation were completed, a portion of the excavation was expanded vertically and backfilled with imported quarry spalls to provide a firm base for compaction of fill material. Imported crushed rock was used as backfill above the quarry spalls and the remainder of the excavation to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

# 5.3 Area 3

The remedial excavation at Area 3 was undertaken to remove concentrations of PCBs, copper, and TPH-G that exceeded RLs or the CUL in shallow unsaturated soil. As described in the West Excavations EDR (Shannon & Wilson, 2021g), the excavation was estimated to encompass 5,400 square feet and extend to 6 feet bgs; however, the excavation limits were based on "clean" sample points that were some distance from the samples with elevated

COCs (points DG11-11 and DG-11-12). Therefore, in accordance with the West Excavations EDR, the excavation commenced in the areas surrounding points DG11-11 and DG11-12 (see Figure 5) and was expanded incrementally based on visual indications of contamination and soil sample results. Soil samples were collected from the sidewalls and the base of the excavation and were analyzed for PCB aroclors, copper, and TPH-G. Exceedances of RLs/CULs were detected in the soil samples, therefore, the excavation was expanded with the objective of removing soil that exceeded RLs/CULs.

During excavation activities, an approximately 1-foot-thick, black-stained soil layer with a petroleum odor was observed at depths of approximately 2 to 6 feet throughout much of Area 3 to the east of the shoreline berm (Exhibit 5-3). Soil samples were collected from the black-stained soil and other soil layers. Some of the black-stained soil samples contained TPH-G at concentrations that exceeded the CUL, but others did not.



Exhibit 5-3: Photo of the North Portion of Area 3 on September 22, 2021. View direction is northwest. Black-stained soil was observed in the excavation sidewalls and bottom and are identified by white arrows in the photo. The black-stained soil was removed during subsequent expansion of the excavation.

Soil samples collected from the final extents of the excavation had PCBs, copper, and TPH-G at less than their respective RLs, except as discussed below in Exhibit 5-4. The analytical results of the confirmation soil samples are presented in Table 4. The analytical results of the overexcavated performance soil samples are presented in Table 10.

Sample ID	Concentration (mg/kg)	Discussion
A3-SIDE17:2	335 copper	The west portion of Area 3 was expanded twice with the objective of removing soil
A3-SIDE18:2	435 copper	with exceedances of RLs. Soil samples were analyzed after each expansion. Further excavation was restricted to limit impacts to the structural integrity of the
A3-SIDE100:2	267 copper	shoreline berm, which was exposed during excavation activities.
	(Note 1)	Three soil samples (and one duplicate sample) from the west portion of the final extents of the excavation had detections of copper greater than the RL of 250
A3-BOT39:5.5	1,300 copper	mg/kg; however, the concentrations were less than the human health cleanup level of 3,200 mg/kg.
		The residual concentrations of copper have a low potential to impact human health or the environment because residual copper concentrations are less than the human health cleanup level and Area 3 is covered with a clay liner and berm, which will limit the potential for direct contact and leaching from the soil.
A3-SIDE6:2.5	370 N* TPH-G	One soil sample had TPH-G at greater that the cleanup level of 250 mg/kg. A statistical evaluation of the residual concentrations of TPH-G in Area 3 was performed per WAC 173-340-740(7). Based on the statistical evaluation, the cleanup standard for TPH-G was achieved because:
		<ul> <li>The Area 3 soil sample data set for gasoline was tested for suitability of either lognormal or normal distribution assumptions using D'Agostino's test (D'Agostino and Pearson, 1973) and the data set can be assumed to be lognormally distributed.</li> </ul>
		<ul> <li>The upper one-sided 95% confidence limit (UCL) on the true mean soil concentration was computed to be 52.57 mg/kg using Land's method (refer to Appendix H for the UCL calculation). As stipulated in WAC 173-340- 740(7)(d)(i)(A) and (B), for soil compliance, the calculated UCL must be less than the soil cleanup level of 250 mg/kg.</li> </ul>
		<ul> <li>The highest residual concentration of TPH-G was 370 mg/kg, which is less than 500 mg/kg (2x CUL). The criterion is: "no single residual sample concentration shall be greater than two times the soil CUL." This sample did not exceed the criterion.</li> </ul>
		1 of 38 samples (3%) had exceedances of the CUL. The criterion is: "less than ten percent of the sample concentrations shall exceed the soil CUL." This sample did not exceed this criterion.

Exhibit 5-4. Area 3 Soil Sam	ples at the Limits of the Excavation w	vith Exceedances of Screening Levels
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#### NOTES:

1 A3-SIDE100:2 is a field duplicate of A3-SIDE18:2

mg/kg = milligrams per kilogram

 $N^*$  = Laboratory noted that Gasoline Range Organics (C6 - C12) chromatographic patterns indicated that detections were due to the presence of unresolved, non-target compounds in the gasoline range. Results are not consistent with a known petroleum distillate. Flag applied by Shannon & Wilson.

The final excavation encompassed approximately 4,370 square feet and extended to 7 feet bgs. The size of the final excavation was less than estimated (5,400 square feet) because the results of confirmation samples indicated that the extent of soil with concentrations above the RL/CUL was less than anticipated. Groundwater was not observed in the excavation. The final excavation extent is shown in Figure 5 and cross sections are provided in Figures 11 and 12.

Imported quarry spalls were used as backfill from the base of the excavation up to 5 feet depth. The quarry spalls were overlain by imported gravel borrow to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

## 5.4 Area 4

Area 4 was significantly expanded between the original proposed limits in the West Excavations EDR (Shannon & Wilson, 2021g) and the completion of the remedial activities. Because the remedial excavation plan was modified, a more extensive discussion is provided in this section, including a discussion of background information to provide context about the unique aspects of Area 4, investigation activities undertaken to aid in decisions, and details on the modified excavation plan.

## 5.4.1 Area 4 Background

The Area 4 excavation is in the southwest portion of the 8801 property (Figure 2). Prior to 1967, the area sloped down to the adjacent LDW. In approximately 1967, a berm was constructed to square off and enclose the southwestern corner of the 8801 property. Based on permit drawings (not as built drawings), the berm was designed to be approximately 30 feet wide at its base, 12 feet wide at its top, and 15 feet high. Once the berm was constructed, the area behind the berm was backfilled to bring the area level with the remaining 8801 property.

Based on observations during investigation and excavation work, the berm is densely compacted and constructed of large cobbles, concrete blocks, and boulders, as well as smaller pieces of concrete and rock. The fill material that was placed behind the berm has been observed during excavation work to be present in the interstitial spaces between the rock and concrete on the inward-facing sides of the berm. The outward-facing (LDW) sides of the berm are armored with large block rip rap.

## 5.4.2 Area 4 Initial Excavation

The initial excavation at Area 4 was undertaken to remove concentrations of PCBs and dioxins/furans in shallow soil (3 to 4 feet bgs) and copper in deeper soil as a secondary

component. As described in the West Excavations EDR (Shannon & Wilson, 2021g), the excavation was estimated to encompass 1,800 square feet and extend to 8 feet bgs. Once the initial extents of the excavation were reached, sidewall and base soil samples were collected to evaluate for compliance with the PCB and copper RLs. Copper was frequently detected in sidewall samples at concentrations exceeding its RL and PCBs were sporadically detected at concentrations exceeding its RL. The detected concentrations did not appear to follow a gradient or pattern, and values ranged by an order-of-magnitude between duplicates and/or adjacent samples. The observations were consistent with mixed fill material, such as that placed in the southwest corner of the 8801 property. Groundwater was encountered at 8 feet depth.

As the Area 4 excavation progressed, the extent of the excavation was expanded beyond its originally estimated limits to remove soil containing COCs exceeding RLs. In response to the ever-expanding excavation and after consultation with Ecology, the Area 4 excavation was suspended on November 3, 2021, to allow for further investigation.

## 5.4.3 Area 4 Further Investigation

On three separate occasions between October 29, 2021, and January 21, 2022, a push probe rig was used to collect soil samples from around the Area 4 excavation perimeter to delineate the lateral and vertical extent of copper and PCBs above their respective RLs. A total of 84 borings were advanced from 1 feet bgs up to 15 feet bgs approximately every 10 feet north to south and approximately every 20 feet west to east. A total of 189 soil samples were analyzed from the borings. The sample locations were designed to be representative of excavation sidewall or bottom samples. If a sample result exceeded the RL for copper or PCBs, the adjacent or deeper sample was analyzed. The sampling and quality control procedures were performed in accordance with the protocols detailed in the Compliance Monitoring Plan (Shannon & Wilson, 2021a).

The entire southwest corner of the 8801 property was investigated in this manner. The locations of borings are shown in Figure 19 and numbered as borings 29 through 134. The results of the investigation delineated the lateral and vertical extent of PCBs exceeding the RL. The lateral extent of copper exceeding its RL was delineated to the north, northwest, and east. Copper was detected at concentrations exceeding its RL at depths greater than 15 feet bgs in one location and within the berm along the western and southern boundaries of the 8801 property. The sample results indicated that copper was widespread in the fill material and extended vertically to depths exceeding 15 feet bgs and laterally into the berm on the southern and western boundaries of the 8801 property.

## 5.4.4 Area 4 Modified Excavation Plan

Based on the remedial action objectives in the IAWP and results of further investigation during October 2021 to January 2022, a modified excavation plan for Area 4 (Shannon & Wilson, 2022a) was submitted to and approved by Ecology (Kelley, 2022). The modified Area 4 excavation plan consisted of excavation of soil to remove PCBs detected at concentrations exceeding its RL. The excavation limits also included removing copper at concentrations that exceeded the human health exposure direct contact value of 3,200 milligrams per kilogram (mg/kg).

Ecology approved the use of analytical results from 62 existing samples as confirmation sidewall and bottom samples for the excavation. No additional sidewall or base samples were proposed to be collected because of the quantity and distribution of data collected during the extensive investigations in 2021 and 2022.

## 5.4.5 Area 4 Risk-Based Cleanup and Disposal of PCBs

Because PCBs were detected in the Area 4 excavation and no known source existed, the PCBs were regulated under the Toxic Substances Control Act. An application was submitted to the EPA for risk-based cleanup and disposal of PCBs using the Ecology-approved Area 4 excavation limits. The application detailed the excavation plan as described above to remove PCBs above their RL (Shannon & Wilson, 2022b). The EPA did not permit pre-excavation sample results to be used as confirmation samples; therefore, post-excavation soil samples were collected and analyzed for PCBs. The EPA accepted the modified excavation plan that included post-excavation soil sampling.

After completion of the Area 4 excavation, a completion report was submitted to the EPA (Shannon & Wilson, 2022c). The EPA approved the Area 4 risk-based cleanup and disposal as detailed in the completion report. The EPA approval letter is provided in Appendix M.

## 5.4.6 Area 4 Dioxin/Furans

Dioxin/furans were historically detected in Area 4 at sample locations C6 and DG11-1 at 3 to 4.5 feet depth in 2004 and 2011, respectively. The detected concentrations of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) in both samples exceeded the human health direct contact level of 13 picograms per gram. The historical analytical results were discussed in the Final FS and IAWP (Shannon & Wilson, 2020a and 2020b).

During pre-excavation drilling in February 2021, two soil samples were collected from 8 feet depth in Area 4 and analyzed for dioxin/furans (sample IDs A4-1:8, A4-3:8, and duplicate A4-103:8). The detected concentrations of TCDD were below the human health direct contact value by one order of magnitude. As discussed in the approved West Excavations

EDR (Shannon & Wilson, 2021g), the pre-excavation samples were used as confirmation base samples for Area 4. Based on the results from the pre-excavation sampling, further sampling, or analysis for dioxin/furans in Area 4 was not required by Ecology (Hobbs, 2021).

Soil at historical sample locations C6 and DG11-1 was removed to 8 feet bgs during excavation at Area 4. The excavation was completed to the depth of the pre-excavation base samples (8 feet). A summary of dioxin/furan results from the pre-excavation samples is provided in Table 5B. The laboratory report is provided in Appendix F. The quality assurance/quality control summary is provided in Appendix G.

## 5.4.7 Area 4 Completed Final Excavation

The final Area 4 excavation was completed on September 1, 2022. The final excavation encompassed approximately 12,080 square feet, and the bottom of the excavation varied between 6 feet bgs to 15 feet bgs depending on the results of confirmation samples. Groundwater was observed in the excavation as shallow as 7 feet bgs and was tidally influenced. The final excavation extent is shown in Figure 6 and cross sections are provided in Figures 13 through 15. The analytical results of the confirmation soil samples are presented in Tables 5A and 5B. The analytical results of the overexcavated performance soil samples are presented in Table 10.

As approved in the Modified Excavation Plan (Shannon & Wilson, 2022a), some soil with concentrations of copper up to 3,120 mg/kg (exceeding the RL of 250 mg/kg) was left in place because it was infeasible to remove based on depth or location (adjacent to the stormwater treatment system or the shoreline berm structure). Copper concentrations that exceeded the direct contact value of 3,200 mg/kg were removed. Approximately 85% of the volume of detected copper in soil was removed. Approximately 8% of the remaining volume of copper exceeds the RL. A list of soil samples that remained in place with concentrations of copper is provided as Table 5A.

Exceedances of the RL for PCBs in soil were detected in the initial soil samples, therefore, the excavation was expanded with the objective of removing soil that exceeded RLs for PCBs. Soil samples for PCBs were collected from the final extents of the excavation. The soil samples had concentrations of PCBs at less than the RLs, except at two sidewall samples and one base sample, which are listed in Exhibit 5-5 below. Overexcavation at the three sample locations was restricted to prevent compromising the structural integrity of the shoreline berm, which was exposed during excavation activities and protects the 8801 property from erosion by the LDW.

# Exhibit 5-5: Area 4 Soil Samples at the Limits of the Excavation with Exceedances of Remediation Levels for PCBs

Sample ID	Total PCB Aroclors (mg/kg)	Discussion	
A4-BOT142:11	0.818	Further overexcavation at these three sample locations was restricted to limit impacts to the structural integrity of the shoreline berm, which was exposed during excavation activities.	
A4-SIDE171:6	0.507	These residual concentrations of PCBs have a low potential to impact human health or the environment because remaining concentrations are less than the human health direct contact value of 1 mg/kg, are less than the PCB remediation	
A4-SIDE177:6	0.657	action level for the LDW, and the area is covered with a clay liner, which will limit the potential for direct contact and leaching from soil to groundwater. In addition, the extent of soil exceeding the PCB RL is limited based on sampling conducted beneath A4-BOT142:11 (Figure 14) and the lateral limits of the shoreline berm near A3-SIDE171:6 and A3-SIDE177:6 (Figure 6) as these additional samples are below the PCB RL.	

Photos of locations of samples A4-SIDE171:6 and A4-SIDE177:6 are provided in Exhibits 5-6 and 5-7. In the exhibits, the limits of excavation at samples A4-SIDE171:6 and A4-SIDE177:6 are shown. Materials used in the construction of the shoreline berm were exposed during excavation, including cobbles, boulders, and concrete blocks. The downslope of the shoreline berm is on the opposite side of the orange-colored silt fence.

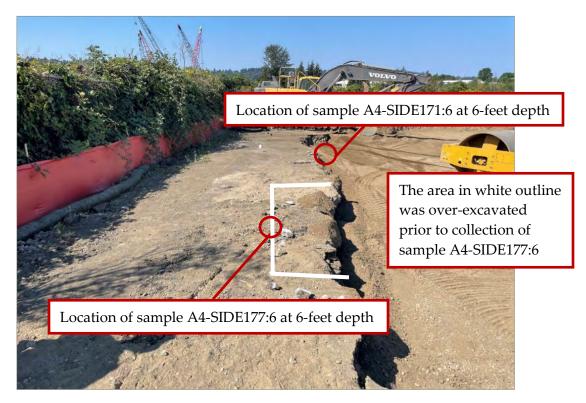


Exhibit 5-6: View of Proximity to Shoreline Berm Downslope to Samples A4-SIDE171:6 and A4-SIDE177:6. View direction is west. Photo taken on August 31, 2022.

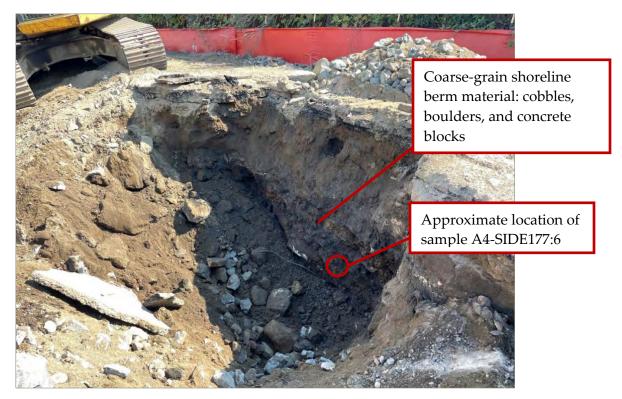


Exhibit 5-7: Excavation Activities at Sample A4-SIDE177:6. View direction is south. Photo taken on August 31, 2022.

After completion of the excavation, the excavation was backfilled with quarry spalls up to 5 feet bgs. The quarry spalls were overlain by imported gravel borrow to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

As part of CenterPoint's property development activities, the portion of Area 4 that is within 100 feet from the shoreline was covered with a clay liner. Overlying the clay liner is a drainage layer, which will direct water away from the clay liner. The portion of Area 4 beyond 100 feet from the shoreline is covered with asphalt or concrete pavement.

# 5.5 Area 5

The remedial excavation at Area 5 was undertaken to remove concentrations of lead, arsenic, cadmium, and chromium in shallow soil (1 to 5 feet bgs) in the unsaturated zone and lead, arsenic, and PCBs in deeper soil in the unsaturated and saturated zones. As described in the West Excavations EDR (Shannon & Wilson, 2021g), the excavation was estimated to encompass approximately 7,200 square feet and extend to 12 feet bgs.

Concrete blocks up to 3 feet in diameter were encountered in some portions of the excavation adjacent to a metal sheet pile wall that is an extension of the western perimeter sheet pile wall. The concrete blocks and excavated soil were disposed of off-site at a

permitted facility. Visual and olfactory indications of contamination were not observed in the excavation. Groundwater was observed in the excavation as shallow as 6 feet bgs and was tidally influenced.

Once the initial excavation limits were reached, soil samples were collected as follows:

- Samples from sidewalls in shallow soil (1 to 5 feet bgs) were analyzed for lead, arsenic, cadmium, and chromium.
- Samples from sidewalls in deeper soil were analyzed for lead, arsenic, and PCBs.
- Samples collected during drilling prior to excavation (February 2021) were used as confirmation samples of the base of the excavation because the depth of the excavation was below the water table. Samples of the base of the excavation were analyzed for lead, arsenic, and PCBs.

Exceedances of RLs were detected in some initial sidewall soil samples, therefore, the excavation was expanded with the objective of removing soil that exceeded RLs. Soil samples were collected from the final extents of the excavation. The soil samples had concentrations of COCs at less than the RLs, except one sidewall sample as discussed further below. The analytical results of the confirmation soil samples are presented in Table 6. The analytical results of the overexcavated performance soil samples are presented in Table 10.

The final excavation encompassed approximately 6,800 square feet, and the bottom of the excavation varied between 8, 9, 11, and 12 feet bgs depending on the results of confirmation samples. The size of the final excavation was less than estimated (7,200 square feet) because results of confirmation samples indicated that the extent of soil with concentrations above the RL did not extend as far to the north as anticipated in the West Excavations EDR. The final excavation extent is shown in Figure 7 and cross sections are provided in Figure 16.

Imported quarry spalls were used as backfill from the base of the excavation up to 5 feet depth. The quarry spalls were overlain by imported gravel borrow to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

## 5.5.1 Soil Sample A5-SIDE19:6

Area 5 was expanded at the northwest corner adjacent to the sheet pile wall with the objective of removing soil containing concentrations of lead above the RL. Soil samples from the final extent were collected after the expansion. Sidewall sample A5-SIDE19:6 was collected from the expanded excavation and lead was detected at 6-feet bgs at 3,470 mg/kg, which was greater than the CUL of 250 mg/kg. Lead was detected at 1.82 mg/kg in a sample collected from the same location at 2 feet bgs, which was less than the CUL.

Further lateral expansion at sample ID A5-SIDE19:6 was not undertaken to avoid compromising the structural integrity of the LDW shoreline berm, which was exposed during excavation activities. The shoreline berm protects the 8801 property from erosion from the LDW. The shorelines berm at this location appeared to consist of large concrete blocks and gravelly fill material, as shown in Exhibit 5-8 below.

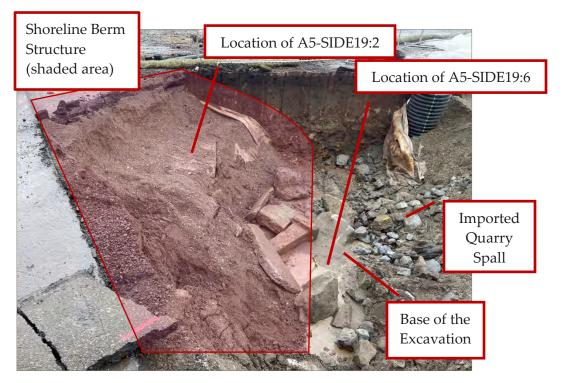


Exhibit 5-8: Extent of Excavation at the Northwest Corner of Area 5. View direction is north.

The residual concentration of lead represented by sample A5-SIDE19:6 has a low potential to impact human health or the environment based on the following lines of evidence:

- The area impacted by lead is likely small, because a sample collected from the same location 4 feet shallower (sample A5-SIDE19:2) had a concentration of lead with 1.82 mg/kg, which is less than the CUL.
- The area is now covered by a clay liner, which will limit the potential for direct contact and infiltration. The clay liner was constructed as part of the landscaped berm.
- Soil with concentrations of lead have not appreciably eroded to sediment. Investigation of sediments adjacent to the 8801 property were undertaken as part of the LDW-wide remedial investigation work. Sediment samples for 22 stations that were adjacent to the 8801 property were collected in 2006 and 2008. Sediment samples were analyzed for lead and other analytes. Lead was not determined to be a COC in sediment adjacent to the 8801 property. The results are presented in a report generated by Anchor QEA, LLC in 2008 (Anchor Environmental, LLC, 2008).

 Lead in groundwater adjacent to the sample location has not been detected above the CUL. Groundwater monitoring wells MW-37A and MW-37B are screened at 10 to 20 feet depth and 35 to 40 feet depth, respectively. Total or dissolved lead was not detected during monitoring events at MW-37A and 37B suggesting that leaching of lead in soil is not a pathway of concern.

# 5.6 Area 6

The remedial excavation at Area 6 was undertaken to remove concentrations of arsenic that were detected above the RL in unsaturated soil and detected in one historical soil sample labeled SFA-S15-3. As described in the East Excavations EDR (Shannon & Wilson, 2021d), the excavation was estimated to encompass approximately 200 square feet and extend to 6 feet bgs. Once the initial excavation limits were reached, soil samples were collected from the sidewalls and the base of the excavation. Visual and olfactory indications of contamination were not observed in the excavation. Groundwater was not observed in the excavation.

The initial excavation limits were expanded based on results from the soil samples. Soil samples collected from the final extents of the excavation had arsenic concentrations at less than the RL. The analytical results of the confirmation soil samples are presented in Table 7. The analytical results of the overexcavated performance soil samples are presented in Table 10.

The final excavation encompassed approximately 350 square feet and extended to 6 feet bgs. The final excavation extent is shown in Figure 8 and cross sections are provided in Figure 17.

Imported gravel borrow was used as backfill from the base of the excavation to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

# 5.7 Area 7

The excavation at Area 7 was undertaken to remove concentrations of TPH-G that were detected above the CUL in unsaturated soil in a historical soil sample (FWW-1). As described in the East Excavations EDR (Shannon & Wilson, 2021d), the excavation was estimated to encompass approximately 200 square feet and extend to 9 feet bgs.

During excavation, a concrete vault was uncovered in the excavation area after pavement was removed. The concrete vault extended to 4 feet bgs and appeared to be filled with pea gravel and was paved over. The purpose of the vault was unknown. Visual and olfactory indications of contamination were not observed in the vault or in the soil immediately surrounding the vault. The vault was removed during excavation activities. A photo of the vault is provided below in Exhibit 5-9.



Exhibit 5-9: Area 7 – View of the Vault Uncovered After Pavement Was Removed from the Excavation. Photo taken on October 4, 2021. View direction is east. A concrete vault filled with pea gravel is shown in the south (right) half of the excavation.

Samples collected during drilling prior to excavation (February 2021) were used as confirmation samples of the base of the excavation because the depth of the excavation was below the water table. Groundwater was observed in the bottom of the excavation at approximately 8 feet bgs. Sidewall samples were collected from the final extents of the excavation and had TPH-G at less than the CUL. The analytical results of the confirmation soil samples are presented in Table 8. The analytical results of the overexcavated performance soil samples are presented in Table 10.

The final excavation encompassed approximately 300 square feet and extended to 9 feet bgs. The final excavation extent is shown in Figure 8 and cross sections are provided in Figure 17.

Imported gravel borrow was used as backfill from the base of the excavation to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

# 5.8 Area 8

The remedial excavation at Area 8 was undertaken to remove concentrations of TPH-G that were detected above the CUL in saturated soil. As described in the West Excavations EDR (Shannon & Wilson, 2021g), the excavation was estimated to encompass 200 square feet and extend to 10 feet bgs. The lateral and vertical extent of the excavation was limited by nearby subsurface and aboveground structures. A structure was encountered at 14 feet beneath Area 8 during pre-excavation drilling. The nature of the concrete structure is unknown, although it may be part of the shoreline sheet pile wall. To protect this structure, the excavation did not extend below 10 feet bgs. The lateral limits of excavation in Area 8 were limited by a sheet pile retaining wall to the west, an oil-water separator vault to the east, and a stormwater treatment vault to the north. To protect these structures, the excavation was terminated before reaching these structures. Additionally, the excavation was limited to the south to prevent unloading of the sheet pile wall and causing structural impacts to the sheet pile wall.

During excavation a metal rod and concrete block were uncovered and are suspected to be a "dead-man" anchor for the adjacent sheet pile wall. The metal rod and concrete block were left in place. A photo of the suspected dead-man anchor is provided below in Exhibit 5-10.



Exhibit 5-10: Photo of Area 8 on October 5, 2021. View direction is north. A 2-inch metal rod and concrete block were observed in the excavation and are possible structural components of a "dead-man" anchor for the shoreline sheet pile wall. A void was observed above the concrete block to ground surface.

Samples collected during drilling prior to excavation (February 2021) were used as confirmation samples of the base of the excavation because the depth of the excavation was below the water table. Samples of the base of the excavation were analyzed for TPH-G and exceeded the CUL for TPH-G at 10 feet bgs (base of the excavation).

Sidewall samples were collected from the final extents of the excavation and analyzed for TPH-G. A strong gasoline-like odor and sheen on saturated soil were observed at 7 feet bgs and deeper in the excavation. As predicted in the approved West Excavations EDR, TPH-G was detected above the CUL (250 mg/kg) in the north sidewall at 7 feet depth at 1,870 mg/kg and at the base of the excavation up to 18,800 mg/kg. The analytical results of the performance and confirmation soil samples are presented in Table 9.

The final excavation encompassed approximately 120 square feet, and the bottom of the excavation extended to approximately 10 feet bgs. The size of the final excavation was less than estimated (200 square feet) because further excavation was restricted to protect the

structural integrity of the sheet pile retaining wall to the west, an oil-water separator vault to the east, a stormwater treatment vault to the north, and the dead-man anchor within the footprint of the planned excavation. Groundwater was not observed in the excavation, potentially because the excavation was conducted adjacent to the LDW during a period of low tide. The final excavation extent is shown in Figure 8 and cross sections are provided in Figure 18.

Imported quarry spalls were used as backfill from the base of the excavation up to 5 feet depth. The quarry spalls were overlain by imported gravel borrow to ground surface. The selection, placement, and compaction of backfill is discussed in Appendix E.

# 6 CENTERPOINT REMEDIAL AND DEVELOPMENT ACTIVITIES

Remedial actions described in Sections 2 through 5 were performed at the direction of PACCAR. This section summarizes the remedial actions completed by CenterPoint to remove PCB-containing caulk and manage impacted soil encountered during property development activities.

The remedial actions completed by CenterPoint are consistent with the remedy approved by Ecology for soil at the 8801 property. The approved remedy involved the targeted excavation of identified "hotspot" areas where high COC concentrations had the potential to impact the LDW (as detailed in Sections 4 and 5). Soil in other areas of the 8801 property with COCs exceeding the RLs and/or CULs was allowed to remain in place because the soil was determined in the Final FS and IAWP (Shannon & Wilson, 2020a, 2020b, and 2020c) to not be impacting groundwater or migrating to the LDW. Therefore, the removal by CenterPoint of impacted soil from areas of the 8801 property where it was allowed to remain provides an additional benefit that exceeds the requirements of the IAWP. Any residual impacted soil remaining at the 8801 property is contained under a cap consisting of the building, concrete, pavement, clay liner, or other materials that cover the 8801 property. An environmental covenant will be recorded against the 8801 property as an institutional control to protect human health and the environment from the residual soil. Institutional controls are discussed in Section 8.

#### 6.1 Removal of PCB-Containing Caulk

The removal of PCB-containing caulk was selected as a remedial action in the Final FS and IAWP because its presence may have contributed to historical concentrations of PCBs in monitoring wells MW-16A and MW-34A. Notification of removal and disposal of PCB-

containing caulk and adjacent concrete was submitted to EPA Region 10 in December 2021. The notification included a work plan, sampling and analysis plan, and request for approval of the cleanup in accordance with 40 CFR 761.61 (a) and (c), which was required because the layout of the caulk did not permit confirmation samples in a grid fashion as required in 40 CFR 761.61 (a). The PCB-Containing Caulk EDR (Shannon & Wilson, 2021b) was used as the basis for the sampling plan. Approval was granted by the EPA on January 6, 2022. Copies of the EPA correspondence are provided in Appendix N.

After approval by the EPA, removal of PCB-containing caulk was completed in January 2022. The PCB-containing caulk was located in pavement expansion joints and sealed cracks in the driveway in the north portion of the 8801 property. The caulk was removed by saw-cutting the concrete pavement at approximately 1 inch to 12 inches from either side of the caulk, depending on the irregular pattern of some expansion joints and cracks. The pavement was 3 to 6 inches in thickness. Thirty-nine (39) segments of caulk were removed ranging from 2 to 10 feet in length and one segment was removed at 425 feet in length. The locations of removed caulk segments are shown in Figures 1 and 3 of Appendix N.

Twenty-five tons of sawcut segments of caulk and adjacent concrete were removed with an excavator and placed into containers for disposal as PCB bulk product at Roosevelt Municipal Solid Waste Landfill in Roosevelt, Washington. Disposal tickets and the waste profile are provided in Appendix N.

Twelve confirmation samples and one duplicate sample were collected from the vertical concrete sidewalls and analyzed for the presence of PCBs to identify residual concentrations of PCBs. PCBs were not detected in confirmation samples above the reporting level of 0.02 mg/kg. The laboratory report and locations of confirmation samples are provided in Appendix N.

Post-excavation compliance monitoring will include downgradient groundwater monitoring to determine if groundwater CULs have been achieved. Compliance monitoring requirements are described in the Compliance Monitoring Plan (Shannon & Wilson, 2021a).

## 6.2 Development Excavations without PCB-Impacted Soil

As detailed in the Final FS and IAWP, the 8801 property was extensively investigated between 1986 and 2011 using both grid sampling throughout the property and focused sampling in areas where contamination was noted. The selected remedy for soil consisted of targeted "hotspot" excavations to remove soil with concentrations of COCs above the site-specific RL, and if no RL was established, the site-specific CUL. Areas with concentrations of COCs in soil above the CUL that remain at the 8801 property are capped, as described in the Final FS and IAWP. The targeted excavations of soil above the RLs/CULs and capping together achieve the objectives of limiting exposure to COCs and preventing stormwater infiltration and leaching of COCs to groundwater, and migration of COCs in groundwater to the LDW.

The Final FS and IAWP anticipated that impacted soil would remain in areas outside the hotspot excavations. Specifically, concentrations of COCs in soil were historically detected in the five areas listed in Exhibit 6-1, as shown in Appendix B to the Final FS Figures B-3a and B-3b (diesel range TPH), Figures B-5a and B-5b (oil range TPH), Figure B-15 (cPAHs TEQ), Figure B-9a (arsenic), and Figure B-13 (PCB aroclors). Groundwater monitoring suggested that the groundwater was not being impacted by the diesel range TPH, oil range TPH, cPAHs, and arsenic in the soil. Ecology approved leaving the impacted soil in place because it was determined to not be impacting groundwater migrating to the LDW. The detections of PCBs in groundwater in the area north of the former warehouse (shown in Final FS Figure B-14) were suspected to be associated with the PCB-containing caulk in that vicinity that was later removed (Section 6.1).

During development activities, soil was excavated to facilitate demolition and placement of new infrastructure. When visual or olfactory signs of potential contamination were observed in a development excavation, the earthwork activity was temporarily suspended, and representative samples were collected and submitted for analysis of COCs. Soil samples were collected from the excavation sidewalls, bottom, and from test pits. COCs were detected in some of the development excavations at concentrations exceeding RLs/CULs, including oil range TPH, diesel range TPH, total cPAHs TEQ, arsenic, and PCBs. Soil encountered during development excavations that had an odor or visual discoloration was presumed to be impacted regardless of sample results.

The impacted soil encountered during the development excavations was handled in accordance with the Ecology-approved Soil Management Plan (Farallon, 2020), and transported off the 8801 property for disposal at an appropriately licensed facility.

A summary of the development excavations where COCs were detected above the sitespecific RLs or CULs is provided in Exhibit 6-1 below. Multiple excavations are reported as a single excavation when the excavations are in close proximity and contain the same COCs. The locations of the excavations are shown in Figure 20.

Excavation Group	Diesel Range TPH	Oil Range TPH	cPAHs TEQ	Arsenic	PCB Aroclors
North Stormwater Pond	Х	Х			
South Stormwater Pond	Х	Х			
East of Stormwater Ponds	Х	Х	Х		
Catch Basin #1	Х	Х	Х		
North of Former Warehouse (includes PCB Discovery Areas 1 through 3 and other nearby development excavations)	Х	Х	Х	Х	Х

cPAHs = carcinogenic polycyclic aromatic hydrocarbons; PCB = polychlorinated biphenyl; TEQ = toxic equivalency quotient; TPH = total petroleum hydrocarbons

Approximately 5,382 tons of impacted soil (excluding PCB-impacted soil discussed in Section 6.3) was removed from the development excavations and disposed of at Waste Management's Columbia Ridge Landfill.

Additional details regarding the development excavations are provided in a report prepared by CenterPoint's environmental consultant and attached as Appendix O.

#### 6.3 Development Excavations with PCB-Impacted Soil

Three areas of soil with concentrations of PCBs above the site-specific RL (0.5 mg/kg) and the EPA CUL (1.0 mg/kg) were encountered during development excavations. These areas are identified as PCB Discovery Areas 1 through 3 (Figure 20). A sampling and removal plan was prepared in accordance with 40 CFR 761.61(a) and was approved by the EPA. The sampling and removal plan included more stringent sampling and disposal requirements than the Soil Management Plan, such as confirmation sampling in a grid pattern and expansion of the excavations beyond the limits required for development activities until the site-specific RL was achieved or further excavation was prohibited due to an existing structure.

In advance of excavation, multiple borings in a grid pattern were used to collect soil samples that were analyzed for PCBs. The results of the investigation were used to delineate the extent of the initial excavations in PCB Discovery Areas 1 through 3. PCB Discovery Area 1 contamination was identified in one stockpile sample only, and no excavation work was undertaken in PCB Discovery Area 1 following the investigation work. PCBs were detected in one stockpile sample from PCB Discovery Area 1 at concentrations below the EPA CUL but above the site-specific RL. However, soil samples analyzed from borings advanced in PCB Discovery Area 1 in May 2022 did not exceed the EPA CUL or the site-specific RL. Therefore, no excavation work was undertaken in PCB Discovery Area 1 following the investigation work.

Soil samples collected from borings advanced in Discovery Area 2 during the May 2022 investigation did not exceed the EPA CUL or the site-specific RL. Soil at the concrete ring structure was excavated to a depth of approximately 4 feet bgs to confirm that PCBs in soil were removed to the maximum extent practicable.

Concentrations of PCBs in soil samples collected from borings advanced in Discovery Area 3 during the May 2022 investigation and in samples collected in August 2022 exceeded the EPA CUL and the site-specific RL. Soil in Discovery Area 3 was excavated until soil analytical results confirmed that PCBs had been excavated to the maximum extent practicable.

PCBs detected in confirmation samples were less than the site-specific RL, except for one soil sample at boring FB-14 located in PCB Discovery Area 3. PCBs were detected in soil at boring FB-14 at 2.5 feet depth at 0.51 mg/kg, slightly exceeding the site-specific RL of 0.5 mg/kg. The concentration of PCBs in soil at boring FB-14 at 5 feet depth was less than the site-specific RL. The soil at FB-14 at 2.5 feet depth was not removed to prevent undermining the integrity of the retaining wall on the northern property boundary (Figure 5 of Appendix O). After the excavation was backfilled, the location of boring FB-14 was paved as an asphalt driveway and concrete curb, limiting the potential for exposure to any residual PCBs and preventing stormwater infiltration.

Approximately 183 tons of soil, concrete, and bricks containing PCBs at concentrations exceeding 50 mg/kg were disposed at Chemical Waste Management of the Northwest in Arlington, Oregon. Approximately 1,140 tons of soil containing PCBs at concentrations less than 50 mg/kg were disposed at Waste Management's Columbia Ridge Landfill in Arlington, Oregon.

Additional details regarding the remedial actions performed at PCB Discovery Areas 1 through 3 are provided in a report prepared by CenterPoint's environmental consultant and attached as Appendix P.

The EPA Region 10 PCB Coordinator determined that the cleanup described in CenterPoint's report (Appendix P) met the requirements for self-implementing on-site cleanup and disposal of PCB remediation waste pursuant to 40 CFR 761.61(a). The confirmation email from the PCB Coordinator is provided in Appendix Q.

# 7 COMPLIANCE MONITORING

Post-excavation compliance monitoring will include groundwater sampling at downgradient groundwater monitoring wells along the western boundary of the 8801 property to determine if groundwater CULs have been achieved. The locations of the proposed confirmation wells, selected analyses, and schedule are provided in the Compliance Monitoring Plan (Shannon & Wilson, 2021a).

Previously existing monitoring wells were decommissioned in Spring 2021 in accordance with the approved Compliance Monitoring Plan (Shannon & Wilson, 2021a) to accommodate development activities at the 8801 property. A list of the status of active and decommissioned wells as of September 2022 is provided in Table 1.

Replacement monitoring wells were installed in May 2023, after the development activities at the 8801 property were mostly complete. Groundwater performance monitoring commenced in August 2023. The installation of the replacement wells and results of groundwater performance monitoring will be reported to Ecology in a separate document.

# 8 INSTITUTIONAL CONTROLS

Because COCs will remain on the 8801 property at concentrations greater than the CULs, institutional controls will be implemented using an environmental covenant developed in accordance with WAC 173-340-440 and Ecology's Toxics Cleanup Program Procedure 440A.

In general, the environmental covenant will restrict activities that could disturb or expose impacted soil beneath the building, clay liner, and asphalt/concrete pavement covers, require regular inspections of the clay liner and asphalt/concrete pavement covers, and restrict the use of groundwater on the 8801 property. The requirements for the environmental covenant are described in the East Excavations EDR and West Excavations EDR (Shannon & Wilson, 2021d and 2021g).

Because the remedial actions are substantially completed on the 8801 property and the 8801 property is paved and the landscaped berm is installed, an environmental covenant will be prepared. The environmental covenant is anticipated to be implemented in late 2023.

# 9 SOURCE CONTROL SUFFICIENCY

Ecology signed an MOU with the EPA to identify and control upland sources of contamination that could re-contaminate the LDW after remediation of the sediments

(Ecology, 2016). The completed remedial excavations described in this CMR contribute to satisfying the source control requirements because the RLs and CULs meet the MTCA requirements for protection of human health and the environment as discussed in the IAWP (Shannon & Wilson, 2020b). PCB-containing caulk and soil that was at concentrations above the LDW remedial action level has been removed and are no longer a potential source to the LDW.

# 10 CONCLUSIONS

The remediation activities described in this CMR were effective at removing from the 8801 property all PCB-containing caulk and nearly all soil containing COCs at concentrations exceeding an RL remains in a few locations on the 8801 property where (1) further excavation was not possible without potentially undermining the integrity of an existing structure, or (2) further excavation was not practicable and was not required by the Soil Management Plan. Soil containing COCs at concentrations exceeding CULs are present throughout the 8801 property. The residual soil with COC concentrations exceeding RLs and/or CULs does not present a threat to human health or the environment because (1) it is covered by a building or concrete, pavement, a clay liner, or other materials that serve as a cap over the soil and an environmental covenant will be recorded against the 8801 property to prohibit activities that would compromise the integrity of the cap without the advance approval by Ecology; and (2) it is not a source of contamination to the adjoining LDW as indicated by groundwater samples previously collected along the shoreline of the 8801 property.

# 11 LIMITATIONS

The findings and conclusions documented in this report have been prepared for specific application to this project and have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in this area.

The site conditions and historical activities described in this CMR are based on information collected from various sources as referenced in the text. Because many aspects of this CMR rely on third-party information and interpretation of limited data, it is impossible to know if such a condition exists with absolute certainty. Contaminants may be present in areas that were not surveyed or sampled or may migrate to areas that showed no signs of contamination at the time they were studied. The findings presented are based on interpretation of information currently available to us and are made within the operational

scope, budget, and schedule constraints of this project. No warranty, express or implied, is made.

Shannon & Wilson has prepared the document "Important Information About Your Environmental Site Assessment/Evaluation Report" to assist you and others in understanding the information presented in this CMR.

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# Table 1: List of Monitoring Wells Sorted by Status

Well Name	Base of Screened Interval (ft bgs)	Screened Interval (ft bgs)	Diameter (inches)	Year Installed	Screen Material	Status
Monitoring Wells	Remaining as of Sept	tember 2022				
MW-26A	20	10-20	2	1997	PVC	Accessible
MW-26B	40	35-40	2	1997	PVC	Accessible
MW-26C	59	49-59	2	1997	PVC	Accessible
MW-29A	25	15-25	2	1997	PVC	Accessible
MW-29B	44	34-44	2	2002	PVC	Accessible
MW-29C	56	49-56	2	2002	PVC	Accessible
MW-35A	20	10-20	2	2002	PVC	Accessible
MW-35B	40	35-40	2	2002	PVC	Accessible
MW-36A	20	10-20	2	2002	PVC	Accessible
MW-36B	42	37-42	2	2002	PVC	Accessible
MW-37A	20	10-20	2	2002	PVC	Accessible
MW-37B	40	35-40	2	2002	PVC	Accessible
Monitoring Wells	Decommissioned Du	ring 2021 and 2022				
MW-1A	9.8	4.75-9.8	4	1986	PVC	Decommissioned May 24, 2021
MW-6A (R)	20	5-20	2	2004	PVC	Decommissioned May 24, 2021
MW-7A	19.2	5.5-19.2	2	1986	PVC	Decommissioned May 24, 2021
MW-8A	18	3-18	2	1986	PVC	Decommissioned May 24, 2021
MW-8B	28.5	23.5-28.5	2	2002	PVC	Decommissioned May 24, 2021
MW-9A	20	5-20	2	1986	PVC	Decommissioned May 24, 2021
MW-10	20.3	5-20.3	2	1986	PVC	Decommissioned May 24, 2021
MW-11A	20.8	5-20.8	2	1986	PVC	Decommissioned May 24, 2021
MW-12A	20.5	5-20.5	2	1986	PVC	Decommissioned May 24, 2021
MW-14A	15.4	1.4-15.4	2	1986	PVC	Decommissioned May 24, 2021
MW-15A	15.9	1.9-15.9	2	1986	PVC	Decommissioned May 24, 2021
MW-16A	16.9	1.9-16.9	2	1986	PVC	Decommissioned May 24, 2021

Well Name	Base of Screened Interval (ft bgs)	Screened Interval (ft bgs)	Diameter (inches)	Year Installed	Screen Material	Status
MW-18A	18.6	8.6-18.6	2	1986	PVC	Decommissioned May 24, 2021
MW-22A	20.3	5-20.3	2	1987	PVC	Decommissioned May 24, 2021
MW-23A	20.3	5-20.3	2	1987	PVC	Decommissioned May 24, 2021
MW-24A	25.5	20.5-25.5	2	1997	SS	Decommissioned May 24, 2021
MW-25A	23	13-23	2	1997	PVC	Decommissioned May 24, 2021
MW-27A	25.5	20.5-25.5	2	1997	SS	Decommissioned May 24, 2021
MW-28A	20.5	15.3-20.5	2	1997	SS	Decommissioned May 24, 2021
MW-28B	40.3	35.3-40.3	2	1997	SS	Decommissioned May 24, 2021
MW-30A	23.3	14.3-23.3	2	1997	PVC	Decommissioned August 12, 2022
MW-31A	23	13-23	2	1997	PVC	Decommissioned May 24, 2021
MW-32A	23	13-23	2	1997	PVC	Decommissioned May 24, 2021
MW-33A	20	10-20	2	2002	PVC	Decommissioned May 24, 2021
MW-34A	20	10-20	2	2002	PVC	Decommissioned May 24, 2021
MW-38A	23	13-23	2	2002	PVC	Decommissioned May 24, 2021
MW-39A	23	13-23	2	2002	PVC	Decommissioned May 24, 2021
MW-40A	20	10-20	2	2004	PVC	Decommissioned May 24, 2021
MW-40B	39	29-39	2	2011	PVC	Decommissioned May 24, 2021
MW-41A	20	10-20	2	2004	PVC	Decommissioned May 24, 2021
MW-42A	20	5-20	2	2004	PVC	Decommissioned May 24, 2021
MW-43A	20	5-20	2	2011	PVC	Decommissioned May 24, 2021
MW-44A	15	5-15	2	2011	PVC	Decommissioned March 6, 2023
MW-45A	15	5-15	2	2011	PVC	Decommissioned May 24, 2021
MW-46A	16	6-16	2	2011	PVC	Decommissioned May 24, 2021
MW-47A	15	5-15	2	2011	PVC	Decommissioned May 24, 2021
MW-47B	40	30-40	2	2011	PVC	Decommissioned May 24, 2021
MW-48A	15	5-15	2	2011	PVC	Decommissioned May 24, 2021

	Base of Screened	Screened Interval	Diameter			
Well Name	Interval (ft bgs)	(ft bgs)	(inches)	Year Installed	Screen Material	Status
MW-48B	30	10-30	2	2011	PVC	Decommissioned May 24, 2021
MW-49A	15	5-15	2	2011	PVC	Decommissioned May 24, 2021
MW-49B	45	35-45	2	2011	PVC	Decommissioned May 24, 2021
RW1	?	?	6?	1990	SS?	Not found during site redevelopment activites during 2021. Assumed to be previously decommissioned.
RW2	?	?	6?	1990	SS?	Not found during site redevelopment activites during 2021. Assumed to be previously decommissioned.
RW3	20	?	6	1990	SS	Decommissioned June 2, 2021

# Table 1: List of Monitoring Wells Sorted by Status

bgs = below ground surface; ft = feet; PVC = polyvinyl chloride; SS = stainless steel; ?=status unknown

# Table 2: Area 1 Results of Final Confirmation Soil Samples

Analyte		Tetrachloroethene	Trichloroethene	Vinyl Chloride
Remediati	ion Level (mg/kg)	5	5	5
Location ID	Depth (ft bgs)	_		
A1-BOT1	4	0.00873 J	0.0437	<0.0168
A1-BOT2	4	0.0611	0.259	<0.0151
A1-BOT3	4	0.0631	0.754	<0.0119
A1-BOT4	4	0.0433 J	0.738	<0.0120
A1-BOT5	4	0.0327 J	0.322	< 0.0140
A1-BOT6	4	0.0258 J	0.264	<0.0115
A1-BOT7	4	0.0299 J	0.176	<0.0110
A1-BOT8	4	0.0144 J	0.0511	<0.0119
A1-BOT9	4	0.0214 J	0.0650	< 0.0154
A1-BOT10	4	0.0181 J	0.134	< 0.0194
A1-BOT11	4	< 0.00539	0.0742	<0.0115
A1-BOT12	4	<0.00648	0.0164 J	< 0.0139
A1-BOT13	4	< 0.00552	< 0.00934	<0.0118
A1-BOT14	4	<0.00606	0.0258	< 0.0130
	4	< 0.0105	0.0640	< 0.0225
A1-BOT15 —	$4^{\dagger}$	<0.00581	0.0727	< 0.0124
A1-BOT16	4	<0.00620	0.0799	< 0.0133
A1-BOT17	4	<0.00513	0.0308	< 0.0110
A1-BOT18	4	<0.00520	0.116	< 0.0111
A1-SIDE1	2	<0.00662	0.0169 J	< 0.0142
	3	0.0814	0.371	< 0.0131
A1-SIDE2 -	3*	0.0914	0.440	< 0.0133
A1-SIDE3	4	0.0488 J	0.393	< 0.0133
A1-SIDE4	2	0.0641	1.13	< 0.0145
A1-SIDE6	3	<0.00612	0.0210 J	< 0.0131
A1-SIDE7	2	<0.00671	0.0508	< 0.0143
A1-SIDE8	1	< 0.00947	1.88	< 0.0203
A1-SIDE9	3.5	<0.00488	0.166	< 0.0104
A1-SIDE10	2	<0.00551	0.850	< 0.0118
A1-SIDE11	4	<0.00678	0.165	< 0.0145
A1-SIDE12	1	< 0.00913	1.63	< 0.0195
A1-SIDE13	2	0.0138 J	0.956	<0.0121
A1-SIDE14	3	0.00972 J	0.415	< 0.0129
A1-SIDE15	1.5	0.00899 J	0.111	<0.0117
A1-SIDE16	4	<0.00645	< 0.0109	<0.0138
A1-SIDE17	2	0.0693	0.404	<0.0119
A1-SIDE18	1	< 0.00497	< 0.00841	< 0.0106

#### Table 2: Area 1 Results of Final Confirmation Soil Samples

	Analyte ion Level (mg/kg)	Tetrachloroethene 5	Trichloroethene 5	Vinyl Chloride 5		
Location ID	Depth (ft bgs)					
A1-SIDE19	2	0.0120 J	0.165	< 0.0147		

NOTES:

<sup>†</sup>Sample is a duplicate. See below for a list of duplicates and primary samples.

Samples A1-BOT100:4 is field-duplicate sample of A1-BOT15:4.

Samples A1-SIDE100:3 is field-duplicate sample of A1-SIDE2:3.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed, including sample A1-SIDE5.

Results were obtained from Fremont Analytical, Inc. work orders 2109340 and 2110033.

< = Analyte was not detected; reported as less than the reporting limit.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

bgs = below ground surface; ft = feet; mg/kg - milligram per kilogram

Analyte		Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Indeno(1,2,3-cd)pyrene	
Remediation	Level (mg/kg)								0.6
Location ID	Depth (ft bgs)								
A2-BOT1	2.5	<0.00225	< 0.00201	< 0.00193	< 0.00242	< 0.00649	< 0.00783	< 0.00639	< 0.00208
A2-BOT2	2.5	0.00513 J	< 0.00228	< 0.00219	<0.00274	< 0.00734	<0.00885	< 0.00723	0.00274
A2-BOT3	2.5	0.00534 J	<0.00218	< 0.00209	<0.00262	< 0.00702	< 0.00847	<0.00692	0.00266
A2-BOT4	2.5	<0.00222	< 0.00199	<0.00191	<0.00239	< 0.00641	<0.00773	<0.00631	<0.00206
AZ-DUT4	2.5 <sup>†</sup>	<0.00208	< 0.00186	< 0.00179	<0.00224	< 0.00599	< 0.00723	<0.00591	<0.00192
A2-BOT5	4	<0.0111	<0.0111	<0.0111	<0.0111	< 0.0222	<0.0222	<0.0222	<0.00955
A2-BOT6	7	0.269	0.223	0.194	0.173	0.276	0.0454 J	0.105	0.3044
A2-BOT7	4	<0.0112	< 0.0112	<0.0112	<0.0112	< 0.0224	<0.0224	<0.0224	<0.00963
A2-SIDE1	1	<0.00257	< 0.00230	<0.00221	<0.00277	< 0.00740	<0.00893	< 0.00729	<0.00238
A2-SIDE3	1	0.256	0.262	0.179	0.202	0.290	0.0608	0.119	0.34658
A2-SIDE5	1	0.214	0.209	0.148	0.175	0.228	0.0389	0.0866	0.27753
A2-SIDE7	2	0.00476 J	<0.00217	< 0.00208	<0.00261	< 0.00698	< 0.00843	<0.00688	0.00260
A2-SIDE8	1.5	0.00678 J	< 0.00267	< 0.00257	<0.00322	< 0.00861	< 0.0104	<0.00848	0.00329
A2-SIDE10	3	<0.0102	< 0.0102	< 0.0102	<0.0102	< 0.0203	< 0.0203	< 0.0203	< 0.00876
AZ-SIDE 10	6	0.118	0.105	0.0747	0.0896	0.112	0.0251 J	0.0592	0.14278
A2-SIDE13	1.5	0.148	0.159	0.114	0.112	0.148	0.0390	0.0853	0.21031
A2-SIDE15	2	0.282	0.322	0.254	0.272	0.335	0.0936	0.194	0.43491
A2-SIDE17	2	<0.0111	<0.0111	<0.0111	<0.0111	< 0.0221	<0.0221	<0.0221	< 0.00954

#### Table 3: Area 2 Results of Final Confirmation Soil Samples

NOTES:

1 Half of the value of the nondetects were used when calculating the total toxicity equivalent quotient, in accordance with the Washington State Department of Ecology publication 15-09-049 (April 2015).

<sup>†</sup> Sample A2-BOT100:2.5 is field-duplicate sample of A2-BOT4:2.5.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed. The following samples were overexcavated: A2-SIDE9, A2-SI

Results were obtained from Fremont Analytical, Inc. work orders 2109317, 2109457, 2110067, 2110219, 2110287, and 2110360.

< = Analyte was not detected; reported as less than the reporting limit.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

bgs = below ground surface; cPAH = carcinogenic polycyclic aromatic hydrocarbon; Ecolog = Washington State Department of Ecology; ft = feet; mg/kg = milligram per kilogram; TEQ = toxicity equivalancy quotient

# Table 4: Area 3 Results of Final Confirmation Soil Samples

	alyte tion Level or	Gasoline Range Organics	Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	Total PCB Aroclors
Cleanup L	evel <sup>1</sup> (mg/kg)	250	250										0.5
Location ID	Depth (ft bgs)												
A3-BOT13	6	24.5 N*	16.3 JH*	<0.00680	<0.00680	<0.00680	<0.00680	< 0.00839	< 0.00839	< 0.00839	< 0.00839	< 0.00839	< 0.00839
A3-BOT14	6	26.1	18.7 JH*	< 0.00732	< 0.00732	< 0.00732	< 0.00732	< 0.00903	< 0.00903	< 0.00903	< 0.00903	< 0.00903	< 0.00903
A3-BOT15	6	18.9	19.9 JH*	<0.00693	< 0.00693	< 0.00693	<0.00693	< 0.00855	< 0.00855	< 0.00855	<0.00855	<0.00855	<0.00855
A3-BOT24	6	<2.89	45.8	< 0.0130	<0.0130	< 0.0130	<0.0130	< 0.0160	< 0.0160	<0.0160	< 0.0160	< 0.0160	<0.0160
A3-BOT25	6	3.85 J	29.9	< 0.00934	< 0.00934	< 0.00934	< 0.00934	<0.0115	<0.0115	< 0.0115	< 0.0115	< 0.0115	<0.0115
A3-BOT26	6	<2.97	24.1	< 0.0110	< 0.0110	< 0.0110	<0.0110	<0.0136	< 0.0136	<0.0136	< 0.0136	< 0.0136	<0.0136
A3-BOT27	6	2.97 J	22.2	< 0.00987	< 0.00987	< 0.00987	< 0.00987	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	<0.0122
A3-BOT31	7	<2.70	19.9	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242	< 0.0242
A3-BOT33	4	<2.76	132	< 0.0214	< 0.0214	< 0.0214	< 0.0214	< 0.0214	0.323	< 0.0214	< 0.0214	< 0.0214	0.323
A3-BOT35	5	37.2	102	<0.0198	<0.0198	<0.0198	<0.0198	<0.0198	0.0562	<0.0198	< 0.0198	< 0.0198	0.0562
A3-BOT39	5.5	3.71 J	1300	<0.0210	<0.0210	< 0.0210	< 0.0210	< 0.0210	0.240	< 0.0210	< 0.0210	< 0.0210	0.240
A3-BOT40	6.5	<3.48	133	<0.0313	<0.0313	< 0.0313	<0.0313	<0.0313	< 0.0313	< 0.0313	<0.0313	< 0.0313	<0.0313
A3-SIDE1 -	2.5	16.1	61.4	<0.00922	< 0.00922	< 0.00922	< 0.00922	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	<0.0114
AS-SIDET -	5	17.1	30.8	< 0.00802	< 0.00802	< 0.00802	<0.00802	< 0.00989	<0.00989	<0.00989	<0.00989	<0.00989	<0.00989
A3-SIDE2	5	95.5	24.0	<0.00726	< 0.00726	< 0.00726	<0.00726	<0.00896	<0.00896	<0.00896	<0.00896	<0.00896	<0.00896
A3-SIDE3	5	6.92	2.73	<0.00811	< 0.00811	< 0.00811	<0.00811	< 0.0100	< 0.0100	<0.0100	< 0.0100	< 0.0100	< 0.0100
	2.5	99.4 N*	39.6	< 0.00902	< 0.00902	< 0.00902	< 0.00902	<0.0111	<0.0111	<0.0111	<0.0111	< 0.0111	<0.0111
A3-SIDE4	5	38.2 J*	29.7 J*	< 0.0102	< 0.0102	< 0.0102	< 0.0102	<0.0126	< 0.0126	<0.0126	< 0.0126	< 0.0126	<0.0126
	$5^{\dagger}$	19.8 J*	11.7 J*	< 0.00789	< 0.00789	< 0.00789	< 0.00789	< 0.00973	< 0.00973	< 0.00973	< 0.00973	< 0.00973	< 0.00973
A3-SIDE5 -	2.5	51.5 N*	128	< 0.00843	< 0.00843	< 0.00843	<0.00843	< 0.0104	< 0.0104	< 0.0104	< 0.0104	< 0.0104	< 0.0104
	5	6.09 J	17.1	<0.00850	< 0.00850	< 0.00850	<0.00850	< 0.0105	< 0.0105	<0.0105	< 0.0105	< 0.0105	< 0.0105
A3-SIDE6 -	2.5	370 N*	203	<0.0115	<0.0115	<0.0115	<0.0115	< 0.0142	0.0345 J	< 0.0142	< 0.0142	< 0.0142	0.0345 J
	5	129 N*	35.1	<0.00892	< 0.00892	< 0.00892	<0.00892	<0.0110	< 0.0110	<0.0110	< 0.0110	< 0.0110	< 0.0110

Remedia	nalyte tion Level or _evel <sup>1</sup> (mg/kg)	Gasoline Range Organics 250	Copper 250	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	Total PCB Aroclors 0.5
Location ID	Depth (ft bgs)												
	2.5	<2.24	147	<0.00813	< 0.00813	< 0.00813	< 0.00813	< 0.0100	0.118	< 0.0100	<0.0100	<0.0100	0.118
A3-SIDE7	5	<2.46	12.7	< 0.00746	< 0.00746	< 0.00746	< 0.00746	< 0.00921	< 0.00921	< 0.00921	< 0.00921	< 0.00921	<0.00921
A3-SIDE8:5	5	<1.89	3.35	< 0.00620	< 0.00620	< 0.00620	< 0.00620	< 0.00765		< 0.00765	< 0.00765	< 0.00765	< 0.00765
A3-SIDE10	5	5.63 J	98.9 JH*	< 0.00730	< 0.00730	< 0.00730	< 0.00730	< 0.00900	0.00943	<0.00900	<0.00900	<0.00900	0.00943 J
A3-SIDE11	2.5	17.9	24.5 JH*	<0.00596	< 0.00596	< 0.00596	< 0.00596	< 0.00735	< 0.00735	< 0.00735	< 0.00735	< 0.00735	< 0.00735
A3-SIDETT	5	18.3	59.9 JH*	<0.00985	< 0.00985	< 0.00985	< 0.00985	< 0.0121	< 0.0121	< 0.0121	< 0.0121	< 0.0121	<0.0121
A3-SIDE12	2.5	149	80.3 JH*	<0.00591	< 0.00591	< 0.00591	< 0.00591	< 0.00729	< 0.00729	< 0.00729	< 0.00729	< 0.00729	<0.00729
AJ-SIDE IZ	5	33.0	23.8 JH*	< 0.00702	< 0.00702	< 0.00702	< 0.00702	<0.00866	<0.00866	<0.00866	<0.00866	<0.00866	<0.00866
A3-SIDE17	2	<2.35	335	<0.00962	< 0.00962	< 0.00962	< 0.00962	< 0.0119	0.0315 J	< 0.0119	< 0.0119	< 0.0119	0.0315 J
A3-SIDE18	2	<2.39	435	<0.00758	< 0.00758	< 0.00758	< 0.00758	< 0.00935	0.0707	< 0.00935	< 0.00935	< 0.00935	0.0707
AJ-SIDE 10	2 <sup>†</sup>	22.5 N*	267	< 0.00744	< 0.00744	< 0.00744	< 0.00744	< 0.00917	0.0585	< 0.00917	< 0.00917	< 0.00917	0.0585
A3-SIDE19	2	<2.21	229	<0.00835	< 0.00835	< 0.00835	< 0.00835	< 0.0103	0.0423 J	< 0.0103	< 0.0103	< 0.0103	0.0423 J
A3-SIDE29	2.5	3.17 J	59.2	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310	< 0.0310
A3-SIDE30	2	<3.24	31.6	< 0.0190	< 0.0190	< 0.0190	< 0.0190	< 0.0190	0.204	< 0.0190	< 0.0190	< 0.0190	0.204
A3-SIDE32	5	<2.83	4.13	<0.0218	<0.0218	< 0.0218	< 0.0218	<0.0218	<0.0218	< 0.0218	< 0.0218	<0.0218	<0.0218
A3-SIDE37	2	<3.34	94.9	< 0.0209	< 0.0209	< 0.0209	< 0.0209	< 0.0209	0.00833 I	<0.0209	< 0.0209	< 0.0209	0.00833 J
A3-SIDE38	2.5	<2.68	103	< 0.0210	<0.0210	< 0.0210	< 0.0210	< 0.0210	0.00957	< 0.0210	< 0.0210	< 0.0210	0.00957 J

#### Table 4: Area 3 Results of Final Confirmation Soil Samples

NOTES:

1 The listed value for copper and PCBs are the project-specific remediation levels. The listed value for gasoline range organics is the project-specific cleanup level since a remediation level was not <sup>†</sup> Sample is a duplicate. See below for a list of duplicates and primary samples.

Sample A3-SIDE100:2 is field-duplicate sample of A3-SIDE18:2.

Sample A3-SIDE101:5 is field-duplicate sample of A3-SIDE4:5.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed.

The following confirmation samples were overexcavated: A3-BOT16, A3-BOT21, A3-BOT22, A3-BOT23, A3-BOT34, A3-BOT36, A3-SIDE20, and A3-SIDE28. Results reported from Fremont Analytical, Inc. work orders 2109394, 2109493, 2109508, 2110219, 2110251, 2110287, 2110360, and 21111114.

#### Table 4: Area 3 Results of Final Confirmation Soil Samples

	Gasoline Range		Aroclor-	Total PCB								
Analyte	Organics	Copper	1016	1221	1232	1242	1248	1254	1260	1262	1268	Aroclors
Remediation Level or												
Cleanup Level <sup>1</sup> (mg/kg)	250	250										0.5
Location ID Depth (ft bgs)												

< Analyte was not detected; reported as less than the reporting limit.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting limit. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

JH\* = Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson (\*).

N\* = laboratory noted that Gasoline-Range Organics (C6 - C12) chromatographic patterns indicated that detections were due to the presence of unresolved, non-target compounds in the gasoline range.

Results are not consistent with a known petroleum distillate. Flag applied by Shannon & Wilson (\*).

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram; PCB = polychlorinated biphenyl

	Analyte		Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	TOTAL PCBS
Location ID	mediation Level	Depth	_ 250										0.5
in Figure 6	Sample Name	[ft bgs]	25.5	.0.012(	.0.012(	.0.012(	.0.012(	.0.012(	.0.012(	.0.012/	.0.012(	.0.012(	.0.012
A4-1	A4-1:8	8	35.5	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.012
A4-2	A4-2:8	8	149	<0.0108	< 0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.0108	<0.010
	A4-2:9 A4-3:8	9	132	< 0.0106	< 0.0106	< 0.0106	< 0.0106	< 0.0106	< 0.0106	< 0.0106	< 0.0106		
A4-3		8 8 <sup>†</sup>	29.1	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.0117	<0.011
	A4-103:8 A4-4:8	8'	29.8 105	<0.0119 <0.0107	<0.0119	<0.0119	<0.0119 <0.0107	<0.0119 <0.0107	<0.0119	<0.0119	<0.0119	<0.0119	<0.011
A4-4	A4-4.0	0 9	219	< 0.0107	< 0.0107	< 0.0107	< 0.0107	< 0.0107	<0.0107 <0.0101	<0.0107 <0.0101	<0.0107 <0.0101	<0.0107 <0.0101	<0.010
1/													
16	A4-SIDE16:6	6	157	<0.00417		<0.00417				<0.00515		<0.00515	
17	A4-SIDE17:6	6	24.8	<0.00520		<0.00520				<0.00640		< 0.00640	
18	A4-SIDE18:6 A4-SIDE19:2	6	41.0	<0.00486		<0.00486				<0.00600		<0.00600 <0.00520	
19	A4-SIDE 19.2 A4-SIDE 19:6	6	41.3 27.3	<0.00424		<0.00424 <0.00469				<0.00520 <0.00580		<0.00520	
		6	36.9	< 0.00469		<0.00409	<0.00469	<0.00580	<0.00560	< 0.00380		< 0.00580	0.0283
27	A4-SIDE27:6 A4-SIDE102:6	6 <sup>†</sup>	37.4	< 0.0221	<0.0221	< 0.0221	< 0.0221	< 0.0221	0.0283 J		<0.0221	< 0.0221	
28	A4-SIDE 102.6	6	34.2	< 0.0242	<0.0242 <0.0249	< 0.0242	< 0.0242	<0.0242	0.0160 J	<0.0242 <0.0249	<0.0242 <0.0249	<0.0242	0.0160
20	A4-SIDE28.0 A4-SIDE29:2	2	135	< 0.0249	< 0.0249	< 0.0249	< 0.0249	< 0.0249	0.0200 J	<0.0249	< 0.0249	< 0.0249	0.0200
29	A4-SIDE29.2 A4-SIDE29:6.5	6.5	<b>2300</b>	< 0.0290	< 0.0290	< 0.0290	< 0.0290	< 0.0290	0.0802	< 0.0290	< 0.0290	< 0.0290	0.080
	A4-SIDE29.0.3 A4-SIDE30:2	2	2300	< 0.0272	< 0.0272	< 0.0272	< 0.0272	< 0.0272	0.398	< 0.0272	< 0.0272	< 0.0272	0.390
30	A4-SIDE30.2 A4-SIDE30:6	6	333	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	0.0664 0.0444 J	< 0.0200	< 0.0200	< 0.0200	0.088
32	A4-SIDE30:0	8	416	< 0.0270	< 0.02 %	< 0.0270	< 0.0270	< 0.0270	0.0444 J	<0.0270	< 0.0270	< 0.0270	0.0444
34	A4-SIDE32:0 A4-SIDE34:8	8	934	< 0.0262	< 0.0260	< 0.0202	< 0.0262	< 0.0262	0.0925	< 0.0262	< 0.0202	< 0.0262	0.071
41	A4-SIDE34:6	6	35.3	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	0.0723	< 0.0200	< 0.0200	< 0.0200	0.0501
44	A4-SIDE41:0	1	161	< 0.0304	< 0.0305	< 0.0304	< 0.0304	< 0.0304	0.0380 J	< 0.0304	< 0.0304	< 0.0304	0.0380
44	A4-SIDE44:1 A4-SIDE45:6	6	47.4	< 0.0303	< 0.0303	< 0.0303	< 0.0303	< 0.0303	0.0300 J	< 0.0303	< 0.0303	< 0.0303	0.0222
49	A4-SIDE49:4.5	4.5	35.4	<0.00667		<0.00667				<0.00823	< 0.00823	0.00823	<0.002
17	A4-SIDE50:2	2	38.7	<0.00708		< 0.00708				<0.00874		< 0.00874	
50	A4-SIDE200:2	2 <sup>†</sup>	40.2	<0.00676		<0.00676				< 0.00833		< 0.00833	
	A4-SIDE50:5	5	146	<0.00766		<0.00766			0.0390	<0.00945		< 0.00945	0.039
	A4-SIDE52:2	2	191	<0.00660		<0.00660			0.0305	<0.00814		< 0.00814	0.030
	A4-SIDE52:5	5	84.5	<0.00000		<0.00000			0.130	< 0.00835	< 0.00835		0.030
52	A4-SIDE52:8	8	546	<0.00860		<0.00860			0.0868	< 0.0106	< 0.0106	< 0.0106	0.086
52	A4-SIDE52:9	9	917	<0.00850		<0.00850			0.105	< 0.0105	< 0.0100	< 0.0105	0.000
	A4-SIDE52:10	10	154	<0.00786		<0.00030			0.0576	<0.00970		< 0.00970	0.057
	A4-SIDE55:2	2	1700	<0.00748		<0.00748			0.0780	< 0.00922		< 0.00922	0.037
55	A4-SIDE55:6.5	6.5	1060	<0.00740		< 0.00740			0.297	<0.00922	<0.00922		0.070
	A4-SIDE55.0.5	2	264	< 0.00730		<0.00730			0.237	< 0.00901	< 0.00901		0.237
56	A4-SIDE56:5	5	332	<0.00004		<0.00004			0.0255	<0.00773	< 0.00020		0.023
	A4-310E30.3	0	332	~0.000Z7	<0.00027	~U.UUUZ/	~U.UUUZ/	~0.00113	0.0421	~0.00773	<0.00773	~0.00113	0.042

	Analyte		Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	TOTAI PCBS
	mediation Level		250										0.5
Location ID in Figure 6	Sample Name	Depth [ft bgs]											
	A4-SIDE57:9	9	376	<0.00665	< 0.00665	< 0.00665	< 0.00665	< 0.00821	0.0469	< 0.00821	< 0.00821	< 0.00821	0.0469
57	A4-SIDE57:10	10	3160	<0.00798	< 0.00798	< 0.00798	< 0.00798	< 0.00985	0.319	<0.00985	< 0.00985	< 0.00985	0.319
57	A4-SIDE57:11	11	2080 J*	< 0.00767	< 0.00767	< 0.00767	< 0.00767	< 0.00947	0.116	< 0.00947	< 0.00947	< 0.00947	0.116
	A4-SIDE57:12	12	227	< 0.00775	< 0.00775	< 0.00775	< 0.00775	< 0.00957	0.0993	< 0.00957	< 0.00957	< 0.00957	0.0993
	A4-SIDE59:11	11	964	<0.00671	< 0.00671	< 0.00671	< 0.00671	< 0.00828	0.308	< 0.00828	< 0.00828	< 0.00828	0.308
	A4-SIDE59:12	12	2120	<0.00801	< 0.00801	< 0.00801	< 0.00801	< 0.00988	0.296	<0.00988	< 0.00988	< 0.00988	0.296
59	A4-SIDE59:13	13	1000	<0.00725	< 0.00725	< 0.00725	< 0.00725	< 0.00894	0.161	< 0.00894	< 0.00894	< 0.00894	0.161
	A4-SIDE59:14	14	409	<0.00809	<0.00809	< 0.00809	< 0.00809	< 0.00998	0.0420	<0.00998	< 0.00998	< 0.00998	0.042
	A4-SIDE59:15	15	121	<0.00840	< 0.00840	< 0.00840	< 0.00840	< 0.0104	0.165	< 0.0104	< 0.0104	< 0.0104	0.165
40	A4-SIDE60:14	14	354	< 0.00739	< 0.00739	< 0.00739	< 0.00739	< 0.00912	0.146	< 0.00912	< 0.00912	< 0.00912	0.146
60	A4-SIDE60:15	15	168 J*	<0.00868	<0.00868	<0.00868	<0.00868	< 0.0107	0.167	< 0.0107	< 0.0107	< 0.0107	0.167
61	A4-SIDE61:15	15	349	< 0.00703	< 0.00703	< 0.00703	< 0.00703	< 0.00867	0.135	0.00867 J*	< 0.00867	< 0.00867	0.135
	A4-SIDE62:8	8	352	< 0.00753	< 0.00753	< 0.00753	< 0.00753	< 0.00929	0.340	< 0.00929	< 0.00929	< 0.00929	0.340
()	A4-SIDE62:9	9	277	< 0.00792	< 0.00792	< 0.00792	< 0.00792	< 0.00977	0.138	< 0.00977	< 0.00977	< 0.00977	0.138
62	A4-SIDE62:10	10	927	< 0.00797	< 0.00797	< 0.00797	< 0.00797	< 0.00984	0.234	< 0.00984	< 0.00984	< 0.00984	0.234
	A4-SIDE62:11	11	175	< 0.00849	<0.00849	< 0.00849	< 0.00849	<0.0105	0.0800	< 0.0105	< 0.0105	< 0.0105	0.080
63	A4-SIDE63:6	6	127	< 0.00924	< 0.00924	< 0.00924	< 0.00924	< 0.0114	0.0176	< 0.0114	< 0.0114	< 0.0114	0.017
	A4-SIDE64:2	2	21.8	<0.00735 J*	< 0.00735	< 0.00735	< 0.00735	< 0.00908	< 0.00908	<0.00908 J*	< 0.00908	< 0.00908	< 0.009
64	A4-SIDE64:5	5	208	< 0.00853	< 0.00853	< 0.00853	< 0.00853	< 0.0105	0.161	< 0.0105	< 0.0105	< 0.0105	0.16
	A4-SIDE66:1.5	1.5	26.2	<0.00956	<0.00956	<0.00956	<0.00956	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	< 0.01
66	A4-SIDE66:5	5	15.3	<0.00806	<0.00806	<0.00806	<0.00806	< 0.00994	< 0.00994	<0.00994	< 0.00994	< 0.00994	< 0.009
	A4-SIDE69:1.5	1.5	893	< 0.00702	< 0.00702	< 0.00702	< 0.00702	<0.00866	0.234	<0.00866	<0.00866	<0.00866	<0.008
69	A4-SIDE203:1.5	1.5 <sup>†</sup>	972	< 0.00642	< 0.00642	< 0.00642	< 0.00642	< 0.00792	0.214	< 0.00792	< 0.00792	< 0.00792	0.214
	A4-SIDE69:6.5	6.5	33.6	<0.00685	<0.00685	< 0.00685	< 0.00685	< 0.00846	0.0207	< 0.00846	< 0.00846	< 0.00846	0.020
	A4-SIDE70:2	2	719	<0.00716	<0.00716	< 0.00716	< 0.00716	< 0.00884	0.500	< 0.00884	< 0.00884	< 0.00884	0.500
70	A4-SIDE70:7	7	29.8	< 0.00639	<0.00639	< 0.00639	< 0.00639	< 0.00789	< 0.00789	< 0.00789	< 0.00789	< 0.00789	< 0.007
71	A4-SIDE71:8	8	66.6	<0.00821	<0.00821	< 0.00821	< 0.00821	<0.0101	< 0.0101	<0.0101	<0.0101	< 0.0101	<0.010
	A4-SIDE72:2	2	1300	<0.00852	<0.00852	< 0.00852	< 0.00852	<0.0105	0.135	<0.0105	<0.0105	< 0.0105	0.13
72	A4-SIDE72:6.5	6.5	1120	<0.0101	<0.0101	<0.0101	<0.0101	<0.0124	0.0952	< 0.0124	<0.0124	< 0.0124	0.095
	A4-SIDE73:2.5	2.5	716	<0.00811	<0.00811	<0.00811	<0.00811	<0.0100	0.0202	< 0.0100	< 0.0100	< 0.0100	0.020
73	A4-SIDE204:2.5	2.5 <sup>†</sup>	664	<0.00762	< 0.00762	< 0.00762	< 0.00762	< 0.00940	0.0255	< 0.00940		< 0.00940	0.025
	A4-SIDE73:7	7	1710	< 0.00925		< 0.00925			0.103	< 0.0114	< 0.0114		0.103
	A4-SIDE75:10	10	258	< 0.00669		< 0.00669			0.0595	< 0.00826		< 0.00826	0.059
75	A4-SIDE75:11	11	2520	_	_	_	_		_	_	_	_	
	A4-SIDE76:13	13	706	<0.00764	< 0.00764	< 0.00764			0.245	< 0.00943		<0.00943	0.24
76	A4-SIDE76:14	13	45.9	<0.00931		< 0.00931			0.243	<0.0115		<0.00743	0.24
	A4-SIDE78:7	8	407	<0.00741		< 0.00741			0.0962	0.0754		< 0.00914	0.17
78	A4-SIDE78:8	9	258	< 0.00809		< 0.00809			0.0645	< 0.00998		< 0.00998	
10	74-210L/0.0	7	200	<0.00009	~0.00009	~0.00009	~0.00009	NU.UU770	0.0040	<u>\0.00770</u>	NU.UU770	NU.UU770	0.004

	Analyte		Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	TOTAL PCBS
Re	mediation Level		250										0.5
Location ID		Depth											
in Figure 6	Sample Name	[ft bgs]	1//	0.0100	0.0100	0.0102	0.0100	0.0105	0.01/0	0.0105	0.0105	0.0105	0.01/0
79	A4-SIDE79:8	8	166	< 0.0102	< 0.0102	< 0.0102	< 0.0102	< 0.0125	0.0168	< 0.0125	< 0.0125	< 0.0125	0.0168
82	A4-SIDE82:8	8	334	<0.0106	<0.0106	<0.0106	<0.0106	<0.0131	0.0740	<0.0131	<0.0131	<0.0131	0.0740
	A4-SIDE82:9	9	292					_	_	_	_	_	
92	A4-SIDE92:1.5	1.5	18.3	< 0.00745			< 0.00745			< 0.00919		< 0.00919	
	A4-SIDE92:5	5	148	< 0.00724			< 0.00724			< 0.00892		< 0.00892	
405	A4-SIDE125:2	2	45.1	< 0.00898			< 0.00898		<0.0111	<0.0111	<0.0111	< 0.0111	< 0.011
125	A4-SIDE125:6	6	11.9	<0.0102	<0.0102	<0.0102	< 0.0102	< 0.0126	<0.0126	<0.0126	< 0.0126	< 0.0126	< 0.012
	A4-SIDE125:8	8	19.6	<0.00997		< 0.00997		<0.0123	<0.0123	<0.0123	<0.0123	<0.0123	<0.012
126	A4-SIDE126:2	2	208	<0.0101	<0.0101	<0.0101	<0.0101	<0.0124	0.154	<0.0124	< 0.0124	< 0.0124	0.154
	A4-SIDE126:6	6	35.4	< 0.00963	< 0.00963	< 0.00963	< 0.00963	<0.0119	< 0.0119	<0.0119	<0.0119	<0.0119	<0.011
	A4-SIDE127:2	2	69.7	<0.00997			< 0.00997		< 0.0123	< 0.0123	<0.0123	< 0.0123	<0.012
127	A4-SIDE127:6	6	36.3	< 0.00945	< 0.00945	< 0.00945	< 0.00945	<0.0117	0.215	<0.0117	< 0.0117	<0.0117	0.215
	A4-SIDE127:8	8	25.1	< 0.00916	< 0.00916	< 0.00916	< 0.00916	< 0.0113	< 0.0113	< 0.0113	< 0.0113	< 0.0113	<0.011
130	A4-SIDE130:2	2	744	< 0.00871	< 0.00871	< 0.00871	< 0.00871	< 0.0107	0.0392	< 0.0107	< 0.0107	< 0.0107	0.0392
150	A4-SIDE130:6	6	155	< 0.00882	< 0.00882	< 0.00882	< 0.00882	< 0.0109	< 0.0109	< 0.0109	< 0.0109	< 0.0109	< 0.010
131	A4-SIDE131:2	2	2260	—	_	—	—	—	—	—	_	_	_
132	A4-SIDE132:2	2	1480	_	—	_	—	—	_	_	_	—	_
133	A4-SIDE133:2	2	1240	<0.00861	<0.00861	< 0.00861	< 0.00861	<0.0106	0.203	<0.0106	<0.0106	< 0.0106	0.203
	A4-SIDE133:5.5	5.5	132	<0.00808	<0.00808	< 0.00808	< 0.00808	< 0.00996	0.0482	< 0.00996	<0.00996	< 0.00996	0.0482
	A4-SIDE134:2	2	807 J*	<0.00859	<0.00859	< 0.00859	< 0.00859	< 0.0106	0.297 J*	< 0.0106	< 0.0106	< 0.0106	0.297
134	A4-SIDE217:2	$2^{\dagger}$	353 J*	<0.00860	<0.00860	< 0.00860	< 0.00860	< 0.0106	0.0808 J*	< 0.0106	< 0.0106	< 0.0106	0.0808
	A4-SIDE134:6	6	684	< 0.00939	< 0.00939	< 0.00939	< 0.00939	< 0.0116	0.126	< 0.0116	<0.0116	< 0.0116	0.126
135	A4-SIDE135:2	2	—	< 0.00705	< 0.00705	< 0.00705	< 0.00705	< 0.00869	0.234	< 0.00869	< 0.00869	< 0.00869	0.234
130	A4-SIDE135:6	6	_	< 0.0075	< 0.0075	< 0.0075	< 0.0075	< 0.00925	< 0.00925	< 0.00925	< 0.00925	< 0.00925	< 0.009
104	A4-SIDE136:2	2	_	< 0.00669	< 0.00669	< 0.00669	< 0.00669	< 0.00825	0.331	< 0.00825	< 0.00825	< 0.00825	0.331
136	A4-SIDE136:6	6	_	< 0.00675	< 0.00675	< 0.00675	< 0.00675	< 0.00833	0.0839	< 0.00833	< 0.00833	< 0.00833	0.0839
107	A4-SIDE137:2	2	—	< 0.00691	< 0.00691	< 0.00691	< 0.00691	< 0.00852	0.231	< 0.00852	< 0.00852	< 0.00852	0.231
137	A4-SIDE137:6	6	_	< 0.008	< 0.008	< 0.008	< 0.008	< 0.00986	0.0453 J	< 0.00986	< 0.00986	< 0.00986	0.0453
100	A4-SIDE138:2	2	_	< 0.00646	< 0.00646		< 0.00646				< 0.00797	< 0.00797	0.212
138	A4-SIDE138:6	6	_	< 0.00779	< 0.00779					< 0.00961	< 0.00961	< 0.00961	0.0292
140	A4-BOT140:8	8	_		< 0.00732						< 0.00903		
141	A4-BOT141:8	8	_	< 0.0067			< 0.0067		0.070		< 0.00826		0.273
142	A4-BOT142:11	11	_	< 0.00701			< 0.00701				< 0.00865		0.818
143	A4-BOT143:8	8	_		< 0.00688					< 0.00848			
144	A4-	11.5	_		< 0.00000				0.412	< 0.00040		< 0.00040	0.412
145	ROT144-11 5 A4-BOT145:10	10	_		< 0.00793				0.412				0.412
	A4-									< 0.0103		< 0.0103	0.304
146	ROT146-11 5	0	_	< 0.00889					0.5	< 0.011	< 0.011	< 0.011	
147	A4-BOT147:8	8	_		< 0.00725					< 0.00894	< 0.00894		0.095
148	A4-BOT148:8	8	_	< 0.00733	< 0.00733	< 0.00733	< 0.00733	< 0.00904	0.273	< 0.00904	< 0.00904	< 0.00904	0.273

	Analyte		Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	TOTAI PCBS
	mediation Level		250										0.5
Location ID	Comula Norra	Depth											
in Figure 6	Sample Name	[ft bgs]		0.0070/	0.0070/	0.0070/	0.0070/	0.0007	0.202	0.0007	0.0007	0.0007	0 202
149	A4-SIDE149:3	3	_		< 0.00706				0.203	< 0.0087		< 0.0087	0.203
151	A4-SIDE149:8 A4-BOT151:8	8	_	< 0.0063		< 0.0063				< 0.00777	< 0.00777		
151		8	_	< 0.00756									0.209
153	A4-SIDE153:2	2	_	< 0.00663						< 0.00818			
	A4-SIDE153:6	6	_		< 0.00649					< 0.00801	< 0.00801		
154	A4-SIDE154:2	2	—	< 0.00574						< 0.00708			
	A4-SIDE154:6	6	_	< 0.00655		< 0.00655				< 0.00808			0.322
155	A4-BOT155:8	8	_	< 0.00655	< 0.00655	< 0.00655	< 0.00655	< 0.00808		< 0.00808	< 0.00808	< 0.00808	0.333
156	A4-BOT156:8	8	—	< 0.00717	< 0.00717	< 0.00717	< 0.00717	< 0.00884		< 0.00884	< 0.00884	< 0.00884	0.099
157	A4-BOT157:8	8	_	< 0.00704	< 0.00704	< 0.00704	< 0.00704	< 0.00868	0.114	< 0.00868	< 0.00868	< 0.00868	0.114
158	A4-BOT158:8	8	_	< 0.00728	< 0.00728	8 < 0.00728	< 0.00728	< 0.00898	0.0707	< 0.00898	< 0.00898	< 0.00898	0.070
159	A4-BOT159:8	8	—	< 0.00766	< 0.00766	< 0.00766	< 0.00766	< 0.00946	< 0.00946	< 0.00946	< 0.00946	< 0.00946	< 0.009
160	A4-BOT160:8	8	_	< 0.00728	< 0.00728	8 < 0.00728	< 0.00728	< 0.00898	< 0.00898	< 0.00898	< 0.00898	< 0.00898	< 0.008
161	A4-SIDE161:2	2	_	< 0.00655	< 0.00655	< 0.00655	< 0.00655	< 0.00809	0.011 J	< 0.00809	< 0.00809	< 0.00809	0.011
101	A4-SIDE161:6	6	—	< 0.00638	< 0.00638	< 0.00638	< 0.00638	< 0.00787	0.0199 J	< 0.00787	< 0.00787	< 0.00787	0.0199
140	A4-SIDE162:2	2	_	< 0.00657	< 0.00657	< 0.00657	< 0.00657	< 0.0081	0.191	< 0.0081	< 0.0081	< 0.0081	0.191
162	A4-SIDE162:6	6	_	< 0.00655	< 0.00655	< 0.00655	< 0.00655	< 0.00809	0.0546	< 0.00809	< 0.00809	< 0.00809	0.054
1/0	A4-SIDE163:2	2	—	< 0.00652	< 0.00652	2 < 0.00652	< 0.00652	< 0.00804	0.329	< 0.00804	< 0.00804	< 0.00804	0.329
163	A4-SIDE163:6	6	_	< 0.00833	< 0.00833	< 0.00833	< 0.00833	< 0.0103	< 0.0103	< 0.0103	< 0.0103	< 0.0103	< 0.01
	A4-SIDE164:2	2	—	< 0.0480	< 0.0480	< 0.0480	< 0.0480	< 0.0480	0.329 J	< 0.0480	< 0.0480	< 0.0480	0.329
164	A4-SIDE164:5	5	_	<0.0486	<0.0486	< 0.0486	< 0.0486	< 0.0486	0.0235 J	<0.0486	<0.0486	< 0.0486	0.0235
165	A4-BOT165:6	6	_	< 0.00801	< 0.00801	< 0.00801	< 0.00801	< 0.00988		< 0.00988	< 0.00988	< 0.00988	0.059
166	A4-BOT166:6	6	_						< 0.00928	< 0.00928			
	A4-SIDE167:2	2	_	< 0.00752					< 0.00928	< 0.00928	< 0.00928		
167	A4-SIDE167:5	5	_	< 0.00663						< 0.00818			
168	A4-BOT168:6	6	_	< 0.0106					< 0.0131		< 0.0131		
	A4-SIDE169:2	2	_	< 0.00824						< 0.0101		< 0.0102	
169	A4-SIDE169:5	5	_	< 0.00024						< 0.0102		< 0.0102	
	A4-SIDE170:2	2	_	< 0.00933		< 0.00933			0.165	< 0.0113		< 0.0113	0.165
170	A4-SIDE170:5	5	_									< 0.0114	
	A4-SIDE170.3				< 0.00993					< 0.0122			
171	A4-SIDE171:2 A4-SIDE219:2	2 2 <sup>†</sup>	_	< 0.00809						< 0.00998	< 0.00998		
171				< 0.0427		< 0.0427				< 0.0427		< 0.0427	
	A4-SIDE171:6	6	_	< 0.00678		< 0.00678				< 0.00837	< 0.00837		0.507
173	A4-SIDE173:2	2	_		< 0.00733						< 0.00904		0.117
	A4-SIDE173:6	6	—		< 0.00646					< 0.00797	< 0.00797		
	A4-SIDE174:2	2	_	< 0.00712	< 0.00712	2 < 0.00712	< 0.00712	< 0.00879	0.0402 J	< 0.00879	< 0.00879	< 0.00879	0.0402
174	A4-SIDE174:6	6	_	< 0.00614	< 0.00614	< 0.00614	< 0.00614	< 0.00757	< 0.00757	< 0.00757	< 0.00757	< 0.00757	< 0.007
	A4-SIDE174:7	7	_	< 0.00643	< 0.00643	< 0.00643	< 0.00643	< 0.00793	0.135	< 0.00793	< 0.00793	< 0.00793	0.13

Analyte		Copper	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	TOTAL PCBS
nediation Level		250										0.5
Sample Name	Depth [ft bgs]	-										
A4-SIDE175:2	2	—	< 0.0067	< 0.0067	< 0.0067	< 0.0067	< 0.00826	0.0213 J	< 0.00826	< 0.00826	< 0.00826	0.0213 J
A4-SIDE175:6	6	_	< 0.00653	< 0.00653	< 0.00653	< 0.00653	< 0.00805	< 0.00805	< 0.00805	< 0.00805	< 0.00805	< 0.00805
A4-SIDE176:2	2	_	< 0.00664	< 0.00664	< 0.00664	< 0.00664	< 0.00819	< 0.00819	< 0.00819	< 0.00819	< 0.00819	< 0.00819
A4-SIDE220:2	2 <sup>†</sup>	_	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041	< 0.041
A4-SIDE176:6	6	_	< 0.00757	< 0.00757	< 0.00757	< 0.00757	< 0.00935	< 0.00935	< 0.00935	< 0.00935	< 0.00935	< 0.00935
A4-SIDE176:7	7	_	< 0.00739	< 0.00739	< 0.00739	< 0.00739	< 0.00911	0.0662	< 0.00911	< 0.00911	< 0.00911	0.0662
A4-SIDE177:2	2	_	< 0.0079	< 0.0079	< 0.0079	< 0.0079	< 0.00974	< 0.00974	< 0.00974	< 0.00974	< 0.00974	< 0.00974
A4-SIDE177:6	6	_	< 0.00864	< 0.00864	< 0.00864	< 0.00864	< 0.0107	0.657	< 0.0107	< 0.0107	< 0.0107	0.657
DG11-1	10-11		<0.0038	< 0.0038	<0.0038	<0.0038	< 0.0038	< 0.0038	<0.0038		_	< 0.0038
SS-BOT-03	6	141	_	_	_	_	_	_		_	_	1.45
SS-SW-06	4.5-5	12.5	_	_	_	_	_	_	_	_	_	0.039
SS-SW-09	4.5-5	130	—	_	_	_	_	_	—	_	_	0.054
	Ad-SIDE175:2           A4-SIDE175:2           A4-SIDE175:6           A4-SIDE176:2           A4-SIDE176:2           A4-SIDE176:2           A4-SIDE176:6           A4-SIDE176:7           A4-SIDE177:2           A4-SIDE177:6           DG11-1           SS-BOT-03           SS-SW-06	Depth           Sample Name         Depth           A4-SIDE175:2         2           A4-SIDE175:5         6           A4-SIDE175:6         6           A4-SIDE175:7         2           A4-SIDE176:2         2           A4-SIDE176:5         6           A4-SIDE176:2         2           A4-SIDE176:6         6           A4-SIDE177:7         7           A4-SIDE177:6         6           A4-SIDE177:7         2           A4-SIDE177:6         6           DG11-1         10-11           SS-BOT-03         6           SS-SW-06         4.5-5	Copper           Depth         250           Sample Name         [ft bgs]           A4-SIDE175:2         2            A4-SIDE175:5         6            A4-SIDE175:6         6            A4-SIDE176:2         2            A4-SIDE176:2         2            A4-SIDE176:2         2 <sup>†</sup> A4-SIDE176:6         6            A4-SIDE176:7         7            A4-SIDE177:6         6            A4-SIDE177:6         6            A4-SIDE177:6         6            A4-SIDE177:6         6            A4-SIDE177:6         6            DG11-1         10-11            SS-B0T-03         6         141           SS-SW-06         4.5-5         12.5	Analyte         Copper         1016           pediation Level         250         250           Depth         Depth         4           Sample Name         [ft bgs]	Analyte         Copper         1016         1221           lediation Level         250         250         1016         1221           Sample Name         [ft bgs]         1016         1221           A4-SIDE175:2         2          <0.0067	Analyte         Copper         1016         1221         1232           nediation Level         250         250         1016         1221         1232           Ad-siDE1         Depth         250         1016         1221         1232           A4-SIDE175:2         2          <0.0067	Analyte         Copper         1016         1221         1232         1242           nediation Level         250         250         1016         1221         1232         1242           Ad-SiDE 175:2         2          < 0.0067	Analyte         Copper         1016         1221         1232         1242         1248           nediation Level         250 <td>Analyte         Copper         1016         1221         1232         1242         1248         1254           nediation Level         250         200653         20.0067         20.0067         20.00653         20.00653         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00719         20.00717         20.00717         20.00717         20.00717         20.00717         20.00717         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719</td> <td>Analyte         Copper         1016         1221         1232         1242         1248         1254         1260           nediation Level         250         200073         2</td> <td>Analyte         Copper         1016         1221         1232         1242         1248         1254         1260         1262           nediation Level         250         Depth         -</td> <td>Analyte         Copper         1016         1221         1232         1242         1248         1254         1260         1262         1268           nediation Level         250         Depth         250         2000757         2000653&lt;&lt;2000653 &lt; 000653 &lt; 000653 &lt; 0</td>	Analyte         Copper         1016         1221         1232         1242         1248         1254           nediation Level         250         200653         20.0067         20.0067         20.00653         20.00653         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00819         20.00719         20.00717         20.00717         20.00717         20.00717         20.00717         20.00717         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719         20.00719	Analyte         Copper         1016         1221         1232         1242         1248         1254         1260           nediation Level         250         200073         2	Analyte         Copper         1016         1221         1232         1242         1248         1254         1260         1262           nediation Level         250         Depth         -	Analyte         Copper         1016         1221         1232         1242         1248         1254         1260         1262         1268           nediation Level         250         Depth         250         2000757         2000653<<2000653 < 000653 < 000653 < 0

NOTES:

Results are reported in mg/kg.

† Sample is a duplicate. See below for a list of duplicates and primary samples.

Sample A4-103:8 is a field-duplicate of sample A4-3:8.

Sample A4-SIDE102:6 is a field-duplicate of sample A4-SIDE27:6.

Sample A4-SIDE200:2 is a field-duplicate of sample A4-SIDE50:2.

Sample A4-SIDE203:1.5 is a field-duplicate of sample A4-SIDE69:1.5.

Sample A4-SIDE204:2.5 is a field-duplicate of sample A4-SIDE73:2.5.

Sample A4-SIDE217:2 is a field-duplicate of sample A4-SIDE134:2.

Sample A4-SIDE219:2 is a field duplicate of sample A4-SIDE171:2.

Sample A4-SIDE220:2 is a field duplicate of sample A4-SIDE176:2.

Confirmation samples and samples that were not overexcaated are listed in this table. Overexcavated samples are not listed.

Results reported from Fremont Analytical, Inc. work orders 2102417, 2109220, 2110054, 2110067, 2110251, 2110287, 2110520, 2112242, 2112277, 2112301, 2112321, 2201334, 2208229, 2208249, 2208249, 2208249, 2208314, 2208325, 2208415, and 2208478.

- = Analysis not requested.

< = Analyte was not detected; reported as less than the reporting limit.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting limit. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

#### 123A189HPDF 123467844009 12341814000 12346784808 TOTA DOMINTUR 4NC10 1,23<sup>h,1,8</sup>HC0<sup>f</sup>,1,23<sup>h,1,8</sup>HC0<sup>f</sup>,1,23<sup>1,8</sup>,1,23<sup>1,8</sup>HC0<sup>f</sup>,1,23<sup>1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>HC0<sup>f</sup>,23<sup>h,1,8</sup>H 23187014 Analyte ocan ocht MTCA Method B Direct Contact 13 13 Cancer Location ID Sample Depth in Figure 6 [ft bgs] Name 25.4 0.637 J 2.12 J 0.821 J 2 J 1.99 J 0.31 J A4-1 A4-1:8 8 1820 28.2 3.56 13.3 1.99 J 24.1 1.74 J 0.846 15700 108 33 A4-3:8 8 62.4 J\* 21.9 J\* 14.1 J\* 113 J\* 6.39 J\* 12.5 J 3.2 1.95 89300 J\* 5260 J\* 5430 J\* 1050 J\* 37.8 J 2.41 J 7.15 1.12 J 1.38 124 A4-3 A4-103:8† 8 1440 J\* 230 J\* 14.4 J\* 13.7 J\* 7.68 J\* 40.8 J\* 5.26 J\* 22.3 J 1.54 J 6.07 2.32 J 6.93 J 4.34 1.41 19800 J\* 1130 J\* 42 4

#### Table 5B: Area 4 Results for Dioxin/Furans

NOTES:

<sup>†</sup> Sample A4-103:8 is field-duplicate sample of A4-3.

\* For each sample, the TEQ was calculated by multiplying the concentration of each compound by it's respective TEF and summing the results. When a compound was not detected, a value of 0.5 times the detection limit was multiplied by the corresponding TEF. Calculations were completed in accordance with Section 708 of the Model Toxics Control Act Regulation and Statute (Washington Administrative Code 173-340); TEFs were provided in Results are reported in pg/g.

Results reported from Fremont Analytical work order 2102417.

Orange shading indicates detected concentration exceeds the screening level.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

bgs = below ground surface; ft = feet; MTCA = Model Toxics Control Act; pg/g = picogram per gram; TEF = toxic equivalency factor; TEQ = total toxic equivalent concentration of 2,3,7,8-TCDD

An	alyte	Arsenic	Cadmium	Chromium	Lead	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	Total PCB Aroclors
	n Level (mg/kg) Depth [ft bgs]	14.6	5.1	2600	250										0.5
۸Г 1	11	3.69	_	_	1.81	< 0.0122	<0.0122	< 0.0122	<0.0122	<0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	<0.0122
A5-1	12	2.38	_	_	1.22	< 0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	< 0.0118	< 0.0118	<0.0118
A5-2	8	5.10	_	_	33.4	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	<0.0120
A0-Z	9	2.21 JH*	_	_	2.79	< 0.0115	<0.0115	<0.0115	< 0.0115	< 0.0115	< 0.0115	< 0.0115	<0.0115	< 0.0115	<0.0115
A5-3	11	0.612	_	_	8.92	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933	< 0.00933
A5-4	8	1.73 JH*	_	_	1.71	< 0.0121	< 0.0121	< 0.0121	< 0.0121	< 0.0121	< 0.0121	< 0.0121	< 0.0121	<0.0121	<0.0121
	11	2.89	_	_	49.5	< 0.0140	< 0.0140	< 0.0140	< 0.0140	< 0.0140	0.271	< 0.0140	< 0.0140	< 0.0140	0.271
A5-5	12	3.65 J*	_	_	3.33	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114	< 0.0114
	12 <sup>†</sup>	4.28 JL*	_	_	7.00	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	<0.0126
A5-6	9	0.844	_	_	2.67	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130	< 0.0130
A5-7	11	2.92	_	_	181	< 0.0116	<0.0116	<0.0116	<0.0116	<0.0116	0.197	< 0.0116	<0.0116	< 0.0116	0.197
A0-7	12	7.94	_	_	13.8	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	< 0.0122	<0.0122
A5-8	11	2.49	_	_	198	< 0.0110	<0.0110	<0.0110	< 0.0110	<0.0110	0.0657	< 0.0110	<0.0110	< 0.0110	0.0657
AD-0	12	5.41	_	_	11.0	< 0.0126	<0.0126	<0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	< 0.0126	<0.0126
A5-9	11	0.919	_	_	1.48	< 0.0125	< 0.0125	< 0.0125	< 0.0125	< 0.0125	< 0.0125	< 0.0125	< 0.0125	< 0.0125	<0.0125
A0-9	12	2.36	_	_	2.06	< 0.0124	< 0.0124	< 0.0124	< 0.0124	< 0.0124	< 0.0124	< 0.0124	< 0.0124	< 0.0124	<0.0124
A5-10	11	0.459	_	_	1.22	< 0.0119	< 0.0119	<0.0119	< 0.0119	<0.0119	< 0.0119	< 0.0119	<0.0119	< 0.0119	<0.0119
A0-10	12	1.02	—	—	1.69	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	<0.0118	< 0.0118	<0.0118
A5-SIDE2	2	7.38	0.0960 J	14.5	7.70	_	_	_	_	_	_	—	_	—	_
AD-SIDEZ	7	5.00	_	_	42.9	< 0.00780	< 0.00780	< 0.00780	<0.00780	< 0.00963	< 0.00963	< 0.00963	< 0.00963	< 0.00963	< 0.00963
A5-SIDE3	2	6.09	0.386	18.9	34.3	_	_	_	_	_	_	_	_	_	_
HO-SIDES	6	6.17	_	_	151	< 0.00713	< 0.00713	< 0.00713	< 0.00713	<0.00880	0.108	<0.00880	<0.00880	<0.00880	0.108
A5-SIDE5	2	4.21	0.276 J	13.1	6.91	_	_	_	_	_	_	_	_	_	_
HO-SIDED	6	3.70	_	_	2.04	< 0.00851	< 0.00851	< 0.00851	< 0.00851	< 0.0105	< 0.0105	< 0.0105	< 0.0105	< 0.0105	< 0.0105

# Table 6: Area 5 Results of Final Confirmation Soil Samples

	alyte	Arsenic	Cadmium	Chromium	Lead	Aroclor- 1016	Aroclor- 1221	Aroclor- 1232	Aroclor- 1242	Aroclor- 1248	Aroclor- 1254	Aroclor- 1260	Aroclor- 1262	Aroclor- 1268	Total PCB Aroclors
Remediation	n Level (mg/kg)	14.6	5.1	2600	250										0.5
Location ID	Depth [ft bgs]														
	2	5.90	0.550 J	12.1	18.1	_	_	_	_	_	_	_	_	_	_
A5-SIDE6	2 <sup>†</sup>	6.49	0.473 J	17.5	22.7	_	_	_	_	_	—	_	_	_	_
	6	4.02	—	—	2.09	< 0.00971	< 0.00971	< 0.00971	< 0.00971	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120	< 0.0120
A5-SIDE7	3	5.44	0.0970 J	22.4	7.74	—	—	—	—	—	_	—	—	—	—
AJ-SIDL7	6	2.88	—	—	3.66	< 0.00879	< 0.00879	< 0.00879	< 0.00879	< 0.0108	< 0.0108	< 0.0108	< 0.0108	< 0.0108	< 0.0108
A5-SIDE8	2	7.01	0.617 J	27.7	29.6	—	—	—	—	—	_	—	—	—	—
AJ-SIDL0	6	7.97	_	—	3.35	< 0.0103	< 0.0103	< 0.0103	< 0.0103	< 0.0127	< 0.0127	< 0.0127	< 0.0127	< 0.0127	< 0.0127
A5-SIDE9	3	5.86	1.81 J	24.9	192	—	—	—	—	—	_	—	—	—	—
AJ-SIDL7	7	4.61	—	—	131	< 0.00816	< 0.00816	< 0.00816	< 0.00816	< 0.0101	0.0459 J	< 0.0101	< 0.0101	< 0.0101	0.0459 J
A5-SIDE11	2	8.93	0.107 J	18.9	13.1	—	—	—	—	—	—	—	—	—	—
AD-SIDETT	7	4.72	_	_	10.4	< 0.00787	< 0.00787	< 0.00787	< 0.00787	< 0.00971	< 0.00971	< 0.00971	< 0.00971	< 0.00971	< 0.00971
A5-SIDE12	3	2.28	0.0325 JH*	8.39	2.35	_	_	_	_	_	_	_	_	_	_
AD-SIDE 12	7	6.09	_	_	4.39	< 0.00878	< 0.00878	< 0.00878	< 0.00878	<0.0108	<0.0108	< 0.0108	<0.0108	<0.0108	<0.0108
A5-SIDE13	2	4.24	0.0928 J	10.6	9.65	_	_	_	_	_	_	_	_	_	_
AD-SIDE 13	7	2.20	_	_	1.50 JH*	< 0.00859	<0.00859	< 0.00859	< 0.00859	<0.0106	0.0183 J	< 0.0106	< 0.0106	< 0.0106	0.0183 J
A5-SIDE15	3	5.86	0.185	11.0	21.6	_	_	_	_	_	_	_	_	_	_
AD-SIDE 10	6	7.14	_	_	62.8	< 0.00738	< 0.00738	< 0.00738	< 0.00738	< 0.00910	0.0897	< 0.00910	< 0.00910	< 0.00910	0.0897
A5-SIDE16	2	6.26	0.200	12.2	32.1	_	_	_	_	_	_	_	_	_	_
AD-SIDE 10	6	6.91	_	_	44.7	< 0.00662	< 0.00662	< 0.00662	< 0.00662	< 0.00817	0.0644	< 0.00817	< 0.00817	< 0.00817	0.0644
A5-SIDE17	2	10.3	0.400 J	28.3	41.3	_	_	_	_	_	_	_	_	_	_
	2	4.01	0.155 J	10.6	17.2	_	_	_	_	_	_	_	_	_	_
A5-SIDE18	7	8.17	_	_	54.5	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282	< 0.0282
	2	4.95	0.197 J	21.0	1.82	_	_	_	_	_	_	_	_	_	_
A5-SIDE19	6	11.5	_	_	3470 E	< 0.0267	< 0.0267	< 0.0267	< 0.0267	< 0.0267	0.362	< 0.0267	< 0.0267	< 0.0267	0.362

# Table 6: Area 5 Results of Final Confirmation Soil Samples

#### Table 6: Area 5 Results of Final Confirmation Soil Samples

												Aroclor-		Aroclor-	Total PCB
An	alyte	Arsenic	Cadmium	Chromium	Lead	1016	1221	1232	1242	1248	1254	1260	1262	1268	Aroclors
Remediation	Level (mg/kg)	14.6	5.1	2600	250										0.5
Location ID	Depth [ft bgs]														
A5-SIDE20	2	3.74	0.105 J	13.3	8.25		—	—	_	—	_	—	—	—	—
AU-SIDEZU	6	5.54	—	_	44.2	< 0.0446	< 0.0446	< 0.0446	< 0.0446	< 0.0446	0.104	< 0.0446	< 0.0446	< 0.0446	0.104

NOTES:

<sup>†</sup> Sample is a duplicate. See below for a list of duplicates and primary samples.

Sample A5-SIDE105:12 is duplicate sample of A5-5:12.

Sample A5-SIDE101:2 is field-duplicate sample of A5-SIDE6:2.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed. The following confirmation samples were overexcavated: A5-SIDE1, A5-SIDE4, A5-SIDE10, and A5-SIDE14.

Results reported from Fremont Analytical, Inc. work orders 2102417, 2103028, 2109234, 2109371, 2109508, 2111114, and 2208415.

< = Analyte was not detected; reported as less than the reporting limit.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

E = Result exceeds laboratory calibration range. Flag applied by the laboratory.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting limit. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

JH\* = Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson (\*).

JL\* = Estimated concentration, biased low due to quality control failures. Flag applied by Shannon & Wilson (\*).

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram; PCB = polychlorinated biphenyl

## Table 7: Area 6 Results of Final Confirmation Soil Samples

	Analyte	Arsenic
Remedia	tion Level (mg/kg)	14.6
Location ID	Depth (ft bgs)	
A6-BOT1	6	0.876
A6-SIDE1 —	2	2.62
A0-SIDET -	5	6.56
A6-SIDE2 —	2	3.38
A0-SIDL2 -	5	2.71
A6-SIDE3 —	5	3.24
A0-SIDES -	$5^{\dagger}$	2.76
A6-SIDE4 —	2	8.16
AU-SIDE4 -	5	8.10
A6-SIDE5	2	8.99

NOTES:

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed. Results reported from Fremont Analytical, Inc. work orders 2110067 and 2110219.

<sup>†</sup> Sample A6-SIDE100-5 is field-duplidate sample of A6-SIDE3.5.

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram

#### Table 8: Area 7 Results of Final Confirmation Soil Samples

Remedia	Analyte tion Level (mg/kg)	Gasoline-Range Organics 250
Location ID	Depth (ft bgs)	
A7-1 -	9	<10.8
A/-1 -	10	<6.73
A7-SIDE1 -	3	67.1 N*
AT-SIDET -	7	3.17 J*
	3	<1.17
A7-SIDE2	7	<1.35
	$7^{\dagger}$	<1.52
A7-SIDE3 -	3	<1.29
AT-SIDES	7	<1.22
A7-SIDE4 -	3	23.8 N*
KI-SIDE4	7	3.30 J

NOTES:

+ Sample A7-SIDE100:7 is field-duplicate sample of A7-SIDE2:7.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed.

Results reported from Fremont Analytical, Inc. work orders 2102417 and 2110067.

< = Analyte was not detected; reported as less than the reporting limit.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

 $N^*$  = Laboratory noted that Gasoline-Range Organics (C6 - C12) chromatrographic patterns indicates that detections are due to the presence of unresolved, non-target compounds in gasoline-range. Results are not consistent with a known petroleum distilate. Flag applied by Shannon & Wilson (\*).

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram

#### Table 9: Area 8 Results of Final Confirmation Soil Samples

	Analyte	Gasoline-Range Organics
Remed	iation Level (mg/kg)	250
Location ID	Depth (ft bgs)	
	10	12800
A8-1	10+	11500
	11	18800
A8-SIDE1	3	<1.14
A0-SIDE I	7	26.3 N*
A8-SIDE2	3	5.79 J
A0-SIDLZ	7	1870
	3	22.9 N*
A8-SIDE3	3†	3.21 J
-	7	5.33 J
A8-SIDE4	8	2950

NOTES:

<sup>†</sup> Sample is a duplicate. See below for a list of duplicates and primary samples.

Sample A8-101:10 is a field-duplicate sample of A8-1:10.

Sample A8-SIDE100:3 is a field-duplicate sample of A8-3:3.

Results are reported in mg/kg.

Final confirmation samples are listed. Samples that were overexcavated are not listed.

Results reported from Fremont Analytical, Inc. work orders 2102417 and 2110067.

**Bold** The detected concentration exceeds the regulatory limit for the associated analyte.

< = Analyte was not detected; reported as less than the reporting limit.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

 $N^*$  = Laboratory noted that Gasoline-Range Organics (C6 - C12) chromatrographic patterns indicates that detections are due to the presence of unresolved, non-target compounds in gasoline-range. Results are not consistent with a known petroleum distilate. Flag applied by Shannon & Wilson (\*).

bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram

## SHANNON & WILSON

#### Table 10: Overexcavated Samples

Table TU: UVere	excavated Samples			1																									
				T	TPH		HVOCs					PAHs								PCE	3s						М	Metals	
Localion	Sampell	Sampe Date	Deptr White	gal casolife	Range Organi	soline Tetrachtoroett	ene PCE	ane TCE	Bentolagant	Bentolapyer	e Bentoloffi	Bentolyhur	CHUSSIE	Dibertolah	anthracene Indenot123	ADDIERE HOLDING	proctor.721	proctor.1232	APOCIOF-242	HOLDEL 248	HOCOT 254	APOCIOT 240	AIOCIOF. 7362	AIOCIOF 728	10taPCES	Arsonic	catrium c	thonium	Blee See
Area 1 Samples																													
MW-46A	091511-MW-46A-SB-6.5	9/15/2011	6-7	—	_	<0.0900	1.30	<0.0900	_	—	_	_	—	_		—		—		—	_	_		—	—	—			
MW-46A	091511-MW-46A-SB-9	9/15/2011	9-10	_	—	0.220	2.00	<0.170	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	_	_			
A1-SIDE5	A1-SIDE5:1	9/21/2021	1	_	—	< 0.00506	6.05	<0.0108	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	_	_			
F1	F1-0-0.5		0-0.5	_	_	<0.113	3.51	<0.113	_	_	_	_	_	_	_	_	_	_	_	_	_	_		_	_	3.54			- 36.8
G0	GO-0.5-2	3/30/2004	0.5-2	_		10.6	78.2	<2.54		_		_		_								_			-	7.87	_		- 14.8
Area 2 Samples																													
A2-SIDE2	A2-SIDE2:1	9/20/2021	1	_	—	—	_	—	2.50	4.91	3.02	3.49	2.71	1.25	2.80	—	—	—	—	—	—	—		_	_	_			
A2-SIDE4	A2-SIDE4:1.5	9/20/2021	1.5	_	_	_	_	_	1.47	6.92	4.83	3.52	1.77	1.95	5.39	_	_	_	_	_	_	_	_	_	—	—			
A2-SIDE6	A2-SIDE6:1	9/20/2021	1 2	_	_	_	_	_	2.82	1.68	1.54	1.44	3.19	0.306	0.638	_	_	_	_	_	_	_	_	_	_	_			
A2-SIDE9 A2-SIDE9	A2-SIDE9:3	10/14/2021	3	_		_	_	_	9.83 J*	11.2 J*	7.26 J*	8.02 J*	10.1 J*	3.02 J*	5.87 J*	_	_	_	_	_	_	_	_	_	_	_			
A2-SIDE9 A2-SIDE11	A2-SIDE101:3 A2-SIDE11:2	10/14/2021 9/27/2021	3 2	_	_	—	—	_	4.04 J* 5.07	4.28 J* 4.97	2.78 J* 3.38	3.41 J* 4.07	4.18 J* 4.93	1.16 JH* 1.31	2.10 J* 2.50	_	_	—	_	_	_	_	_	_	_	_			
A2-SIDE11 A2-SIDE12	A2-SIDE11:2 A2-SIDE12:2	10/14/2021	2	_	_				8.63	10.9	7.57	7.76	4.93 8.99	2.75	5.12		_	_		_	_		_	_	_	_			
A2-SIDE12	A2-SIDE12.2	10/14/2021	5		_	_			2.38	2.51	1.70	2.01	2.42	0.694	1.32			_		_	_	_	_	_	_	_			
A2-SIDE14	A2-SIDE14.1.3	10/20/2021	2					_	0.935	1.01	0.627	0.859 J*	1.00	0.094	0.518	_													
EH4-W-1.5	EH4-W-1.5_8162004	8/16/2004	1.5	_		<0.000560	<0.000530		0.193	0.711	0.613	0.616	0.268	0.222	0.468	_	_		_		_	_	_	_	_	11.9	9.19	62.2 -	— 166
EH4-S-1.5	EH4-S-1.5_8162004	8/16/2004		2.69J	_	_		_	0.356	0.890	0.582	0.581	0.405	0.249	0.465	_	_	_	_	_	_	_	_	_	_				
Area 3 Samples	2111 0 110_0102001	0/10/2001		21070					0.000	01070	01002	01001	01100	01217	01100														
DG11-11	DG11-11-1	9/13/2011	1-2	_	<7.90	_	_	_	_	_	_	_	0.0230	< 0.00490	0.00740	<0.00390	<0.00390	<0.00390	<0.00390	<0.0390	0.100	0.0240 N	_	_	0.124	_	_	- 5	i09 —
DG11-11	DG11-11-2.5	9/13/2011	2-3	_	_	_	_	_	_	_	_	_	_	_	_	<0.0370	<0.0370	<0.0370	<0.0370	<0.370	1.60	0.370 N	_	_	1.97	_			450 —
DG11-12	DG11-12-1	9/13/2011	1-2	_	14000	_	_	_	_	_	_	_	0.0400	0.0180	0.00730	<0.0380	<0.0380	<0.0380	<0.0380	<0.0570	<0.380	<0.0380	_	_	<0.0380	_	_		3.6 —
DG11-12	DG11-12-2	9/13/2011	2-3	_	14,000 J	_		_	_	_	_	_	_		_	0.00380 R	0.00380 R	0.00380 R	0.00380 R	0.0150 R	0.0190 R	0.0190 R		_	_	_	_		
A3-BOT16	A3-BOT16:6	9/23/2021	6	_	32.8	_	_	_	_	_	_	_	_	_	_	<0.00798	<0.00798	<0.00798	< 0.00798	<0.00984	0.246	< 0.00984	< 0.00984	<0.00984	0.246	_	_	— 727	7 JH* —
A3-BOT21	A3-BOT21:3	9/28/2021	3	33.6 N*	<1.63	_	_	_	_	_	_	_	_	_	_	<0.00909	<0.00909	< 0.00909	< 0.00909	<0.0112	0.617	<0.0112	<0.0112	<0.0112	0.617	_		— 12	210 —
A3-BOT22	A3-BOT22:3	9/28/2021	3	_	5.19 J	_	_	_	_	_	_	—	_	_	_	<0.00856	<0.00856	<0.00856	< 0.00856	<0.0106	0.119	<0.0106	<0.0106	<0.0106	0.119	_	_	- 7	'53 —
A3-BOT23	A3-BOT23:3	9/28/2021	3	22.7 N*	<2.13	_	_	_	_	_	_	_	_	_	_	< 0.00748	<0.00748	< 0.00748	< 0.00748	< 0.00923	0.210	< 0.00923	< 0.00923	< 0.00923	0.210	—		- 8	373 —
A3-BOT34	A3-BOT34:4.5	10/18/2021	4.5	_	<2.43	_	_	_	_	_	_	_	_	_		<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	0.191	< 0.0196	< 0.0196	<0.0196	0.191	_	_	_ 4	53 —
A3-BOT36	A3-BOT36:4	10/18/2021	4	_	7.59	_	_	_	_	_	_	_	_	_	_	<0.0197	<0.0197	<0.0197	<0.0197	<0.0197	0.943	<0.0197	<0.0197	<0.0197	0.943	_	_	— 27 <sup>°</sup>	10 E —
A3-BOT40	A3-BOT40:5	10/25/2021	5	_	4.63 J	—	_	—	—	—	—	—	—	_	—	<0.0220	<0.0220	<0.0220	<0.0220	<0.0220	1.01	<0.0220	<0.0220	<0.0220	1.01	_	_	— 4 <sup>°</sup>	100 —
A3-SIDE2	A3-SIDE2:2.5	9/23/2021	2.5	—	5050	—	—	—	—	—	—	—	—	—	—	< 0.00739	<0.00739	< 0.00739	< 0.00739	<0.00912	<0.00912	<0.00912	< 0.00912	<0.00912	<0.00912	—	—	— 5	4.9 —
A3-SIDE3	A3-SIDE3:2.5	9/23/2021	2.5	25.0 N*	<2.64	—	—	—	—	—	—	—	—	—	—	<0.00599	<0.00599	< 0.00599	< 0.00599	<0.00739	0.0797	<0.00739	< 0.00739	<0.00739	0.0797	—	_	- 7	'19 —
A3-SIDE8	A3-SIDE8:2.5	9/23/2021	2.5	_	5.96 J	_	_	_	_	_	_	_	_	_	_	<0.00657	<0.00657	<0.00657	<0.00657	<0.00810	0.567	<0.00810	< 0.00810	<0.00810	0.567	_	_	_ 1	77 —
A3-SIDE9	A3-SIDE9:2.5	9/23/2021	2.5	—	4.02 J	—	_	—		_	_	_	—	_	_	<0.00616	<0.00616	<0.00616	<0.00616	<0.00760	0.527	<0.00760	<0.00760	<0.00760	0.527	—		_ 1	49 —
A3-SIDE9	A3-SIDE9:5	9/23/2021	5	_	10.4	—	—	_	_	_	_	_	_	—	_	<0.00618	<0.00618	<0.00618	<0.00618	<0.00762	0.369	<0.00762	<0.00762	< 0.00762	0.369	_	_	- 676	6 JL* —
A3-SIDE10	A3-SIDE10:2.5	9/23/2021	2.5	10.2 N*	<2.37	—	—	_	_	_	_	_	_	—	_	<0.00615	<0.00615	<0.00615	<0.00615	<0.00759	0.889	<0.00759	< 0.00759	< 0.00759	0.889	_	_	- 240	0 JL* —
		010010001			0 7 4				_	_	_	_	_	_	_	< 0.00842	<0.00842	<0.00842	< 0.00842	<0.0104	0.0563	<0.0104	< 0.0104	<0.0104	0.0563	_	_	— <i>t</i>	o10 —
A3-SIDE20	A3-SIDE20:2	9/28/2021	2	—	<2.74	—	_	_								<0.0004Z	<0.00042	0.00012	10100012					.010101	0.0000				
A3-SIDE20 A3-SIDE28 A3-SIDE28	A3-SIDE20:2 A3-SIDE28:3 A3-SIDE101:3	9/28/2021 10/14/2021 10/14/2021	2	_	<2.74 <3.40 <2.67 J*	_	_	_	_	_	_	_	_	_	_	<0.0212 <0.0209	<0.0212	<0.0212	<0.0212		0.0354 J	<0.0212 <0.0209	<0.0212	<0.0212 <0.0209	0.0354 J	_			2 J* —

#### Remedial Excavations Final Compliance Monitoring Report

## SHANNON & WILSON

#### Table 10: Overexcavated Samples

		5	TPH HVOCs					PAHs								PCBs Metals	Metals				
Location	Same	came Date Day	(n <sup>pg)</sup>	solife Range O	Banics	stere PCE	see toth the see tothe see	Bentolajanth	Bentloophene	Bentolonu	Bentowhur	CHUSSIE	oibentola INA	Internal 2.	And Dr. Date	HOLDER'TTE HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER HOLDER'TER	. Jess				
Area 4 Samples		0.05.0001	7												0.0110						
A4-1 A4-2	A4-1:7 A4-2:7	2/25/2021 7 2/25/2021 7	/ - 7		_	_	_	_	_	—	_	_	_	—	<0.0113 <0.0112	<0.0113					
A4-2 A4-3	A4-2.7 A4-3:7	2/25/2021 7	, - 7 -						_						<0.0112	<0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0112         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111         <0.0111 <t< td=""><td></td></t<>					
A4-3	A4-4:7	2/25/2021 7	, - 7 -		_	_	_	_	_	_	_	_	_	_	<0.0104	<0.0104 <0.0104 <0.0104 <0.0104 0.126 <0.0104 <0.0104 0.126 <0.0104 <0.0104 0.126 312					
A4-SIDE1	A4-SIDE1:2	9/15/2021 2	2 -		_	_	_	_	_	_	_	_	_	_	< 0.00897	<0.00897 <0.00897 <0.00897 <0.0111 0.0522 J <0.0111 <0.0111 <0.0111 0.0522 J — — — —					
A4-SIDE1	A4-SIDE1:6	9/15/2021	6 -		_	_	_	_	_	_	_	_	_	_	<0.00636	<0.00636 <0.00636 <0.00636 <0.00785 0.502 <0.00785 <0.00785 <0.00785 0.502	_				
A4-SIDE2	A4-SIDE2:2	9/15/2021 2	2 -		_	_	—	_	—	_	_	—	_	_	<0.00880	<0.00880 <0.00880 <0.00880 <0.0109 <0.0109 <0.0109 <0.0109 <0.0109 <0.0109 46.1	_				
A4-SIDE2	A4-SIDE2:6	9/15/2021 6	6 -		_	_	_	_	_	—	—	_	—	_	<0.00876	<0.00876 <0.00876 <0.00876 <0.0108 0.160 <0.0108 <0.0108 <0.0108 0.160 1020 E	_				
A4-SIDE3	A4-SIDE3:2	9/15/2021 2	2 -		_	_	_	_	_	—	_	_	_	—	<0.00905	<0.00905 <0.00905 <0.00905 <0.0112 0.0171 J <0.0112 <0.0112 <0.0112 0.0171 J 250 E	_				
A4-SIDE3	A4-SIDE3:6	9/15/2021 6	6 -		_	_	_	_	_	—	_	—	_	—	<0.00899	<0.00899 <0.00899 <0.00899 <0.0111 0.289 <0.0111 <0.0111 <0.0111 0.289 846 E					
A4-SIDE4	A4-SIDE4:2	9/15/2021 2	2 -		_	—	—	_	—	-	—	_	—	_	<0.00905	<0.00905 <0.00905 <0.00905 <0.0112 0.404 <0.0112 <0.0112 <0.0112 0.404 2460 E					
A4-SIDE4	A4-SIDE4:6	9/15/2021 6	6 -		_	_	_	_	_	_	_	_	_	_	<0.00868	<0.00868 <0.00868 <0.00868 <0.0107 0.126 <0.0107 <0.0107 <0.0107 0.126 — 772 E					
A4-SIDE5	A4-SIDE5:2	9/15/2021 2	2 -		_	_	_	_	_	_	_	_	_	—	<0.00847 <0.00941	<0.00847 <0.00847 <0.00847 <0.0104 0.515 <0.0104 0.515 <0.0104 <0.0104 0.515 2170 E <0.00941 <0.00941 <0.00941 <0.0116 0.822 <0.0116 <0.0116 <0.0116 0.822					
A4-SIDE5 A4-SIDE5	A4-SIDE100:2 A4-SIDE5:6	9/15/2021 2 9/15/2021 6			_				_			_	_		<0.00941	<0.00941         <0.00941         <0.00941         <0.0116         0.822         <0.0116         <0.0116         0.822         —         —         —         —         —         —         —         —         —         —         —         —         —         —         —         —         —         —         306 E         E           <0.00996					
A4-SIDE5	A4-SIDE5:0	9/15/2021 2	0										_		<0.00998	<0.00928 <0.00928 <0.00928 <0.0114 0.143 <0.0114 <0.0114 0.143 1490 E					
A4-SIDE6	A4-SIDE6:6	9/15/2021 6	<u>-</u> 6 -		_	_	_	_	_	_	_	_	_	_	<0.0106	<0.0106 <0.0106 <0.0106 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.0130 <0.					
A4-SIDE7	A4-SIDE7:2	9/15/2021 2	2 -		_	_	_	_	_	_	_	_	_	_	< 0.00930	<0.00930 <0.00930 <0.00930 <0.0115 0.0991 <0.0115 <0.0115 <0.0115 0.0991 — — 205	_				
A4-SIDE7	A4-SIDE7:6	9/15/2021 6	6 -		_	_	_	_	_	_	_	_	_	_	<0.00901	<0.00901 <0.00901 <0.00901 <0.0111 2.95 <0.0111 <0.0111 <0.0111 2.95 1170 E	_				
A4-SIDE8	A4-SIDE8:2	9/15/2021 2	2 -		_	_	_	_	—	_	—	—	—	_	< 0.00749	<0.00749 <0.00749 <0.00749 <0.00924 <0.00924 <0.00924 <0.00924 <0.00924 <0.00924 <0.00924 10.8	_				
A4-SIDE8	A4-SIDE8:6	9/15/2021 6	6 -		_	_	—	_	_	_	_	_	_	_	<0.00772	<0.00772 <0.00772 <0.00772 <0.00952 <0.00952 <0.00952 <0.00952 <0.00952 <0.00952 <0.00952 11.9	_				
A4-SIDE9	A4-SIDE9:2	9/15/2021 2	2 -		_	_	_	_	_	_	_	_	_	_	<0.00986	<0.00986 <0.00986 <0.00986 <0.0122 <0.0122 <0.0122 <0.0122 <0.0122 <0.0122 <0.0122 163	_				
A4-SIDE9	A4-SIDE9:6	9/15/2021 6	6 -		_	_	—	_	_	—	—	_	—	—	<0.00889	<0.00889 <0.00889 <0.00889 <0.0110 0.484 <0.0110 <0.0110 <0.0110 0.484 1110 E					
A4-SIDE10	A4-SIDE10:2	9/15/2021 2	2 -		_	_	_	_	_	—	_	—	_	—	<0.00868	<pre>&lt;0.00868 &lt;0.00868 &lt;0.00868 &lt;0.0107 &lt;0.0107 &lt;0.0107 &lt;0.0107 &lt;0.0107 &lt;0.0107 41.1</pre>					
A4-SIDE10	A4-SIDE10:6	9/15/2021	6 -		_	—	—	_	—	-	—	_	—	_	< 0.00945	<0.00945 <0.00945 <0.00945 <0.0117 0.589 <0.0117 <0.0117 0.589	_				
A4-SIDE11	A4-SIDE11:2	10/4/2021 2	2 -		_	_	_	_	_	-	_	_	_	-	< 0.00643	<0.00643 <0.00643 <0.00643 <0.00794 0.149 <0.00794 <0.00794 <0.00794 0.149 — 272	<u> </u>				
A4-SIDE11	A4-SIDE11:6	10/4/2021 6	0		_	_	_	_	_	_	—	_	_	_	<0.00698	<0.00698 <0.00698 <0.00698 <0.00861 0.412 <0.00861 <0.00861 <0.00861 0.412 — — — 1650 E					
A4-SIDE12 A4-SIDE12	A4-SIDE12:2 A4-SIDE12:6	10/4/2021 2 10/4/2021 6	/					_	_	_	_	_	_		<0.00721	<0.00721 <0.00721 <0.00721 <0.00889 0.0101 J <0.00889 <0.00889 <0.00889 0.0101 J - 92.1 <0.00677 <0.00677 <0.00677 <0.00835 0.275 <0.00835 <0.00835 <0.00835 0.275 - 1240 E					
A4-SIDE12	A4-SIDE12:0	10/4/2021 2	0						_				_		<0.00612	<0.00612 <0.00612 <0.00612 <0.00755 0.308 <0.00755 <0.00755 0.308 192					
A4-SIDE13	A4-SIDE13:2	10/4/2021 6	,			_	_	_	_	_	_	_	_	_	<0.00669	<0.00669 <0.00669 <0.00669 <0.00825 0.405 <0.00825 <0.00825 <0.00825 0.405 1360 E					
A4-SIDE14	A4-SIDE14:3	10/4/2021 3	-			_	_	_	_	_	_	_	_	_	<0.00635	<0.00635 <0.00635 <0.00635 <0.00783 0.0264 J <0.00783 <0.00783 <0.00783 0.0264 J — — 74.1					
A4-SIDE14	A4-SIDE14:6	10/4/2021 6	6 -		_	_	_	_	_	_	_	_	_	_	<0.00670	<0.00670 <0.00670 <0.00827 0.143 <0.00827 <0.00827 <0.00827 0.143 805					
A4-SIDE15	A4-SIDE15:2	10/4/2021 2	2 -		_	_	_	_	_	_	_	_	_	_	<0.00694	<0.00694 <0.00694 <0.00694 <0.00856 0.0369 J <0.00856 <0.00856 <0.00856 0.0369 J 446	_				
A4-SIDE15	A4-SIDE15:6	10/4/2021 6	6 -		_	_	_	_	_	_	_	_	_	_	<0.00771	<0.00771 <0.00771 <0.00771 <0.00951 0.133 <0.00951 <0.00951 <0.00951 0.133 1300	_				
A4-SIDE16	A4-SIDE16:2	10/5/2021 2	2 -			_	_	_	_	_	_	_	_	_	<0.00398	<0.00398 <0.00398 <0.00398 <0.00491 0.0219 J <0.00491 <0.00491 <0.00491 0.0219 J 66.8	_				
A4-SIDE17	A4-SIDE17:2	10/5/2021 2	2 -		_	—	_	_	—	—	_	—	—	—	<0.00421	<0.00421 <0.00421 <0.00421 <0.00520 0.608 <0.00520 <0.00520 0.608 2580 E					
A4-SIDE17	A4-SIDE101:2	10/5/2021 2	2 -		_	—	—	_	—	_	—	—	_	_	<0.00453	<pre>&lt;0.00453 &lt;0.00453 &lt;0.00453 &lt;0.00560 0.462 &lt;0.00560 &lt;0.00560 &lt;0.00560 0.462 1910</pre>	_				
A4-SIDE18	A4-SIDE18:2	10/5/2021 2	2 -		_	—	—	_	—	_	—	—	-	_	< 0.00430	<0.00430 <0.00430 <0.00430 <0.00530 0.130 <0.00530 <0.00530 0.130 — — 733					
A4-SIDE20	A4-SIDE20:2	10/5/2021 2	2 -		_	_	_	_	_	—	_	_	_	—	<0.00428	<0.00428 <0.00428 <0.00428 <0.00530 0.0121 J <0.00530 <0.00530 0.0121 J — — 34.2					

#### Remedial Excavations Final Compliance Monitoring Report

## SHANNON & WILSON

#### Table 10: Overexcavated Samples

			TI	PH		HVOCs		PAHs									PCBs												
, or the particular	anten	anthe ant	n (H bas)	casolife	RANGE OF GAN	oline	Here PCE	ese tub choise	ento anti	Reene and and the second	ie sentoloff	urattere	stattere .	titestale.h?	httreene	, colorinto	Notor-121	100001232	Notor 24	NOCOT 248	No401-124	Mocion 280	Notor 28	Nodol-128	Totalpos	Marit	athium	HOMUS OFF	¢, w
Area 4 Samples (contin	ued)	<u> </u>		0					<b>≫</b>	~	<b>V</b>	×	0.		<u>.</u>	· · ·	 	<u></u>	~~~	~~~	<u>۲</u>	- Y**	- Y**	· ~		- Y**	0. 0	)· ()	
A4-SIDE20	A4-SIDE20:6	10/5/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	< 0.00435	<0.00435	<0.00435	<0.00435	<0.00535	0.0473 J	<0.00535	<0.00535	<0.00535	0.0473 J	_	_	— 560	)
A4-SIDE21	A4-SIDE21:2	10/18/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0211	<0.0211	<0.0211	<0.0211	<0.0211	0.329	<0.0211	<0.0211	<0.0211	0.329	_		— 1630	
A4-SIDE21	A4-SIDE21:6	10/18/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.0199	<0.0199	<0.0199	<0.0199	<0.0199	0.619	<0.0199	<0.0199	<0.0199	0.619	_	_	— 1910	0 —
A4-SIDE22	A4-SIDE22:2	10/18/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0210	<0.0210	<0.0210	<0.0210	<0.0210	0.0332 J	<0.0210	<0.0210	<0.0210	0.0332 J	_	_	- 49.8	3 —
A4-SIDE22	A4-SIDE22:6	10/18/2021	6	_	_	_	_	—	_	_	_	_	_	_	_	< 0.0214	<0.0214	< 0.0214	<0.0214	<0.0214	0.617	<0.0214	<0.0214	<0.0214	0.617	_	_	- 821	
A4-SIDE23	A4-SIDE23:2	10/18/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0185	<0.0185	<0.0185	<0.0185	<0.0185	0.0548	<0.0185	<0.0185	<0.0185	0.0548	_	_	— 16.1	I —
A4-SIDE23	A4-SIDE23:6	10/18/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	< 0.0193	<0.0193	< 0.0193	<0.0193	<0.0193	0.555	<0.0193	<0.0193	< 0.0193	0.555	_	_	- 1240	0 —
A4-SIDE24	A4-SIDE24:2	10/18/2021	2	_	_	_	_	_	_	_	_	_	—	_	_	<0.0196	<0.0196	< 0.0196	<0.0196	<0.0196	0.0428	<0.0196	<0.0196	<0.0196	0.0428	_	_	— 73.9	)
A4-SIDE24	A4-SIDE24:6	10/18/2021	6	—	—	—	—	—	—	—	—	—	—	—	—	<0.0222	<0.0222	< 0.0222	<0.0222	<0.0222	1.12	<0.0222	<0.0222	<0.0222	1.12	—	—	— 1910	0 —
A4-SIDE25	A4-SIDE25:2	10/20/2021	2	—	_	_	—	—	_	—	—	—	—	_	—	<0.0223	<0.0223	< 0.0223	< 0.0223	<0.0223	0.120	<0.0223	<0.0223	<0.0223	0.120	—	_	— 1710	0 <u> </u>
A4-SIDE25	A4-SIDE25:6	10/20/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.0220	<0.0220	< 0.0220	<0.0220	<0.0220	0.157	<0.0220	<0.0220	<0.0220	0.157	_	_	— 956 J	L* —
A4-SIDE26	A4-SIDE26:2	10/20/2021	2	—	_	—	_	_	_	_	_	_	_	_	—	<0.0205	<0.0205	< 0.0205	< 0.0205	<0.0205	0.0425	<0.0205	< 0.0205	< 0.0205	0.0425	—		— 514	<u> </u>
A4-SIDE26	A4-SIDE26:6	10/20/2021	6	—	—	—	—	—	—	—	—	—	—	—	—	<0.0248	<0.0248	< 0.0248	<0.0248	<0.0248	0.451	<0.0248	<0.0248	<0.0248	0.451	—	—	— 1140	0 —
A4-SIDE27	A4-SIDE27:2	10/20/2021	2	—	—	—	—	—	—	—	—	—	—	—	—	<0.0202	<0.0202	< 0.0202	< 0.0202	<0.0202	0.397	<0.0202	< 0.0202	<0.0202	0.397	—	—	— 1770	<u> </u>
A4-SIDE28	A4-SIDE28:2	10/20/2021	2	_	—	—	—	—	—	—	_	—	—	—	_	< 0.0249	<0.0249	< 0.0249	< 0.0249	< 0.0249	0.293	<0.0249	<0.0249	< 0.0249	0.293	_	—	- 628	; _
A4-SIDE31	A4-SIDE31:2	10/29/2021	2	—	_	_	_	_	_	_	_	_	—	_	—	<0.0266	<0.0266	<0.0266	< 0.0266	<0.0266		<0.0266	<0.0266		0.0175 J	—	_	- 144	
A4-SIDE31	A4-SIDE31:6	10/29/2021	6	—	_	—	_	_	_	—	_	_	_	_	—	<0.0288	<0.0288	<0.0288	<0.0288	<0.0288	0.0510 J	<0.0288	<0.0288	<0.0288	0.0510 J	—		- 634	
A4-SIDE33	A4-SIDE33:2	10/29/2021	2	_	—	—	—	—	—	—	—	—	—	—	_	—	—	—	—	—	—	—	—	—	—	_	—	— 1430	
A4-SIDE33	A4-SIDE33:6	10/29/2021	6	_	—	—	—	—	—	_	—	—	_	_	_	—	—	—	_	—	_	—	—	_	_	_		- 383	
A4-SIDE34	A4-SIDE34:2	10/29/2021	2	_	_	_	—	—	_	—	_	—	—	_	_	<0.0272	<0.0272	< 0.0272	< 0.0272		<0.0272	<0.0272	< 0.0272	<0.0272	< 0.0272	_	_	- 71.0	
A4-SIDE34	A4-SIDE103:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0268	<0.0268	< 0.0268	< 0.0268		0.0268 J	<0.0268	< 0.0268	< 0.0268	0.0268 J	_		<u> </u>	
A4-SIDE34	A4-SIDE34:6	10/29/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.0229	<0.0229	<0.0229	<0.0229	<0.0229	0.148	<0.0229	<0.0229	<0.0229	0.148	_		- 1210	
A4-SIDE35	A4-SIDE35:2	10/29/2021	2	_	—	—	_	_	—	—	—	—	—	_	_	—	—	—	—	—	—	_	_	_	—	_		- 191	
A4-SIDE35	A4-SIDE35:6	10/29/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	-		-			-				-	_	_	- 1310	
A4-SIDE36	A4-SIDE36:2 A4-SIDE36:6	10/29/2021	2	_	_	_	_	_	_	_	_		_	_	_	<0.0268	< 0.0268	< 0.0268	< 0.0268	< 0.0268	0.595	<0.0268	< 0.0268	< 0.0268	0.595	_		- 784	
A4-SIDE36 A4-SIDE37	A4-SIDE30:0	10/2//2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.0285	<0.0285	<0.0285	<0.0285	<0.0285 <0.0295	0.973	<0.0285	< 0.0285	<0.0285	0.973	_		- 2010 - 1590	
A4-SIDE37 A4-SIDE37	A4-SIDE37:2	10/20/2021	,	_	_				_	_		_	_	_	_	<0.0295 <0.0280	<0.0295 <0.0280	<0.0295 <0.0280	<0.0295 <0.0280	<0.0295	0.331	<0.0295 <0.0280	<0.0295 <0.0280	<0.0295	0.331	_	_	— 1590 — 1830	
A4-SIDE37	A4-SIDE37:8		8	_									_			<0.0260	<0.0260	<0.0260	< 0.0260		0.479	<0.0280	< 0.0260	<0.0260	0.479	_		— 1830 — 2250	
A4-SIDE37	A4-SIDE37:9		9	_	_	_	_	_	_	_	_	_	_	_	_	<0.0203	<0.0203	<0.0203	<0.0203	<0.0203	1.58	<0.0203	< 0.0203	<0.0203	1.58	_		— 1900	
A4-SIDE38	A4-SIDE38:2		2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0255	<0.0255	<0.0253	<0.0253	<0.0253	0.203	<0.0255	<0.0253	<0.0253	0.203	_		— 908	
A4-SIDE38	A4-SIDE38:6	10/00/0001	6	_	_	_			_				_	_		<0.0231	<0.0231	<0.0231	<0.0231		1.59	<0.0231	< 0.0231	<0.0231	1.59	_		<u> </u>	
A4-SIDE39	A4-SIDE39:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0275	<0.0275	<0.0275	<0.0275		0.513	<0.0275	< 0.0275	< 0.0275	0.513	_		<u> </u>	
A4-SIDE39	A4-SIDE39:6	10/00/0001	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.0273	<0.0273	<0.0273	<0.0273	<0.0273	0.330	<0.0273	< 0.0273	<0.0273	0.330	_		- 2750	
A4-SIDE40	A4-SIDE40:1	10/29/2021	1	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		_	_	_				_		- 356	
A4-SIDE41	A4-SIDE41:2		2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0311	<0.0311	<0.0311	<0.0311		0.0766	<0.0311	<0.0311	<0.0311	0.0766	_		- 248	
A4-SIDE42	A4-SIDE42:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0233	<0.0233	< 0.0233	<0.0233	<0.0233		< 0.0233	<0.0233		0.0363 J	_		- 100	
A4-SIDE43	A4-SIDE43:1	10/29/2021	1	_	_	_	_	_	_	_	_	_	_	_	_	<0.0281	<0.0281	<0.0281	<0.0281	<0.0281	0.989	<0.0281	<0.0281	<0.0281	0.989	_		- 1030	
A4-SIDE44	A4-SIDE44:1	10/29/2021	1	_	_	_	_	_	_	_	_	_	_	_	_	< 0.0305	< 0.0305	< 0.0305	< 0.0305	< 0.0305		< 0.0305	< 0.0305	< 0.0305		_	_	— 161	
A4-SIDE45	A4-SIDE45:1	10/29/2021	1	_	_	_	_	_	_	_	_	_	_	_	_	<0.0293	<0.0293	<0.0293	<0.0293		0.572	<0.0293	<0.0293			_	_	— 1740	
																							2.02.0						<u> </u>

#### Remedial Excavations Final Compliance Monitoring Report

# Table 10: Overexcavated Samples

		<u></u>		T	PH		HVOCs					PAHs							PCBs						Metals	
ocation	antell	amelate	anno	a casoline	Range Organic	Sillee and the of the o	nene lectro	selfer underheide	Centole anth	seene and approve	eentolomu	oranthere and a full	anthene en and and and and and and and and and an	tibento a ha	intereste	, coloring to the second	Noclar 22 Noclar 2	St Noclot 24	Notorities Notoriti	. Nocion 240	Notor 1282	Noch-128	APCBS AS	sti <sup>c</sup> solution	n thomism	and a set
Area 4 Samples (contir	nued)	\`		<u>G</u> -	<u></u>	<u></u>		<i>.</i>	- <b>V</b> <sup>2</sup>	₩.	<u></u>	 ∕>⁻	<u></u>	<u>v</u> .	<i></i>	- Pr	- PP - PP	- Pr	P P	- P2	Y	₩ \~	P*	<u> </u>		
A4-SIDE45	A4-SIDE45:6	10/29/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	< 0.0302	<0.0302 <0.0302	2 <0.0302	<0.0302 0.0222 J	<0.0302	<0.0302	<0.0302 0.0	222 J —			47.4 —
A4-SIDE46	A4-SIDE46:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0281	<0.0281 <0.0281		<0.0281 2.28 J*	<0.0281		<0.0281 2	.28 –		- 2	2460 E —
A4-SIDE46	A4-SIDE104:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0249	<0.0249 <0.0249	9 <0.0249	<0.0249 1.30 J*	<0.0249	<0.0249	<0.0249 1	.30 —		— 1	970 E —
A4-SIDE47	A4-SIDE47:2	10/29/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.0211	<0.0211 <0.0211	1 <0.0211	<0.0211 0.303	<0.0211	<0.0211	<0.0211 0	303 —		_ `	1400 —
A4-SIDE48	A4-SIDE48:4.5	12/14/2021	5	_	_	_	_	_	_	_	_	_	_	_	_	<0.00717	<0.00717 <0.0071	7 <0.00717	<0.00885 0.0601	<0.00885	<0.00885	<0.00885 0.0	)601 —		_	268 —
A4-SIDE51	A4-SIDE51:2	12/14/2021	2	—	_		_	_	_	_	_	_	_	_	—	<0.00680	<0.00680 <0.0068	0 <0.00680	<0.00839 0.0885	<0.00839	<0.00839	<0.00839 0.0	)885 —	- —	_	148 —
A4-SIDE51	A4-SIDE51:5	12/14/2021	5	—	—	—	—	—	—	—	—	—	—	—	—	<0.00678	<0.00678 <0.0067	8 <0.00678	<0.00836 0.0557	<0.00836	<0.00836	<0.00836 0.	)557 —	- —	— 2	2460 —
A4-SIDE58	A4-SIDE58:2	12/14/2021	2	_	_	_	_	_	_	_	—	_	_	_	—	<0.00690	<0.00690 <0.0069			<0.00852	<0.00852		810 –			501 J* —
A4-SIDE20	A4-SIDE201:2	12/14/2021	2	_	—	—	_	—	—	—	-	-	_	—	-	< 0.00682	<0.00682 <0.0068		<0.00842 1.32	< 0.00842	< 0.00842		.32 –		- 34	
A4-SIDE58	A4-SIDE58:6	12/14/2021	6	_	_	_	_	_	_	_	_	_	_	_	-	< 0.00709	<0.00709 <0.0070		<0.00875 0.0591	< 0.00875		<0.00875 0.0				1110 —
A4-SIDE59	A4-SIDE59:10	12/14/2021	10	-	_	_	_	_	_	_	-	_	_	_	_	< 0.00745		5 < 0.00745		< 0.00919	< 0.00919		223 -			<u>1610 —</u>
A4-SIDE59 A4-SIDE59	A4-SIDE59:2 A4-SIDE59:6	12/14/2021 12/14/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.00655 <0.00722	<0.00655 <0.0065 <0.00722 <0.0072		<0.00808 0.126 <0.00891 0.285	<0.00808	<0.00808		126 – 285 –			<u>1820 —</u> 1780 —
A4-SIDE59	A4-SIDE59:8	12/14/2021	0 Q	_					_	_		_	_	_	_	<0.00722	<0.00722 <0.0072 <0.0104 <0.0104		<0.0129 0.129	<0.00891			129 –			1180 —
A4-SIDE59	A4-SIDE59:9	12/14/2021	9	_		_	_	_	_	_		_	_	_	_	<0.00881	<0.00881 <0.0088		<0.0129 0.129 <0.0129 <0.0129	<0.0129			.36 –			4530 —
A4-SIDE60	A4-SIDE60:10	12/14/2021	10	_	_	_	_	_	_	_	_	_	_	_	_	<0.00627	<0.00627 <0.0062		<0.00774 0.535	<0.00774	< 0.00774		535 –			1640 —
A4-SIDE60	A4-SIDE60:11	12/14/2021	11	_	_	_	_	_	_	_	_	_	_	_	_	< 0.00844	<0.00844 <0.0084		<0.0104 0.437	<0.0104			437 —			3060 —
A4-SIDE60	A4-SIDE60:11.5		11.5	_	_	_	_	_	_	_	_	_	_	_	_	< 0.00723	<0.00723 <0.0072	3 <0.00723	<0.00893 0.890	< 0.00893	<0.00893	<0.00893 0	890 –		_ 2	2530 —
A4-SIDE60	A4-SIDE60:13	12/14/2021	13	_	_	_	_	_	_	_	_	_	_	_	_	<0.00772	<0.00772 <0.0077	2 <0.00772	< 0.00952 0.662	<0.00952	<0.00952	< 0.00952 0	662 -		- 2	2480 —
A4-SIDE61	A4-SIDE61:10	12/14/2021	10	_	—	—	—	—	—	—	—	—	—	—	—	<0.00756	<0.00756 <0.0075	6 <0.00756	<0.00932 0.277	<0.00932	<0.00932	<0.00932 0	277 –	- —	_ ^	1410 —
A4-SIDE61	A4-SIDE61:11	12/14/2021	11	—	—	—	—	—	—	—	—	—	—	—	—	< 0.00708	<0.00708 <0.0070	8 <0.00708	<0.00874 1.00	< 0.00874	<0.00874	<0.00874 1	.00 –	- —	_ `	1510 —
A4-SIDE61	A4-SIDE61:12	12/14/2021	12	—	—	_	—	—	—	—	-	—	—	—	_	<0.00687	<0.00687 <0.0068		<0.00848 0.314	<0.00848	<0.00848		314 –	- —		980 —
A4-SIDE61	A4-SIDE61:13	12/14/2021	13	_	—	—	—	—	—	—	_	—	—	—	_	<0.00712	<0.00712 <0.0071			<0.00878		<0.00878 0				1100 —
A4-SIDE61	A4-SIDE61:14	12/14/2021	14	-	—	—	_	—	—	—	-	—	_	_	_	<0.00701	<0.00701 <0.0070		<0.00865 0.655	< 0.00865	< 0.00865		655 -			1360 —
A4-SIDE61	A4-SIDE61:2	12/14/2021	2	_	—	—	—	—	—	—	_	—	—	—	_	< 0.00698	<0.00698 <0.0069			< 0.00861	< 0.00861		208 -			1590 —
A4-SIDE61 A4-SIDE61	A4-SIDE61:5.5 A4-SIDE61:8	12/14/2021	5.5	_	_	_	_	_	_	_	_	_	_	_	_	< 0.00647	<0.00647 <0.0064			<0.00799		<0.00799 0.	127 -			<u>2170 —</u> 852 —
A4-SIDE61	A4-SIDE61:8	12/14/2021	0 2	_	_		_		_	_		_		_		<0.00827	<0.00827 <0.0082 <0.00634 <0.0063			<0.0102		<0.00782 0				2820 —
A4-SIDE62	A4-SIDE62:2	12/14/2021	5	_						_				_		< 0.00694	<0.00694 <0.0069			<0.00762		<0.00856 0.0				476 J* —
A4-SIDE62	A4-SIDE62:6	12/14/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.00780	<0.00780 <0.0078			<0.00962		<0.00962 0.				
A4-SIDE63	A4-SIDE63:2	12/14/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	< 0.00706	<0.00706 <0.0070			<0.00871		<0.00871 0.0				229 —
A4-SIDE63	A4-SIDE63:5	12/14/2021	5	_	_	_	_		_	_	_	_	_	_	_	<0.00653	<0.00653 <0.0065			<0.00805		<0.00805 0.0			_	295 —
A4-SIDE65	A4-SIDE65:2	12/15/2021	2	_	_	_	_	_	_	_	_	_	_	_	_	<0.00776 J*	<0.00776 <0.0077	6 <0.00776	<0.00958 0.0917	<0.00958 J*	* <0.00958	<0.00958 0.0	)917 —		_	161 —
A4-SIDE65	A4-SIDE65:5	12/15/2021	5	_	_	_	_	_	_	_	_	_	_	_	_	<0.00767	<0.00767 <0.0076	7 <0.00767	<0.00946 0.0441	< 0.00946	<0.00946	<0.00946 0.	)441 —		_	260 —
A4-SIDE67	A4-SIDE67:3	12/15/2021	3	_	_	_	_	_	_	_	_	_	_	_	_	<0.00827	<0.00827 <0.0082	.7 <0.00827	<0.0102 1.51	<0.0102	<0.0102	< 0.0102 1	.51 –		_ `	1840 —
A4-SIDE67	A4-SIDE67:6	12/15/2021	6	_	_	_	_	_	_	_	_	_	_	_	_	<0.00728	<0.00728 <0.0072	<0.00728	<0.00898 0.370	<0.00898	<0.00898	<0.00898 0	370 –	- —	_ `	1140 —
A4-SIDE68	A4-SIDE68:2	12/15/2021	2	_	—	_	—	_	—	_	—	_	—	_	_	<0.00711	<0.00711 <0.0071	1 <0.00711	<0.00878 0.314	<0.00878	<0.00878	<0.00878 0	314 –		_ ^	1190 —
A4-SIDE68	A4-SIDE68:7	12/15/2021	7	—	—	—	_	_	_	_	—	—	_	—	—	<0.0657	<0.0657 <0.0657	7 <0.0657	<0.0810 2.12	<0.0810	<0.0810	< 0.0810 2	.12 –		— 3	3720 —
A4-SIDE69	A4-SIDE69:1.5	12/15/2021	1.5	_	—	_	—	_	—	—	_	_	—	_	_	< 0.00702	<0.00702 <0.0070			<0.00866		<0.00866 <0.			_	
A4-SIDE20	A4-SIDE203:1.5	12/15/2021	1.5	-	—	—	_	—	—	—	_	_	_	—	_	<0.00642	<0.00642 <0.0064	2 <0.00642	<0.00/92 0.214	<0.00792	<0.00792	<0.00792 0	214 –		—	972 —

# Table 10: Overexcavated Samples

				TPH		HVOCs					PAHs							PCBs					Me	etals	
<i>₽</i> ₽	Ø	N <sup>R NR</sup> M	ups)	Rang	organic <sup>5</sup>	soethere PCE	nere lith	anth	Scene Strene	Aller	renthere Mu	Jatthene	and and a	anthracene (12)	-collegee and a collection of the collection of	outor. 121 outor. 122	. VAR	. 24 <sup>86</sup> . 15 <sup>15</sup>		Nocion 129- Nocion	the contract	)	Æ		
Location	Sample	sample Depth	<u>م</u> ئى	Solitie TP	135 Tetrach	Tiction	VINACI	Bentole	Bentoler	Bentolt	Bentole,	CHN <sup>Ser.</sup>	oibento	Indenot	proclot	Horor Horor	hodor hody	A MOCION	Procion	AIOCIOI AIOCIOI	108 TotalPCB.	Arsonic	cadmin. ch	onn copper	Lead
Area 4 Samples (contin	nued)														Ì							Ì			
A4-SIDE69	A4-SIDE69:6.5	12/15/2021 6.	.5 -			_	_	_	_	_	—	_	_	_	<0.00685	<0.00685 <0.00685	<0.00685 <0.0	0.0207	<0.00846	<0.00846 <0.008	46 0.0207	_		— 33.6	_
A4-SIDE70	A4-SIDE70:2	12/15/2021 2	2 -			_	_	_	_	_	_	_	_	_	<0.00716	<0.00716 <0.00716	<0.00716 <0.0	0.500	<0.00884	<0.00884 <0.008	84 0.500	_	_	— 719	_
A4-SIDE70	A4-SIDE70:7	12/15/2021 7	7 -			—	—	—	—	—	—	—	—	—	<0.00639	<0.00639 <0.00639	<0.00639 <0.0	0789 <0.00789	< 0.00789	<0.00789 <0.007	89 <0.00789	—		- 29.8	
A4-SIDE71	A4-SIDE71:2.5	12/15/2021 2.	.5 -			—	—	—	—	-	_	_	_	_	<0.00741		<0.00741 <0.0		< 0.00914	<0.00914 <0.009		-		- 3920	
A4-SIDE71	A4-SIDE71:7	12/15/2021 7				_	—	_	—	-	—	—	—	—	<0.00687	<0.00687 <0.00687	<0.00687 <0.0		<0.00847	<0.00847 <0.008		_		— 389	
A4-SIDE74	A4-SIDE74:2.5	12/15/2021 2.	.5 -			_	_	_	_	_	_	_	_	_	< 0.00769		<0.00769 <0.0		< 0.00949	<0.00949 <0.009		—	_ ·	— 161	
A4-SIDE74	A4-SIDE74:7	12/15/2021 7	/ -			—	—	—	—	_	—	—	—	_	< 0.00907				< 0.0112	<0.0112 <0.011		_		- 445	
A4-SIDE75	A4-SIDE75:2	12/15/2021 2 12/15/2021 8	<u>/</u>			_	_	_	_	_	_	_	_	_	<0.00769	<0.00769 <0.00769	<0.00769 <0.0		<0.00948	<0.00948 <0.009		_		- 2020	
A4-SIDE75 A4-SIDE75	A4-SIDE75:8 A4-SIDE75:9	12/15/2021 8 12/15/2021 9	-						_	_			_		<0.00701 <0.00679	<0.00701 <0.00701 <0.00679 <0.00679			<0.00865 <0.00837	<0.00865 <0.008		_		- 40.4 - 1670	
A4-SIDE76	A4-SIDE76:1.5	12/15/2021 1.	,						_	_			_		<0.00812	<0.00812 <0.00812			<0.00037	<0.00097 <0.000				— 1070 — 1200	
A4-SIDE76	A4-SIDE205:1.5	12/15/2021 1.				_	_	_	_	_	_	_	_	_	<0.00769	<0.00769 <0.00769			<0.00948	<0.00948 <0.009		_		- 780	
A4-SIDE76	A4-SIDE76:10		0 -			_	_	_	_	_	_	_	_	_	< 0.00745	<0.00745 <0.00745			<0.00919	<0.00919 <0.009		_		- 2250	_
A4-SIDE76	A4-SIDE76:11	12/15/2021 1	1 -			_	_	_	_	_	_	_	_	_	<0.00668	<0.00668 <0.00668	<0.00668 <0.0	0.129	<0.00824	<0.00824 <0.008		_		— 1250	_
A4-SIDE76	A4-SIDE76:12		2 -			_	_	_	_	_	_	_	_	_	<0.00910	<0.00910 <0.00910	<0.00910 <0.0		<0.0112	<0.0112 <0.011		_		— 1340	_
A4-SIDE76	A4-SIDE76:7	12/15/2021 7	7 -			_	_	_	_	_	_	_	_	_	< 0.00663	<0.00663 <0.00663	<0.00663 <0.0	0.345	<0.00818	<0.00818 <0.008	18 0.345	_	_	- 783	_
A4-SIDE76	A4-SIDE76:8	12/15/2021 8	3 -			_	_	_	_	_	_	_	_	_	<0.00721	<0.00721 <0.00721	<0.00721 <0.0	0889 1.22	<0.00889	<0.00889 <0.008	89 1.22	_	_	— 2620	_
A4-SIDE76	A4-SIDE76:9	12/15/2021	) -			—	—	—	_	—	_	—	_	_	<0.00616	<0.00616 <0.00616	<0.00616 <0.0	0760 1.55	<0.00760	<0.00760 <0.007	60 1.55	—	_ ·	- 2320	_
A4-SIDE77	A4-SIDE77:2	12/15/2021 2	2 -			—	—	—	—	—	—	—	—	—	<0.00794	<0.00794 <0.00794	<0.00794 <0.0	0.0673	<0.00979	<0.00979 <0.009	79 0.0673	—		— 568	
A4-SIDE77	A4-SIDE77:6.5	12/15/2021 6.	.5 -			—	—	—	—	-	_	_	_	_	< 0.00812	<0.00812 <0.00812			<0.0100	<0.0100 <0.010		-		- 897	
A4-SIDE78	A4-SIDE78:1.5	12/15/2021 1.				—	—	—	_	-	_	—	—	-	<0.00814	<0.00814 <0.00814			<0.0100	<0.0100 <0.010		-		- 2870	
A4-SIDE78	A4-SIDE206:1.5	12/15/2021 1.	,			_	_	_	_	-	_	_	_	_	< 0.00865	<0.00865 <0.00865			< 0.0107	<0.0107 <0.010		_		- 3370	
A4-SIDE78	A4-SIDE78:7	12/15/2021 7	, ,			_	_	_	_	_	_	_	_	_	< 0.0794	<0.0794 <0.0794	<0.0794 <0.0		< 0.0979	<0.0979 <0.097		_		- 566	
A4-SIDE79 A4-SIDE79	A4-SIDE79:2 A4-SIDE79:5	12/16/2021 2 12/16/2021 5				_	_	_	_	_	_	_	_	_	<0.00856 <0.00868	<0.00856 <0.00856 <0.00868 <0.00868	<0.00856 <0.0		<0.0106 <0.0107	<0.0106 <0.010		_		- 1110 - 472	
A4-SIDE79	A4-SIDE79:6	12/16/2021 6						_		_				_	<0.00881	<0.00888 <0.00888 <0.00888	<0.008881 <0.0		<0.0107	<0.0107 <0.010				<u> </u>	
A4-SIDE79	A4-SIDE79:7	12/16/2021 7	,						_						< 0.00938	<0.00938 <0.00938			<0.0109	<0.0107 <0.010		_		— 461	
A4-SIDE80	A4-SIDE80:1.5	12/16/2021 1.				_	_	_	_	_	_	_	_	_	<0.00908	<0.00908 <0.00908			<0.0112	<0.0112 <0.011		_		- 782	
A4-SIDE80	A4-SIDE80:5	12/16/2021 5	_			_	_	_	_	_	_	_	_	_	<0.0101	<0.0101 <0.0101	<0.0101 <0.0		< 0.0124	<0.0124 <0.012		_		- 914	
A4-SIDE81	A4-SIDE81:2	12/16/2021 2	2 -			_	_	_	_	_	_	_	_	_	<0.00888	<0.00888 <0.00888			<0.0110	<0.0110 <0.011		_		- 825	_
A4-SIDE81	A4-SIDE81:6	12/16/2021 6	5 -			_	_	_	_	_	_	_	_	_	<0.00850	<0.00850 <0.00850	<0.00850 <0.0	105 1.06	<0.0105	<0.0105 <0.010	5 1.06	_		— 658	_
A4-SIDE82	A4-SIDE82:1.5	12/16/2021 1.	.5 -			_	_	_	_	_	_	_	_	_	< 0.00907	<0.00907 <0.00907	<0.00907 <0.0	112 0.837	<0.0112	<0.0112 <0.011	2 0.837	_	_	— 3550	_
A4-SIDE82	A4-SIDE82:7	12/16/2021	7 -			_	_	_	_	_	_	_	_	_	<0.00910	<0.00910 <0.00910	<0.00910 <0.0	112 0.216	<0.0112	<0.0112 <0.011	2 0.216	_		— 1390	_
A4-SIDE83	A4-SIDE83:3	12/16/2021 3	3 -			_	—	_	—	—	—	_	—		<0.00874	<0.00874 <0.00874	<0.00874 <0.0	108 0.767	<0.0108	<0.0108 <0.010	0.767	_	·	— 1120	_
A4-SIDE83	A4-SIDE83:6	12/16/2021 6	5 -			_	_	_	_	_	_	_	_	_	<0.00888	<0.00888 <0.00888	<0.00888 <0.0	110 0.781	<0.0110	<0.0110 <0.011	0 0.781	_	_ ·	— 1380	_
A4-SIDE84	A4-SIDE84:3	12/16/2021 3	3 -			_	_	_	—	—	_	_	_	_	<0.00873	<0.00873 <0.00873	<0.00873 <0.0	108 0.151	<0.0108	<0.0108 <0.010	0.151	—		— 373	_
A4-SIDE86	A4-SIDE86:1.5	12/16/2021 1.	.5 -			—	—	_	—	—	_	—	—	_	<0.00869	<0.00869 <0.00869	<0.00869 <0.0	107 0.727	<0.0107	<0.0107 <0.010	0.727	_		— 2020 J*	
A4-SIDE86	A4-SIDE210:1.5	12/16/2021 1.	.5 -			_	—	_	—	_	_	_	_	_	<0.00806	<0.00806 <0.00806	<0.00806 <0.0	0994 0.518	<0.00994	<0.00994 <0.009		_	_ ·	— 4940 J*	
A4-SIDE86	A4-SIDE86:7	12/16/2021	7 -			_	_	_	—	—	—	_	—	_	< 0.00919	<0.00919 <0.00919			<0.0113	<0.0113 <0.011		_	_ ·	— 1540	
A4-SIDE87	A4-SIDE87:2	12/16/2021 2	2 -			_	_	_	_	_	_	—	_	-	<0.00788	<0.00788 <0.00788	<0.00788 <0.0	0973 1.00	<0.00973	<0.00973 <0.009	73 1.00	_	_ ·	- 5050	_

# Table 10: Overexcavated Samples

	excavated Samples	,		TI	PH		HVOCs					PAHs								PCB	6							Metals		
Locality	Cantle D	Campe Date	Death III DE	63 Gasoline	17Has	ics solife	nere PCE)	und chaide	Bentolalanti	Bestolephe	he Bertoloffi	Bentolyhur	stathere chifere	oibentolar	anthracence , holes of the second sec	HOLDING REALING	Moder.121	Hodor, 1232	Moder 242	Hochorita	krocher. 754	Moder 140	HOUDT. JPS	HOLDE 1288	TotalPCB	, Magerit	cathium c	CHIONIUM	Color	Leso
Area 4 Samples (cont	inued)														Ì				<u>`</u>		Ì					Ì				
A4-SIDE87	A4-SIDE87:6.5	12/16/2021	6.5	_	_	_	_	_	_	_	_	_	_	_	_	<0.00790	<0.00790	<0.00790	<0.00790	<0.00975	0.973	<0.00975	<0.00975	<0.00975	0.973	_	_	_	2220	_
A4-SIDE88	A4-SIDE88:1.5	12/17/2021	1.5	_	_	—	—	—	—	—	—	—	—	_	—	<0.00662	<0.00662	< 0.00662	< 0.00662	<0.00816	0.137	<0.00816	<0.00816	<0.00816	0.137	_	_	_	1130	_
A4-SIDE88	A4-SIDE211:1.5	12/17/2021	1.5	—	—	—	—	—	—	—	—	—	—	—	—	<0.00629	<0.00629	<0.00629	<0.00629	<0.00776	0.101	<0.00776	<0.00776	<0.00776	0.101	—	_	—	775	_
A4-SIDE88	A4-SIDE88:7	12/17/2021	7	—	—	_	_	—	_	_	_	—	_	—	_	<0.00702	< 0.00702	< 0.00702	< 0.00702	<0.00866	0.448	<0.00866	<0.00866	<0.00866	0.448	—	_	—	2590	_
A4-SIDE128	A4-SIDE128:1	1/21/2022	1	_	_	_	_	—	_	_	_	—	_	_	_	<0.00885	<0.00885	<0.00885	<0.00885	< 0.0109	0.0903	< 0.0109	< 0.0109	< 0.0109	0.0903	_	_	_	91.2	_
A4-SIDE128	A4-SIDE128:6	1/21/2022	6	_	—	_	_	_	_	_	_	_	_	_	_	<0.00938	<0.00938	<0.00938	<0.00938	<0.0116	0.0566	<0.0116	<0.0116	<0.0116	0.0566	_		_	499	
A4-SIDE129	A4-SIDE129:1	1/21/2022	1	_	_	_	_	_	_	_	_	_	_	_	_	<0.00899	<0.00899	< 0.00899	<0.00899	<0.0111	5.33	<0.0111	<0.0111	<0.0111	5.33	_	_	_	3930	_
A4-SIDE129	A4-SIDE129:6.2	1/21/2022	6.2	_	—	_	_	_	_	_	_	_	_	_	_	<0.00849	<0.00849	<0.00849	<0.00849	<0.0105	2.69	<0.0105	<0.0105	<0.0105	2.69	_	_	_	3870	
A4-SIDE139	A4-SIDE139:3	8/16/2022	3	—	—	—	—	—	—	—	—	—	—	—	—	<0.00618		<0.00618	<0.00618		0.0431	< 0.00763		< 0.00763		—				
A4-SIDE139	A4-SIDE139:8	8/16/2022	8	—	—	—	—	—	—	—	—	—	—	—	—	<0.00621	<0.00621	<0.00621	<0.00621	<0.00766	0.656	<0.00766	<0.00766	<0.00766	0.656	—				
A4-BOT142:	A4-BOT142:10	8/16/2022	10	—	—	—	—	—	—	—	—	—	—	—	—	<0.00726	<0.00726	<0.00726	<0.00726	<0.00896	0.661	<0.00896	<0.00896	<0.00896	0.661	—				
A4-SIDE150	A4-SIDE150:2	8/22/2022	2	—	—	—	—	—	—	—	—	—	—	—	—	<0.00631	<0.00631	<0.00631	<0.00631	<0.00778	0.202 J*	<0.00778	<0.00778	< 0.00778	0.202 J*	—		_		
A4-SIDE218	A4-SIDE218:2	8/22/2022	2	—	_	—	—	—	—	—	—	—	—	—	—	<0.00651	<0.00651	<0.00651		< 0.00803	0.0987 J*	< 0.00803		< 0.00803	0.0987 J*	_		_		
A4-SIDE150	A4-SIDE150:6	8/22/2022	6	_	_	—	—	—	—	—	—	—	—	—	—	<0.00690	<0.00690	< 0.00690	<0.00690	<0.00851	0.603	<0.00851		<0.00851	0.603	_				
A4-SIDE152	A4-SIDE152:2	8/22/2022	2	_	_	—	—	—	—	—	—	—	—	—	—	<0.00604	< 0.00604	< 0.00604	< 0.00604		0.143	< 0.00745		<0.00745		_			_	_
A4-SIDE152	A4-SIDE152:6	8/22/2022	6	_	_	—	—	—	—	—	—	—	—	—	—	<0.00635	<0.00635	< 0.00635	<0.00635	< 0.00783	0.551	< 0.00783		< 0.00783		_			_	_
A4-SIDE172	A4-SIDE172:2	8/26/2022	2	—	—	_	_	_	_	—		_	_	_	_	<0.00669		<0.00669	<0.00669		0.0126J	<0.00825		<0.00825		—	_	—		
A4-SIDE172	A4-SIDE172:6	8/26/2022	6	—	—	—	_	_	—	_	_	_	_	_	_	<0.00742	<0.00742	<0.00742	< 0.00742	<0.00916	1.05	<0.00916	<0.00916	<0.00916	1.05	—				
C6	C6-0.5-2	4/9/2004	0.5-2	-	_	<0.00113	<0.00113	<0.00113	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2.97	_			8.94
C6	C6-3-4.5	4/9/2004	3-4.5	-	_	—	_	_	0.0329J	0.0352	0.0172	0.0142	0.0554	0.00898J	0.0105	<0.00348	<0.0133	<0.00576	<0.00208	<0.00178	0.251	<0.00087	<0.00146	<0.0062	0.251	3.03	0.195J	11.6		7.00
C6	C6-6-7.5	4/9/2004	6-7.5	—	_		_	_	_	_	—	_	_	_	_		_	_		_	_	_		_	_	—				10.2
DG11-1	DG11-1-4	9/13/2011	3-4	_	_	_	_	_	_	_	_	_	_	_	_	_	_	—	_	_	_	_	_	_	-	_			_ 1	17.1
DG11-1	DUP3_091311	9/13/2011	3-4	_	_	_	—	—	_	_	_	_	_	_	_	<0.0190	<0.0190	<0.0190	<0.0190	<0.0750	0.590	1.10 N	—	—	1.69	_				<u> </u>
SS-SW-04	SS-SW-04_20071102	11/2/2007	4.5-5	<2.00	_	< 0.00100	< 0.00100	< 0.00100	0.140	0.120	0.140	0.0430	0.160	< 0.0300	0.0800	_	_	_	—	—	_	_	_	_	0.27 ‡	4.62			911 2	
SS-SW-05	SS-SW-05_20071102	11/2/2007	7.5-8	<2.00	_	<0.00100	<0.00100	<0.00100	0.470	0.260	0.300	0.110	0.470	0.0410	0.140						_				0.119 ‡	6.01	1.32	14.1	336 7	72.1
Area 5 Samples A5-3	A5-3:10	3/1/2021	10			_									_	< 0.0123	< 0.0122	< 0.0122	< 0.0123	< 0.0122	0.0122	< 0.0123	< 0.0122	< 0.0123	0.0122	1/2			- 82	27 E
A5-3 A5-4	A5-3.10 A5-4:7	3/1/2021	10	_	_			_	_	_	_	_	_	_		< 0.0123	< 0.0123		< 0.0123			< 0.0123		< 0.0123						871
A5-4	A5-6:8	2/25/2021	8		_				_	_	_	_		_		< 0.0113	< 0.0119		< 0.0113			< 0.0119		< 0.0119						421
A5-SIDE1	A5-SIDE1:2	9/16/2021	0 2													< 0.0145	< 0.0145	< 0.0145	< 0.0143	< 0.0145	- 0.0143	< 0.0145	< 0.0145	< 0.0143	< 0.014J	6.79				33.5
A5-SIDE1	A5-SIDE1:2	9/22/2021	2												_	<0.00803	< 0.00803	<0.00803			0.0791	<0.00990	<0.00000	<0.00990						501
A5-SIDE1	A5-SIDE1:7 A5-SIDE4:2	9/22/2021	י ר		_				_							<0.00803	<0.00803	<0.00803	<0.00803	<0.00990	0.0791	<0.00990	<0.00990	<0.00990			 0.0441 J			
A5-SIDE4	A5-SIDE4:2	9/10/2021	6	_												<0.00835	<0.00835	<0.00835	<0.00835	<0.0103	0.283	<0.0103	< 0.0103	<0.0103	0.283	2.31			— 1 — 4	
A5-SIDE10	A5-SIDE4.8	9/22/2021	0 2							_		_	_			<0.00630	~0.00033	<0.00635	<0.00833	<0.0103	0.203	<0.0103	<0.0103	<0.0103	0.205		0.518			
A5-SIDE10	A5-SIDE10:2	9/22/2021	<u>_</u> و						_					_	_	< 0.00732	<0.00732	<0.00732		< 0.00903		<0.00903		< 0.00903						
A5-SIDE10	A5-SIDE10.8	9/22/2021	3													<0.00732	<0.00732	<0.00732	<0.00732	<0.00903		<0.00903	<0.00903	<0.00903	<0.00903		0.162 J			13.8
A5-SIDE14	A5-SIDE14:5	9/22/2021	7	_												<0.00908				<0.0112	0.194	<0.0112	<0.0112		0.194	10.5				132
A5-SIDE14	A5-SIDE100:7	9/22/2021	7	_												<0.00900			<0.00900		0.174	<0.0112	<0.0112		0.134	11.9		_	4	<u>*</u> 264
	S1_04181995	4/18/1995	3	_	_	_	_	_	_	_	_	_	_	_	_		-		<0.00777 —	<0.0121		<0.0121 —	<0.0121	<0.0121		13.0			_ 1	<u> </u>
S5	S5_04181995	4/18/1995	4	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		1.30			619
	00_01101770																									0.70				

# Table 10: Overexcavated Samples

	excavaled Samples			TI	ЪН		HVOCs					PAHs								PCB	s						Μ	etals	
Lacation D	Campe D	Sampe Date	Deathering	Gaoline Gaoline	TPH 25 CT	tes target to be the second se	ene PCE	vind-theide	Bentolaanti	Besto approved	Bertoloffue	Bertowhuo	on sere	Ditestidan	indepol 2.3	apprese into	Model-121	Moder 1232	BIOCIOL JAL	ANOCION-1248	HOCHOTIES	HOCOL 120	Hoctor, 1262	HOCHOL 288	TOTAPCES	Arsenic	catrium o	HONIUM COS	Ret Sed
Area 5 Samples (con	itinued)																		Ì				İ						
S8	S8_04181995	4/18/1995	4	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	3.70	2.90	82.5 —	- 261
BY-1	BY-1-0-1	2/22/2002	0-1	_	_	_	_	_	0.220	0.610 Y	0.520 Y	0.520 Y	1.20	< 0.0440	< 0.0440	< 0.0390	<0.0780	< 0.0390	< 0.0390	<0.0390	< 0.0390	0.0860	_	_	0.0860	7.10	3.80	1390 109	9 631
BY-1	BY-1-1-3	2/22/2002	1-3	_	_	—	_	—	_	_	_	_	_	_	_	_	—	_	_	_	_	_	_	_	_	_	22.8		- 9220
BY-3	BY-3-0-0.5	2/21/2002	0-0.5	—	_	_	_	—	—	_	—	_	—	—	_	—	—	—	—	—	_	_	—	_	—	2.80	<0.200	14.7 55.0	.0 27.0
BY-3	BY-3-3-5	2/21/2002	3-5	—	_	<0.00120	0.480	0.00230	—	_	—	_	—	—	_	—	—	—	—	—	_	_	—	_	—	14.7	22.2	700 138	80 5200
BY-3	BY-3-6-8	2/21/2002	6-8	_	—	< 0.00130	0.120	0.0640	0.0410	0.0460	0.0360	0.0540	0.0980	<0.00920	0.0190	< 0.0460	<0.0920	< 0.0460	< 0.0460	<0.0460	0.160	0.110	—	—	0.270	_	21.0		- 6080
BY-3	BY-3-8-9	2/21/2002	8-9	—	—	_	_	_	_	_	_	_	_	_	_	_	_	—	_	_	_	_	_	_	—	—			
BY-4	BY-4-0-2	2/21/2002	0-2	_	_	<0.00120	0.0110	<0.00120	0.0220	0.0450 Y	0.0980 Y	0.0680 Y	0.160	<0.00750	<0.00750	<0.0380	<0.0760	<0.0380	<0.0380	<0.0380	0.0460	<0.0380	—	—	0.0460	4.30		13.7 89.2	
BY-4	BY-4-4-6	2/21/2002	4-6	_	_	<0.00130	0.0110	0.0150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	_	_			
BY-4	BY-4-6-7.5	2/21/2002	6-7.5	—	_	0.00160	0.0200	<0.00140		_	_	_		_		_	_	_	_	_	_	_	_	_	_				
BY-5	BY-5-0-1.5	2/22/2002	0-1.5	—	_	< 0.00120	0.00200		< 0.00770	0.00850 M	0.0120 M	0.0170 M	0.0120	<0.00770	<0.00770	<0.0390	<0.0770	<0.0390	<0.0390	<0.0390	0.250	<0.0930 Y	_	_	0.250	2.90		15.6 44.8	
BY-5	BY-5-5-7	2/22/2002	5-7	_	_	<0.00120	0.0530	0.00420	—	—	_	_	_	—	—	—	—	_	—	_	—	_	—	_	—	_			
BY-5	BY-5-7-9	2/22/2002	7-9	_	_	_	_	_		-		-											_	_		-			
BY-6	BY-6-0-1	2/22/2002	0-1	_	_		-	- 0.00110	0.0380	<0.0140	0.180 M		0.210	<0.0140	<0.0140	<0.0370	<0.0740	<0.0370	<0.0370	<0.0370	0.0700	<0.0370	_		0.0700			21.0 82.0	
BY-6	BY-6-3-5	2/22/2002	3-5	_	_	< 0.00110	0.00340	<0.00110			-		- 0.1/0	-		_	_	_	_	_	_	_	_	_	_	—	<0.200		- 21.0
BY-6	BY-6-7-8.5 C5-1-2.5	2/22/2002	7-8.5	_	_		<0.00290	<0.00290	0.0920	0.0820M	0.0730	0.100 M	0.160	<0.00830	0.0190 10	_	_	_	_	_	_	_	_	_	_	_			70.0
C5 C5	C5-3-4.5	4/9/2004 4/9/2004	1-2.5 3-4.5	—	_	<0.00108	0.00941	<0.00108	0.00605	0.00519	-0.00250	<0.00110	0.00779.1	-0.00100	-0.00200	<0.00348	<0.0133	<0.00576	<0.00208	<0.00178	0.0357	<0.000870	<0.00146	-0.00620	0.0357	5.31	1.24	19.4 32.0	- 79.9
C5	C5-6-7.5	4/9/2004	3-4.5 6-7.5	—	_	_	_	_	0.00605	0.00519	<0.00350		0.00778 J	<0.00100	<0.00390	<0.00348	<0.0133	<0.00576		<0.00178	0.0357	<0.000870			0.0357	0.31	1.24	19.4 32.0	.0 287
DS-1	DS-1-3-5	2/22/2004	3-5	_		<0.00110	<0.00110	<0.00110	0.0230	 0.130 Y	 0.140 Y	— 0.130 Y	0.230	<0.00710					_			_		_					
DS-2	DS-2-6-8	2/22/2002	6-8			<0.00110	0.0240	0.00280	0.0230	0.150 1	0.140 1	0.150 1	0.230	<0.00710	<0.00710							_							
MW-43A	091411-MW-43-SB-3	9/14/2011	2-3	<8.00	_	<0.00130	0.00720			<0.00470 J	_	_	0.00750	<0.00470	<0.00470	< 0.00360	<0.00360	<0.00360	<0.00360	<0.0120	0.0760	<0.0200	_	_	0.0760	<10.0	1.30	37.0 847	7 J 382 J
MW-43A	091411-MW-43-SB-6.5	9/14/2011			_		0.00490	0.0720	0.28	0.150	_	_	0.420	0.0300	0.0960	_	_	_	_	_	_	_	_	_	_			331 256	
MW-43A	091411-MW-43-SB-11	9/14/2011	11-12	_	_	_	_	_	_	_	_	_	_	_	_	<0.0190	<0.0190	<0.0190	<0.0190	<0.0480	0.100	0.0620	_	_	0.162		3.10		
SWS-1	SWS-1-1-2.5	4/8/2004	1-2.5	<5.92	_	<0.00113	<0.00113	<0.00113	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		3.56	148		
SWS-1	SWS-1-3.5-5	4/8/2004	3.5-5	_	_	_	_	_	_	_	_	_	_	_	_		_	_	_	_	_	_	_	_	_	_	_		- 626
SWS-1	SWS-1-6-7	4/8/2004	6-7	_	_	<0.00245	<0.00245	<0.00245	0.200	0.170	0.190	0.180	0.250	0.0500	0.0900	<0.153	<0.305	<0.153	<0.153	<0.153	1.75	<0.153	<0.153	<0.153	1.75	6.24			- 1030
SWS-1	SWS-1-7.5-8.5	4/8/2004	7.5-8.5	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_		- 17.2
SWS-2	SWS-2-0.5-2	4/8/2004	0.5-2	<5.48	_	<0.00110	< 0.00110	<0.00110	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2.53	6.10		
SWS-2	SWS-2-3.5-5	4/8/2004	3.5-5	_		<0.00117	0.0120	0.00660	0.170	0.180	0.140	0.170	0.180	<0.117	<0.117	<0.0293	<0.0586	< 0.0293	<0.0293	<0.0293	0.157	<0.0293	<0.0293	<0.0293	0.157	4.11	_		- 476
SWS-2	SWS-2-6-7.5	4/8/2004	6-7.5	_	_	_	—	—	_	_	_	_	—	_	_	_	—	_	_	_	—	_	—	_	_	_	_		- 1600
SWS-2	SWS-2-9.5-11	4/8/2004	9.5-11	—	_	< 0.00134	< 0.00134	<0.00134	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	—	—	_		- 3430
SWS-3	SWS-3-1-2.5	4/8/2004	1-2.5	—	_	< 0.00108	<0.00108	<0.00108	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	—	2.70	_		- 12.6
SWS-3	SWS-3-3-4.5	4/8/2004	3-4.5	_	_	_	—	_	_	_	_	_	_	—	_	_	—	_	_	_	_	_	—	_	—	—	_		- 8.70
SWS-3	SWS-3-6-7.5	4/8/2004	6-7.5	<7.31	_	<0.00121	<0.00365	<0.00365	_	_	_	_	—	_	_	_	—	_	_	_	_	_	—	_	—	10.0	—		- 64.7
SWS-3	SWS-3-8.5-10	4/8/2004	8.5-10	—	—	_	_	_	—	_	_	_	_	_	_	—	_	—	_	_	—	_	_	_	—	—	_		
SWS-4	SWS-4-0.5-2	4/8/2004	0.5-2	—	—	<0.00110	0.00270	<0.00110	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	—	5.67	_		- 59.2
SWS-4	SWS-4-3-4.5	4/8/2004	3-4.5	—	—	_	_	_	—	—	-	—	—	—	—	—	—	—	-	—	—	—	—	—	—	_	—		
SWS-4	SWS-4-5.5-7	4/8/2004	5.5-7	_	_	<0.00121	<0.00121	<0.00121	—	—	—	—	—	_	—	—	—	—	—	—	_	—	—	—	_	4.19			- 13.9

## Table 10: Overexcavated Samples

				TI	PH		HVOCs					PAHs								PCB	ls						l	Metals		
Location	580Hell	5anthe Date	Deoth H bos	63 Gaodine	1PH 25-C2	solife Tetrachonet	Refe RCE	viny theite	Bentolajant	Bentolaphe	Bentolohu	Forthere Bentowhile	omsene	bibentola h	Indeno(12.3	KOLOFION	Noclor.121	Hold.123	Mocler.7242	MOCIOFIZAR	Hoctor, 254	M0001,789	APOCIOF 7262	Proctor 198	TOTAPCES	Arsenic	cathium	Choniun	Copper	1 Esd
Area 6 Samples																														
A6-SIDE3	A6-SIDE3:2	10/5/2021	2	_	_	_	_	_	_	_	—	_	_	_	_	_	_	_	_	_	_	_	_	_	_	72.3	_	_	—	
SFA-S15-3	SFA-S15-3_822004	8/2/2004	3	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	—	_	_	_	58.6	0.154 J	17.9	—	11.6
Area 7 Samples																														
FWW-1	FWW-1-1-2.5	4/7/2004	1-2.5	_	_	< 0.00103	<0.00103	< 0.00103	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1.88	_	_	_	2.50
FWW-1	FWW-1-4-5.5	4/7/2004	4-5.5	<5.12	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2.65
FWW-1	FWW-1-6.5-8	4/7/2004	6.5-8	1860	_	<0.125	<0.125	<0.125	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2.29	_	_	_	1.55
Area 8 Samples																														
A1	A1-0.5-2	4/19/2004	0.5-2	_	_	<0.00106	0.0155	<0.00106	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1.37	_	_	_	56.6
A1	A1-3-4.5_20040419	4/19/2004	3-4.5	_	_	_	_	_	0.00283 J	<0.00110	0.00425 J	0.00283 J	0.00354 J	<0.00100	< 0.00390	< 0.00348	<0.0133	<0.00576	< 0.00208	<0.00178	< 0.00149	< 0.000870	<0.00146	< 0.00620	<0.00576	1.33	0.304J	15.6	10.2	11.7
A1	A1-5.5-7	4/19/2004	5.5-7	<5.36	_	<0.00107	<0.00107	< 0.00107	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
A1	A1-7.5-8.5	4/19/2004	7.5-8.5	5180	_	<0.0693	<0.0693	<0.0693	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1.34	_		_	_
A8-1	A8-1:9	2/25/2021	9	_	314	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
MW-44B	091911-MW-44B-SB-7.5	9/19/2011	7-8	8300	_	_	_	_	0.0680	0.0290	0.0380	0.0280	0.0960	0.00610	0.0180 J	<0.00380	<0.00380	<0.00380	<0.00380	0.00760	0.0140	0.00860	_	_	0.0302	1.90	<0.100	12.8	19.4	2.60
MW-44B	091911-MW-44B-SB-10	9/19/2011	9-10	530	_	_	_	_	0.00880	0.0130	<0.0190	<0.0190	0.0110	< 0.00460	0.00630	< 0.00370	<0.00370	<0.00370	<0.00370	< 0.00370	< 0.00370	<0.00370	_	_	<0.00370	2.50	<0.100	12.1	16.1	2.60

NOTES:

Results are reported in mg/kg.

< = Analyte was not detected; reported as less than the reporting limit.</p>

‡ - Reported by laboratory as total PCB arcolors calculated by adding all detections. Detections reported by laboratory as Aroclor 1254.

E = Result exceeds laboratory calibration range. Flag applied by the laboratory.

J = Estimated concentration, detected greater than the method detection limit and less than the reporting level. Flag applied by the laboratory.

J\* = Estimated concentration due to quality control failures. Flag applied by Shannon & Wilson (\*).

JH\* = Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson (\*).

JL\* = Estimated concentration, biased low due to quality control failures. Flag applied by Shannon & Wilson, Inc. (\*)

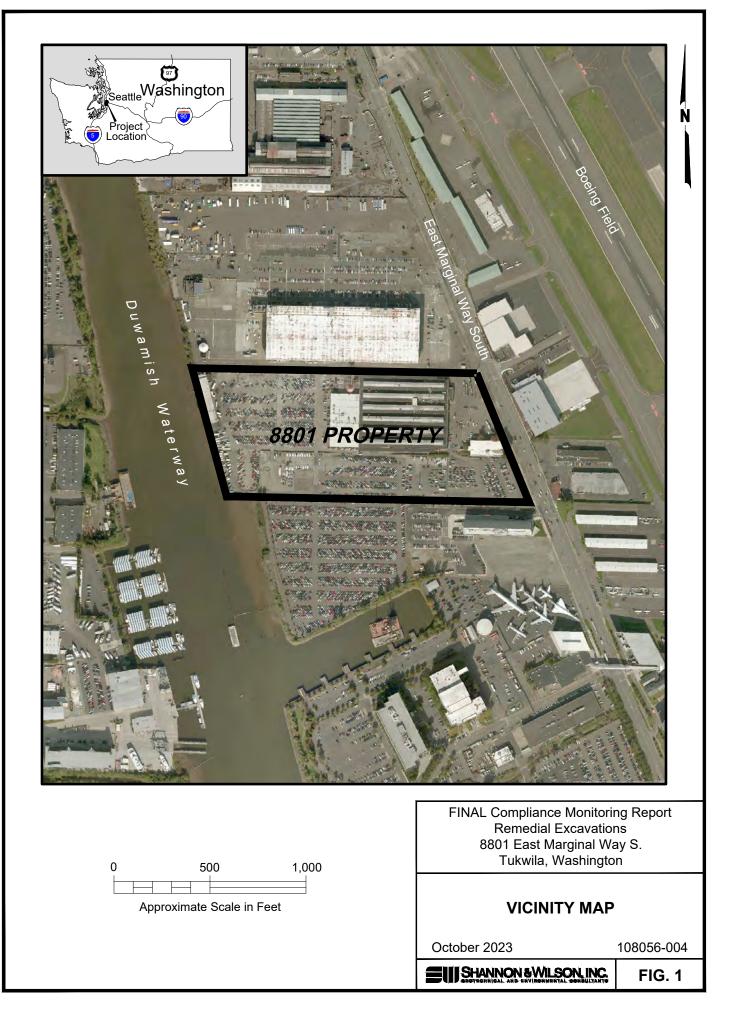
N = There is evidence the analyte is present in the sample. Tentatively identified analyte.

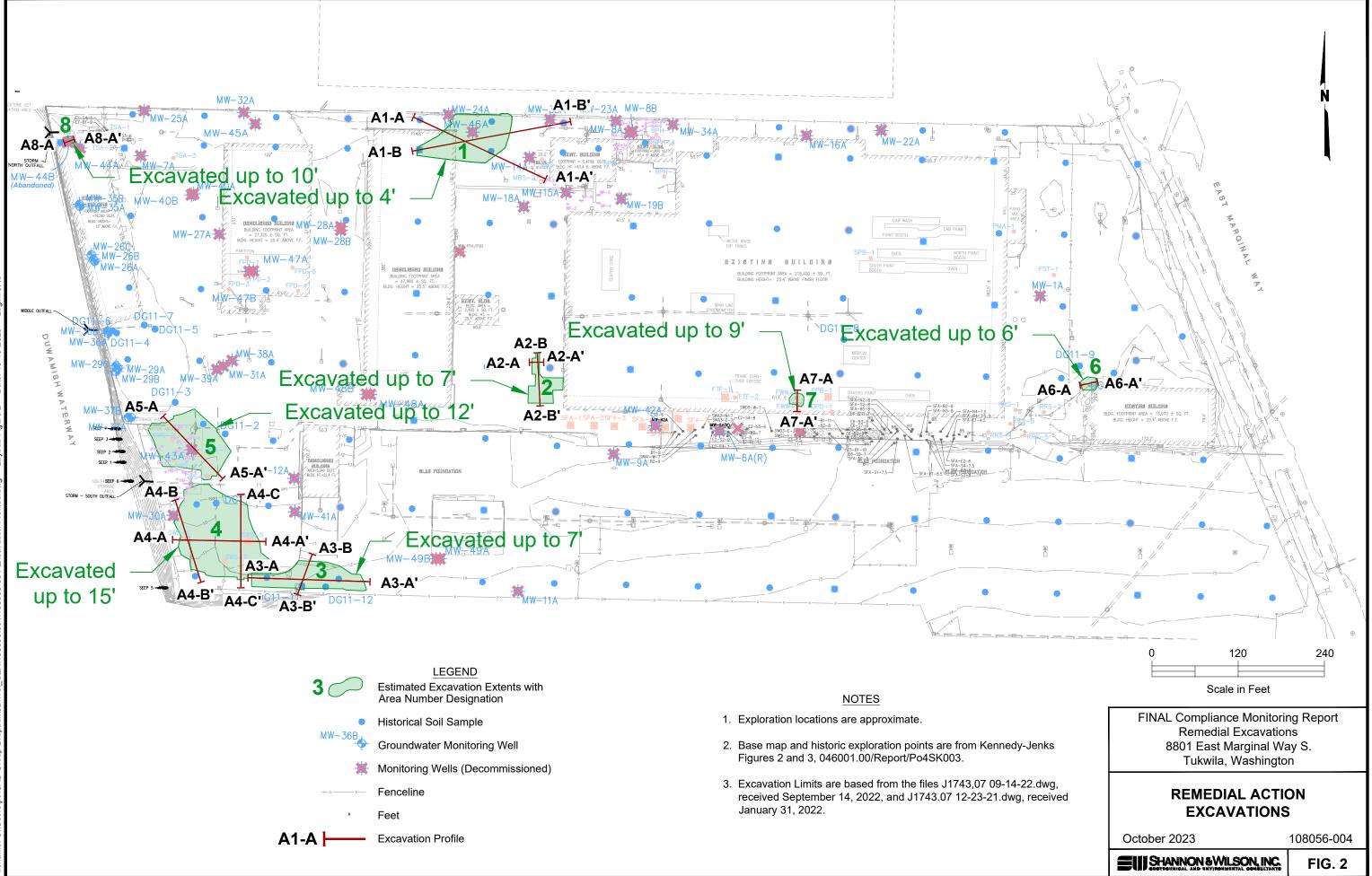
N\* = Laboratory noted that Gasoline-Range Organics (C6 - C12) chromatrographic patterns indicates that detections are due to the presence of unresolved, non-larget compounds in gasoline-range. Results are not consistent with a known petroleum distillate. Flag applied by Shannon & Wilson (\*).

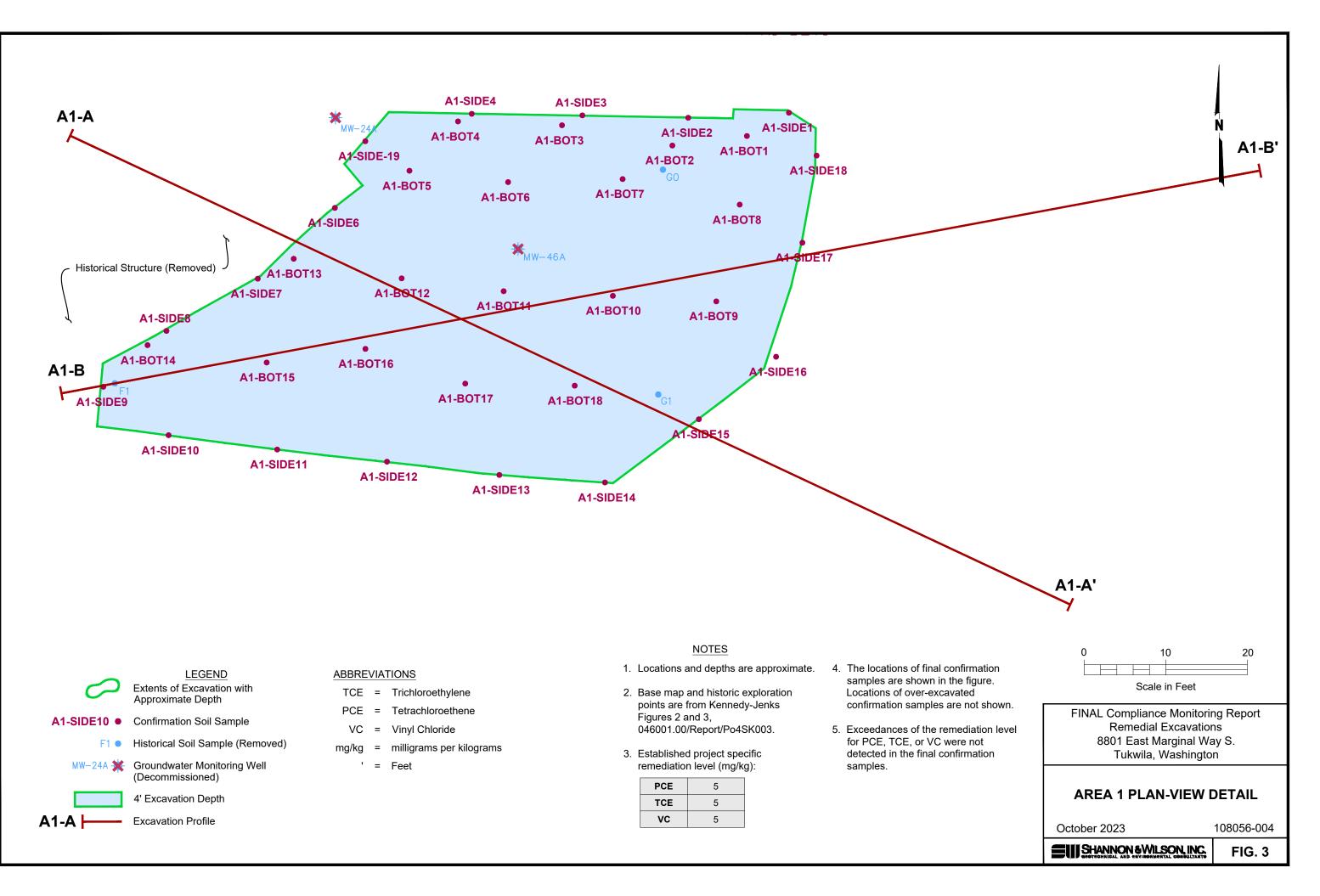
bgs = below ground surface; ft = feet; mg/kg = milligram per kilogram

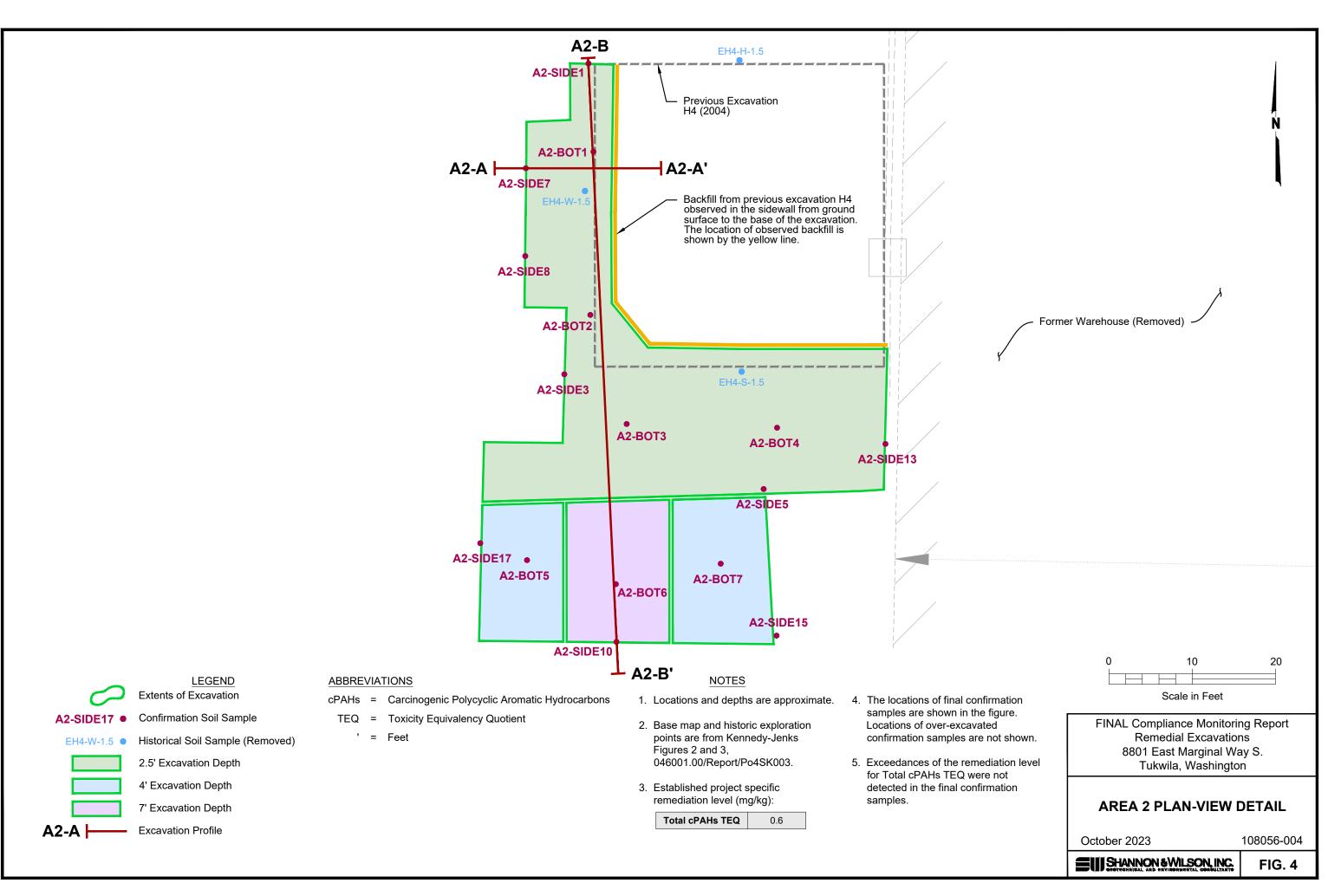
R = Sample result rejected due to being non detect and having no surrogate recovery.

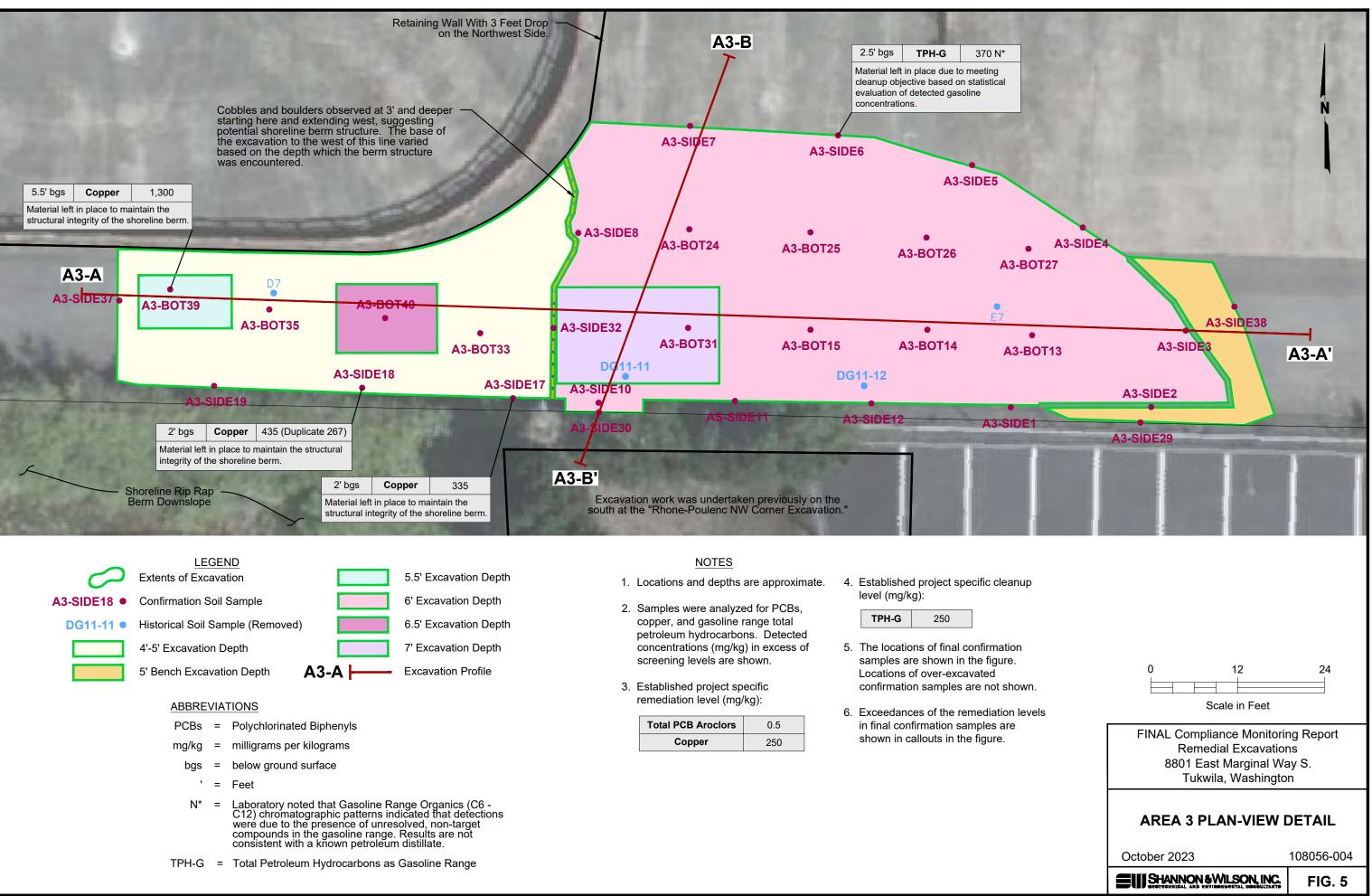
Y = Estimated concentration.

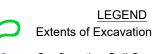






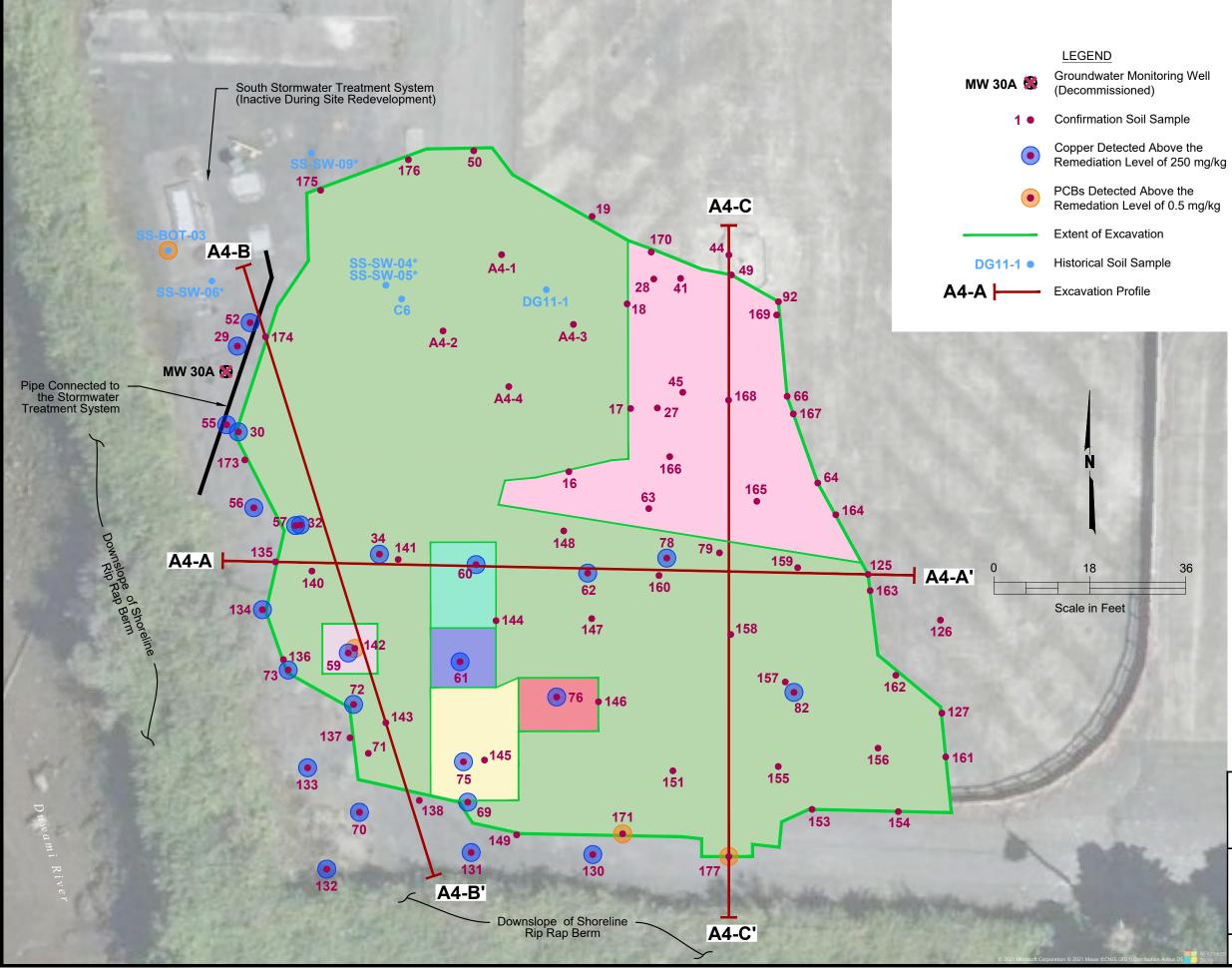


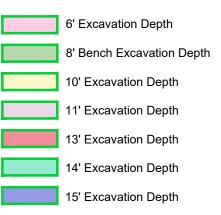






Total PCB Aroclors	0.5
Copper	250





### ABBREVIATIONS

mg/kg = milligrams per kilogram

PCBs = polychlorinated biphenyls

\* Sample collected during installation of the stormwater treatment system in 2007. Reported in AMEC, 2012, Final Remedial Investigation Report, 8801 East Marginal Way South, Tukwila, Washington.

#### NOTES

- Sample designations with numbers (##) only are abbreviated. Sample designations are A4-SIDE## or A4-BOT##.
- 2. Locations are approximate.
- 3. The locations of confirmation samples and investigation samples are shown in this figure. Overexcavated samples are not shown.

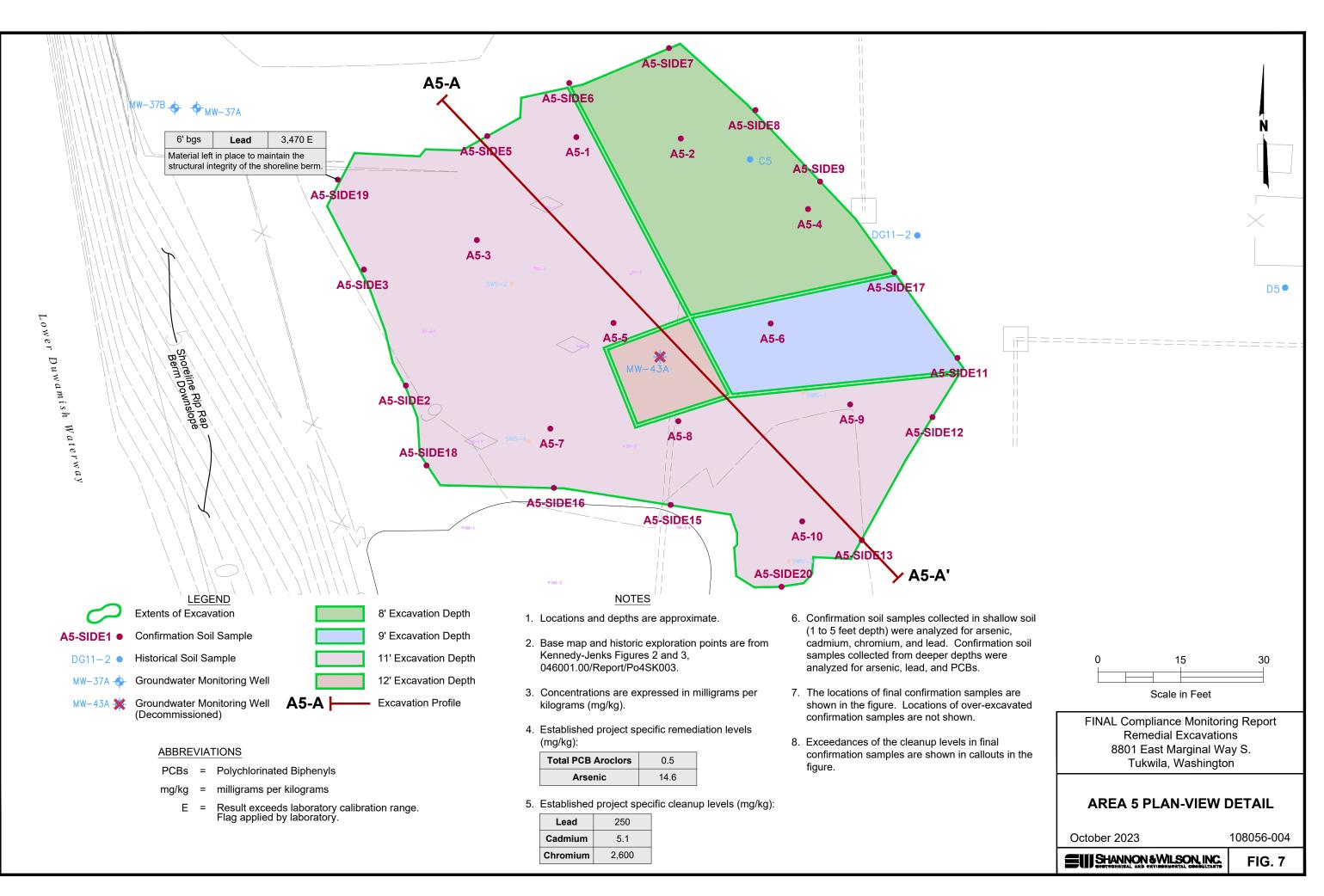
FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way South Tukwila, Washington

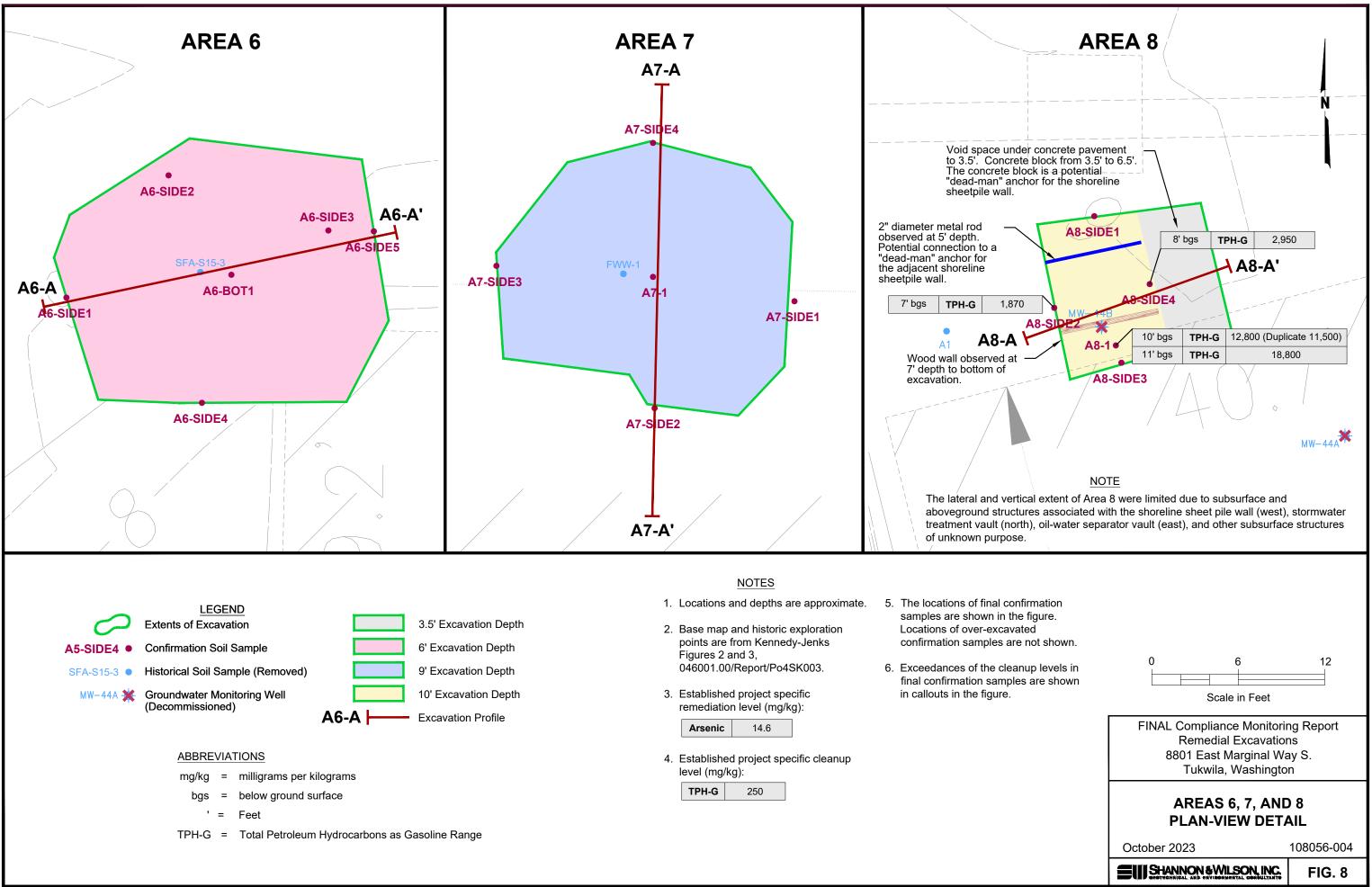
# **AREA 4 PLAN** VIEW DETAIL

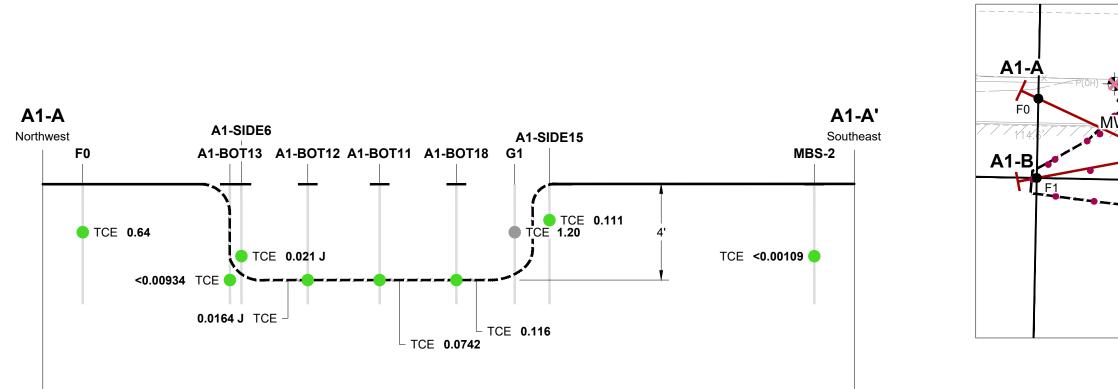
October 2023

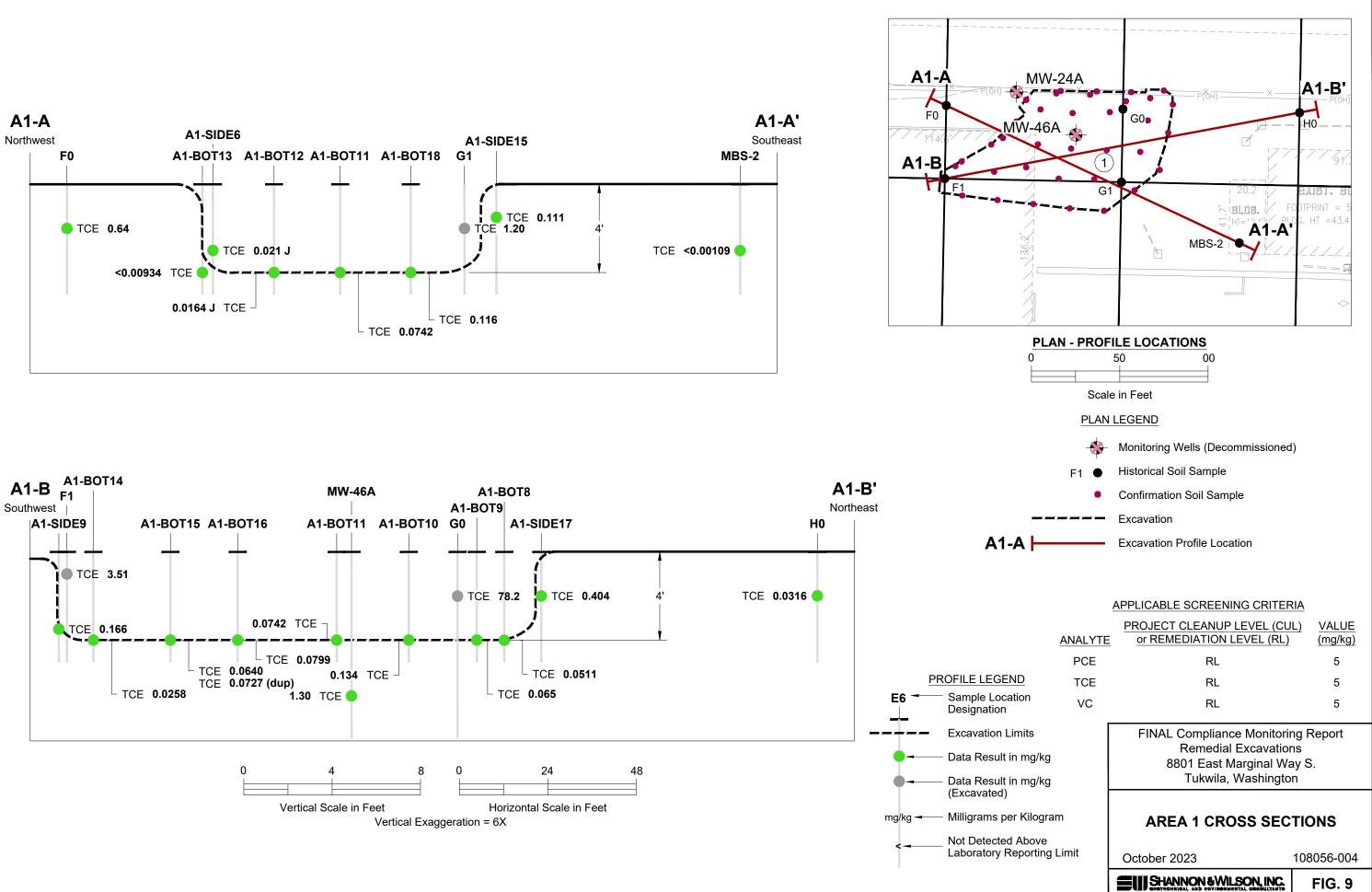
108056-004

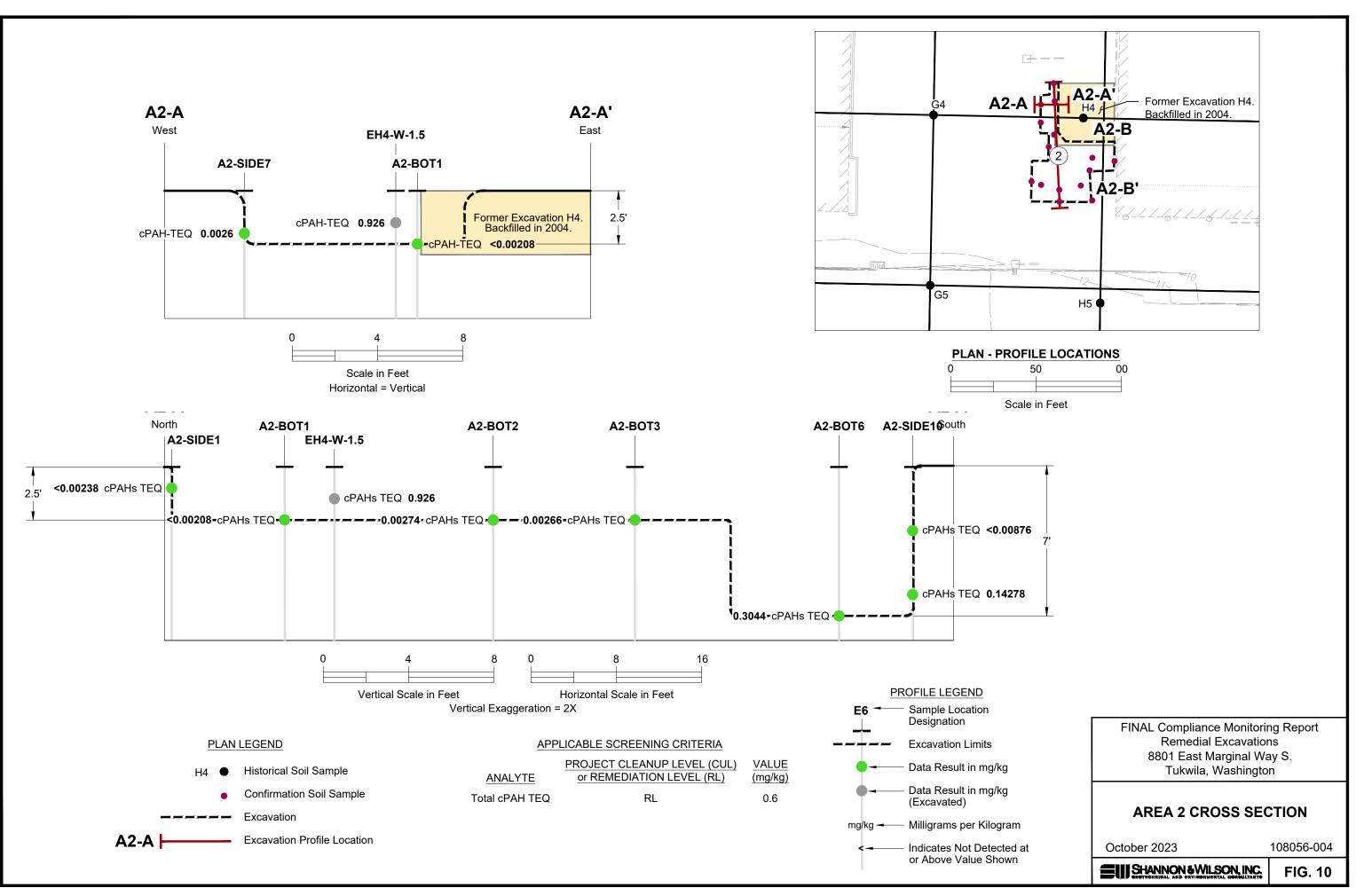
SHANNON & WILSON, INC.

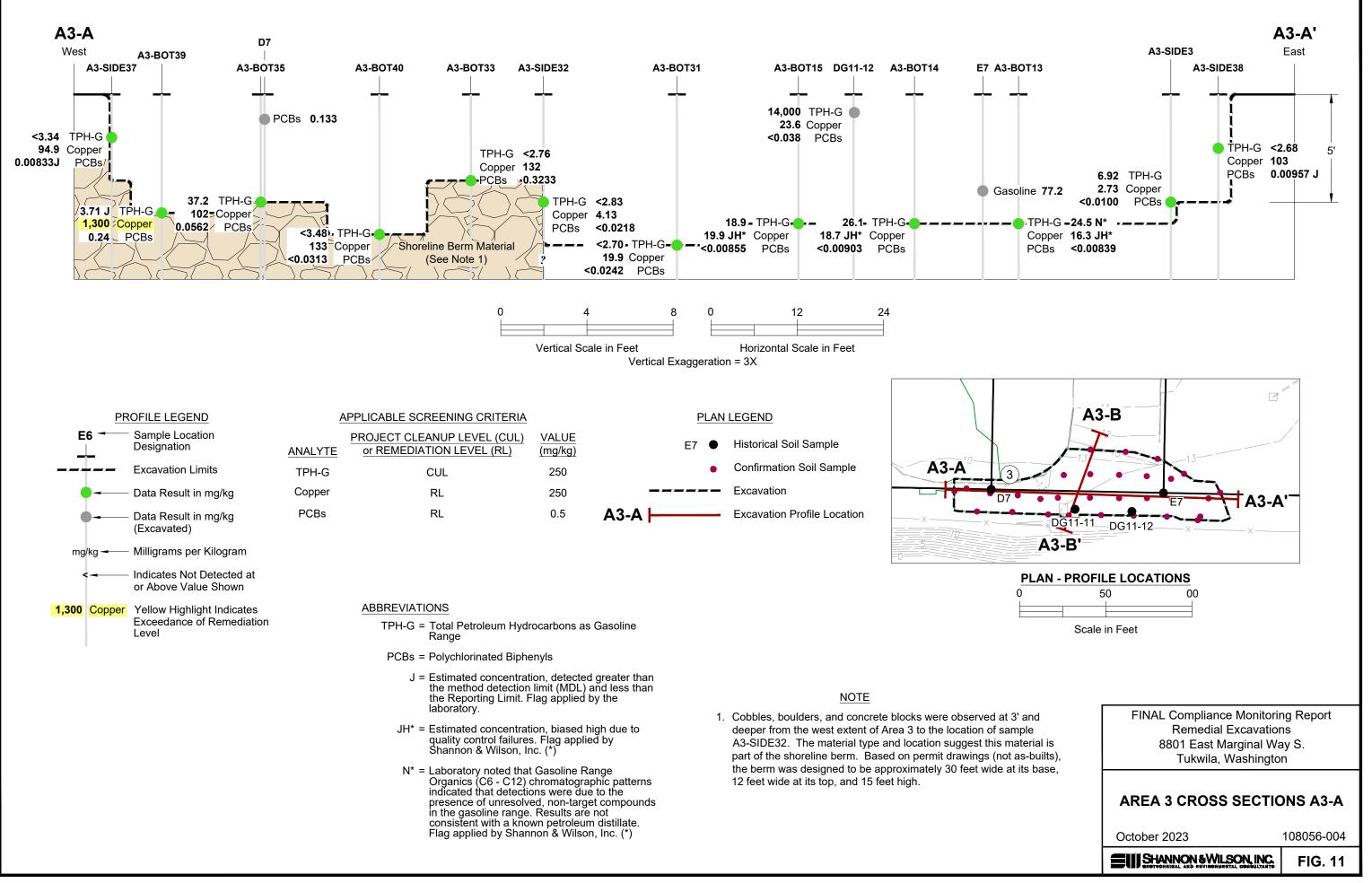


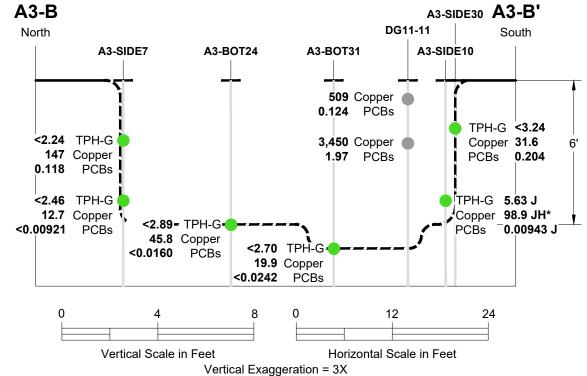


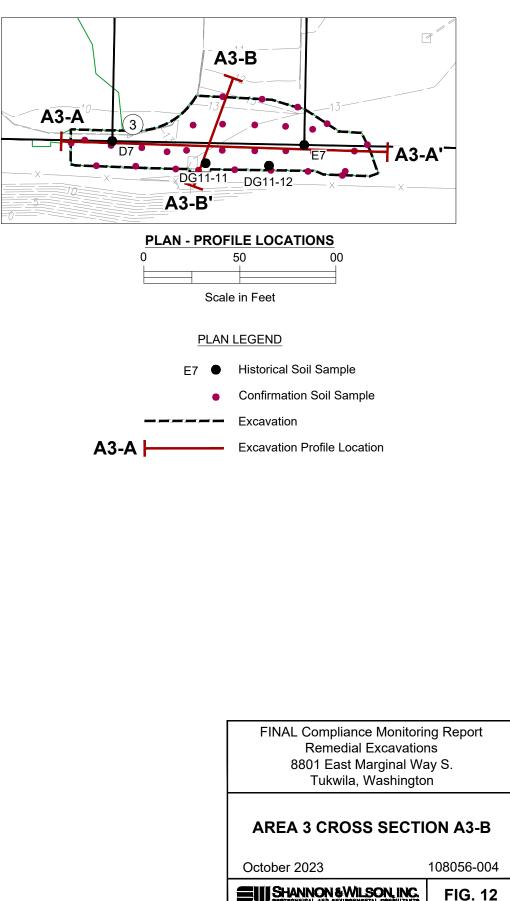












		<u> </u>			
			Ve	ertical Sc	:ale
	PR	OFILE L	EGE	ND	
E				tion Des	ign
		Excava	tion I	imite	
		EXCava		IIIIIIIS	
		Data R	esult i	n mg/kg	
		Data R (Excav	esult i ated)	n mg/kg	
mg	/kg 🗕 —	Milligra	ms pe	er Kilogra	m
•	<	Indicate or Abo	es No ve Va	t Detecte lue Show	ed a /n

#### APPLICABLE SCREENING CRITERIA

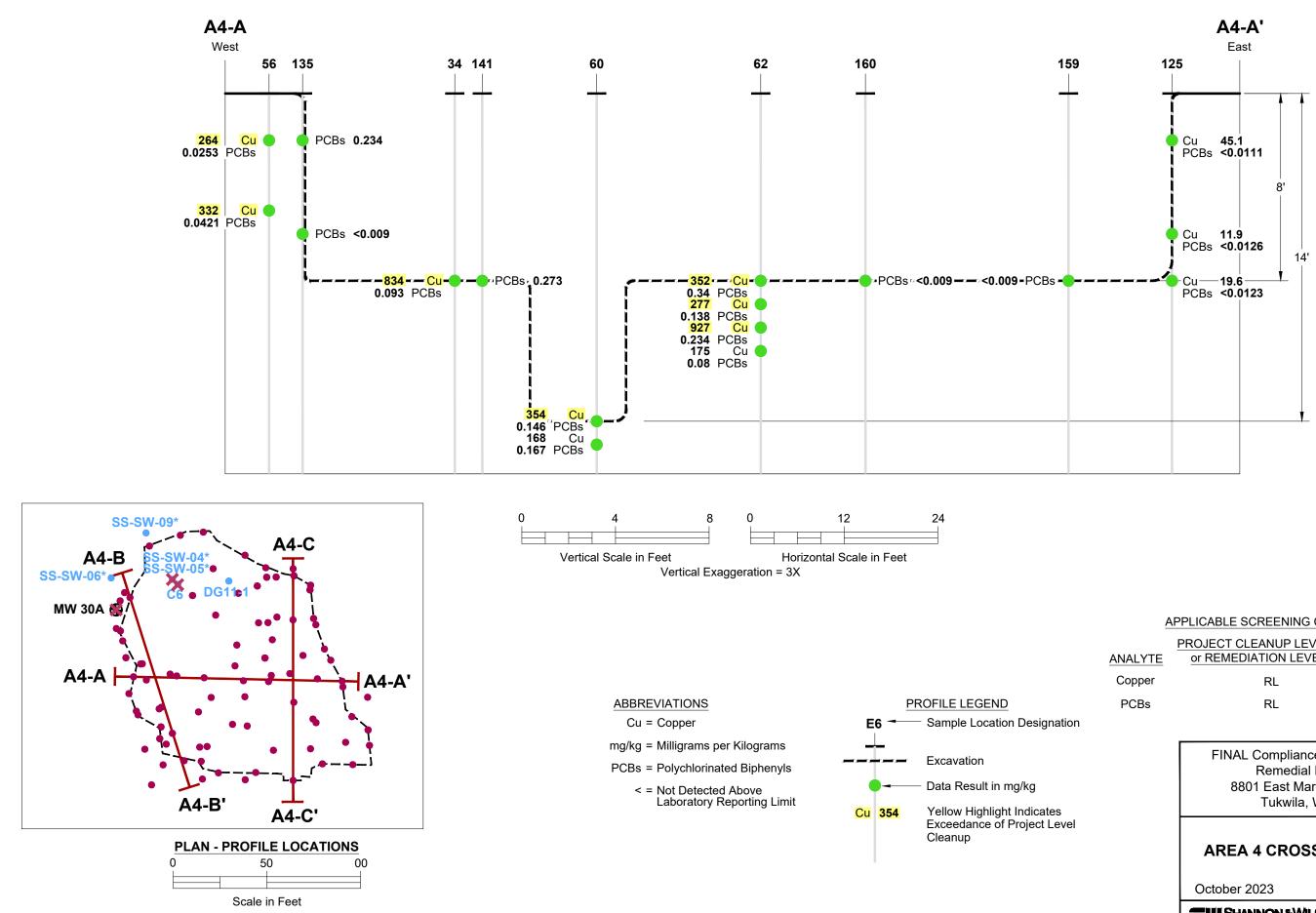
ANALYTE	PROJECT CLEANUP LEVEL (CUL) or REMEDIATION LEVEL (RL)	VALUE (mg/kg)
TPH-G	CUL	250
Copper	RL	250
PCBs	RL	0.5

ABBREVIATIONS

- TPH-G = Total Petroleum Hydrocarbons as Gasoline Range
- PCBs = Polychlorinated Biphenyls
  - J = Estimated concentration, detected greater than the method detection limit (MDL) and less than the Reporting Limit. Flag applied by the laboratory.
- JH\* = Estimated concentration, biased high due to quality control failures. Flag applied by Shannon & Wilson, Inc. (\*)

Indicates Not Detected at or Above Value Shown

Sample Location Designation



### APPLICABLE SCREENING CRITERIA

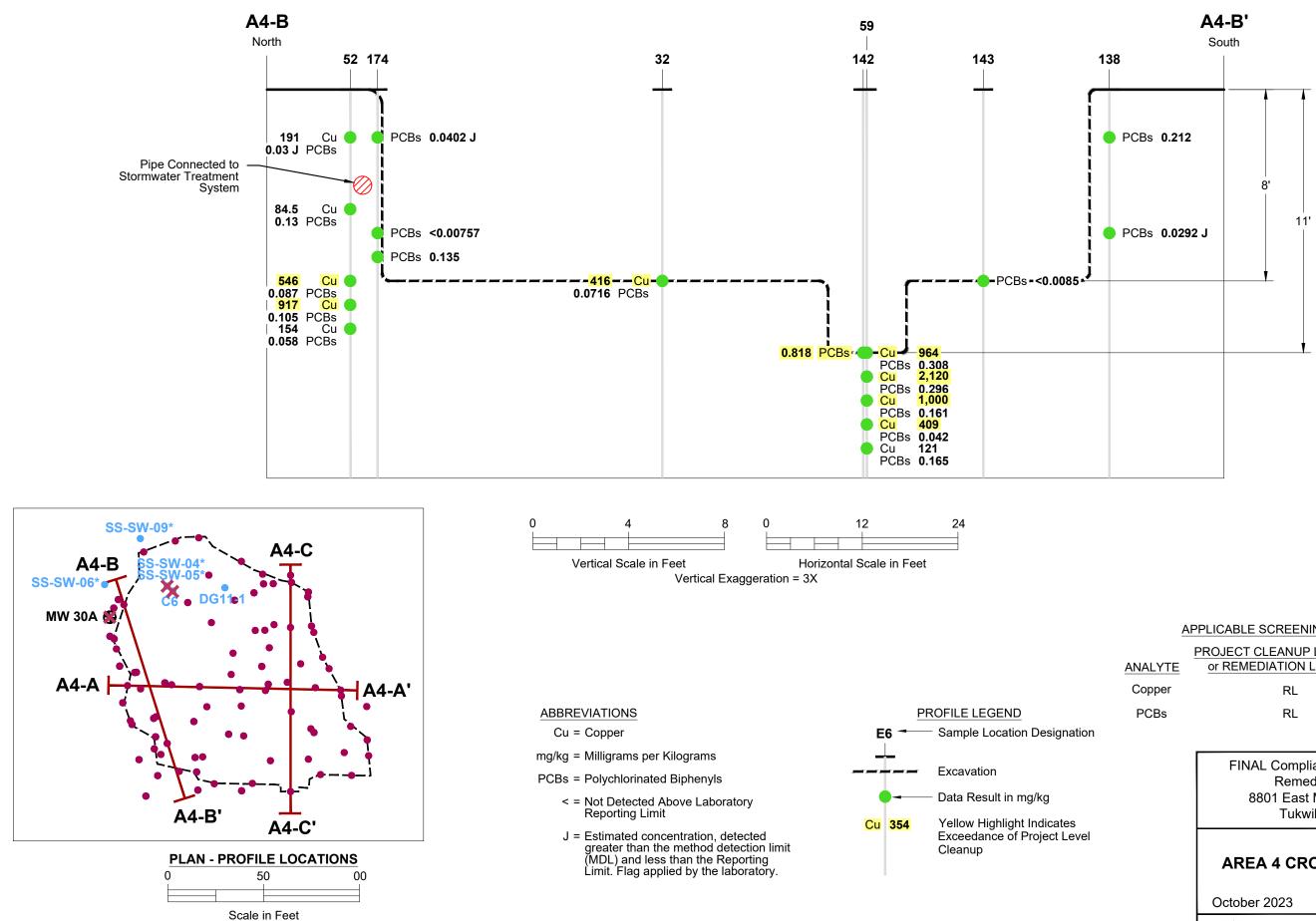
ANALYTE	PROJECT CLEANUP LEVEL (CUL) or REMEDIATION LEVEL (RL)	VALUE (mg/kg)
Copper	RL	250
PCBs	RL	0.5

FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way South Tukwila, Washington

# **AREA 4 CROSS SECTION A4-A**

108056-004

**EIII**SHANNON & WILSON, INC.



### APPLICABLE SCREENING CRITERIA

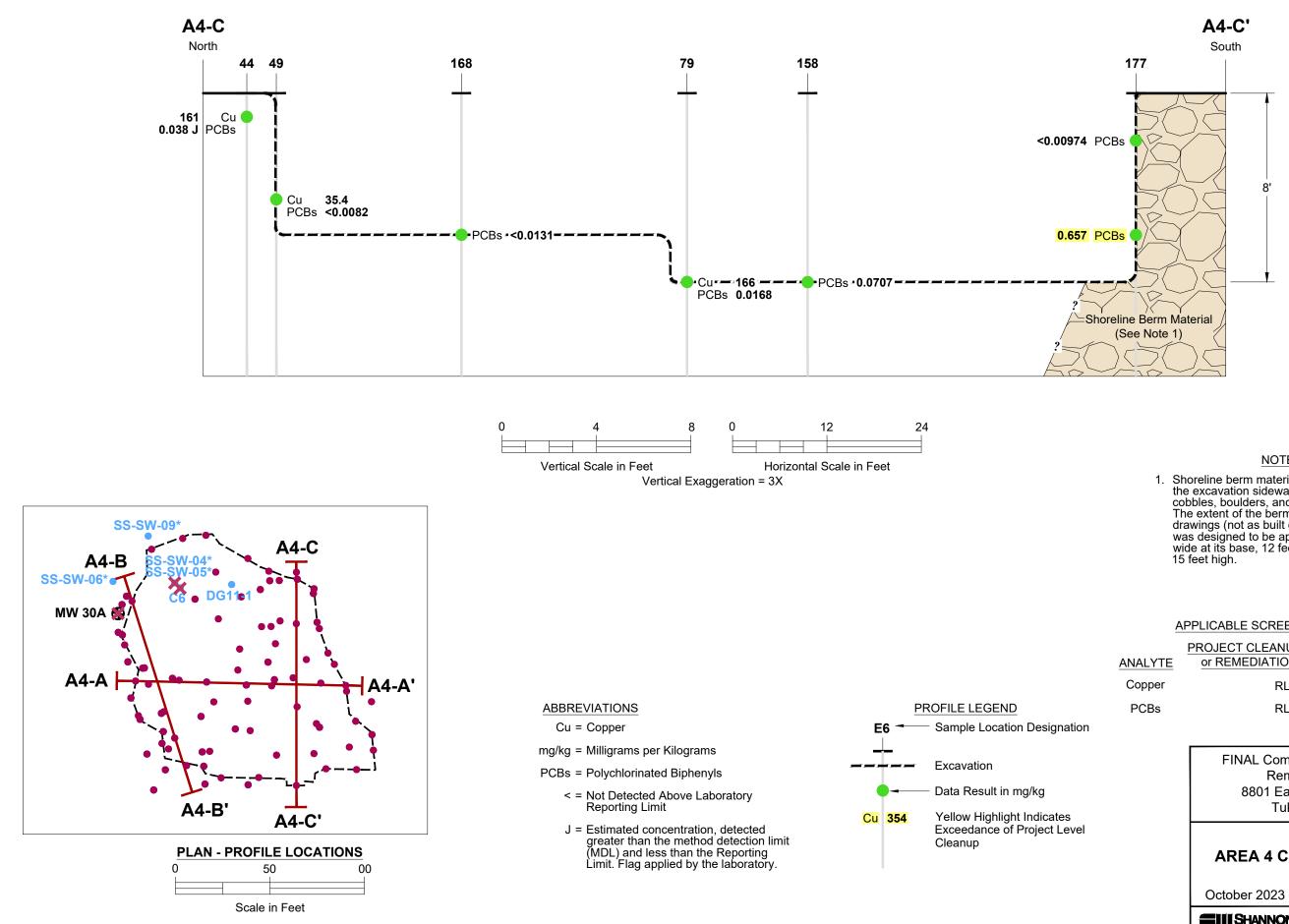
ANALYTE	PROJECT CLEANUP LEVEL (CUL) or REMEDIATION LEVEL (RL)	VALUE (mg/kg)
Copper	RL	250
PCBs	RL	0.5

FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way South Tukwila, Washington

# **AREA 4 CROSS SECTION A4-B**

108056-004

**EIII**SHANNON & WILSON, INC.



#### NOTE

1. Shoreline berm material was observed in the excavation sidewalls and consisted of cobles, boulders, and concrete blocks. The extent of the berm is based on permit drawings (not as built drawings). The berm was designed to be approximately 30 feet wide at its base, 12 feet wide at its top, and

### APPLICABLE SCREENING CRITERIA

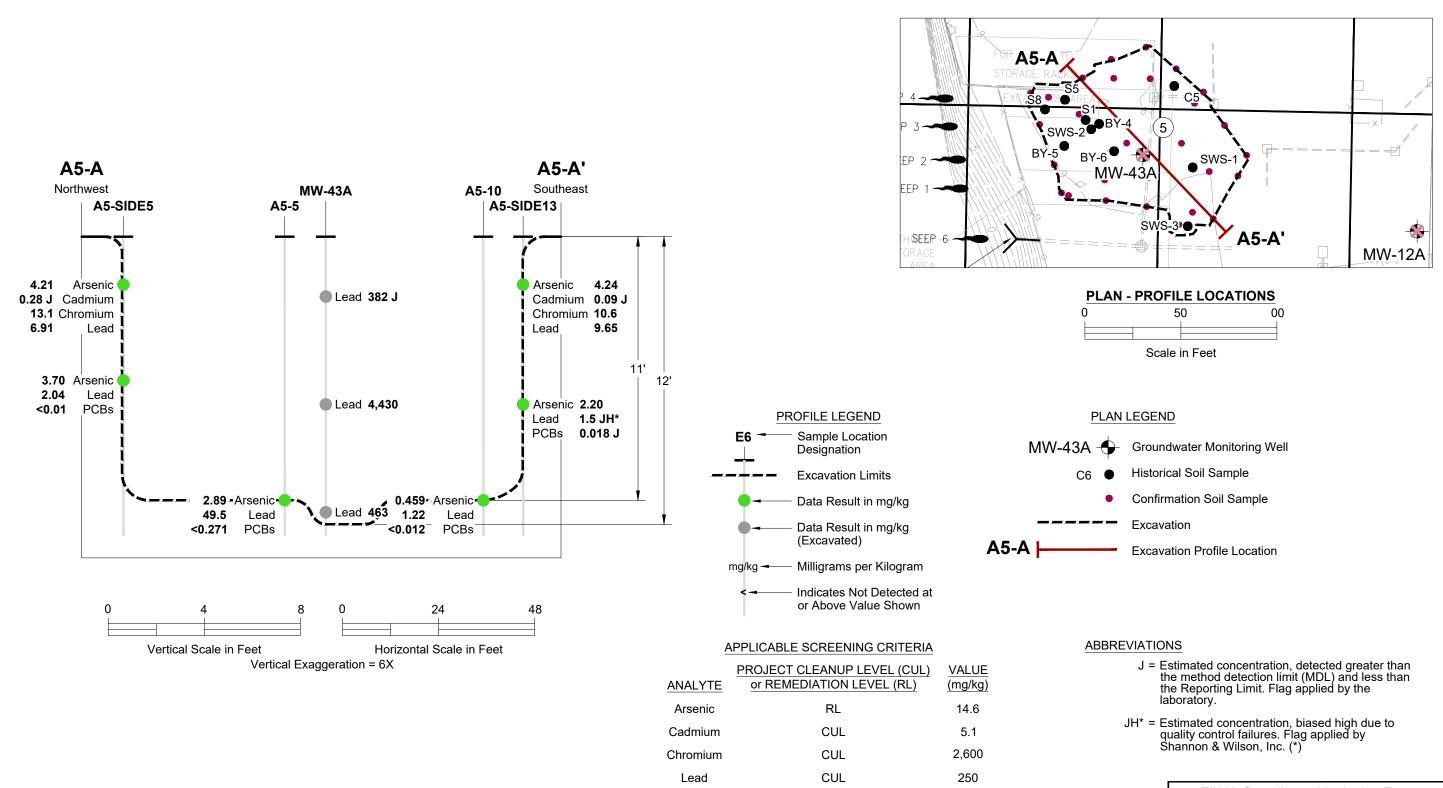
ANALYTE	PROJECT CLEANUP LEVEL (CUL) or REMEDIATION LEVEL (RL)	VALUE (mg/kg)
Copper	RL	250
PCBs	RL	0.5

FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way South Tukwila, Washington

# **AREA 4 CROSS SECTION A4-C**

108056-004

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PCBs

RL

0.5

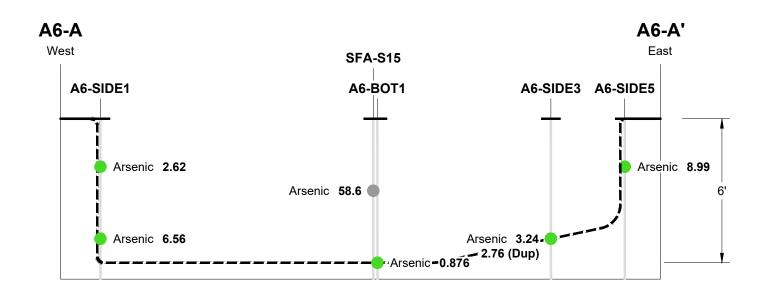
FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way S. Tukwila, Washington

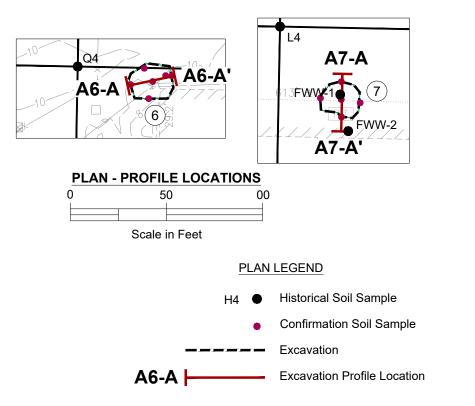
# **AREA 5 CROSS SECTION**

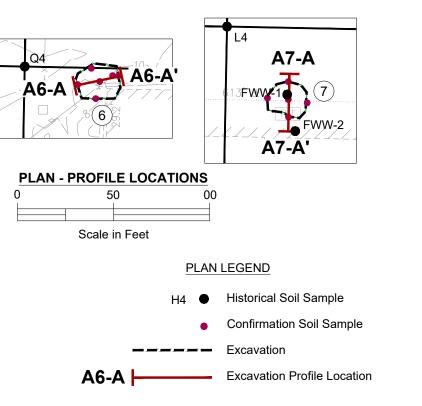
October 2023

108056-004

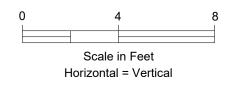
**EIII**SHANNON & WILSON, INC.







A7-A A7-A' North South PROFILE LEGEND A7-SIDE4 FWW-1 A7-SIDE2 A7-1 FWW-2 E6 🔫 Sample Location Designation Excavation Limits TPH-G <25.4 🔵 TPH-G <25.4 Data Result in mg/kg Data Result in mg/kg TPH-G 23.8 N\* TPH-G <1.17 (Excavated) TPH-G <5.12 🌑 mg/kg - Milligrams per Kilogram 9' TPH-G <6.17 Indicates Not Detected at or Above Value Shown TPH-G 1,860 🌑 TPH-G 3.30 J TPH-G <1.35 <1.52 (Dup) TPH-G <7.44 🔴 TPH-G <6.73



#### APPLICABLE SCREENING CRITERIA

ANALYTE	PROJECT CLEANUP LEVEL (CUL) or REMEDIATION LEVEL (RL)	<u>VALUE</u> (mg/kg)
Arsenic	RL	14.6
TPH-G	CUL	250

#### ABBREVIATIONS

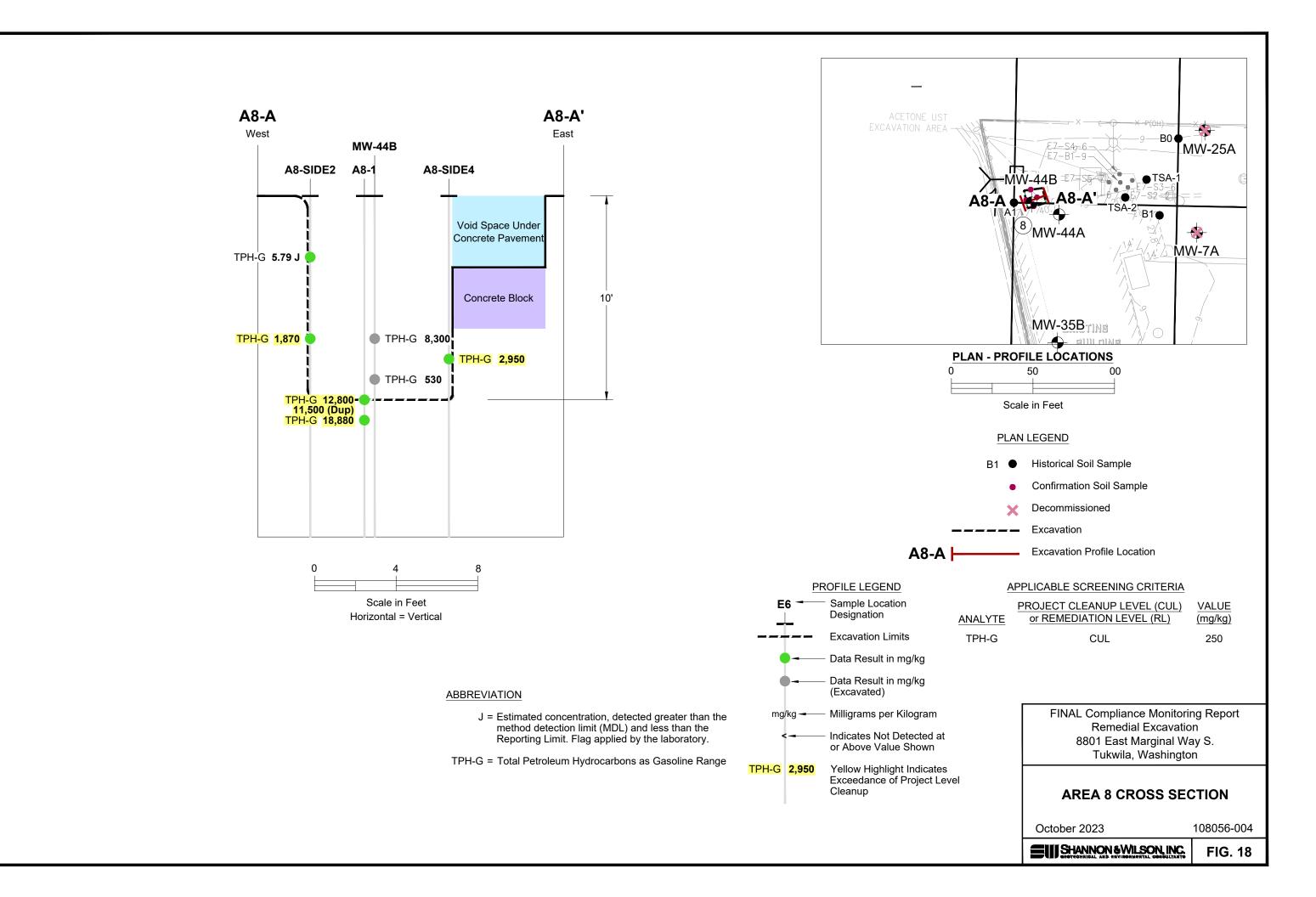
TPH-G = Gasoline-Range Hydrocarbons

N\* = Results are not consistent with a known petroleum distillate. Flag applied by Shannon & Wilson, Inc. (\*)

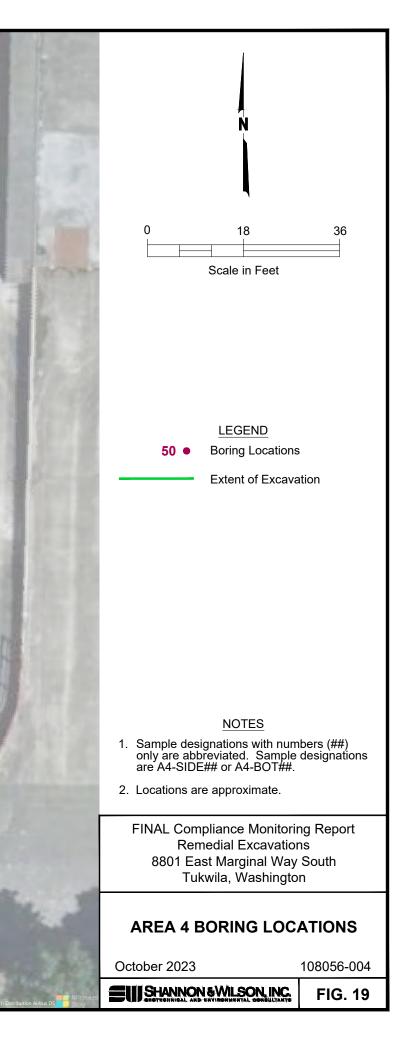
J = Estimated concentration, detected greater than the method detection limit (MDL) and less than the Reporting Limit. Flag applied by the laboratory.

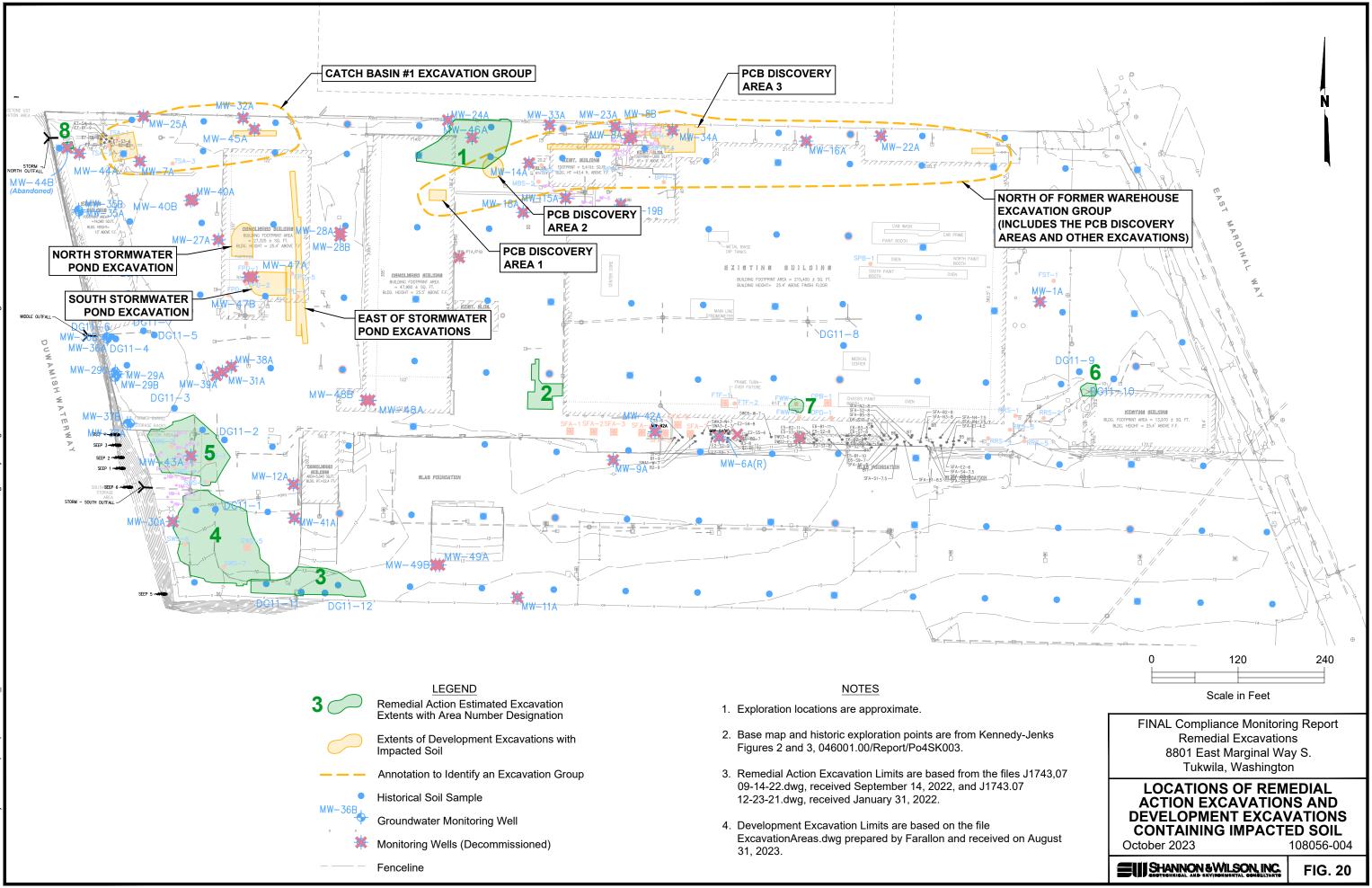
FINAL Compliance Monitoring Report Remedial Excavations 8801 East Marginal Way S. Tukwila, Washington

SHANNON & WILSON, INC.	FIG. 17
October 2023	108056-004
AREAS 6 AND 7 CROSS	SECTIONS









# Appendix A Representative Photos

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Exhibit A-2: Area 1 – Final Extent of Southeast Corner
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Exhibit A-1: Area 1 – Final Extent of Northeast Corner. Photo taken on September 21, 2021. View direction is east.

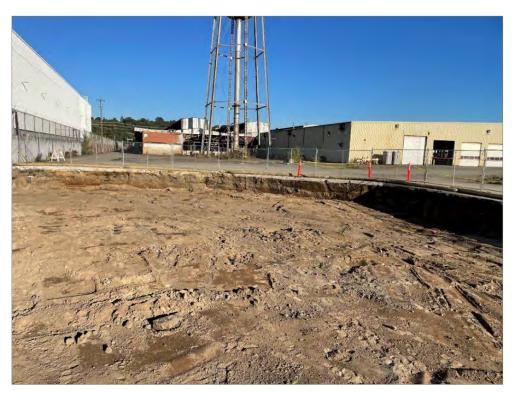


Exhibit A-2: Area 1 – Final Extent of Southeast Corner. Photo taken on September 21, 2021. View direction is east.



Exhibit A-3: Area 1 – Final Extent of Southwest Corner. Photo taken on September 21, 2021. View direction is southwest.



Exhibit A-4: Area 2 – Excavation and Hauling. Photo taken on September 20, 2021. View direction is north.



Exhibit A-5: Area 2 – View of the Southwest Portion of the Excavation. Photo taken on September 20, 2021. View direction is North. The shown excavation extents were later expanded.



Exhibit A-6: Area 2 – View of the Northeast Portion of the Excavation. Photo taken on September 20, 2021. View direction is northeast.



Exhibit A-7: Area 2 – View of the North Portion Final Extent of the Excavation. Photo taken on November 3, 2021. View direction is northwest. Imported Gravel Borrow is shown in the center and right foreground.



Exhibit A-8: Area 2 – View of the Southwest Portion Final Extent of the Excavation. Pink flags are sample locations. Photo taken on November 3, 2021. View direction is south. Water in the excavation is pooled rainwater and was removed prior to backfilling.



Exhibit A-9: Area 3 – View of the West Portion of the Excavation. Photo taken on September 28, 2021. View direction is northwest. The excavation was later expanded. Large rocks and concrete and visible in the sidewalls shown at the center of the photo and into the background. The large rocks and concrete are part of the shoreline berm.



Exhibit A-10: Area 3 – View of the West Portion of the Excavation. Photo taken on September 29, 2021. View direction is west. The excavation was later expanded.



Exhibit A-11: Area 3 – View of the Central Portion of the Excavation. Photo taken on October 18, 2021. View direction is east. The southeast corner sidewall was expanded.



Exhibit A-12: Area 3 – View of the North Portion Final Extent of the Excavation. Photo taken on November 3, 2021. View direction is east. Water in the excavation is pooled rainwater that was removed prior to backfilling. Large rocks are part of the shoreline berm. Placement of backfill is occuring in the background.



Exhibit A-13: Excavation Activities at Northwest Sidewall of Area 4. Photo taken on August 26, 2022. View direction is north.

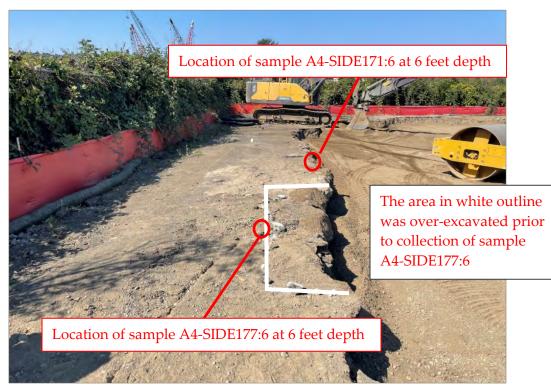


Exhibit A-14: View of Proximity to Shoreline Berm Downslope at South Sidewall of Area 4. Photo taken on August 31, 2022. View direction is west.

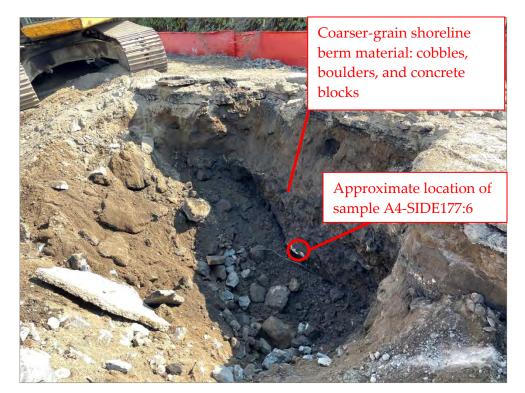


Exhibit A-15: Excavation Activities at Area 4 Sample A4-SIDE177:6. Photo taken on August 31, 2022. View direction is south.



Exhibit A-16: View of West Sidewall Area 4 near Sample A4-SIDE174. Photo taken on August 26, 2022. View direction is north.



Exhibit A-17: Area 5 – View of the Southwest Portion of the Excavation. Photo taken on September 29, 2021. View direction is south. Water in the excavation is groundwater and was later removed and treated when the excavation was expanded.



Exhibit A-18: Area 5 – View of the North Portion of the Excavation. Photo taken on October 1, 2021. View direction is northwest. Water in the excavation is groundwater and was later removed and treated. Rocks were part of support for the sheet pile wall that is in the north west corner of the excavation.



Exhibit A-19: Area 5 – View of the Northwest Corner Final Extent of the Excavation. Photo taken on November 4, 2021. View direction is north. The vsible large rocks are concrete blocks are part of the shoreline berm and were left in place. A portion of sheet pile wall is shown extending into the excavation. A plastic pipe for the sump is shown in the top right corner of the photo and was later removed. Imported Gravel Borrow in shown on the right side of the photo.



Exhibit A-20: Area 6 – View of Area 6 During Excavation on October 14, 2021. View direction is north.



Exhibit A-21: Area 7 – View of the Pavement Removal Over the Excavation. Photo taken on October 4, 2021. View direction is east. A concrete vault filled with pea gravel is shown in the south (right) half of the excavation.



Exhibit A-22: Area 7 – View of the Concrete Vault (Upside Down) that was Removed from the Excavation Photo taken on October 6, 2021.



Exhibit A-23: Area 7 – View of the West Sidewall Final Extent. Photo taken on October 6, 2021. View direction is west. Groundwater was observed in the excavation bottom.



Exhibit A-24: Area 7 – View of the South Sidewall Final Extent. Photo taken on October 6, 2021. View direction is south. Groundwater was observed in the excavation bottom.



Exhibit A-25: Area 7 – View of the North Sidewall Final Extent. Photo taken on October 6, 2021. View direction is north. Groundwater was observed in the excavation bottom.



Exhibit A-26: Area 8 – View of the Void in the East Half of the Excavation. Photo taken on October 4, 2021. View direction is northwest. The pink outline shows the extent of that was excavated later.

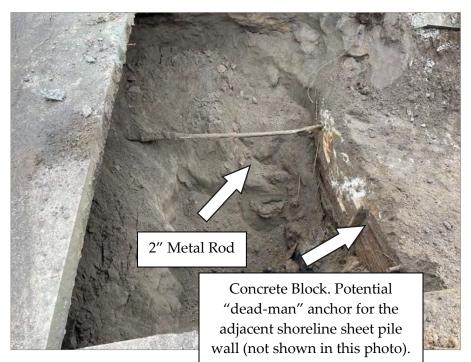


Exhibit A-27: Area 8 – View of the West Half Final Extent of the Excavation. Photo taken on October 5, 2021. View direction is north. A metal rod and concrete block were observed in the excavation and are potential structural components of the adjacent sheet pile wall.



Exhibit A-28: Area 8 – View of the West Half Final Extent of the Excavation. Photo taken on October 5, 2021. View direction is south. A metal rod and concrete block were observed in the excavation and are potential structural components of the adjacent sheet pile wall.

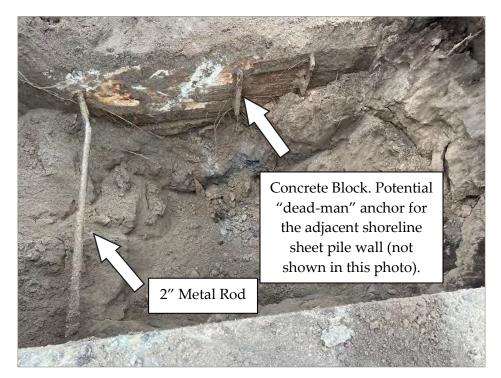


Exhibit A-29: Area 8 – View of the West Half Final Extent of the Excavation. Photo taken on October 5, 2021. View direction is east. A metal rod and concrete block were observed in the excavation and are potential structural components of the adjacent sheet pile wall.

# Appendix B Field Methods

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# **B.1 INTRODUCTION**

The purpose of this appendix is to discuss field methods undertaken during the remedial excavations and ancillary activities that occurred during September 2021 through August 2022 at the 8801 property. Site redevelopment activities (conducted by the property owner, CenterPoint 8801 Marginal LLC) occurred separate, and at times concurrent, with remedial excavations and are discussed as they relate to remediation efforts.

The following sections are organized by preparation activities, excavation and disposal activities, and field quality assurance/quality control.

# **B.2 REMEDIAL ACTION PREPARATION ACTIVITIES**

Actions undertaken prior to remediation excavations are detailed below.

# B.2.1 Utility Locating and Disconnection

CenterPoint, the property owner, reportedly disconnected public utilities in August 2021 in preparation for redevelopment activities, including electricity, sanitary sewer, water, and natural gas.

Although utilities were apparently disconnected, Shannon & Wilson notified the Washington Underground Utilities Location Center (1-800-424-5555) at least 48 hours before the start of subsurface work at the 8801 property. Additionally, Shannon & Wilson contracted a private utility locator (APS Locates) to identify potential utilities in the excavation areas using conductible methods and ground-penetrating radar.

Utilities that were identified in the excavation areas were verified to be disconnected and inactive prior to subsurface work, except as discussed in the next section.

# B.2.2 Stormwater Pipe Plugging

Two stormwater treatment systems exist on the 8801 property. The north treatment system is located at the northwest corner of the 8801 property and the south treatment system is located at the center of the west boundary of the 8801 property. The stormwater treatment systems were inactivated by CenterPoint prior to the start of redevelopment work and remedial excavations.

Stormwater pipes were identified in Areas 4 and 5 that directed water to the south treatment system. To protect the inactive south treatment system, temporary inflatable

plugs were installed in the stormwater pipes downstream from the excavation limits for Areas 4 and 5. During excavation activities, the stormwater pipes within Areas 4 and 5 were removed upstream of the plugs with other excavated materials. At the completion of the excavation work, the temporary inflatable plugs were removed and the open ends of stormwater pipes were permanently plugged with concrete.

New stormwater pipes were installed during redevelopment. Because the new stormwater pipes were installed in different locations and elevations than the historical pipes, the plugged stub pipes from the historical stormwater system were not used.

# B.2.3 Well Decommissioning

Groundwater monitoring wells were decommissioned during several events:

- During May and June 2021, in accordance with the Compliance Monitoring Plan (CMP), a Washington State licensed driller decommissioned 39 on-site groundwater monitoring wells and one former recovery well. The wells were decommissioned in preparation for the site redevelopment and remedial excavations. Recovery wells RW1 and RW2 were not located and are assumed to have been previously decommissioned.
- A Washington State licensed driller decommissioned MW-30A in August 2022 in preparation for expansion to the Area 4 excavation.
- During January 2023, MW-44A was damaged during CenterPoint's redevelopment activities on the property. A Washington State licensed driller decommissioned MW-44A in March 2023.

The IDs for decommissioned wells and remaining site wells are listed in Table 1 of the main report.

The wells were decommissioned by filling the well casings with bentonite chips or concrete grout from total depth to 2 feet depth and then concrete grout to the surface. Resource Protection Well Reports for the decommissioned wells are provided as Appendix C. The locations of decommissioned wells are provided in Figure 2 of the main report.

Replacement monitoring wells were installed in accordance with the CMP in spring 2023 after the locations were paved or the landscaped berm was installed. Methods and installation logs will be provided in a separate report.

### B.2.4 Building and Pavement Demolition

As part of CenterPoint's redevelopment project, CenterPoint demolished structures that were installed over Areas 6, 7, and 8. Additionally, the asphalt and concrete pavement covering the initial extent of Areas 1 through 8 was removed by CenterPoint. The

demolition and material handling procedures were implemented as part of CenterPoint's redevelopment project.

# B.2.5 Waste Profiling of Contaminated Soil

Excavated soil from the remedial excavations was accepted under Waste Management's profile 135321OR as non-hazardous waste. The approved waste profile is provided in Appendix J. The soil was profiled prior to the start of excavation work as described below.

In July and September 2019, soil samples were collected from Area 1 for trichloroethylene (TCE) analysis. Soil samples were collected in the location of former boring G0 where elevated TCE had been previously detected. Soil samples at boring B1 were collected at 4 and 8 feet below ground surface (bgs). Soil samples at boring B6 were collected at 6 to 9 feet and 11 to 14 feet bgs. Soil samples were submitted to Analytical Resources, Incorporated in Tukwila, Washington for analysis of halogenated volatile organic compounds (VOCs). The results were below the TCE remediation level of 5 milligrams per kilogram. A sample was later analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) per U.S. Environmental Protection Agency (EPA) Method 1311. The TCE value was non detect at the laboratory detection value. The samples were named B-1:4, B-1:8, B-6:6-9, and B-6:11-14. The lab reports are provided in Appendix J.

In 2021, representative soil from the excavation areas was collected via drilling and analyzed for waste characterization purposes prior to the start of excavation work. Several borings were advanced within Areas 4, 5, 7, and 8 during February 25 and March 1, 2021. Soil cuttings from the borings were composited based on the excavation area, except for Areas 7 and 8, which were composited together. The composite samples were named A4-WA, A5-WA, and A7A8-WA.

The composite samples were submitted to Fremont Analytical of Seattle, Washington, for analysis of VOCs; polycyclic aromatic hydrocarbons (PAHs); polychlorinated biphenyls (PCBs); Resource Conservation and Recovery Act 8 metals; and copper, nickel, and zinc.

Based on the chemical results, the concentration of one analyte (lead in the composite sample from Area 5, A5-WA) exceeded the "Rule of 20". The exceedance of the "Rule of 20" indicated the waste had the potential to exceed the dangerous waste toxicity characteristic for lead based on the mass of lead in the sample. To evaluate the lead toxicity in sample A5-WA, the sample was analyzed using the TCLP per EPA Method 1311. The leachate from the TCLP had 1.23 milligrams per liter (mg/L) of lead that was below the dangerous waste toxicity characteristic threshold of 5 mg/L. The lab report is available in Appendix J.

Based on the results of chemical and TCLP analyses in 2021, a separate sample of drill cuttings from Areas 4 and 5 was composited (one composite sample in total) and submitted for a hazardous waste fish bioassay. Rainier Environmental of Tacoma, Washington, performed the bioassay in accordance with the Washington State Department of Ecology's (Ecology's) Publication 80-12.<sup>1</sup> The bioassay consisted of exposure of juvenile rainbow trout to the composite sample for 96 hours. Three replicates of the test were performed concurrently.

No mortality was observed during the fish bioassay and the sample was not designated as dangerous waste. The bioassay report is provided in Appendix J.

# B.2.6 Pre-Excavation Sampling

Soil samples used for excavation confirmation samples were collected in advance of excavation work at select areas. Direct-push borings were used to collect the soil samples. The basis for collecting confirmation samples in advance of the excavation work is described below.

- During February 25 and March 1, 2021, drilling was used to collect confirmation base samples in advance of excavation at Areas 4, 5, 7, and 8. Drilling was used because the excavations were to be completed below the groundwater table and collection of base samples during excavation activities would not be representative due to the submerged base and loose soil. This approach was described in the approved CMP<sup>2</sup>.
- Excavation was temporarily suspended at Area 4 during September 2021 after the initial proposed extent was excavated and two expansions were completed. The excavation was temporarily suspended to undertake further delineation of the extent of contaminated soil. During three mobilizations (October 29, 2021; December 14 to 17, 2021; and January 21, 2022), borings were stepped-out from the excavation limits to evaluate for in situ concentrations of contaminants of concern (COCs). Soil samples that were collected from the borings were used as confirmation samples because the analytical results of samples collected from the excavation were highly variable, for example, the concentrations detected in a primary and split sample sometimes varied as

 <sup>&</sup>lt;sup>1</sup> Washington State Department of Ecology (Ecology), 2020, Biological Testing Methods 80-12 for the Designation of Dangerous Waste: Washington State Department of Ecology, Hazardous Waste and Toxics Reduction Program, Olympia, Wash., publication no. 80-12, revised September 2020.
 <sup>2</sup> Shannon & Wilson, 2021, Compliance monitoring plan, 8801 East Marginal Way S., Tukwila, Wash.: Report prepared by Shannon & Wilson, Inc., Seattle, Wash., 21-1-12567-024, for PACCAR Inc, Bellevue, Wash., March 15.

much as an order of magnitude. This approach was described in the Modified Excavation Plan for Area 4<sup>3</sup> and was approved by the Ecology site project manager.<sup>4</sup>

The methods used for pre-excavation sampling are discussed below.

A Washington State licensed driller used a direct-push drill rig to collect pre-excavation samples. At direct-push locations, the static weight of the hydraulic probe rig, combined with percussive energy, were used to advance a series of hollow metal rods. A 2-inch-diameter, 5-foot-long probe sampler fitted with removable plastic sampling (sleeve) tubes were driven into undisturbed soil continuously from the ground surface to the desired depth of the boring. The bottom of the core tube had a plastic soil catcher used to retain soil when the tube was pushed into the subsurface. Upon retrieval of the sample sleeve, the plastic tube was sliced open and the soil was field-screened for contaminants and samples collected and logged. The locations of borings are shown in Figure 19.

Soil was visually described using Shannon & Wilson's soil identified system, which is a modified version of the Unified Soil Classification System. The soil description key and boring logs are provided in Appendix C.

Soil sample collection procedures, including labeling, transportation, and decontamination are described in Section B.4. After soil samples were collected, the borings were immediately backfilled with hydrated bentonite chips to the approximate level of the surrounding ground.

# B.2.7 Imported Fill Evaluation

Imported fill was evaluated for gradation, chemical concentrations, and compaction characteristics prior to placement on the 8801 property. Information about the imported fill evaluation is provided in Appendix E.

# B.3 EXCAVATION AND DISPOSAL

Removal of soil at remedial excavations occurred during September 15, 2021, through November 2021 and on August 31, 2022. The following sections discuss methods and observations.

<sup>&</sup>lt;sup>3</sup> Shannon & Wilson, 2022, Modified Excavation Plan for Area 4: Letter prepared by Shannon & Wilson, Seattle, Wash., project 21-1-12567-030, for PACCAR Inc, Bellevue, Wash., to Washington Dept. of Ecology, Shoreline, Wash., June 6.

<sup>&</sup>lt;sup>4</sup> Kelley, Chris, 2022, AO 6069, 8801 – Area 4 Technical Memo email: Email from Chris Kelley, Department of Ecology, Toxics Cleanup Program, Shoreline, Wash., to Meg Strong, Shannon & Wilson, Seattle, Wash., June 24.

# B.3.1 Health and Safety

A Health and Safety Plan (HASP) was prepared to address health and safety considerations for the proposed remedial activities and meet requirements in federal (29 Code of Federal Regulations [CFR] 1910.120 and 1926) and state (Washington Administrative Code 296) regulations. The HASP was submitted an accepted by Ecology as an appendix in the CMP. The remediation contractor prepared a supplemental HASP that discussed health and safety considerations that were specific to their means and methods.

During fieldwork, planned field activities and relevant health and safety topics were discussed during daily tailgate meetings. Health and safety topics included, but were not limited to, action levels and proper use of personal protective equipment, working near heavy equipment, handling contaminated material, decontamination procedures, spill response, and fall protection.

No adverse health and safety events occurred during fieldwork; although, one "near miss" incident occurred when an operating roller compactor contacted an operating excavator. The safety of the operators was not adversely impacted; however, the roller compactor's tire was punctured. The Contractor's staff were operating both pieces of equipment. The contractor recorded a "near miss" report and evaluated potential causes and corrective actions. The roller compactor operator was provided additional training and moved to a different project site.

Monitoring of airborne lead concentrations was performed in accordance with the HASP and is discussed in Section B.3.4.

# B.3.2 Soil Excavation, Stockpiling, and Disposal

Approximately 11,300 tons of contaminated soil were excavated from Areas 1 through 8 and disposed offsite, based on truck weight tickets, including approximately:

- 8,290 tons of PCB-impacted soil,
- 1,500 tons of metals-impacted soil,
- 1,090 tons of halogenated VOC-impacted soil,
- 340 tons of carcinogenic PAH-impacted soil, and
- 80 tons of total petroleum hydrocarbons as gasoline-range (TPH-G) impacted soil.

Soil was directly loaded into trucks for hauling offsite when practicable, otherwise the soil was stockpiled until being hauled offsite. A representative photo of excavation activities is provided as Exhibit B-1.



Exhibit B-1: Photo of Excavation at Area 2 on September 20, 2021. View Direction is North.

At times, soil was stockpiled for later offsite disposal due to the size of the excavations and limited access to portions of the excavations. Stockpiles were placed on pavement and covered with plastic sheeting. The plastic sheeting was secured using sandbags. Straw wattles were used to protect the stockpile from runoff.

Soil was hauled to Waste Management's 8<sup>th</sup> Avenue Reload Facility at 7400 8<sup>th</sup> Avenue S., Seattle, WA 98108. The soil was submitted under waste profile 135321OR (Section B.2.5). The soil was then transported for final disposition as non-hazardous waste at Waste Management's Columbia Ridge Landfill at 18177 Cedar Springs Lane, Arlington, OR 97812. Disposal certificates and truck tickets are provided as Appendix K.

# B.3.3 Confirmation Soil Sampling

The goal of the remedial excavations was to remove soil containing excavation-specific COCs at concentrations above remediation limits (RLs), except in the shallow/near surface portion of Area 5 where the cleanup levels (CULs) for cadmium and chromium were used to determine the excavation limits, and in Areas 3, 7 and 8 where the CUL for gasoline-range hydrocarbons were used to determine excavation limits. Analysis of confirmation soil samples were used for performance monitoring.

Each remedial excavation had a unique analytical suite dependent upon the COCs present in the excavation. The list below details the analyses performed for confirmation samples at each remedial excavation and was discussed in the approved CMP.

					A	rea			
Analyte	Method	1	2	3	4	5**	6	7	8
TPH-G	NWTPH-Gx			Х				Х	Х
cPAHs	EPA 8270 SIM		Х						
PCB Aroclors	EPA 8082			Х	Х	Х			
Dioxin/Furan	EPA 1613				Х*				
PCE/TCE/VC	EPA 8260D	Х							
Arsenic	EPA 6020B					Х	Х		
Copper	EPA 6020B			Х	Х				
Lead	EPA 6020B					Х			
Cadmium	EPA 6020B					Х			
Chromium	EPA 6020B					Х			

#### NOTES:

\* Dioxin/furan analysis in two base samples in the proximity of the location of C6 and DG-11-1 only.

\*\* Shallow (1 -to 5-foot depth) samples were analyzed for lead, arsenic, cadmium, and chromium. Deeper samples were analyzed for lead, arsenic, and PCBs.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons; EPA = U.S. Environmental Protection Agency; NWTPH-Gx = Northwest Total Petroleum Hydrocarbons – Gasoline Extended; PCB = polychlorinated biphenyl; PCE = tetrachloroethylene; SIM = selective oil monitoring; TCE = trichloroethylene; VC = vinyl chloride

Confirmation soil samples were collected from the sidewalls and bottom of each remedial excavation in accordance with the approved CMP. In excavations above the groundwater table, each sidewall and the bottom were sampled. Generally, samples were collected on 20-foot centers along sidewalls and throughout the bottom of the excavations with a minimum of one sample collected from each sidewall and base as outlined below:

- If the final excavation depth was 4 feet or less, a minimum of one sample from each sidewall was collected within the contaminant horizon identified during previous investigations or as noted during field observation.
- If the final excavation depth exceeded 4 feet, a minimum of one sample from each sidewall was collected from the center (or within the contaminant horizon) of each 3-foot-thick (or portion of each) vertical layer. The thickness of the individual sample layers was reduced to allow for more even sample distribution or accommodate field observations, when appropriate. For example, two samples from each sidewall when the excavation depth is 8 feet.
- Regardless of the total depth of the excavation, one sample from each fill layer observed in the excavation was collected. This may have required collection of additional sidewall samples, when appropriate.

- Bottom samples were collected on a 20-foot grid in excavations where groundwater was not encountered.
- When groundwater was encountered during the excavation, the lowermost sidewall sample was assumed to represent conditions at the water table.

In excavations where the base was likely to be below groundwater, borings were used to collect base confirmation samples in advance of the excavation work. The pre-excavation sampling is described in Section B.2.6. Borings were used to collect base samples because most of the excavations that extended below the water table were within the tidal zone and were not able to be completely dewatered due to the constant tidal influx. Samples from borings were used to target the proposed excavation depth more accurately than samples collected from an open excavation.

Sample results were used to expand the excavations if one or more excavation-specific COCs exceeded the RL/CUL, as relevant, were identified.

Quality assurance/quality control (QA/QC) of confirmation samples is discussed in Section B.4.

# B.3.4 Monitoring for Airborne Lead

Monitoring for airborne lead was conducted during earthworks at Area 5. Concentrations of lead in soil at Area 5 were identified prior to the start of excavation. During earthwork, air monitoring was used to evaluate the potential exposure of workers to airborne lead in excess of the action level of 0.03 milligram per cubic meter (mg/m<sup>3</sup>). If the action level for lead was exceeded, requirements for training, medical monitoring, and air sampling are triggered. If the permissible exposure level of 0.05 mg/m<sup>3</sup> was exceeded, additional requirements must be met, including use of respiratory protection equipment. Information pertaining to worker safety and health is in Occupational Safety and Health Administration (OSHA) 29 CFR 1926.62.

Monitoring was conducted via personal air monitoring and perimeter dust monitoring.

- Personal air monitoring was conducted using personal sampling pumps and cassettes attached to field staff. The selected field staff had dissimilar job roles so that samples were representative of possible exposure scenarios.
- Perimeter dust monitoring was conducted downwind of earthwork activity at Area 5 to evaluate air concentrations at the boundary of the work zone. An air particle counter was used to measure the concentration of dust.

The personal samples (cassettes) were representative of one 8-hour shift. Cassettes were analyzed by NVL Laboratories in Seattle, Washington, on a rushed turnaround using

NIOSH 7082 Flame Atomic Absorption method. Lead was not detected in the cassettes. Laboratory reports are available in Appendix D. A summary of lead air monitoring results is provided in Exhibit B-3.

Sampling Date	Staff/Role	Sample ID	Detected Lead Concentration (mg/m <sup>3</sup> )
September 16, 2021	Archeologist/Observer	S-1	< 0.0070
September 16, 2021	Environmental Consultant/Observer	S-2	< 0.0061
September 16, 2021	Excavator Operator	S-3	< 0.0062
September 20, 2021	Environmental Consultant/Observer	S-4	< 0.0069
September 20, 2021	Excavator Operator	S-5	< 0.0069

#### Exhibit B-3: Analytical Results of Airborne Lead Monitoring

< = analyte not detected. Reported as less than the reporting limit.

Based on available information, airborne lead at Area 5 appeared unlikely to exceed action levels because lead was not detected in cassettes collected during initial excavation work and further excavation was predominantly in saturated soil which was observed to generate less dust. Because of this, sampling for personnel airborne lead was suspended on September 21, 2021. Dust monitoring using an air particle counter continued at Area 5. The air particle counter did not detect concentration of dust sufficient to trigger exposure alarms during excavation work.

### B.3.5 Cultural Resources Monitoring

A Cultural Resources Monitoring and Inadvertent Discovery Plan (MIDP) was approved by the Washington Department of Archaeology and Historic Preservation and was included as an appendix in the approved CMP.

Archeological monitoring of ground-disturbing activities was undertaken by professional archeologists from Stell in accordance with the approved MIDP. The archeologists reviewed subsurface material for indications of potential archeological materials and prepared a monitoring report summarizing their findings, which is attached as Appendix L. No significant archeological materials were identified during site work.

### B.3.6 Temporary Erosion and Sediment Control

In accordance with the CMP, Best Management Practices (BMPs) were implemented during remedial excavation activities to limit the potential from erosion and sediment transport, including:

Placement of silt fences around the perimeter of the 8801 property.

- Covering of soil stockpiles with plastic sheets secured by sandbags.
- Placement of straw wattles around excavations, stormwater catch basins, and stockpiles.
- Covering of excavation sidewalls with plastic sheets secured by sandbags.

BMPs were inspected daily before remedial work commenced to check the integrity. If any deficiency was observed, a repair or replacement was made immediately. A representative photo of BMPs for temporary erosion and sediment control is provided below.



Exhibit B-4: Photo of Area 4 (left) and Area 5 (right) on September 17, 2021 View direction is west. Straw wattles are shown around the excavation perimeter. White plastic sheets are shown on excavation sidewalls. An orange silt fence is shown on the property boundary.

### B.3.7 Decontamination Methods

Equipment that contacted contaminated soil was decontaminated. The decontamination procedure was as follows:

- Removal of gross contamination and particulate matter,
- Wash with a mixture of Tap water and non-phosphate detergent (Alconox<sup>TM</sup>),
- Rinse with tap water,
- Rinse with distilled water rinse, and
- A final rinse with distilled water.

Decontamination water was disposed of with the excavated soil. A photo of the boot wash station is provided as Exhibit B-5.



Exhibit B-5: Photo of Area 1 with Boot Wash Station on September 21, 2021. View Direction is East.

### B.3.8 Dewatering of Excavations

Water in excavations was pumped and treated in an on-site temporary treatment system consisting of settling tanks, sand filter, and treatment vessels filled with granular activated carbon. The treated water was discharged to the sanitary sewer under King County Discharge Authorization No. 4573-01 and City of Tukwila Public Works Constriction Permit PW21-0100. Because the excavations were conducted during two mobilizations spanning approximately one year, the King County Discharge Authorization was renewed as No. 4594-01 and the City of Tukwila permit was renewed with the same permit number. A process flow diagram is provided in Appendix I.

Prior to discharge, the treated water was analyzed for chemical concentrations and physical parameters per discharge authorization and constriction permit. The analytical results were within allowable criteria.

The King County Discharge Authorization No. 4594-01 was canceled effective February 3, 2023, due to completion of the project.

Approximately 111,000 gallons of treated water were discharged to the City of Tukwila's sanitary sewer. The County Discharge Authorization, City of Tukwila Public Works Constriction Permit, and monthly discharge monitoring reports are provided in Appendix I.

## B.3.9 Surveying

Surveys of the lateral extent of excavations and the locations of confirmation samples were undertaken by True North Land Surveying Inc. Surveyors did not enter Areas 3 through 8 due to safety considerations because the depth was greater than 4 feet. The final depth of Areas 3 through 8 was measured from the sidewalls using a tape measure. The locations of base samples in Areas 3 through 8 were estimated by the sampler and sketched in field notes, except for base samples that were collected via drilling. The surveyed features, measured excavation base depths, and estimated base sample locations are incorporated into the figures in the main report.

# B.3.10 Imported Fill Placement and Compaction

A discussion about the placement and compaction of imported fill is provided in Appendix E.

# B.4 FIELD QUALITY ASSURANCE/QUALITY CONTROL

Field QA/QC procedures, discussed below, were established to ensure that samples were tracked from collection through analysis, evaluate the efficiency and reproducibility of sampling procedures, and ensure that sampling activities did not result in cross-contamination.

# B.4.1 Quality Assurance/Quality Control Samples

QA/QC samples were collected to evaluate the reproducibility of the sampling techniques and the subsequent laboratory analysis. These samples included field duplicate samples, trip blank samples, and temperature blank samples.

# B.4.1.1 Field Duplicate Samples

Field duplicate samples are a second sample collected from the same location as a primary samples. Field duplicates were submitted to the laboratory with a "dummy" sample number and time similar to a regular sample. Duplicates were analyzed for the same suite as the primary sample to allow for evaluation of the reproducibility of the sampling technique and the subsequent laboratory analysis. One field duplicate sample was collected for approximately every 20 soil samples. A list of field duplicates is provided below.

#### Exhibit B-6: List of Field Duplicate Samples

Field Duplicate		
Sample ID	Primary Sample ID	Date Collected
A1-BOT100:4	A1-BOT15:4	9/21/2021
A1-SIDE100:3	A1-SIDE2:3	9/21/2021
A2-BOT100:2.5	A2-BOT4:2.5	9/20/2021
A3-SIDE100:2	A3-SIDE18:2	9/28/2021
A3-SIDE101:5	A3-SIDE4:5	9/29/2021
A4-103:8	A4-3:8	2/25/2021
A4-SIDE102:6	A4-SIDE27:6	10/20/2021
A4-SIDE200:2	A4-SIDE50:2	12/14/2021
A4-SIDE203:1.5	A4-SIDE69:1.5	12/15/2021
A4-SIDE204:2.5	A4-SIDE73:2.5	12/15/2021
A4-SIDE217:2	A4-SIDE134:2	1/21/2022
A4-SIDE219:2	A4-SIDE171:2	8/26/2022
A4-SIDE220:2	A4-SIDE176:2	8/26/2022
A5-105:12	A5-5:12	3/1/2021
A5-SIDE101:2	A5-SIDE6:2	9/29/2021
A6-SIDE100:5	A6-SIDE3:5	10/5/2021
A7-SIDE100:7	A7-SIDE2:7	10/5/2021
A8-101:10	A8-1:10	2/25/2021
A8-SIDE100:3	A8-SIDE3:3	10/5/2021

# B.4.1.2 Trip Blank Samples

Trip blanks are samples of laboratory deionized water that are placed with sample containers and used to evaluate for cross-contamination of volatile analytes during the handling/sampling process. One trip blank was submitted with each cooler containing soil or groundwater samples that were analyzed for volatile analytes (HVOCs or TPH-G/benzene, toluene, ethylbenzene, and xylenes). Samples for volatile analyses were grouped into as few coolers as possible to minimize trip blanks.

### B.4.1.3 Temperature Blank Samples

Temperature blank samples are used to determine whether the samples have been maintained within the appropriate temperature range. The samples are provided by the laboratory and are not analyzed for chemical constituents.

# B.4.2 Field Screening Methods

Soil was field screened to evaluate for indications of contamination. Based on previous environmental assessments at the 8801 property, the likely locations to encounter contamination are in fill, at the water table interface, in the water table smear (fluctuation) zone, at fill/native soil contacts, and at pronounced changes in permeability. However, the location of contamination, if any, is variable.

Field screening methods consisted of:

- Visual observations, such as discolorations, oily or shiny soil, metallic flakes, free product petroleum, or sheen.
- Olfactory observations.
- Photoionization detector readings were used to screen soil for VOCs. Readings exceeding ambient levels may indicate contamination is present in soil.

# B.4.3 Sample Labeling

Sample container labels were completed immediately before or immediately following sample collection. Labels were completed using indelible ink. At a minimum, container labels included the following information:

- Date and time of collection,
- Location of the sample,
- Name or initials of sample collector,
- Unique sample identification,
- Analysis requested, and
- Chemical preservative used.

### B.4.4 Sample Transportation

Samples were transported to the analytical laboratory within a cooler containing ice to ensure that samples are maintained within the appropriate temperature range (between 0 Celsius (°C) and 6°C). Samples were transported to the laboratory by field personnel except a courier was used for a couple of occasions.

### B.4.5 Chain-of-Custody

Once a sample was collected, it remained in the custody of the sampler until delivery to the laboratory or release to the courier. Sample information was entered onto a chain-of-custody form along with the requested analyses.

Upon transfer of sample possession to subsequent parties, the chain-of-custody form was signed and timestamped by the person(s) transferring and receiving custody of the sample container. Upon receipt of samples at the laboratory, the condition of the samples was recorded by the receiver. Chain-of-custody records are included in the analytical reports prepared by the laboratory.

Upon receipt of samples (which were accompanied by a completed chain-of-custody record detailing requested analyses), the Laboratory Coordinator(s) or his/her delegate:

- Verified all paperwork, chain-of-custody records, and similar documentation;
- Logged in samples, assign unique laboratory sample numbers, and attach the numbers to the sample container(s);
- Performed any requested laboratory filtration and preservation;
- Opened a project file and enter data into the file; and
- Emailed a record of the sample receipt and log-in form to the Shannon & Wilson Project Manager noting any problems with the samples.

# B.4.6 Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of single-use personal protective equipment and other wastes and soil cuttings from drilling. The single use IDW was placed in doubled, heavy-duty plastic bags and disposed in a dumpster at the Shannon & Wilson office. The soil cuttings were placed in 55-gallon drums and stored on the 8801 property and later disposed with soil from the hotspot excavations as described in Section B.3.2.

# Appendix C Boring Logs and Well Decommissioning Logs

List of Boring Logs						
A4-1	A4-SIDE45	A4-SIDE62	A4-SIDE76	A4-SIDE132	A5-8	
A4-2	A4-SIDE49	A4-SIDE63	A4-SIDE78	A4-SIDE133	A5-9	
A4-3	A4-SIDE50	A4-SIDE64	A4-SIDE79	A4-SIDE134	A5-10	
A4-4	A4-SIDE52	A4-SIDE66	A4-SIDE82	A5-1	A7-1	
A4-SIDE29	A4-SIDE55	A4-SIDE69	A4-SIDE92	A5-2	A8-1	
A4-SIDE30	A4-SIDE56	A4-SIDE70	A4-SIDE125	A5-3		
A4-SIDE31	A4-SIDE57	A4-SIDE71	A4-SIDE126	A5-4		
A4-SIDE32	A4-SIDE59	A4-SIDE72	A4-SIDE127	A5-5		
A4-SIDE34	A4-SIDE60	A4-SIDE73	A4-SIDE130	A5-6		
A4-SIDE41	A4-SIDE61	A4-SIDE75	A4-SIDE131	A5-7		

List of Monitoring Well Decommissioning Logs					
MW-1A	MW-14A	MW-28A	MW-40A	MW-47B	
MW-6A(R)	MW-15A	MW-28B	MW-40B	MW-48A	
MW-7A	MW-16A	MW-30A	MW-41A	MW-48B	
MW-8A	MW-18A	MW-31A	MW-42A	MW-49A	
MW-8B	MW-22A	MW-32A	MW-43A	MW-49B	
MW-9A	MW-23	MW-33A	MW-44A	RW-3	
MW-10	MW-24A	MW-34A	MW-45A		
MW-11A	MW-25A	MW-38A	MW-46A		
MW-12A	MW-27A	MW-39A	MW-47A		

# **EIII**SHANNON & WILSON

# SOIL DESCRIPTION AND LOG KEY

**Remedial Excavations** 8801 East Marginal Way S Tukwila, Washington

Sheet 1 of 2

Shannon & Wilson uses a soil identification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following page. Soil descriptions are based on visual-manual procedures (ASTM D2488) and laboratory testing procedures (ASTM D2487), if performed.

	Structure <sup>1</sup>
Interbedded	Alternating layers of varying material or color with layers at least 1/4-inch-thick; singular: bed.
Laminated	Alternating layers of varying material or color with layers less than 1/4-inch-thick; singular: lamination.
Fissured	Breaks along definite planes or fractures with little resistance.
Slickensided	Fracture planes appear polished or glossy; sometimes striated.
Blocky	Cohesive soil that can be broken down into small angular lumps that resist further breakdown.
Lensed	Inclusion of small pockets of different soils, such as small lenses of sand scattered through a mass of clay.
Homogeneous	Same color and appearance throughout.

	Angularity and Shape <sup>1</sup>
Angular	Sharp edges and unpolished planar surfaces.
Subangular	Similar to angular, but with rounded edges.
Subrounded	Nearly planar sides with well-rounded edges.
Rounded	Smoothly curved sides with no edges.
Flat	Width/thickness ratio > 3.
Elongated	Length/width ratio > 3.

#### Standard Penetration Test (SPT)<sup>3</sup>

Moisture Content				
N-Value	Sum blow counts for second and third 6-inch increments. Refusal: 50 blows for 6 inches or less or 10 blows for 0 inch.			
Sampler	10 to 30 inches long Shoe I.D. = 1.375 inches Barrel I.D. = 1.5 inches Barrel O.D. = 2 inches			
Hammer	140 pounds with a 30-inch free fall. Rope on 6- to 10-inch-diameter cathead 2-1/4 rope turns, > 100 rpm. If automatic hammers are used, blow counts shown on boring logs should be adjusted to account for efficiency of hammer.			

Moisture Content					
Dry	Absence of moisture, dusty, dry to the touch.				
Moist	Damp but no visible water.				
Wet	Visible free water, from below water table.				

	Gradation
Poorly Graded	Narrow range of grain sizes present or, within the range of grain sizes present, one or more sizes are missing (Gap Graded). Meets criteria in ASTM D2487, if tested.
Well-Graded	Full range and even distribution of grain sizes present. Meets criteria in ASTM D2487, if tested.

Cementation <sup>1</sup>						
Weak	Crumbles/breaks with handling or slight finger pressure.					
Moderate	Crumbles or breaks with considerable finger pressure.					
Strong	Will not crumble or break with finger pressure.					

Nonplastic	Cannot roll a 1/8-in. thread at any water content.	PI < 4
Low	A thread can barely be rolled and a lump cannot be formed when drier than the plastic limit.	4 < PI < 10
Medium	A thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. A lump crumbles when drier than the plastic limit.	10 < PI < 20
High	It takes considerable time rolling and kneading to reach the plastic limit. A thread can be rerolled several times after reaching the plastic limit. A lump can be formed without crumbling when drier than the plastic limit.	PI > 21

	Additional Terms		
Mottled	Irregular patches of different colors.		
Bioturbated Soil disturbance or mixing by plants or animals.			
Diamict Nonsorted sediment; sand and gravel in silt and/or clay matrix.			
Cuttings	Material brought to surface by drilling.		
Slough	Material that caved from sides of borehole.		
Sheared	Disturbed texture, mix of strengths.		

#### Notes:

9/22/22

GDT MIL

> <sup>1</sup>Reprinted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

> <sup>2</sup>Adapted, with permission, from ASTM D2488 - 09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

<sup>3</sup>Penetration resistances (N-values) shown on boring logs are as recorded in the field and have not been corrected for hammer efficiency, overburden, or other factors.

# **EWSHANNON & WILSON**

# SOIL DESCRIPTION AND LOG KEY

**Remedial Excavations** 8801 East Marginal Way S

Sheet 2 of 2

Tukwila, Washington

Unified Soil Classification System (USCS) Modified From USACE Tech Memo 3-357, ASTM D2487, and ASTM D2488									
	Major Divisions		Symbol	1	Typical Identifications				
		Gravel	GW		Well-graded Gravel; Well-graded Gravel with Sand				
	Gravels (more than 50% of	(less than 5% fines)	GP	00	Poorly Graded Gravel; Poorly Graded Gravel with Sand				
	coarse fraction - retained on No. 4 sieve)	Silty or Clayey Gravel _	GM		Silty Gravel; Silty Gravel with Sand				
Coarse-Grained Soils	,	(more than 12% fines) <sup>–</sup>	GC		Clayey Gravel; Clayey Gravel with Sand				
(more than 50% retained on No. 200 sieve)		Sand	SW	·····	Well-graded Sand; Well-graded Sand with Gravel				
	Sands (50% or more of coarse -	(less than 5% fines)	SP		Poorly Graded Sand; Poorly Graded Sand with Gravel				
	fraction passes the No. 4 sieve)	Silty or Clayey Sand	SM		Silty Sand; Silty Sand with Gravel				
	·	(more than 12% fines)	SC		Clayey Sand; Clayey Sand with Gravel				
			ML		Silt; Silt with Sand or Gravel; Sandy or Gravelly Silt				
	Silts and Clays (liquid limit less than 50)	Inorganic -	CL		Lean Clay; Lean Clay with Sand or Gravel; Sandy or Gravelly Lean Clay				
Fine-Grained Soils		Organic	OL		Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay				
(50% or more passes the No. 200 sieve)			MH		Elastic Silt; Elastic Silt with Sand or Gravel; Sandy or Gravelly Elastic Sil				
	Silts and Clays (liquid limit 50 or more)	Inorganic -	СН		Fat Clay; Fat Clay with Sand or Gravel; Sandy or Gravelly Fat Clay				
		Organic	ОН		Organic Silt or Clay; Organic Silt or Clay with Sand or Gravel; Sandy or Gravelly Organic Silt or Clay				
Highly Organic Soils	Primarily organic matter, dark i	in color, and organic odor	PT		Peat or other highly organic soils (see ASTM D4427)				

#### Acronyms and Abbreviations

			Well and Backfill Symbo			
ATD	At Time of Drilling	MgO Magnesium Oxide psi	Pounds per Square Inch		Bentonite Cement Grout	
Diam.	Diameter	mm Millimeter PVC	Polyvinyl Chloride		Dentonite Cement Grout	
Elev.	Elevation	MnO Manganese Oxide rpm	Rotations per Minute		Bentonite Grout	
ft	Feet	NA Not Applicable or Not Available SPT	Standard Penetration Test			
FeO	Iron Oxide	NP Nonplastic USCS	Unified Soil Classification System		Bentonite Chips	
gal	Gallons	O.D. Outside Diameter q <sub>u</sub>	Unconfined Compressive Strength		Dentonite Chips	
Horiz.	Horizontal	OW Observation Well VWP	Vibrating Wire Piezometer		Silica Sand	
HSA	Hollow-Stem Auger	pcf Pounds per Cubic Foot Vert.	Vertical		Silica Saliu	
I.D.	Inside Diameter	PID Photoionization Detector WOH	Weight of Hammer		Perforated or Screened Casin	
in	Inches	PMT Pressuremeter Test WOR	Weight of Rods		Penoraleu or Screeneu Casini	
lbs	Pounds	ppm Parts per Million Wt	Weight		Surface Cement Seal	

# Relative Density Cohesionless Soils

N, SPT, Blows/ft	Relative Density
< 4	Very loose
4 - 10	Loose
10 - 30	Medium dense
30 - 50	Dense
> 50	Very dense

Relative Consistency Cohesive Soils								
N, SPT, Blows/ft	Relative Consistency							
< 2	Very soft							
2 - 4	Soft							
4 - 8	Medium stiff							
8 - 15	Stiff							
15 - 30	Very stiff							

Hard

weight	
Ре	rcentages <sup>1, 2</sup>
Trace	< 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

# or Screened Casing ment Seal Asphalt or Cap Slough Inclinometer or Non-perforated Casing Instrumentation Riser or Electrical Lead Vibrating Wire Piezometer with Designation

#### Notes:

Dual symbols (symbols separated by a hyphen, i.e., SP-SM, Sand with Silt) are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart. Graphics shown on the logs for these soil types are a combination of the two graphic symbols (e.g., SP and SM).

Borderline symbols (symbols separated by a slash, i.e., CL/ML, Lean Clay to Silt; SP-SM/SM, Sand with Silt to Silty Sand) indicate that the soil properties are close to the defining boundary between two groups.

No. 4 size = 4.75 mm = 0.187 in.; No. 200 size = 0.075 mm = 0.003 in.

> 30

9/22/22

	LOG OF GEOPROBE													
Date	Starte	d 2	2/25/21	Location 8801 East Mar	ginal Way S., Tukwila, WA		Gr	ound	d Ele	evation:	Approx.	13.0 feet		
Date	e Compl	eted	2/25/21	98108		Typical Run Le				n Length	5 feet	5 feet		
Tota	l Depth	(ft)	10.0	Drilling Company: Holoc	ene Drilling	Hole Diameter:			eter:	2.25 incl	2.25 inches			
Depth (ft)	Probe Run	and pr	robing mei roximate b	Soil Descript	<b>ion</b> ing of the subsurface materials indicated below represent the Actual boundaries may be	Depth. ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)	
_		Aspha	alt slab.		/	- 0.3			_				_	
 - - - - - - - - - - 5				oorly Graded Sand with S race fine gravel.	<i>ilt (SP-SM</i> ); moist; fine to				0					
-		sand; - Bla	fine to c ck sand	Silty Sand with Gravel (SM oarse, subangular to sub from 5.5 to 5.7 feet. n color from 7 to 8.3 feet.	rounded gravel.	- 5.5			0	¥				
-		Gray	with blac	k laminations, <i>Lean Clay</i>	with Fine Sand (CL); wet.	8.3				During Drilling ∲∆			-	
F		- Pie	- Piece of red brick at 9 feet.							Iring D			-	
- 10 				BOTTOM OF GEOP COMPLETED 2/25		- 10.	0 4						10—    	
													-	
— 15 — —													15— - —	
													-	
													-	
		I		NOTES					L					
4+07-17 C	<ol> <li>In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and should be considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> </ol>							ay S						
4 4	sample;	GE = geot	technical s	IR = thermal resistivity sample ample; AR = archeological sar <u>LEGEND</u>			L	00	G C	OF GE	OPROE	BE A4-1		
3 ∦ 1				Recovery Recovery		Oct	tobe	er 20	)22		2	1-1-12567-03	30	
	- Run I Groun	Vo. d Water Lo	evel ATD		F	SHANNON & WILSON, INC. Geotechnical and Environmental Consultants FIG.								

	LOG OF GEOPROBE												
Date	Started	i 2/25/2	1	Location 8801 East Marginal Way S., Tukwila, WA		G	iroun	d Ele	evation:	Approx.	13.0 feet		
Date	Comple	eted 2/25/2	1	98108	Typical Run Leng			n Length	5 feet				
Total	Depth	(ft) 10.	0	Drilling Company: Holocene Drilling		Hole Diameter:			eter:	2.25 inch	2.25 inches		
Depth (ft)	Probe Run	and probing approximat	Soil Description efer to the report text for a proper understanding of the subsurface materials and probing methods. The stratification lines indicated below represent the approximate boundaries between soil types. Actual boundaries may be different if soil shifted inside sample tubes during extraction.			Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Number, Description, and Results	ription,	Depth (ft)	
_		Asphalt sla	b.	/	- 0.	3						_	
   5 5 	_	organics.		<i>ty Sand (SM</i> ); moist; fine to medium sand; trace fine nite rock from 4.3 to 4.5 feet.				0					
-  - -		Dark gray S organics.	Silt	<i>with Sand (ML)</i> ; wet; fine sand; some wood	- 8			0	During Drilling ⊣∆				
				BOTTOM OF GEOPROBE COMPLETED 2/25/2021	_ 10	0.0						10—    	
												 15 	
												- - - -	
				NOTES		_		_					
	<ol> <li>In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and should be considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> <li>CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.</li> </ol>												
		stic Tube - No S			0		Der 2				<b>)                                    </b>	30	
H L L L L L L L L L L L L L L L L L L L	– Run N	stic Tube with \$ <i>lo.</i> d Water Level AT		Recovery	_			-		DN, INC.	<b>FIG.</b>		

						LOG O	F GEOPF	ROE	BE							
Date	e Starte	d	2/25/21	Locati	on 8801 East M	arginal Way S	., Tukwila, WA	Ground Elevation:					Approx.	13.0 feet		
Date	e Comp	eted	2/25/21	]	98108				Ţ	ypica	l Ru	n Lengtł	ר <i>5 feet</i>			
Tota	I Depth	(ft)	10.0	Drillin	g Company: Hol	locene Drilling	1		Н	ole D	iam	eter:	2.25 inc	2.25 inches		
Depth (ft)	Probe Run	an	d probing me approximate b	ort text for thods. Th coundarie	Soil Descrip a proper understa he stratification line s between soil typ ifted inside sample	<b>ption</b> anding of the sub- es indicated belo bes. Actual bound	surface materials w represent the daries may be		лерти, п.	Symbol	PID, ppm	Ground Water	Desc	e Number, ription, Results	Depth (ft)	
-		Co	oncrete slab	).						P 4 4 7 4 4					- 1	
  					n brown, <i>Poorly</i> o medium sand	oorly Graded Sand with Silt sand.		0.9	9	<u>* 6 4</u>	0					
- - 5 -			ark gray, <i>Sil</i> a ood organics	•	<i>Sand (SM</i> ); moist; some iron oxide staining; trace fine sand.						•				5-	
			•••	<i>to Lean Clay (ML/CL)</i> ; moist to wet; fine sand; ; trace fine to coarse, subrounded gravel.					0	• • • • • • •	0	During Drilling 🖂				
F		Gr	ay-brown to	o tan-bro	own, Silty Sand	(SM); wet; fine	sand.	9.0	C			uring D			-	
- 10 - - - - - - -				BOTTOM OF GEOPROBE COMPLETED 2/25/2021				— 10	.0			ā			10	
- - - - 15 -															  15 	
															-	
1															-	
6 L J 3.					NOTES					•					·	
4407-17 CL	<ol> <li>In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and should be considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> </ol>										880	1 East	al Excavatio Marginal W , Washingt	/ay S		
	4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample. LEGEND LEGEND LOG OF GEOPROBE A4-3															
3       2" Plastic Tube - No Soil Recovery         2" Plastic Tube with Soil Recovery         2" Plastic Tube with Soil Recovery    October 2022										2	1-1-12567-0	30				
Pro Z Z Z Z Z Z Z Z Z Z Z Z Z	— <i>Run I</i> Grour		er Level ATD				Ī	SH Geo	<b>IAI</b> otech	NNO nical ar	N 8		ON, INC. Consultants	FIG.		

					L	OG OF C	GEOPR	OBE						
Date	Started	1 2/	/25/21	Location 88	01 East Marg	inal Way S., Tu	ıkwila, WA	C	Ground	d Ele	evation:	Approx.	13.0 feet	
Date	Comple	eted 2/	/25/21	98	108	-		٦	ypica	l Ru	n Length			
Tota	Depth	(ft)	10.0	Drilling Cor	npany: Holoce	ne Drilling		ŀ	lole D	iame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	and pro appro	bing met ximate b	<b>Soi</b> It text for a prop thods. The stra oundaries betw if soil shifted ir	oresent the s may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Desc	Number, ription, Results	Depth (ft)		
_		Aspha	lt slab.					0.3		Ē				_
				rounded grav	moist to wet; el; occasional	ROBE	sand;	10.0		0.2	Water Level Not Determined			
PJ 9/2				NOTE	S									
1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.       Ren         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.       8801 E         3. Refer to KEY for definitions and explanation of symbols.       Tuke         4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = genterbarder approximate.       archeological sample;									01 East Ι Γukwila,	l Excavatio Marginal W Washingto	ay S on			
MELL 21	2" Pla	stic Tube -	- No Soil	LEGEN Recovery					L <b>O</b> (				<b>3E A4-4</b> 1-1-12567-0	130
	2" Pla - <i>Run N</i>		with Soil	Recovery			-					<b>DN, INC.</b> Consultants	FIG.	

					EOPRO	OB	Ε						
Date	e Starteo	b	10/29/21	Location 8801 Ea	st Marginal Way S., Tuk	wila, WA	(	Grour	nd Ele	evation:	Approx.	13.0 feet	
Date	e Compl	eted	10/29/21	98108			1	Туріса	al Ru	n Length	5 feet		
Tota	l Depth	(ft)	10.0	Drilling Company	r: Holt Services		I	Hole [	Diamo	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	R	and probing n approximate	Soil Des port text for a proper u nethods. The stratifica boundaries between int if soil shifted inside	epresent the es may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)	
-	R-1	Gr	ay, <i>Poorly</i> (	Graded Gravel (GP)	; trace coarse sand.		0.3						_
 - - - - - - - - 5				nd (SM); moist; fine	st; fine to medium sand; trace grav								
F	R-2	Lig	ght gray woo	od pieces.			5.5 6.1	•••••	<u>.</u>	During Drilling ₁∕			-
-		Da	ark gray, <i>Sa</i>	ndy Silt (ML); wet; p									
					BOTTOM OF GEOPROBE COMPLETED 10/29/2021								
22/22 Log: Kbr													
9 L 45	-	•		NOTES					•	I			•
57.GPJ 21-2044	<ol> <li>In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and should be considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> <li>CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.</li> <li>LOG OF GEOPROBE A4-SIDE</li> </ol>									ay S on	20		
												<b>44-5IDE</b>	
3       2" Plastic Tube - No Soil Recovery         2" Plastic Tube with Soil Recovery         2" Plastic Tube with Soil Recovery         Quart         Quart													

					LOG	OF GEOPRO								
Dat	e Starteo	b	10/29/21	Location	8801 East Marginal Way	v S., Tukwila, WA	(	Grou	nd E	levatior	1: Approx.	13.0 feet		
Dat	e Compl	eted	10/29/21		98108			Гуріс	al R	un Lenç	gth 5 feet			
Tot	al Depth	(ft)	10.0	Drilling C	ompany: Holt Services		ŀ	Hole	Dian	neter:	2.25 inc	hes		
Depth (ft)	Probe Run		, and probing n approximate	S port text for a methods. The e boundaries	e subsurface materials I below represent the boundaries may be ng extraction.	Depth, ft.	Svmbol	PID. ppm	Ground Water	Sample Desc and	e Number, cription, Results	Depth (ft)		
_	R-1	Gr	ay, <i>Poorly</i> (	Graded Gra	<i>vel (GP</i> ); dry; crushed ro	ick.	0.3	- 	ī.				_	
		Bro	own, <i>Silty</i> S	Sand (SM); r	<i>nd with Gravel (SM</i> ); moi noist; then wet at 5.9 fea ne laminated brown silt.	et; trace gravel;	1.0							
- - - - - - -	R-2				6.		6.9			During Drilling				
10 	, 1				IOM OF GEOPROBE IPLETED 10/29/2021									
	5													
2/22														
PJ 8/2		1		NC	TES								1	
NOTES         1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.       Remedial Excavations         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.       Remedial Excavations         3. Refer to KEY for definitions and explanation of symbols.       Tukwila, Washington         4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.       LEGEND         3. 2" Plastic Tube - No Soil Recovery       2" Plastic Tube with Soil Recovery       October 2022       21-         3. Q Ground Water Level ATD       SHANNON & WILSON, INC.       Geotechnical and Environmental Consultants									/ay S					
WELL 21-1	sample; GE = geotechnical sample; AR = archeological sample. LEGEND 3 2" Plastic Tube - No Soil Recovery 2" Plastic Tube with Soil Recovery 2" Plastic T													
₩ L	_ 2" Pla — <i>Run I</i>		ube with Soil	Recovery								1-1-12567-0 T	30	
L L L L L L L L L L L L L L L L L L L	Groun	d Wate	er Level ATD				SHA Geotec	hnical	ON and E		SON, INC. tal Consultants	FIG.		

				LOG OF GE	OPRO	)BE						
Date	Starte	ed	10/29/21	Location 8801 East Marginal Way S., Tukw	ila, WA	C	Groun	d Ele	evation:	Approx. 13.0 feet		
Date	Comp	leted	10/29/21	98108		٦	уріса	l Ru	n Length	5 feet		
Tota	I Dept	h (ft)	10.0	Drilling Company: Holt Services		ŀ	lole D	liam	eter:	2.25 incl	es	
Depth (ft)	Probe Run	F	and probing r approximate	<b>Soil Description</b> port text for a proper understanding of the subsurface nethods. The stratification lines indicated below repr e boundaries between soil types. Actual boundaries ent if soil shifted inside sample tubes during extraction	esent the may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_	R-1	G	ray, <i>Poorly</i> (	Graded Gravel (GP); dry, crushed rock.		0.3						_
	R-2	-	parse sand. Piece of gra	<i>ty Sand (SM</i> ); moist; fine to medium sand; tra ay plastic at 1.1 feet. et and deeper.	ce				Ā			
- - - - - - - - 10 - -				BOTTOM OF GEOPROBE COMPLETED 10/29/2021		7.3			During Drilling ∮			
												-
2.	NOTES         1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.       Remedial Excavations         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.       8801 East Marginal Way S											
	<ul> <li>3. Refer to KEY for definitions and explanation of symbols.</li> <li>4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.</li> <li><u>LEGEND</u></li> <li>3 2" Plastic Tube - No Soil Recovery</li> </ul>											31
	2" PI	astic T	ube with Soil			Octo	ber 2	022		2	1-1-12567-0	30
, ₽	– <i>Run</i> Grou		ter Level ATD			SHA Geotec	NNC hnical a	N 8	<b>WILSC</b>	ON, INC.	FIG.	

				LC	G OF GEOPRO	DBI	Ε						
Date	Starte	b	10/29/21	Location 8801 East Margina	al Way S., Tukwila, WA	•	Groun	d Ele	evation:	Approx.	Approx. 13.0 feet		
Date	Compl	eted	10/29/21	98108	• • •	-	Туріса	al Ru	n Length	5 feet			
Tota	I Depth	(ft)	10.0	Drilling Company: Holt Serv	vices	I	Hole [	Diam	eter:	2.25 inch	es		
Depth (ft)	Probe Run	F	and probing n approximate	Soil Description out text for a proper understandir tethods. The stratification lines ir boundaries between soil types. nt if soil shifted inside sample tub	g of the subsurface materials dicated below represent the Actual boundaries may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)	
	R-1	G	ray, <i>Poorly</i> (	Graded Gravel (GP); dry; crus	hed rock.	0.3	- 60 1.11	<u>+</u>				_	
	R-2		casional sill	o dark gray at 1.7 feet. eet and deeper.		9.9			During Drilling I∕C				
				BOTTOM OF GEOPRO COMPLETED 10/29/20									
วัก ก	1	1		NOTES				1	1			I	
2. Groundwater level, if indicated above, was estimated during probing and should be 8801 East M									Washingto	ay S n	32		
3			ube - No Soil ube with Soil	Recovery		Octo	ber 2	022		2	1-1-12567-0	30	
	– Run I	Vo.	ube with Soli er Level ATD	I COUVELY		October 2022     21-1-12567-030       SHANNON & WILSON, INC. Geotechnical and Environmental Consultants     FIG.							

							L	.0G 0	F GEOF	PRO	DBE	Ξ						
Dat	e S	tarte	d	10/29/21	I	Location 8801	East Marc	inal Wav S	., Tukwila, N	VA	C	Groun	d Ele	evation:	Approx	Approx. 13.0 feet		
Dat	e C	omp	leted	10/29/21		9810	8	-	,,		٦	Гуріса	al Ru	n Length				
Tota	al C	Depth	n (ft)	10.0	1	Drilling Comp	any:	onvicos			ŀ	lole [	Diam	eter:	2.25 inc	hos		
Depth (ft)		Probe Run	F	Refer to the re and probing r approximate	epo me te b		Descripti er understar tification line een soil type	<b>ON</b> nding of the si s indicated be s. Actual bo	elow represent undaries may b	the	Depth, ft.	Symbol	PID, ppm	Ground Water	Sampl Dese	e Number, cription, Results	Depth (ft)	
<u> </u>	+		G	ray, <i>Poorly</i> (	Gr	aded Gravel (0	<i>GP</i> ); dry; ci	rushed rock	ζ.		0.1	ΤŤ	-				+	
	ſ		La D gr	n sand. ark brown to	o d	lark gray, Silty lark gray, Silty layers of silty	Sand (SM	); moist; alt	ernating dark		1.0			mined				
- 5 - - - - - - -	F	R-2		Trace cold- 6.5 feet.	-CO	lored metal pe	eices <1 m	illimeter dia	amter from 6 <sup>-</sup>	to	8.0			Water Level Not Determined			5	
							OF GEOP TED 10/29											
	5																	
						NOTES												
- 1- 20447.GF	NOTES         1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.         3. Refer to KEY for definitions and explanation of symbols.												880	1 East	l Excavati Marginal V Washingt	Vay S		
NOTES         1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.       Remedial Excavations         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.       Remedial Excavations         3. Refer to KEY for definitions and explanation of symbols.       CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.       LEGEND         3. 2" Plastic Tube - No Soil Recovery       2" Plastic Tube with Soil Recovery       October 2022       21-1-125         3. 2" Plastic Tube with Soil Recovery       SHANNON & WILSON, INC.       F																		
		2" Pl <i>Run</i>		ube with Soil	il R	lecovery					Octo	ber 2	022		2	21-1-12567-0	)30	
GEOP7		. un	,								SHA Geotec	NNC hnical a	DN 8	<b>WILS</b>	<b>ON, INC.</b> Consultants	FIG.		

					LOG OF GEOPR	O	BE						
Date	Started		10/29/21	L	ocation 8801 East Marginal Way S., Tukwila, WA		G	iroun	d El	evation:	Approx.	13.0 feet	
Date	Comple	eted	10/29/21		98108		Т	ypica	al Ru	n Length	5 feet		
Total	Depth	(ft)	10.0	0	Drilling Company: Holt Services		Н	lole C	Diam	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	F	and probing i approximat	epo mei te b	<b>Soil Description</b> It text for a proper understanding of the subsurface materials thods. The stratification lines indicated below represent the oundaries between soil types. Actual boundaries may be if soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_		С	oncrete slat	b.			_		4				_
  	R-1	Br	own and gr	ray	<i>Silt with Sand (ML)</i> ; moist; fine sand.	- 0.	8		<u>a</u> .				
 _ _ 5 _	R-2	oc -	lor; black st	tair	( <i>SM</i> ); moist; fine sand; strong burnt petroleum ning. t 3.2 feet. Wood has strong petroleum odor and	- 3.				Water Level Not Determined			
- - - - -					BOTTOM OF GEOPROBE COMPLETED 10/29/2021	- 6.	4			W			-
- 10 - - - - -													10—    
 15 													 15 
					NOTEO								
4407-17 C.	may have Groundw considere	e slid ater le ed app	down in the tu evel, if indicate proximate.	ube ted	NOTES was low in the upper part of the run, the soil sample prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols.				880	)1 East	l Excavatio Marginal W Washingto	ay S	
	CT = con sample; (	rosior 3E =	test sample;	; TF san	e = thermal resistivity sample; EN = environmental nple; AR = archeological sample. <u>LEGEND</u>	L	00	GO	F (	GEOP	ROBE	4-SIDE4	41
	2" Pla	stic T	ube - No Sol ube with Soi			00	ctol	per 2	022		2	1-1-12567-03	30
	– Run N	0.				Sł Geo		NNC nnical a	DN 8	wironmental	<b>DN, INC.</b> Consultants	FIG.	

						OE	BE						
Date	Started	I	10/29/21		Location 8801 East Marginal Way S., Tukwila, WA		G	round	d Ele	evation:	Approx.	13.0 feet	
	Comple		10/29/21		98108		T	ypica	l Ru	n Length	5 feet		
Total	Depth	(ft)	7.0		Drilling Company: Holt Services		H	ole Di	iame	eter:	2.25 inch	ies	
Depth (ft)	Probe Run	F	and probing approximat	epc me te l	<b>Soil Description</b> of text for a proper understanding of the subsurface materials thods. The stratification lines indicated below represent the boundaries between soil types. Actual boundaries may be t if soil shifted inside sample tubes during extraction.	19-19-10 19-19-10	Deptn, π.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_		С	oncrete slal	b.				444					_
-	R-1	Da	ark brown,	Sil	<i>ty Sand (SM</i> ); moist; fine to medium sand.	0.8	3						
-		-	Piece of wo	00	d at 2.3 feet with burnt petroleum odor.		_			ined			
 5	R-2	Gı	ay and bro	owr	n <i>Silt (ML)</i> ; moist; trace sand.	- 4.(	)	••••		Water Level Not Determined			5
-		-	Piece of re	d I	ubber at 5.5 feet.	6.0	D			Water Lev			
- 					BOTTOM OF GEOPROBE COMPLETED 10/29/2021								
10  													10— - -
													-
													 15
2.	may hav Groundw consider	e slid /ater le ed apj	down in the to evel, if indicat proximate.	ube ted	NOTES was low in the upper part of the run, the soil sample e prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols.				880	1 East I	l Excavatio Marginal W Washingto	ay S	
4.	CT = cor sample; (	rosior GE =	test sample;	; Tl sa	R = thermal resistivity sample; EN = environmental mple; AR = archeological sample. <u>LEGEND</u>	LC	00	90	FC	GEOP	ROBE	4-SIDE4	45
	2" Pla	stic T	ube - No So ube with So			Oc	tob	er 20	)22		2	1-1-12567-03	30
	– Run N	10.				SH Geo	<b>IAI</b> tech	NNO nical an	N 8	vironmental (	<b>DN, INC.</b> Consultants	FIG.	

					LOG OF GEOPR	20	BE						
Date	Started		12/14/21	I	Location 8801 East Marginal Way S., Tukwila, WA		G	iroun	d Ele	evation:	Approx.	13.0 feet	
Date	Comple	ted	12/14/21		98108		Т	ypica	l Ru	n Length	5 feet		
Total	Depth (	(ft)	7.0	I	Drilling Company: Holt Services		Н	lole D	iam	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	R	and probing i approximat	epo me te b	<b>Soil Description</b> If text for a proper understanding of the subsurface materials thods. The stratification lines indicated below represent the poundaries between soil types. Actual boundaries may be tif soil shifted inside sample tubes during extraction.	S	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
- - - - - -	R-1				nd (SM); moist; fine to medium sand.		1.6			Water Level Not Determined			
5 -		Bro	own, <i>Poorl</i> y	ly G	Graded Sand (SP); moist; fine sand; trace silt.					Level Not [			5
-		Gr	ay, <i>Sandy</i> ,	Silt	t (ML); moist; some iron oxide staining.		5.0 5.4			Water I			-
					BOTTOM OF GEOPROBE COMPLETED 12/14/2021								
_													_
													-
2. 2. 3. 3. 4.	may have Groundwa considere Refer to ł CT = corr	e slid o ater le ed app KEY fo rosion	down in the tu evel, if indicat proximate. or definitions test sample;	ted and ; TF	NOTES was low in the upper part of the run, the soil sample e prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols. R = thermal resistivity sample; EN = environmental mple; AR = archeological sample.		00		880	01 East I Fukwila,	I Excavatio Marginal W Washingto	ay S	19
			ube - No So		-			ber 2				<b>44-31DE</b> 4	
	– Run N		ube with Soi								DN, INC. Consultants	FIG.	

					LOG O	F GEOPR	ЭB	Ε						
Date	Start	ed	12/14/21	Location 8801	East Marginal Way S	S., Tukwila, WA		Gro	ound	l Ele	vation:	Approx.	13.0 feet	
Date	Com	pleted	12/14/21	98108	1			Тур	oical	Ru	n Length	5 feet		
Total	Dept	h (ft)	10.0	Drilling Compa	ny: Holt Services			Hol	le Di	iame	eter:	2.25 incl	ies	
Depth (ft)	Probe Run		and probing r approximate	<b>Soil D</b> port text for a prope nethods. The strati e boundaries betwe	escription r understanding of the s fication lines indicated b en soil types. Actual bo ide sample tubes during	pelow represent the bundaries may be	Depth, ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_	R-1		sphalt slab.				0.3	÷						_
- - - -			rown, <i>Poorly</i> ace silt.	' Graded Sand (S	<i>P</i> ); moist; fine to me	dium sand;								
5  	R-2		-	ay, <i>Poorly Grade</i> e sand; trace silt.	d Gravel with Sand ((	<i>GP</i> ); wet; little	5.0				During Drilling h			5
  		В	rown, S <i>andy</i>	<i>' Silt (ML)</i> ; wet; fir	ne to coarse sand.		7.0 7.9							-
- 10  -		-			DF GEOPROBE ED 12/14/2021									
- 15 														15— - - - -
2. 2.	may h Groun consid	ave slid dwater ered ap	down in the tu evel, if indicate proximate.	be prior to removal	ated during probing and				1	880	1 East N	Excavatio /arginal W Washingto	ay S	
	CT = c sample	corrosio e; GE =	n test sample;	TR = thermal resisti sample; AR = archeo <u>LEGEND</u>	vity sample; EN = enviro		LO	G	O	FC	GEOP	ROBE	44-SIDE	50
	2" F	lastic 1	ube - No Soi ube with Soil	-			Octo	obe	er 20	)22		2	1-1-12567-0	30
		No. und Wa	ter Level ATD				SH/ Geote		NO cal and	N &		ON, INC.	FIG.	

					L	OG OF GE	OPRO	OBE						
Date	Starte	d	12/14/21	Location 8	801 East Marg	inal Way S., Tukw	ila, WA	C	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	Comp	leted	12/14/21	9	8108			٢	Гуріса	al Ru	n Lengtł	1 5 feet		
Total	Depth	n (ft)	16.4	Drilling Co	ompany: Holt Se	ervices		ŀ	lole [	Diamo	eter:	2.25 incl	ies	
Depth (ft)	Probe Run		and probing r approximate	<b>Sc</b> port text for a methods. The e boundaries l	bil Description proper understand stratification lines between soil types		resent the may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_	R-1	A	sphalt slab.					0.3	00	(				_
		sa Bi	and; subang	ular to angu lish brown, 3	lar gravel.	P); moist; fine to c		1.5		0 010				
—5 - 	R-2	-	Piece of as	phalt at 6 fe	et. Wet at 6 fee	et and deeper.					During Drilling I∕∆			5
-	R-3		-			odor at 7 to 7.4 fee	et.				During			-
- 10 -	R-4	-	Piece of wo	od at 9.2 fee	et.					•				- 10
	R-5		ray, <i>Sandy S</i> Piece of pu		t; fine sand. concrete at 12	feet.		11.0						     
15 15								46.4						 15—
					OM OF GEOPI PLETED 12/14,			16.4						
		1		NOT	TES									
840Z-LZ C-	may ha Ground conside	ve slid water l red ap	down in the tu	be prior to ren ed above, was	noval from the gro estimated during	ne run, the soil sample und. probing and should be				880	1 East	l Excavatio Marginal W Washingto	ay S	
. 4. 4.	CT = co sample	orrosion GE =	n test sample; geotechnical s	TR = thermal sample; AR = a <u>LEGE</u>	resistivity sample; archeological samp	EN = environmental ble.		LO	G C	)F (	GEOF	ROBE	44-SIDE	52
3 ∦ 1			ube - No Soi ube with Soil					Octo	ber 2	2022		2	1-1-12567-0	30
	– <i>Run</i> Grou		er Level ATD					SHA Geotec	NNC hnical a	DN 8	wironmental	ON, INC. Consultants	FIG.	

						L	OG OF	GEOP	RC	)BE						
Date	Starte	d	12/14/21	Loc			inal Way S.,	Tukwila, WA	4	C	Groun	d Ele	evation:	Approx	13.0 feet	
Date	Comp	eted	12/14/21		98108					Г	ypica	al Ru	n Lengti	n 5 feet		
Tota	Depth	(ft)	10.0	Dril	ling Compa	ny: Holt Se	ervices			ŀ	lole D	Diamo	eter:	2.25 inc	hes	
Depth (ft)	Probe Run	F	and probing r approximate	eport te methoc te bour	<b>Soil De</b> ext for a proper ds. The stratifi	escriptic r understand fication lines en soil types	<b>DN</b> ding of the sul indicated bel s. Actual bour	bsurface materi ow represent th ndaries may be xtraction.	ne	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	e Number, cription, Results	Depth (ft)
- -	R-1	B	sphalt slab. rown, <i>Silty</i> S ravel.	Sand (	<i>SM</i> ); moist;	fine to me	dium sand;	trace fine		0.3						-
- - -			ght tan <i>Silt (</i>		moist. with Gravel (	<i>SM</i> ); mois	t; fine to me	dium sand.		1.7						
- 5 	R-2	В	rown, <i>Silty</i> S	um sand.			5.0			During Drilling			5			
- - -					k gray at 6.5 ng from 7.8 to					8.0			D			
 - 10 					BOTTOM C COMPLET											 10
- - -																
  15 																
- - -																
2.	may hav Ground <sup>y</sup> conside	/e slid water le red ap	down in the tu evel, if indicate proximate.	ube prio	<u>NOTES</u> s low in the upp or to removal f ove, was estimated	rom the gro ated during	und.					880	1 East	l Excavatio Marginal V , Washingt	/ay S	
3. 4.	CT = co sample;	rrosior GE =	n test sample; geotechnical s	TR = t sample	planation of sy hermal resistiv ; AR = archeo <u>LEGEND</u>	vity sample;		mental		LO	G O				A4-SIDE	55
	2" Pla	astic T	ube - No Soi ube with Soil		-					Octo	ber 2	022		2	21-1-12567-0	30
2 ∟ 5 ⊻	– <i>Run I</i> Grour		er Level ATD				SHA Geotec	NNC hnical a	N 8	wironmental	ON, INC. Consultants	FIG.				

					LOG OF GEOPR	RC	)BE	Ξ					
Date	Starte	ed	12/14/21	L	ocation 8801 East Marginal Way S., Tukwila, WA		(	Groun	d El	evation:	Approx.	13.0 feet	
Date	Comp	leted	12/14/21		98108		٦	Гуріса	l Ru	In Length	5 feet		
Total	Dept	h (ft)	10.0	C	Drilling Company: Holt Services		ŀ	Hole D	liam	eter:	2.25 inch	es	
Depth (ft)	Probe Run	F	and probing r approximate	epor met	<b>Soil Description</b> It text for a proper understanding of the subsurface material. thods. The stratification lines indicated below represent the oundaries between soil types. Actual boundaries may be if soil shifted inside sample tubes during extraction.	s	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, lesults	Depth (ft)
_	R-1	A	sphalt slab.		/	7	0.3						_
-		0.	6 feet.		ilt (ML); moist; fine sand; some gravel from 0.3 to ed silt clasts from 0.6 to 1.6 feet.		1.8						-
_					ad (SM); moist; fine to medium sand.		1.0						-
 _ _ 5 _	R-2		,, .							Water Level Not Determined			
_		-	Iron oxide s	stai	ning from 6 to 6.5 feet.		6.5			Vater			-
					BOTTOM OF GEOPROBE COMPLETED 12/14/2021								
15  													15— - -
													-   -
									1				-
-									1				_
					NOTES								
2.	may ha Grounc conside	ive slid Iwater I ered ap	down in the tu evel, if indicate proximate.	ube ted a	was low in the upper part of the run, the soil sample prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols.				880	)1 East I	l Excavatio Marginal W Washingto	ay S	
4.	CT = c sample	orrosior ; GE =	n test sample;	; TR sarr	e = thermal resistivity sample; EN = environmental nple; AR = archeological sample. <u>LEGEND</u>	I	LO	G O	F	GEOP	ROBE	4-SIDE	56
	2" Pl	astic T	ube - No Sol		-	(	Octo	ber 2	022		2	1-1-12567-03	30
	– Run	No.						NNC hnical a	N 8	wironmental	<b>DN, INC.</b> Consultants	FIG.	

					LOG OF GEOPR	0	BE						
Date	Starte	d	12/14/21		Location 8801 East Marginal Way S., Tukwila, WA		G	roun	d Ele	evation:	Approx.	13.0 feet	
Date	Comp	leted	12/14/21		98108		יד	ypica	l Ru	n Length	5 feet		
Total	Depth	ı (ft)	15.3	I	Drilling Company: Holt Services		Н	ole D	iame	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	ŀ	and probing r approximat	epo me te k	<b>Soil Description</b> If text for a proper understanding of the subsurface materials thods. The stratification lines indicated below represent the poundaries between soil types. Actual boundaries may be tif soil shifted inside sample tubes during extraction.	;	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_	R-1	$\sim$	sphalt slab.			- 0	).3						_
 - 		\cc	oarse sand. Trace tan-c	col	brown, <i>Silty Sand with Gravel (SM</i> ); moist; fine to bred silt clasts from 0.6 to 1.7 feet.	- c	).9						
     	R-2	-	Trace gold-	- a	nd silver-colored metal pieces diameter from 6 to 6.3 feet.								
10 10 	R-3	-	Wet at 10.4	4 f€	eet and deeper.					During Drilling I			 10 
- - - - - 15 -	R-4		Piece of co ray <i>Silt (ML)</i>		rete tile at 14 feet. BOTTOM OF GEOPROBE COMPLETED 12/14/2021		14.6 15.3						
					NOTES								
1. 2. 5 3	may ha Ground conside	ve slid water l red ap	down in the tu evel, if indicate proximate.	ted	was low in the upper part of the run, the soil sample e prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols.				880	1 East I	l Excavatio Marginal W Washingto	ay S	
4.	CT = co sample;	orrosio GE =	n test sample;	TF sar	R = thermal resistivity sample; EN = environmental mple; AR = archeological sample. <u>LEGEND</u>	L	.00	90	FC	GEOP	ROBE	44-SIDE	57
Ľ†	2" Pla	astic T	ube with Soil			С	Octob	per 20	022		2	1-1-12567-0	30
₽ ₽ ₽	– <i>Run</i> Groui		ter Level ATD			S	<b>HAI</b> eotech	NNO nical ar	N 8		<b>DN, INC.</b> Consultants	FIG.	

				LOG OF G	SEOPRO	OBE						
Date	Starte	d	12/14/21	Location 8801 East Marginal Way S., Tul	kwila, WA	C	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	Comp	leted	12/14/21	98108		٦	уріса	l Ru	n Length	5 feet		
Tota	Depth	ו (ft)	15.0	Drilling Company: Holt Services		ŀ	lole D	liam	eter:	2.25 inch	ies	
Depth (ft)	Probe Run	F	and probing n approximate	<b>Soil Description</b> port text for a proper understanding of the subsurf nethods. The stratification lines indicated below re e boundaries between soil types. Actual boundari ent if soil shifted inside sample tubes during extract	epresent the ies may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_	R-1	$ $ $\sim$	sphalt slab.			0.3		·				_
 - - - - - 5 - -	R-2		-	ay, <i>Silty Sand (SM</i> ); moist; fine to medium s sand and fine gravel.	sand;							
   10	R-3	-	Trace gold-	<i>ndy Silt (ML)</i> ; moist; fine sand. and silver-colored metal pieces at er-diameter from 7.5 to 9 feet.		7.4		-				
Ł	R-4		Top colored	l silt clast at 10.8 feet.								-
				<i>ty Sand (SM)</i> ; wet; fine to medium sand.		11.3			During Drilling			-
-  -	R-5	D	ark gray <i>Silt</i>	(ML); wet; trace sand.		13.7						
				BOTTOM OF GEOPROBE COMPLETED 12/14/2021		15.0		-				15—     
				NOTES								
2.	may ha Ground conside	ve slid water l ered ap	down in the tu evel, if indicate proximate.	<u>NOTES</u> ory was low in the upper part of the run, the soil san be prior to removal from the ground. ed above, was estimated during probing and should and explanation of symbols.				880	1 East N	Excavatio //arginal W Washingto	ay S	
4.	sample	; GE =	geotechnical s	TR = thermal resistivity sample; EN = environment sample; AR = archeological sample. <u>LEGEND</u>		LO	G O	F	GEOP	ROBE	44-SIDE	59
	2" Pl	astic T	ube - No Soi ube with Soil			Octo	ber 2	022		2	1-1-12567-0	30
₽ ₽	– <i>Run</i> Grou		ter Level ATD			SHA Geotec	NNC hnical a	N 8		ON, INC.	FIG.	

					LOG	OF GEOPRO	ЭΒ	ΒE						
Date	Started		12/14/21		East Marginal Way	y S., Tukwila, WA		Gro	ounc	l Ele	evation:	Approx.	13.0 feet	
Date	Comple	eted	12/14/21	9810				Ту	pical	Ru	n Length	5 feet		
Total	Depth	(ft)	16.0	Drilling Com	oany: Holt Services			Но	le Di	iame	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	R	and probing n approximate	<b>Soil</b> port text for a propert nethods. The strate boundaries betw	Description per understanding of the atification lines indicated veen soil types. Actual nside sample tubes duri	d below represent the boundaries may be	Depth, ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	As	phalt slab.				0.4			-				
	R-2 R-2 R-3 R-4	br. - : -	3-inch wood Piece of cor Wet at 13 fe	I lenses; trace	eet.	d; some	16.0				During Drilling 🖓			
1.	In some	cases	where recove	e soil sample										
2.	may have	e slid (	down in the tu	be prior to remova	al from the ground. imated during probing a				;			l Excavatio Varginal W		
3.	consider	ed app	proximate.	and explanation of								Washingto	•	
3. 4.	CT = cor sample; (	rosion GE = g	test sample; geotechnical s	TR = thermal resi ample; AR = arch <u>LEGEND</u>	stivity sample; EN = env eological sample.		LC	)G	0	FC	GEOP	ROBE	<b>A4-SIDE</b>	60
3			ube - No Soi ube with Soil	•			Oct	obe	er 20	)22		2	1-1-12567-0	30
- 1. 2. 3. 4. ¥	- <i>Run N</i> Ground		er Level ATD			SH/ Geote	<b>AN</b> echni	<b>NO</b> ical an	N 8 d Env	WILS(	<b>DN, INC.</b> Consultants	FIG.		

						LOG O	F GEOPR	OB	BE						
Date	Started	ł	12/14/21	Location	1 8801 East N	larginal Way S	S., Tukwila, WA		Gr	round	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	12/14/21		98108			ĺ	Ту	/pica	l Ru	n Length	1 5 feet		
Tota	l Depth	(ft)	16.0	Drilling	Company: <i>H</i> o	It Services			Но	ole Di	iame	eter:	2.25 inc	hes	
Depth (ft)	Probe Run	F	and probing n approximate	port text for nethods. The boundarie	Soil Descri a proper under the stratification s between soil	<b>ption</b> rstanding of the s lines indicated b	subsurface materials lelow represent the bundaries may be extraction.	Depth. ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
<u> </u>		A	sphalt slab.					0.3	-		-				
	R-1 R-2 R-3 R-4 R-5	fir -	ne to mediur 1-inch lens	n sand. of tan-colo	ored silt at 1.2	noist; few rour 2 feet. <sup>r</sup> eet and deepe		- 15				Water Level Not Determined			
					TOM OF GE										
				N	OTES								<u> </u>		
2. 3. 4.	may hav Groundv consider Refer to CT = cor	ve slid vater le red ap KEY f	down in the tu evel, if indicate proximate. for definitions a n test sample;	ery was low i lbe prior to r ed above, w and explana TR = therma sample; AR :	n the upper par emoval from the as estimated du tion of symbols al resistivity sar = archeological	uring probing and nple; EN = enviro	should be	LC	DG		880 1	1 East Γukwila,	I Excavation Marginal W Washington PROBE	/ay S	61
3			ube - No Soi	I Recovery	<u>GEND</u>					er 20				1-1-12567-0	
	_ 2" Pla – <i>Run I</i>		ube with Soil	I Recovery			F						ON, INC. Consultants	<b>FIG.</b>	30
از							2000						1		

						LOG OF	GEOPR	OBI						
Date	Started	ł	12/14/21	Locatio	8801 East Ma	rginal Way S., i	Tukwila, WA	(	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	12/14/21		98108			-	Гуріса	al Ru	n Lengtl	h 5 feet		
Tota	l Depth	(ft)	15.0	Drilling	g Company: Holt	Services		I	Hole D	Diame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	F	and probing n approximate	port text fo nethods. e boundar	Soil Descrip or a proper underst. The stratification lir ies between soil typ hifted inside sampl	<b>tion</b> anding of the subs nes indicated belo pes. Actual bound	w represent the laries may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-2 R-2 R-3 R-4	_	rown to gray	taining a		fine to medium	sand.	15.0			During Drilling M			
6402-12 C	may hav Groundv consider	e slid vater le ed app	down in the tu evel, if indicate proximate.	ery was lov ibe prior to ed above,	NOTES v in the upper part of p removal from the of was estimated durin	ground.				880	1 East	al Excavatio Marginal W , Washingto	ay S	
3. 3. 4.	CT = cor sample;	rosior GE =	n test sample; geotechnical s	TR = then sample; Af	nation of symbols. mal resistivity samp R = archeological sa <u>EGEND</u>			LO	G O				A4-SIDE	62
	2" Pla	stic T	ube - No Soi ube with Soil		•			Octo	ber 2	022		2	1-1-12567-0	30
ovro-y	— <i>Run I</i> Groun		er Level ATD					SHA Geotec	NNC hnical a	DN 8	k WILS	ON, INC. Consultants	FIG.	

				LOG OF GEO	OPRO	BE						
Date	e Starteo	ł	12/14/21	Location 8801 East Marginal Way S., Tukwila	, WA	G	iround	d Ele	evation:	Approx.	13.0 feet	
Date	e Compl	eted	12/14/21	98108		T	ypica	l Ru	n Length	5 feet		
Tota	l Depth	(ft)	15.0	Drilling Company: Holt Services		н	ole D	iame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	F	and probing n approximate	<b>Soil Description</b> port text for a proper understanding of the subsurface n methods. The stratification lines indicated below repres e boundaries between soil types. Actual boundaries me ent if soil shifted inside sample tubes during extraction.	ent the	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
-	R-1	Br	own, <i>Silty</i> S	and (SM); moist; fine to medium sand.								_
    		-	Wet through	nout boring due to surface runoff into borehole.					ined			     
5 5 	R-2	-	Transition to	o gray color at 5.9 feet.					Water Level Not Determined			
- - - - - - - - - -	R-3					13.1						
15 15 				BOTTOM OF GEOPROBE COMPLETED 12/14/2021								
1												-
57.15PJ 21-2044	may hav Groundv consider . Refer to . CT = col	ve slid vater le red ap KEY f	down in the tu evel, if indicate proximate. or definitions a n test sample;	NOTES ery was low in the upper part of the run, the soil sample ibe prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols. TR = thermal resistivity sample; EN = environmental sample; AR = archeological sample.				880	)1 East⊺ Γukwila,	l Excavatio Marginal W Washingto	ay S	63
			ube - No Soi									
	2" Pla — Run I		ube with Soil	Recovery			nno				1-1-12567-0	30
CEC					G	Seotech	nical an	nd Env	vironmental	<b>DN, INC.</b> Consultants	FIG.	

				LOG O	F GEOPRO	DBI	Ξ					
Date	Starte	ł	12/14/21	Location 8801 East Marginal Way S	S., Tukwila, WA	(	Groui	nd El	evation:	Approx.	13.0 feet	
Date	Compl	eted	12/14/21	98108		1	Гуріс	al Ru	in Length	n 5 feet		
Tota	I Depth	(ft)	15.0	Drilling Company: Holt Services		ł	-lole I	Diam	eter:	2.25 inch	ies	
Depth (ft)	Probe Run	F	and probing n approximate	<b>Soil Description</b> port text for a proper understanding of the stathods. The stratification lines indicated be boundaries between soil types. Actual bo nt if soil shifted inside sample tubes during	pelow represent the pundaries may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	-	Wet at 5 fee	rown to light red-brown, <i>Silty Sand (S</i> nd. t and deeper. bd at 10.8 feet. BOTTOM OF GEOPROBE COMPLETED 12/14/2021	<i>M</i> ); moist; fine	14.2		""你说,你说,你说,你说,你说,你说,你说,你说,你说,你说,你说,你说,你说,你	During Drilling h			
				NOTES								_
2. 2.	may hav Groundv consider	re slid vater le red ap	down in the tu evel, if indicate proximate.	NOTES ry was low in the upper part of the run, the s be prior to removal from the ground. Id above, was estimated during probing and				880	01 East	l Excavatio Marginal W Washingto	ay S	
3. 4.	CT = co sample;	rrosior GE =	i test sample; geotechnical s	IND explanation of symbols. IR = thermal resistivity sample; EN = enviro ample; AR = archeological sample. <u>LEGEND</u>		LO	GC				4-SIDE	64
			ube - No Soil ube with Soil			Octo	ber 2	2022		2	1-1-12567-0	30
	- <i>Run I</i> Groun		er Level ATD			SHA Geotec	NNC hnical a	DN 8	<b>WILS</b>	ON, INC. Consultants	FIG.	

Γ						LO	G OF GEOPR	OE	ΒE						
D	ate	Starteo	1	12/15/21	L	ocation 8801 East Marginal	Way S., Tukwila, WA		G	round	d Ele	evation:	Approx.	13.0 feet	
D	ate	Compl	eted	12/15/21		98108			Ту	/pica	l Ru	n Length	5 feet		
Т	otal	Depth	(ft)	7.0	0	Drilling Company: Holt Servi	ces		Н	ole D	iame	eter:	2.25 incl	nes	
:	Depth (ft)	Probe Run	R	and probing r approximate	epor met te b	<b>Soil Description</b> It text for a proper understanding thods. The stratification lines ind oundaries between soil types. A if soil shifted inside sample tube	of the subsurface materials licated below represent the ctual boundaries may be	Denth ft	הפטווו, וני	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
2222 LOG Key. C/C / 19. L/V	- 5 - 5 - 10 - 15 - 15	R-1 R-2 I I I				ty Sand (SM); moist to wet a rushed brick at 1.3 feet bgs; BOTTOM OF GEOPROI COMPLETED 12/15/202	iron oxide staining. BE	- 7.0				During Drilling 🖂			
GPJ 9/						NOTES									
GEOPROBE_WELL 21-12567.GPJ 21-20447.GPJ 9/22/22	2. 3.	may hav Groundv consider Refer to	e slid ( vater le ed app KEY fo	down in the tu evel, if indicate proximate. or definitions a	ube ted a and	was low in the upper part of the m prior to removal from the ground above, was estimated during prot d explanation of symbols.	ping and should be				880	1 East	l Excavatio Marginal W Washingto	ay S	
VELL 21-1256		sample;	GE = (		san	t = thermal resistivity sample; EN nple; AR = archeological sample. <u>LEGEND</u> Recovery	= environmental	LC	00	90	FC	GEOP	ROBE	<b>A4-SIDE</b>	66
OBE		2" Pla	stic T	ube - No Sol ube with Soil		•		Oc	tob	er 20	022		2	1-1-12567-0	30
GEOPR(	Ţ	– <i>Run N</i> Groun		er Level ATD			SH Geot		NNO	N 8	wills(	<b>ON, INC.</b> Consultants	FIG.		

					LOG OF GEOP	20	DBE						
Date	Started	b	12/15/21		Location 8801 East Marginal Way S., Tukwila, WA		G	iroun	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	12/15/21		98108		Ţ	ypica	l Ru	n Length			
Tota	I Depth	(ft)	10.0	1	Drilling Company: Holt Services		н	ole D	iame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run		and probing i approximat	epo me te li	<b>Soil Description</b> or text for a proper understanding of the subsurface materia athods. The stratification lines indicated below represent the boundaries between soil types. Actual boundaries may be t if soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	Da pir Ar Ye Co	eces at 1 fo nd gravel. ellow, <i>Lean</i> ark brown, <i>I</i> barse sand.	Cl Po	borly Graded Sand with Silt (SP-SM); moist; plastic t below ground surface (bgs); fine to coarse sand lay (CL); moist; homogeneous. borly Graded Sand with Silt (SP-SM); moist; fine to orly Graded Sand with Silt (SP-SM); moist; fine to Sand (SM); moist; rock at 7.2 feet bgs. BOTTOM OF GEOPROBE COMPLETED 12/15/2021		0.3 1.8 2.2 6.5 10.0			Water Level Not Determined			
22/22													-
37.GPJ 21-2044	may hav Groundv consider Refer to CT = col sample; 2" Pla	ve slid vater le red ap KEY f REY f GE =	down in the tu evel, if indicate proximate. for definitions n test sample; geotechnical s ube - No Sol	ube ted an ; TF sar	2			GO	880 F (	)1 East I Tukwila, <b>GEOP</b>		ay S on A4-SIDE	
Hox I	2" Pla — <i>Run I</i>		ube with Soi	il R	Recovery		Octob		-			1-1-12567-0	30
ц Ц							Geotech	nical ar	nd Env	vironmental	<b>DN, INC.</b> Consultants	FIG.	

				LOG OF GEOPR	O	BE						
Date	Started	1 12/15/21		Location 8801 East Marginal Way S., Tukwila, WA		G	round	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted 12/15/21		98108		T	ypica	l Ru	n Length	5 feet		
Total	Depth	(ft) 10.0	,	Drilling Company: Holt Services		Н	ole D	iame	eter:	2.25 inch	ies	
Depth (ft)	Probe Run	and probing approxima	i m ate	<b>Soil Description</b> port text for a proper understanding of the subsurface materials bethods. The stratification lines indicated below represent the boundaries between soil types. Actual boundaries may be nt if soil shifted inside sample tubes during extraction.		Depth, tt.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	Asphalt.			0.	3						_
			l; tr	y <i>Sand (SM</i> ); lenses of yellow, lean clay; fine to race plastic pieces; crushed rock at 6 feet below e.					ot Determined			
	R-2	Brown, <i>Pool</i> coarse sand		Graded Sand with Silt (SP-SM); moist; fine to	- 6.	0			Water Level Not Determined			
- 10 				BOTTOM OF GEOPROBE COMPLETED 12/15/2021	- 10	).0						- 10 
- 												- 15— - -
1												-
19 19				NOTES								
1. 1. 2. 3.	may hav Groundv consider	e slid down in the vater level, if indica ed approximate.	tub ateo	ry was low in the upper part of the run, the soil sample be prior to removal from the ground. d above, was estimated during probing and should be ind explanation of symbols.				880	1 East I	Excavatio Marginal W Washingto	ay S	
Joc. 4.	CT = coi sample;	rosion test sample	e; T I sa	IR = thermal resistivity sample; EN = environmental ample; AR = archeological sample. LEGEND							44-SIDE7	
		stic Tube with S		-	00	ctob	er 20	022		2	1-1-12567-03	30
GEOFR		vo.			Sł Geo	<b>IA</b>	NNO	N 8	vironmental (	<b>DN, INC.</b> Consultants	FIG.	

						LC	G OF	GEOPR	OB	ΒE						
Date	Starteo	b	12/15/21	Locat	ion 8801 Ea	st Margina	al Way S., Ti	ukwila, WA		Gr	round	d Ele	evation:	Approx	c. 13.0 feet	
Date	Compl	eted	12/15/21	1	98108					Ту	pica	Ru	n Lengtł	n 5 feet		
Total	Depth	(ft)	15.0	Drillin	g Company	y: Holt Serv	/ices			Но	ole Di	iame	eter:	2.25 in	ches	
Depth (ft)	Probe Run		and probing r approximate	port text : nethods. e bounda	Soil Des for a proper u The stratifica ries between	scription Inderstandin ation lines in soil types.	<b>)</b> ng of the subsu		Depth. ft.		Symbol	PID, ppm	Ground Water	Des	le Number, cription, Results	Depth (ft)
<b>]</b> - - - - - - - - - - - - - - - - - - -	R-1 R-2 R-3 R-4	G ro Di at fe	sphalt. ray, <i>Silty Sa</i> ck at 6.5 fee	nd (SM) et below Poorly G s; fine to	to yellow, <i>i</i> ground su	Lean Clay rface (bgs) I with Silt (S	<i>(CL</i> ); moist; ); trace plast ); trace sta	crushed ic pieces. st to wet	- 0.3 - 7.0				During Drilling i			
  15 15 	R-5	ho G	omogeneous	s. gray, lar nd. Bi		an Clay (C - GEOPRC	L) and Silt (N	<i>ML)</i> ; wet;	- 13.: - 15.!	-						
   1. 	In some may hav Groundy							I Excavat								
3. 4.	conside Refer to CT = co sample;	red ap KEY f rrosior GE =	proximate. or definitions	N = environmei	-	LC	DG		1	Fukwila,	Washing	-	E71			
	2" Pla	istic T			-				Oct	ob	er 2(	)22			21-1-12567	7-030
2 L		" Plastic Tube with Soil Recovery Run No. Ground Water Level ATD							SH. Geote		INO nical an	N &	wills	ON, INC. Consultants	FIG	<b>)</b> .

						LOG OF (	GEOPRO	ЭB	Е						
Date	Started	1	12/15/21	Lo		rginal Way S., Tu	ıkwila, WA	1	Grou	und	Ele	vation:	Approx.	13.0 feet	
Date	Compl	eted	12/15/21		98108			•	Турі	cal	Rur	n Length	5 feet		
Tota	Depth	(ft)	10.0	D	rilling Company: Holt	Services			Hole	e Dia	ame	eter:	2.25 inc	hes	
Depth (ft)	Probe Run	F	and probing r approximate	eport meth te bo	Soil Descript text for a proper understands. The stratification lin undaries between soil typ f soil shifted inside sampl	t <b>ion</b> anding of the subsur les indicated below bes. Actual boundar	represent the ries may be	Depth, ft.		symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	Dato	medium sa	and;	ay, <i>Poorly Graded Sar</i> medium gravel. and dark brown, <i>Silty</i> BOTTOM OF GEO COMPLETED 12/1	Sand (SM); mois		<ul><li>0.3</li><li>6.0</li><li>10.0</li></ul>				Water Level Not Determined			
-20447.GPJ 9/22/	may hav	e slid	down in the tu	ube p	NOTES vas low in the upper part o prior to removal from the g	round.							l Excavatic Marginal W		
Z. 2.	consider	ed ap	proximate.		bove, was estimated durir	יש אינטאווע אווע אווטען				0			Washingto	-	
199	CT = cor sample; 2" Pla	rosior GE = stic T	i test sample; geotechnical s ube - No Soi	TR samp il Re	•						- C		ROBE	A4-SIDE	
	_ 2" Pla – <i>Run N</i>		ube with Soil	il Re	covery			Octo						1-1-12567-0 T	30
GEOFI						SH/ Geoted	<b>\NN</b> chnica	ION al and	Envi	ironmental	ON, INC. Consultants	FIG.			

						LO	G OF G	EOPR	ΟВ	Ε							
Date	Started	ł	12/15/21	Loc		st Margina	l Way S., Tul	kwila, WA		Gro	ound	Ele	vation:	Approx	. 13.0 feet		
Date	Compl	eted	12/15/21		98108					Тур	oical	Rur	n Length	5 feet			
Tota	Depth	(ft)	10.0	Dril	lling Compan	<sup>y:</sup> Holt Servi	ces			Hol	e Di	ame	eter:	2.25 inc	hes		
Depth (ft)	Probe Run	F	and probing r approximate	eport te methou e bour		scription understanding ation lines ind soil types. A	r of the subsurf licated below re \ctual boundari	epresent the es may be	Depth, ft.		Symbol	PID, ppm	Ground Water	Des	e Number cription, Results	,	Depth (ft)
	R-1	Dato	medium sa	and; m	y, <i>Poorly Grad</i> nedium gravel nd dark browr BOTTOM OF COMPLETE	n, <i>Silty Sand</i>	<i>I (SM)</i> ; moist. BE	-	6.0 10.C				Water Level Not Determined				
<sup>6607-17</sup> 2.	may hav Groundv	e slid vater le	down in the tu	ube pri	<u>NOTES</u> is low in the uppe ior to removal fro ove, was estimat	om the ground						380	1 East	l Excavati Marginal V	Vay S		
3. 4.	Refer to CT = cor sample;	KEY f rosior GE =	or definitions and test sample; geotechnical s	= environmenta	al	LO	G	OF			Washingt		DE7	73			
	2" Pla	stic T	ube - No Soi ube with Soil		•				Octo	obe	r 20	22		2	21-1-125	67-03	30
GEOPRC	2" Plastic Tube with Soil Recovery — <i>Run No.</i>								SH/ Geote		NOI al and	N &	WILS ironmental	ON, INC. Consultants	FI	G.	

				LOG OF GEOP	RO	BE						
Date	Starteo	1	12/15/21	Location 8801 East Marginal Way S., Tukwila, WA				d Ele	evation:	Approx.	13.0 feet	
Date	Comple	eted	12/15/21	98108		Т	ypica	l Ru	n Length	5 feet		
Total	Depth	(ft)	15.0	Drilling Company: Holt Services		н	lole D	iame	eter:	2.25 inch	les	
Depth (ft)	Probe Run	a	nd probing n approximate differe	<b>Soil Description</b> port text for a proper understanding of the subsurface materi nethods. The stratification lines indicated below represent the boundaries between soil types. Actual boundaries may be int if soil shifted inside sample tubes during extraction.	als e	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	coa gro	rse sand; t und surfac	Poorly Graded Sand with Silt (SP-SM); moist; fine to trace fine gravel; crushed rock at 7.8 feet below e (bgs).		7.7			During Drilling I∕C			
				BOTTOM OF GEOPROBE COMPLETED 12/15/2021		0.0						
מולדי												
1407-17 CLD: 1007	may hav Groundw consider Refer to CT = cor	e slid do vater lev ed appr KEY for rrosion t	own in the tu rel, if indicate oximate. definitions a est sample;	NOTES ry was low in the upper part of the run, the soil sample be prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols. TR = thermal resistivity sample; EN = environmental ample; AR = archeological sample. <u>LEGEND</u>		.00		880	)1 East I Tukwila,	I Excavatio Marginal W Washingto	ay S	75
3			be - No Soil	Recovery		)ctol	ber 20	าวว		2	1-1-12567-03	30
	– Run N	lo.	be with Soil <sup>-</sup> Level ATD	Recovery				-		DN, INC. Consultants	<b>FIG.</b>	

					LOG OF	GEOPRO	OB	Ε						
Date	Starte	d	12/15/21	Location 8801 E	ast Marginal Way S.,	, Tukwila, WA	•	Grou	und	Ele	vation:	Approx.	13.0 feet	
Date	Compl	eted	12/15/21	98108			-	Турі	ical	Ru	n Length	5 feet		
Tota	I Depth	(ft)	15.0	Drilling Compar	<sup>1y:</sup> Holt Services		1	Hole	e Dia	ame	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	F	and probing r approximate	<b>Soil De</b> port text for a proper nethods. The stratifi boundaries betwee	escription understanding of the su cation lines indicated be n soil types. Actual bou le sample tubes during e	low represent the ndaries may be	Depth, ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1 R-2 R-3 R-4 R-5	m, fer	ark gray to c	coarse sand; trace bund surface (bgs) dark brown, <i>Silty S</i> barse sand; trace t <i>with Sand (ML)</i> ; w	<i>Sand (SM</i> ); moist to w fine gravel.	l rock at 9	9.0 13.4 15.0							
				<u>NOTES</u>										
<sup>4407-1</sup> 7 C-	may hav Groundv conside	ve slid water le red app	down in the tu evel, if indicate proximate.	ery was low in the upp be prior to removal fr ed above, was estima and explanation of sy				8	380	1 East I	l Excavatio Marginal W Washingto	ay S		
4. 	CT = co sample;	rrosior GE =	i test sample; geotechnical s	TR = thermal resistiv sample; AR = archeol <u>LEGEND</u>	ity sample; EN = environi		LO	G	OF	= 0	GEOP	ROBE	A4-SIDE	76
			ube - No Soi ube with Soil	,			Octo	ber	20	22		2	1-1-12567-0	30
Į Į Į	- Run I Groun		er Level ATD				SHA Geoted	<b>NN</b> chnica	ION al and	<b>V &amp;</b> d Env	ironmental	<b>DN, INC.</b> Consultants	FIG.	

					LOG OF G	EOPRO	)BI	Ε					
Date	Started	1	12/15/21		Marginal Way S., Tuk	wila, WA	(	Grour	nd Ele	evation:	Approx.	13.0 feet	
	Compl		12/15/21	98108			[	Туріса	al Ru	n Lengtł			
Tota	Depth	(ft)	15.0	Drilling Company:	olt Services			Hole [	Diamo	eter:	2.25 incl	nes	
Depth (ft)	Probe Run		and probing n approximate differe	Soil Desci port text for a proper under tethods. The stratification boundaries between so int if soil shifted inside sa	ription erstanding of the subsurfa n lines indicated below re il types. Actual boundarie mple tubes during extract	epresent the es may be tion.	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
- - - - - - - - - - - - - - - - - - -	R-1	m Di	oist; fine to	coarse sand; trace fin	aded Sand with Silt (Sf e gravel.		7.0			During Drilling 🛆			
- 10 	R-4	Da	ark gray <i>Silt</i>	with Sand (ML); wet; f	ine sand.		10.0	<u>, , , , , , , , , , , , , , , , , , , </u>	•				10— — — — — — — — — — —
- 15 				BOTTOM OF G COMPLETED 1			15.0						15—        
20 20 21				NOTES									
2. 2. 3. 4.	may hav Groundv consider Refer to CT = cor	e slid vater le ed app KEY f	down in the tu evel, if indicate proximate. or definitions a n test sample;	be prior to removal from the ed above, was estimated of and explanation of symbol TR = thermal resistivity sa	during probing and should s. ample; EN = environmenta	be			880	1 East	l Excavatio Marginal W Washingto	ay S	
	sample; 2" Pla	GE = stic T	geotechnical s ube - No Soi	ample; AR = archeologica <u>LEGEND</u> Recovery								A4-SIDE	
ij <u>1</u>	_ 2" Pla - <i>Run N</i>		ube with Soil	Recovery			_	ber 2	-			1-1-12567-03 I	30
r ∑			er Level ATD					chnical a	DN 8	vironmental	ON, INC. Consultants	FIG.	

					LOG O	GEOPRO	ЭB	Ε						
Date	Starteo	ł	12/16/21		East Marginal Way S.	, Tukwila, WA		Gro	und	Ele	vation:	Approx.	13.0 feet	
Date	Compl	eted	12/16/21	98108				Тур	ical	Rur	n Length	n 5 feet		
Tota	l Depth	(ft)	15.0	Drilling Compa	ny: Holt Services			Hole	e Di	ame	eter:	2.25 incl	hes	
Depth (ft)	Probe Run		and probing n approximate differe	Soil D port text for a prope nethods. The stratil boundaries betwe ent if soil shifted insu	escription rr understanding of the su fication lines indicated be en soil types. Actual bou ide sample tubes during d	low represent the Indaries may be extraction.	Depth, ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-2 R-2 R-3 R-4	D. Sa	oist; fine to ark gray to c and; trace fir	lark brown, <i>Silty</i> he gravel. <i>with Sand (ML)</i> ; v	Sand (SM); wet; fine t		6.8 10.2 15.0				During Drilling I			
64607-1 2.	may hav Groundv consider	re slid vater l red ap	down in the tu evel, if indicate proximate.	be prior to removal	nated during probing and s				8	880	1 East	l Excavatic Marginal W Washingto	'ay S	
4.	CT = coi sample;	rrosior GE =	n test sample;	TR = thermal resisti ample; AR = archeo <u>LEGEND</u>	vity sample; EN = enviror		LO	G	OF	FC	GEOP	ROBE	A4-SIDE	79
	2" Pla	istic T	ube - No Soi				Octo	obei	r 20	22		2	1-1-12567-0	30
₽ ₽	— <i>Run I</i> Groun		er Level ATD			SH/ Geote	<b>ANN</b> chnica	N <b>OI</b> al and	N &	ironmental	ON, INC. Consultants	FIG.		

Date	Starte	ed	LOG OF GEOPF	.UL			d Ele	evation:			
Date	Comp	12/16/21 pleted	8801 East Marginal Way S., Tukwila, WA 98108		T	ypica	l Ru	n Length		13.0 feet	
Total	Dept	h (ft) 15.0	Drilling Company: Holt Services		н	ole D	iam	eter:	5 feet 2.25 incl	hes	
Depth (ft)	Probe Run	Refer to the r and probing approxima	<b>Soil Description</b> eport text for a proper understanding of the subsurface materia methods. The stratification lines indicated below represent the te boundaries between soil types. Actual boundaries may be rent if soil shifted inside sample tubes during extraction.	is 4		Symbol	PID, ppm	Ground Water	Sample Desc	Number, ription, Results	Denth (ft)
	R-1 R-2 R-3 R-4	Dark brown t ( <i>SP-SM</i> ); mo to coarse sa Dark gray, <i>S</i>	o olive-brown, <i>Poorly Graded Sand with Silt</i> ist to wet at 5.5 feet below ground surface (bgs); fine nd; trace gravel.	7.5	5			During Drilling			110
2. ( 2. ( 3.   4. (	may ha Grounc conside Refer te CT = ce	ave slid down in the f dwater level, if indica ered approximate. o KEY for definitions orrosion test sample	<u>NOTES</u> ery was low in the upper part of the run, the soil sample ube prior to removal from the ground. ted above, was estimated during probing and should be and explanation of symbols. ; TR = thermal resistivity sample; EN = environmental				880	1 East N	Excavatic larginal W Washingto	/ay S	
3 1	2" PI	e; GE = geotechnical lastic Tube - No So lastic Tube with So				<b>G O</b> ber 20				<b>A4-SIDE</b>	
	- Run			SH			N 8	WILSC	N. INC.	FIG.	

				LOG OF GE	EOPRC	)BE						
Date	Started	1	12/17/21	Location 8801 East Marginal Way S., Tukw	vila, WA	C	Ground	d Ele	evation:	Approx.	13.0 feet	
Date	Comple	eted	12/17/21	98108		٦	ypica	l Ru	n Length	5 feet		
Tota	Depth	(ft)	15.0	Drilling Company: Holt Services		ŀ	lole D	iame	eter:	2.25 incl	es	
Depth (ft)	Probe Run		and probing n approximate differe	<b>Soil Description</b> port text for a proper understanding of the subsurfac nethods. The stratification lines indicated below rep e boundaries between soil types. Actual boundaries ent if soil shifted inside sample tubes during extraction	resent the s may be on.	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	R-1	at Da	5.5 feet; fin ark brown, <i>L</i>	Poorly Graded Sand with Clay (SP-SC); moist e to medium sand. .ean Clay with Sand (CL); wet; fine sand. Silty Sand (SM); wet; fine to medium sand.		7.3			During Drilling i⊲			
				BOTTOM OF GEOPROBE COMPLETED 12/17/2021		15.0						
1												
2567.GPJ 21-2044 3. 4.	may hav Groundw consider Refer to CT = cor sample;	e slid vater le ed app KEY f rosior GE = t	down in the tu evel, if indicate proximate. or definitions a n test sample; geotechnical s	<u>NOTES</u> ery was low in the upper part of the run, the soil sample be prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols. TR = thermal resistivity sample; EN = environmental sample; AR = archeological sample. <u>LEGEND</u>	e	LO		880	)1 East⊺ Γukwila,	I Excavatio Marginal W Washingto	ay S	92
	2" Pla	stic T	ube - No Soil ube with Soil			Octo	ber 20	)22		2	1-1-12567-03	30
T T T S EOPRO	– <i>Run N</i> Ground		er Level ATD			SHA Geotec	NNO hnical ar	N 8	vironmental	<b>DN, INC.</b> Consultants	FIG.	

						LOG OF GEOP	RC	)BE	Ξ						
Date	e St	tarte	d	1/21/22		Location 8801 East Marginal Way S., Tukwila, WA		(	Grou	nd E	Ele	vation:	Approx	. 13.0 feet	
Date	e Co	omp	eted	1/21/22		98108		٦	Гуріс	al F	Rur	n Length	5 feet		
Tota	al D	epth	(ft)	15.0		Drilling Company: Holt Services		ł	lole	Dia	me	eter:	2.25 inc	hes	
Depth (ft)		Probe Run		and probing r approximate	epc me te l	<b>Soil Description</b> ort text for a proper understanding of the subsurface materia thods. The stratification lines indicated below represent th boundaries between soil types. Actual boundaries may be t if soil shifted inside sample tubes during extraction.		Depth, ft.	Svmbol		riu, ppm	Ground Water	Des	e Number, cription, Results	Depth (ft)
<b> </b>		1	G	iray, <i>Poorly</i> (	Gr	raded Sand (SP); moist; fine to medium sand.					_				_
			В	rown, <i>Silty</i> S	Sai	nd (SM); moist; fine to medium sand.		0.9							-
- - -						rk gray, <i>Poorly Graded Sand (SP</i> ); moist; ine to medium sand.		2.2							
5  		2	-	Wet at 5.4 f	fee	et and deeper.						During Drilling i∆			5
- - -		3	В	rown, <i>Silty</i> S	Sai	<i>nd (SM</i> ); wet; predominantly fine to medium sand.		8.0							-
- 10 - - - - - - -		4	-	Transitions	; to	o gray at 12 feet.									10
F			N	o recovery.				14.0	:11	1.					
- 15 	;	Ш				BOTTOM OF GEOPROBE COMPLETED 1/21/2022		15.0							15— - - - - - - -
1															
21-20-449.70 2 3	ma . Gr co . Re . C1	ay hav round nside efer to r = co	ve slid water red ap KEY rrosio	down in the tu level, if indicate proximate. for definitions a n test sample;	ube ted an ; TF	NOTES v was low in the upper part of the run, the soil sample e prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols. R = thermal resistivity sample; EN = environmental mple; AR = archeological sample.					80 T	1 East N ſukwila,	l Excavati Marginal V Washing	Vay S on	
	] :	2" Pla	astic T	Tube - No Soi	oil F	LEGEND Recovery		<b>_OC</b>				EOP		<b>44-SIDE1</b> 21-1-12567-0	
	/	Run I	No.	ter Level ATD								WILSC	ON, INC. Consultants	FIG.	

					LO	G OF GEO	PR	OB	Ξ					
Date	e Starteo	ł	1/21/22	Location 88	801 East Marginal	Way S., Tukwila, V	NA	(	Grou	nd El	evation:	Approx.	13.0 feet	
Date	e Compl	eted	1/21/22		8108				Гуріс	al Ru	in Length	5 feet		
Tota	al Depth	(ft)	8.0	Drilling Co	mpany: Holt Servi	ces		ŀ	lole	Diam	eter:	2.25 incl	nes	
Depth (ft)	Probe Run		and probing n approximate	<b>So</b> port text for a p methods. The e boundaries b	<b>il Description</b> proper understanding stratification lines ind	of the subsurface mat icated below represen ctual boundaries may	t the	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
- - - - - - - - - - 5	1	to Br	medium sa	nd. L); moist; tra	Sand (SM); moist ce fine sand.	; predominantly fine	;	1.9						
- - - - - -	2	pr	edominantly	y fine to med feet and deep BOTT(	ium sand.	BE		6.0 8.0			During Drilling			- - - - - - -
- 10 - - - - - - - - - - - - -														10
	;													
72/6 (				NOT	FS									
7.GPJ 21-2044	may hav Groundv consider Refer to CT = co sample;	e slid vater le red app KEY f rrosior GE =	down in the tu evel, if indicate proximate. or definitions a n test sample; geotechnical s	be prior to rem ed above, was and explanation TR = thermal r sample; AR = a <u>LEGE</u>	he upper part of the ru oval from the ground. estimated during prob n of symbols. esistivity sample; EN rcheological sample.	ing and should be		LOC	90	880	)1 East⊺ Tukwila,	l Excavatio Marginal W Washingto	ay S	26
ਸ਼ੋ <sup>3</sup> ਸ਼ੋ ੈ	2" Pla	istic T	ube - No Soi ube with Soil					Octo	ber 2	2022		2	1-1-12567-0	30
	— <i>Run I</i> <u>7</u> Groun		er Level ATD					SHA Geotec	<b>NN</b> hnical	ON 8	wironmental	<b>DN, INC.</b> Consultants	FIG.	

				LOC	G OF GEOPRO	DBE						
Date	Starte	d	1/21/22	Location 8801 East Marginal				d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	1/21/22	98108	-	Г	ypica	l Ru	n Length		-	
Tota	l Depth	(ft)	15.0	Drilling Company: Holt Servic	es	ŀ	lole D	iame	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	an	fer to the rep nd probing n approximate	Soil Description port text for a proper understanding of thods. The stratification lines indic boundaries between soil types. Ac nt if soil shifted inside sample tubes	of the subsurface materials ated below represent the tual boundaries may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Desc	Number, ription, Results	Depth (ft)
		- W Gray incre - Le	et at 6.3 fo y, <i>Poorly</i> C easing me	eet and deeper. Graded Sand (SP); wet; predomi dium sand with depth; silty in p own silt 1-inch at 9 feet. to dark gray at 13.6 feet. BOTTOM OF GEOPROB COMPLETED 1/21/2022	nantly fine sand; laces.	6.7 14.6 15.0			During Drilling Prilling			
7502-12 C	may hav Groundv conside	ve slid do vater leve red appro	wn in the tu el, if indicate oximate.	NOTES ry was low in the upper part of the rur be prior to removal from the ground. ed above, was estimated during probin and explanation of symbols.				880	1 East I	l Excavatio Marginal W Washingto	ay S	
4. 4.	CT = co sample;	rrosion te GE = ge	est sample; <sup>:</sup>	TR = thermal resistivity sample; EN = ample; AR = archeological sample. <u>LEGEND</u>	L				EOPI		4-SIDE1	
	2" Pla	istic Tub	e with Soil			Octo	ber 2	022		2	1-1-12567-03	30
Eopra	– <i>Run I</i> Groun		Level ATD			SHA Geotec	NNO	N 8	vironmental (	<b>DN, INC.</b> Consultants	FIG.	

					LOG OF GEOPF	22	)BE						
Date	Sta	rtec	1 1/21/22		Location 8801 East Marginal Way S., Tukwila, WA		G	iroun	d Ele	evation:	Approx.	13.0 feet	
Date	Cor	npl	eted 1/21/22		98108		Т	ypica	l Ru	n Length	5 feet		
Tota	l De	pth	(ft) 15.0		Drilling Company: Holt Services		н	lole D	iame	eter:	2.25 inch	es	
Depth (ft)	Droho Dun		and probing approxima	i m ate	<b>Soil Description</b> port text for a proper understanding of the subsurface materia nethods. The stratification lines indicated below represent the boundaries between soil types. Actual boundaries may be int if soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, lesults	Depth (ft)
-	1		Asphalt slab			-	0.3						_
-			1		Graded Gravel (GP); dry; subangular to angular ine to coarse sand; trace silt.	/	0.6						-
-			Gray, Silty S	ar	nd (SM); moist; predominantly fine to medium sand; ists <0.5-inch-diameter.								
	2				<i>Graded Gravel with Sand (GP</i> ); moist; subangular vel; fine to coarse sand; trace silt.		5.1						5
	3		Dark gray, S	Silt <u>j</u> she	eet and deeper. <i>Ty Sand (SM</i> ); wet; predominantly fine sand. ed by drill action at 10.8 feet.		10.8 11.3			During Drilling 🖂			
- - - - - - - - - - - - - - - - - - -	_				BOTTOM OF GEOPROBE COMPLETED 1/21/2022		15.0						
													-
ด้ วา ฏ				_	<u>NOTES</u>								
<sup>4407-17</sup> 2.	may Grou cons	hav undv sider	e slid down in the vater level, if indica ed approximate.	tuk ate	ry was low in the upper part of the run, the soil sample be prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols.				880	1 East N	Excavatio //arginal W Washingto	ay S	
4.	sam	ple;		Ísa	TR = thermal resistivity sample; EN = environmental ample; AR = archeological sample. <u>LEGEND</u> Recoverv	L	_OG	i of	F G	EOP	ROBE A	4-SIDE1	30
	2"	Pla	stic Tube with So		2		Octob	per 2	)22		2	1-1-12567-03	30
vro ₹		un N oun	<i>lo.</i> d Water Level ATI	C			SHA Geotech	NNO inical ar	N 8	<b>WILSC</b>	ON, INC.	FIG.	

Asphalt slab.       0.3         Gray, Poorly Graded Gravel (GP); moist; subangular to angular gravel, some fine to coarse sand.       0.5         Brown, Silly Sand (SM); moist; fine to coarse sand; trace fine anuglar gravel.       0.5         - Transitions to gray at 1.7 feet. Some tan silt clasts <1/2-inch-diameter from 1.7 to 5 feet.       5.0         - 5       2       Gray, Poorly Graded Gravel (GP); moist; gravel crushed by drill action; subangular to angular gravel; some fine to coarse sand; few brown silt.       5.0         - 10       BOTTOM OF GEOPROBE COMPLETED 1/21/2022       10.0       10.0							L	og of	GEOP	RC	)BE						
Date Completed     12/122     99/08       Total Depth (ft)     10.0     Drilling Company: Holt Services     Hole Diameter:     2.25 inches       Soil Description     Refer to the report ext for a proper understanding of the subarifrace materials approximate boundaries commanders and the subarifrace materials approximate boundaries commanders and the subarifrace materials approximate boundaries common coll types. Actual boundaries commanders and the subarifrace materials approximate boundaries common coll types. Actual boundaries and the subarifrace materials approximate boundaries common coll types. Actual boundaries and the subarifrace materials approximate boundaries common coll types. Actual boundaries and the subarifrace materials approximate boundaries and the subarifrace materials approximate boundaries common coll types. Actual boundaries and the subarifrace materials approximate apresent approximate boundaries and the subarifrace materis approxim	Date	Started	t	1/21/22	Loc	cation 8801 E	ast Margi	nal Way S.	, Tukwila, W	4	G	round	d Ele	evation:	Approx.	13.0 feet	
Soil Description and probing methods. The standard of the subsurface materials and probing methods. The standard below represent the and probing methods. The standard below represent the angles gravel.     0.3       Crany. Poorly Graded Gravel (GP); moist; stubangular to angular gravel.     Open standard below angles gravel.     Open standard below angles gravel.       So in Crany. Poorly Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Grade Gravel (GP); moist; fine to coars	Date	Compl	eted	1/21/22		98108	-	-			T	ypica	Ru	n Length			
Soil Description and probing methods. The standard of the subsurface materials and probing methods. The standard below represent the and probing methods. The standard below represent the angles gravel.     0.3       Crany. Poorly Graded Gravel (GP); moist; stubangular to angular gravel.     Open standard below angles gravel.     Open standard below angles gravel.       So in Crany. Poorly Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Graded Gravel (GP); moist; gravel crushed by dtill action; subangular to angular gravel; some fine to coarse sand; few brown silt.     So in Crany. Four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Gravel (GP); moist; fine to coarse sand; few brown silt.     So in Crany four Grade Grade Gravel (GP); moist; fine to coars	Total	Depth	(ft)	10.0	Dri	lling Compar	<sup>ıy:</sup> Holt Se	rvices			н	ole Di	iame	eter:	2.25 inc	hes	
Gray, Poorly Graded Gravel (GP); moist; subangular to angular gravel, some fine to coarse sand.       0.5         Brown, Sity Sand (SM); moist; fine to coarse sand; trace fine angular gravel.       -         - Transitions to gray at 1.7 feet. Some tan silt clasts          < 1/2 inch-diameter from 1.7 to 5 feet.       5.0         5       2         Gray, Poorly Graded Gravel (GP); moist; gravel crushed by drill action; subangular to angular gravel; some fine to coarse sand; few brown silt.       5.0         10       BOTTOM OF GEOPROBE COMPLETED 1/21/2022       10.0         11       BOTTOM OF GEOPROBE       10.0	Depth (ft)	Probe Run	F	and probing r approximat	eport te metho te boui	<b>Soil De</b> ext for a proper ods. The stratifie ndaries betwee	escriptic understand cation lines n soil types	<b>on</b> ding of the su indicated be . Actual bou	low represent ti ndaries may be	he	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	ription,	Depth (ft)
NOTES         1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground.       Remedial Excavations         2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate.       8801 East Marginal Way S         3. Refer to KEY for definitions and explanation of symbols.       Tukwila, Washington         4. CT = corrosion test sample; GE = geotechnical sample; AR = archeological sample.       LEGEND         3. 2" Plastic Tube - No Soil Recovery       2" Plastic Tube with Soil Recovery       October 2022       21-1-12567-0300			Gi gr. Br ar - Gi ac fe	ray, <i>Poorly</i> ( avel, some rown, <i>Silty</i> S nuglar grave Transitions <1/2-inch-d ray, <i>Poorly</i> ( tion; suban w brown silt	fine t Sand ( el. to gra liame Grade ngular t.	to coarse san (SM); moist; f ray at 1.7 feet ter from 1.7 t ed Gravel (GF r to angular g	d. ine to coa o 5 feet. ?); moist; ; ravel; som	arse sand; t an silt clasts gravel crust ne fine to co	race fine s hed by drill		0.3 0.5 5.0 6.6						
sample; GE = geotechnical sample; AR = archeological sample. LEGEND 2" Plastic Tube - No Soil Recovery 2" Plastic Tube with Soil Recovery Cotober 2022 21-1-12567-030	201.GPJ 21-20441.GPJ 90.	may hav Groundv consider Refer to	ve slid vater le red app KEY f	down in the tu evel, if indicate proximate. or definitions	ube pri ted abo and ex	as low in the upp ior to removal fr ove, was estima xplanation of sy	om the grou ited during   mbols.	und. probing and s	hould be			<u> </u>	880	1 East N	/arginal W	/ay S	
" 2" Plastic Tube with Soil Recovery October 2022 21-1-12567-030		sample; 2" Pla	GE = stic T	geotechnical s ube - No Soi	sample il Rec	e; AR = archeol <u>LEGEND</u> covery								EOPI			
Run No. SHANNON & WILSON, INC. Geotechnical and Environmental Consultants FIG.				ube with Soi	il Reco	overy					-		_				130

						L	.0G 0	F GEO	PR	OBE	Ξ					
Date	Starte	d	1/21/22	Loca	ation 8801 E	East Marg	inal Way S	S., Tukwila,	WA	C	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	Comp	leted	1/21/22		98108					٦	Гуріса	al Ru	n Length	5 feet		
Total	Depth	(ft)	10.0	Drill	ing Compa	ny: Holt S	ervices			ŀ	lole [	Diam	eter:	2.25 inc	hes	
Depth (ft)	Probe Run	F	Refer to the re and probing r approximate differe	eport te method	<b>Soil D</b> at for a prope s. The stratil daries betwee	escripti r understan fication line en soil type	<b>ON</b> nding of the si s indicated be	elow represe undaries may	nt the	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	e Number, cription, Results	Depth (ft)
	1	A	sphalt slab.							0.3						
- - - - - - - 5		∖gr B gr	ray, <i>Poorly</i> ( ravel; trace f rown, <i>Silty</i> S ravel. 0.5-foot-thic	fine to Sand (S	coarse sar SM); moist;	id. fine to co	_		lar	0.5			Water Level Not Determined			
-	2	by	ght gray, <i>Pc</i> y drill action. o recovery.		raded Grav	<i>rel (GP</i> ); a	ngular grav	vel; crushec	1	6.1 7.5			Water Level N			-
  10  					BOTTOM ( COMPLE					10.0						
  15  																
2.	may hav Groundv conside	ve slid water l red ap	s where recove down in the tu evel, if indicate proximate. for definitions a	ube prio ed abov	r to removal f ve, was estim	rom the gro ated during	ound.					880	)1 East	l Excavatio Marginal W Washingt	/ay S	
	CT = co sample;	rrosio GE =	n test sample; geotechnical s -ube - No Soi	TR = th sample;	nermal resisti AR = archeo <u>LEGEND</u>	, vity sample;		nmental		LOC	<b>G</b> O	FG	EOP	ROBE /	4-SIDE	132
	2" Pla	astic T	ube with Soil							Octo	ber 2	022		2	21-1-12567-	030
	– Run I	NO.								SHA Geotec	NNC hnical a	DN 8	wironmental	ON, INC. Consultants	FIG.	

					L	OG OF G	EOPR	OB						
Date	e Starteo	b	1/21/22	Location	8801 East Marg	inal Way S., Tul	kwila, WA	C	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	e Compl	eted	1/21/22		98108	-		٦	Гуріса	al Ru	n Length	5 feet		
Tota	al Depth	(ft)	10.0	Drilling	Company: Holt Se	ervices		ŀ	lole D	Diamo	eter:	2.25 incl	nes	
Depth (ft)	Probe Run		and probing n approximate	port text for nethods. The boundaries	<b>Soil Description</b> a proper understan be stratification lines s between soil type fted inside sample	<b>DN</b> ding of the subsurf s indicated below r s. Actual boundari	epresent the ies may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
	1	A	sphalt slab.					0.3						_
		fir -	e subangula Few tan silt	ar to angul clasts <0.	avel (SM); moist; lar gravel. 5-inch-diameter moist; predomin	from 1.1 to 2.7 f		2.7						
-  5	2		Wet at 5 fee		•			5.7			During Drilling IA			-  5
$\vdash$				Graded Gra	avel (GP); dry; ar	ngular gravel; cru	ushed by	5.7	0	9	ng Dr			
F		Br			wet; predominar ay silt at 6.6 and	-	ım sand.	6.6			Dur			
F		$\sim$	o recovery.	or dark gra	ay shi at 0.0 and	7.11661.		7.7	• • • • •					
								10.0						
					TOM OF GEOP MPLETED 1/21/									
- - - - - - 15	i													
1 1														 
7/6 C				N	DTES			<u> </u>	<u> </u>					I
6402-12 Cd	may hav . Groundv consider	ve slid vater lø red ap	down in the tu evel, if indicate proximate.	ery was low in the prior to re ed above, wa	n the upper part of t emoval from the gro as estimated during tion of symbols.	und.				880	1 East	l Excavatio Marginal W Washingto	ay S	
4 4	sample;	GE =	geotechnicals	sample; AR = <u>LEC</u>	al resistivity sample; = archeological sam <u>GEND</u>			LOC	g Ol	F G	EOP	ROBE A	4-SIDE1	33
ਮੋਂ <sup>3</sup> ਸੋ			ube - No Soi ube with Soil	-				Octo	ber 2	022		2	1-1-12567-0	30
	<i>Run I</i> Groun		er Level ATD				F	SHA Geotec	NNC hnical a	DN 8	wironmental	ON, INC. Consultants	FIG.	

Γ					LOG	OF GEOPR	ЭΒ	Ξ					
Dat	te Start	ed	1/21/22	Location	n 8801 East Marginal Wa	y S., Tukwila, WA	(	Grou	nd El	evation:	Approx.	13.0 feet	
Dat	e Com	pleted	1/21/22		98108		-	Гуріс	al Ru	ın Lengtl	ו 5 feet		
Tot	al Dept	h (ft)	10.0	Drilling	Company: Holt Services		I	lole	Diam	eter:	2.25 incl	nes	
Depth (ft)	Probe Run		and probing r approximate	port text for methods. The boundarie	<b>Soil Description</b> a proper understanding of the stratification lines indicate s between soil types. Actua fted inside sample tubes du	he subsurface materials ad below represent the I boundaries may be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		- - - -	and. Some <0.5- Iron oxide a	inch-diam at 2.6 feet. silt conter feet and de <i>Silt (ML)</i> ; o black at	moist.		0.2 6.7 7.8 10.0			During Drilling H			
.7.GPJ 21-2044	may h 2. Groun consid 3. Refer 4. CT = c	ave slid dwater ered ap to KEY corrosio	down in the tu level, if indicate proximate. for definitions a n test sample;	ery was low i ube prior to r ed above, w and explana TR = therma	<u>DTES</u> n the upper part of the run, ti emoval from the ground. as estimated during probing tion of symbols. al resistivity sample; EN = en = archeological sample.	and should be			88(	01 East Tukwila	I Excavatio Marginal W Washingto	ay S on	
MELL 21	2" F	lastic <sup>-</sup>	Tube - No Soi	<u>LEC</u> il Recovery	<u>GEND</u>		L <b>OC</b> Octo					4-SIDE1	
		No.	ter Level ATD								ON, INC. Consultants	FIG.	

					LOG OF GEOPF	RO	BE						
Date	Start	ed	3/1/21		Location 8801 East Marginal Way S., Tukwila, WA		0	Groun	d El	evation:	Approx.	13.0 feet	
Date	Com	olete	d 3/1/21		98108		Т	ypica	al Ru	ın Length			
Tota	l Dept	h (ft)	15.0	1	Drilling Company: Holocene Drilling		ŀ	lole C	Diam	eter:	2.25 incl	les	
Depth (ft)	Probe Run		Refer to the repo and probing me approximate b	ort i etho	<b>Soil Description</b> text for a proper understanding of the subsurface materials ods. The stratification lines indicated below represent the undaries between soil types. Actual boundaries may be soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Sample Desc	Number, ription, Results	Depth (ft)
		+	Concrete slab			_		S P A	<b>_</b>	0>			
- - - - - - - - - - - 5			Dark brown, <i>F</i> coarse sand;		orly Graded Sand with Silt (SP-SM); moist; fine to ace gravel.	(	0.8		0				
-							2.0						
F			Olive-brown, I	Le	an Clay (CL); moist; trace fine sand.		5.0						-
			0				7.4			ž			-
-			Olive-brown S	Silt	<i>with Sand (ML)</i> ; wet; fine to medium sand.					During Drilling ı∐			
			Dark brown	Po	orly Graded Sand with Silt (SP-SM); wet; fine to	- 9	9.7						10-
- 10			coarse sand.										-
			Dark gray with to medium sa		white specks, <i>Poorly Graded Sand (SP)</i> ; wet; fine d; trace silt.		11.5		0				
- 15		-			BOTTOM OF GEOPROBE	- ^	15.0	<u></u>	<u>.</u>				15—
					COMPLETED 3/1/2021								
7/8 C.d.	1				NOTES			1	1				<u> </u>
6460Z-LZ CL	may ha Groun consid	ave sl dwate ered a	lid down in the tu er level, if indicate approximate.	ted	was low in the upper part of the run, the soil sample e prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols.				88	01 East I	l Excavatio Marginal W Washingto	ay S	
4.	sample	e; GE	= geotechnical s	sar	R = thermal resistivity sample; EN = environmental mple; AR = archeological sample. LEGEND		ļ	LOC	GC	OF GE	OPROE	BE A5-1	
3 ∄			c Tube - No Soi c Tube with Soil			C	Octo	ber 2	022	2	2	1-1-12567-0	30
EOPHO I I I I I I I I I I I I I	– <i>Run</i> Grou		/ater Level ATD			SG	<b>SHA</b> ieotect	NNC nnical a	DN 8		<b>DN, INC.</b> Consultants	FIG.	

							L	OG OF	GEOPR	OB	Ε							
Date	e St	arted	3/	1/21	L	ocation 8801 E	East Margi	nal Way S., 1	Tukwila, WA		Gro	unc	d Ele	evation:	Appr	rox. 1	3.0 feet	
Date	e Co	omple	ted 3/	1/21		98108					Тур	ica	Ru	n Lengtl	h 5 fee	et		
Tota	al D	epth	(ft)	15.0	0	Drilling Compa	ny: Holoce	ne Drilling			Hol	e Di	iame	eter:	2.25	inche	es	
Depth (ft)		Probe Run	and prob approxi	ing met mate b	ort t etho bou		escriptic nderstandin tion lines in soil types.	<b>on</b> g of the subsur dicated below i Actual boundar	represent the ries may be	Depth, ft.		Symbol	PID, ppm	Ground Water	D	escri	Number, ption, esults	Depth (ft)
_			Concret	e slab	Э.					+-	4.4	4	-					_
╞			Brown S gravel.	Silt with	h S	Sand and Grave	<i>el (ML)</i> ; mo	ist; fine sand	l and	0.8								
			Olive-br	own, <i>L</i>	Lea	<i>an Clay (CL)</i> ; m	noist; fine t	o medium sa	and.	- 2.0			0					-
5     			Olive-br	own, S	Silt	ty Sand (SM); n	noist to we	t; fine to med	dium sand.	- 5.0			0					5
	)		- Layer	of cru	ush	ed white rock a	at 8.8 feet.						0	During Drilling I				
			Dark gra	ay, <i>Po</i>	oori	ly Graded Sano	/ <i>(SP</i> ); wet	; fine to medi	um sand.	- 13.0	)							
2 - 15	5	┻┟				BOTTOM	F GEOPF	ROBE		- 15.0	ין נ	<u></u>						15—
						COMPLE	TED 3/1/2	021										
9/21/																		
7.GPJ 21-2044	ma Gro cor . Re	iy have oundwinsidere fer to h	e slid down ir ater level, if i ed approxima KEY for defir rosion test sa	n the tui indicate ate. nitions a ample; <sup>-</sup>	ed and TR	NOTES was low in the up prior to removal f above, was estim- d explanation of sy t = thermal resisting	rom the grou ated during /mbols. /ity sample;	und. probing and sho EN = environme	buld be				880	1 East	al Excav Margina , Washir	al Wa	ay S	
	2	2" Plas	stic Tube - N	No Soil	il R		iogical samp	ne.		0~*					EOPR		E A5-2	
<u>اا</u> ا		2" Plas R <i>un N</i>	stic Tube wi o.	th Soil	I R	ecovery			⊢	Oct			-		<u></u>		-1-12567	-030
ton E			Water Leve	ATD						SH/ Geote		N <b>O</b> al an	N 8	vironmental	ON, INC Consultants	j.	FIG	•

Γ						LOG OF GEOPF	RO	BE						
Da	te S	Starte	ed	3/1/21	I	Location 8801 East Marginal Way S., Tukwila, WA		G	Found	d Ele	evation:	Approx.	13.0 feet	
Da	te C	Com	olete	ed 3/1/21		98108		Т	ypica	l Ru	n Length	5 feet		
Tot	tal I	Dept	h (ft	.) 12.0		Drilling Company: Holocene Drilling		Н	lole D	iame	eter:	2.25 inch	es	
Depth (ft)		Probe Run		and probing me approximate b	ort i etho	<b>Soil Description</b> text for a proper understanding of the subsurface materials ods. The stratification lines indicated below represent the undaries between soil types. Actual boundaries may be soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desci	Number, ription, lesults	Depth (ft)
			╞	Asphalt slab.			-0	).4						_
   5				moist becomin	ing	orly Graded Sand with Silt and Gravel (SP-SM); g wet; fine to coarse sand and gravel. from 4.5 to 5 feet and 9.3 to 10 feet depth.				0				
- - - - -						al at 9 feet depth.				0	∑ grill			
1  	0			Gray, Poorly (	Gr	g at 9.2 feet depth. aded Sand with Clay (SP-SC); wet; fine to coarse ngular to angular gravel.	- 1	1.0		0	During Drilling			10— - -
			-		54	BOTTOM OF GEOPROBE COMPLETED 3/1/2021	- 1	2.0	•.•¥.•					
	5													15— - -
														_
1-20-12	<u>NOTES</u> <ol> <li>In some cases where recovery was low in the upper part of the run, the soil sammay have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and should considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> <li>CT = corrosion test sample; TR = thermal resistivity sample; EN = environmenta sample; GE = geotechnical sample; AR = archeological sample.</li> </ol>									880	1 East I	l Excavatio Marginal W Washingto	ay S	
		ample	e; GE		sar	nple; AR = archeological sample. <u>LEGEND</u>	-					OPROE		
		2" P Run		c Tube with Soil	I F	Recovery	_		per 20	-			1-1-12567-03	30
	Ţ			Vater Level ATD			S	<b>HA</b> eotech	NNO nnical an	N 8	vironmental (	<b>DN, INC.</b> Consultants	FIG.	

					LOG OF GE	EOPRO	DBE						
Date	Starte	d 3	8/1/21		Marginal Way S., Tukw	vila, WA	(	Ground	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted 3	8/1/21	98108	-		٦	Гуріса	l Ru	n Length	5 feet		
Total	l Depth	(ft)	15.0	Drilling Company: H	olocene Drilling		ŀ	lole D	iam	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	and prot approx	bing me ximate b	<b>Soil Desc</b> t text for a proper unders thods. The stratification f oundaries between soil t		sent the nay be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		Asphal	t slab.				0.4						
		coarse Olive-b	sand; a	asphalt pieces; trace	<i>ith Silt (SP-SM</i> ); moist; f gravel. sist; fine sand; iron oxide		3.7		0				
- - - - - -	5 – Staining. 5 – Piece of metal Olive-brown to lin homogeneous.			tal at 6.5 feet depth. Dight gray tan, <i>Silty</i> S	Sand (SM); wet; fine san	nd:	7.7		0				5
- - - - - - -		homog	eneous	5.			13.2		0	During Drilling			
		Dark gr	/ Graded Sand (SP); we EOPROBE 3/1/2021	t, tine	15.0								
1													
2507.GPJ 21-2044 3. 4.	may have Groundy consider Refer to CT = co	ve slid down i water level, if red approxim KEY for defi rrosion test s	be prior to removal from t ed above, was estimated o and explanation of symbol	during probing and should b ls. ample; EN = environmental				880	)1 East N Tukwila,	l Excavatio Marginal W Washingto	ay S on		
		istic Tube - istic Tube w		Recovery			Octo	ber 20	022		2	1-1-12567-03	30
	- — Run I						-		-		DN, INC.	FIG.	

						LOG OF	GEOPR	OB	BE						
Date	Started	k	3/1/21			nginal Way S.,	Tukwila, WA		Gr	round	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	3/1/21		98108				Ту	pica	l Ru	n Length	5 feet		
Tota	I Depth	(ft)	15.0	Drilling C	ompany: Holo	ocene Drilling			Но	ole D	iame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	and	probing me proximate b	<b>S</b> rt text for a p thods. The s oundaries be	oil Descrip roper understar stratification line stween soil type		v represent the aries may be	Depth. ft.		Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		Asp	halt slab.					0.4							<u> </u>
- - - - - - - - - - - - - - - - - - -		Dar moi	k brown, <i>F</i> st; fine to ( rushed wh	ite rock at with Sand (	d; decreasing 8 feet depth.	Silt and Gravel g gravel conten	t with depth.	- 9.0				During Drilling /			
			k gray with nedium sa	nd. BOTT	cks, <i>Poorly G</i> FOM OF GEC MPLETED 3/		P); wet; fine	- 13.: - 15.0	•		0				
E															
7.GPJ 21-2044 3.	<u>NOTES</u> 1. In some cases where recovery was low in the upper part of the run, the soil say may have slid down in the tube prior to removal from the ground. 2. Groundwater level, if indicated above, was estimated during probing and shoul considered approximate. 3. Refer to KEY for definitions and explanation of symbols. 4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmen						hould be	·			880	1 East	l Excavatio Marginal W Washingto	′ay S	
4. 4.	sample;	GE = ge	est sample; eotechnical s be - No Soil	nental		L	.00	G C	)F GE	OPROE	3E A5-5				
≚   <b>1</b>	2" Pla		Oct	ob	er 20	)22		2	1-1-12567-0	30					
GEOPRO	— <i>Run I</i> Groun		Level ATD					SH Geote	AN	INO nical an	N 8	vironmental	ON, INC. Consultants	FIG.	

				LOG OF GEOF	PRC	)BE						
Date	Started	1 2/2	25/21	Location 8801 East Marginal Way S., Tukwila, W	/A	G	iroun	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted 2/2	25/21	98108		Т	ypica	l Ru	n Length	5 feet		
Tota	Depth	(ft)	15.0	Drilling Company: Holocene Drilling		Н	lole D	iame	eter:	2.25 inch	es	
Depth (ft)	Probe Run	and prob approx	ing me imate b	<b>Soil Description</b> It text for a proper understanding of the subsurface materia thods. The stratification lines indicated below represent th boundaries between soil types. Actual boundaries may be if soil shifted inside sample tubes during extraction.	als e	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		Asphalt	slab.			0.4		_				_
   5 5				n with black interbeds, <i>Poorly Graded Sand (SP</i> ); ieces, metal scrap, and glass; iron oxide staining.				0				
- - - - - - - - 10 -		Dark gr	ay to li	ight tan-gray <i>Silt with Sand (ML)</i> ; wet; fine sand.		8.0		0	During Drilling 🖂			
15 15 16 16 1700 1700 1700 1700 1700 1700 170		Dark gra to medi	-	n white specks, <i>Poorly Graded Sand (SP</i> ); wet; fine nd. BOTTOM OF GEOPROBE COMPLETED 2/25/2021		13.0		0				
- 1												-
2567.GPJ 21-2044 3. 4.	may hav Groundv consider Refer to CT = cor	e slid down i vater level, if ed approxim KEY for defin rosion test s	NOTES ery was low in the upper part of the run, the soil sample be prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols. TR = thermal resistivity sample; EN = environmental sample; AR = archeological sample. LEGEND				880	1 East N ſukwila,	Excavatio Marginal W Washingto	ay S n		
		stic Tube - I stic Tube w		I Recovery		Octol	per 2	022		2	1-1-12567-03	30
Eeoprome ⊻	— Run N			1.000 V CI Y		_		-	WILSC	DN, INC. Consultants	FIG.	

				LOG OF GEOPF	RO	BE						
Date	Starte	d <i>3/1/21</i>	1	Location 8801 East Marginal Way S., Tukwila, WA		G	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted 3/1/21	1	98108		Т	ypica	l Ru	n Length	5 feet		
Tota	l Depth	(ft) 15.0	,	Drilling Company: Holocene Drilling		F	lole D	iam	eter:	2.25 incl	ies	
Depth (ft)	Probe Run	and probing r approximate	net e b	<b>Soil Description</b> t text for a proper understanding of the subsurface materials thods. The stratification lines indicated below represent the oundaries between soil types. Actual boundaries may be if soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		Asphalt slat	э.		1	).4	• ••					<u> </u>
- - - - - - - - - - - - - - - - - - -		Dark brown ( <i>SP-SM</i> ); m with depth. Dark gray, <i>I</i> paper piece Yellow ston White crush Olive-brown scattered br	to ois e r necon, F rick	d rock. Poorly Graded Sand with Silt (SP-SM); wet; k fragments; fine to coarse sand.		3.4 ∂.0 ∂.5 ∂.8		0	During Drilling ∱			
			/ith	ght gray <i>Silt to Lean Clay (ML/CL)</i> ; wet; fine sand. n white specks, <i>Poorly Graded Sand (SP</i> ); wet; fine nd. BOTTOM OF GEOPROBE COMPLETED 3/1/2021		13.6 15.0		0				
				NOTES								
<sup>4407-17</sup> 2.	may hav Groundv consider	ve slid down in the water level, if indic red approximate.	ry was low in the upper part of the run, the soil sample be prior to removal from the ground. ed above, was estimated during probing and should be and explanation of symbols.				880	)1 East N	Excavatio /arginal W Washingto	ay S		
4.	CT = co sample;	rrosion test sampl GE = geotechnica	e; <sup>-</sup> al s	TR = thermal resistivity sample; EN = environmental ample; AR = archeological sample. <u>LEGEND</u>		I		9 C	of ge	OPROE	BE A5-7	
ă 3 ∺		astic Tube - No S astic Tube with S		· · ·	С	Octol	ber 2	022		2	1-1-12567-0	30
Ţ Į	- <i>Run I</i> Groun	Vo. Id Water Level AT	D		S	<b>BHA</b> eotech	NNO	N 8	<b>WILSC</b> vironmental C	ON, INC.	FIG.	

					LOC	G OF GEOPR	OB	Ε						
Date	Starte	ed	3/1/21	Location 88	01 East Marginal	Way S., Tukwila, WA		Grou	nd E	levati	on:	Approx.	13.0 feet	
Date	Comp	oleted	3/1/21	98	108		-	Туріс	al R	un Le	ngth	5 feet		
Tota	l Dept	h (ft)	15.0	Drilling Cor	npany: Holocene L	Drilling		Hole	Diar	neter:		2.25 incl	nes	
Depth (ft)	Probe Run	a	nd probing me approximate b	<b>Soi</b> rt text for a prop thods. The stra poundaries betw	I Description per understanding of t tification lines indicat	the subsurface materials ed below represent the al boundaries may be	Depth, ft.	Svmhol		Ground	Water	Desc	Number, ription, Results	Depth (ft)
		A	sphalt slab.				0.3		1.					_
			ark brown, <i>F</i> ne subangula		Sand with Silt (SP	<i>P-SM</i> ); moist; trace								
			Crushed roo	ck at 7.3 feet	denth	~	7.5		0					-
   10 		C sl - D	live-gray to o heen from 7. Crushed wh	ack staining with I with Silt (SP-SM);	- 10.0		· · ·	During Drilling						
				nics at 12 fee	t depth.		- 13.4		0					-
			ark gray with medium sa		s, Poorly Graded S	Sand (SP); wet; fine								-
) — 15 — —					M OF GEOPROB PLETED 3/1/2021	E	- 15.0							15
4+07-17 C.	may ha	ave slid dwater ered ap	n, the soil sample				801 E	ast N	Excavatio larginal W Washingto	ay S				
4. 	CT = c sample	orrosio ; GE =	n test sample; geotechnical s	TR = thermal re sample; AR = ar <u>LEGEN</u>	environmental		LO	G	OF	GEO	OPROE	BE A5-8		
3 ⊔ <b>1</b>			Tube - No Soi Tube with Soil				Octo	ber	202	2		2	1-1-12567-0	30
	– <i>Run</i> Grou		ter Level ATD	-		-	SHA Geoteo	<b>NN</b> chnical	ON and E	& WI	LSO ental Co	N, INC.	FIG.	

					LOG OF GEOPR	OB	BE						
Date	Starte	∋d	2/25/21	Location 8801 East Ma	arginal Way S., Tukwila, WA		G	round	d Ele	evation:	Approx.	13.0 feet	
Date	Comp	oletec	l 2/25/21	98108			Ту	pica	l Ru	in Length	5 feet		
Tota	l Dept	h (ft)	15.0	Drilling Company: Hol	ocene Drilling		Н	ole D	iame	eter:	2.25 incl	les	
Depth (ft)	Probe Run	Re	nd probing me approximate b	Soil Descrip t text for a proper understa hods. The stratification line	Dtion nding of the subsurface materials ss indicated below represent the es. Actual boundaries may be	Denth ft	הפטווו, ווי	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
			Asphalt slab.			0.3	_		_				_
		r	nedium sand	Silt with Sand (ML); mo	<i>Silt (SP-SM</i> ); moist; fine to	- 3.8	5		0				
5      		<u>-</u>	Coarse, sub	angular gravel at 3.9 fe	et depth. ; moist to wet; fine sand.	- 5.0	)		0	During Drilling ¦∕			5
- 10 					Graded Sand (SP); wet; fine	- 13.	.0		0				10—       
5 — 15 - - - - - - - - - - -	to medium sand.			BOTTOM OF GE COMPLETED 2/		- 15.	0						15—             
2. 2.	<u>NOTES</u> 1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground. 2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate. 3. Refer to KEY for definitions and explanation of symbols. 4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental								880	01 East N	Excavatio Marginal W Washingto	ay S	
4.	CT = c sample 2" P							OPROE					
		lastic	Tube with Soil		Oct	tob	er 20	022		2	1-1-12567-0	30	
¥ ₽			ater Level ATD			SH Geot		NNO	N 8	vironmental (	<b>DN, INC.</b> Consultants	FIG.	

Γ									LC	)G O	F GI	EOPR	OB	Ε									
	ate	Star	ted	2/25/21	I	Locatio	on 8801	East N	largina	al Way S	S., Tukv	vila, WA		Gr	ound	l Ele	evation	:	Appro	ox. 1	3.0 fee	et	
D	ate	Com	plet	ed 2/25/21			98108		-	-				Ту	pical	Ru	n Leng	th	5 feet				
Т	otal	Dep	th (f	t) 15.0	I	Drilling	Compa	any: <i>H</i> o	locene	e Drilling	g			Но	le Di	iame	eter:		2.25 iı	nche	s		
1	Depth (ft)	Probe Run		Refer to the repo and probing me approximate l different	ort i etho bou	text for a ods. Th undaries	Soil D a proper e stratific between	<b>escri</b> understa ation lin soil typ	ption anding on nes indic pes. Ac	l of the sub cated belo	osurface ow repre	sent the nay be	Depth, ft.		Symbol	PID, ppm	Ground Water		De	scri	lumbe ption, sults	r,	Depth (ft)
				Asphalt slab.								/	0.3										_
				Olive-brown,												0							
┢																	5						-
	5			Gray Silt to <i>Le</i> depth.	.ea	<i>an Clay (ML/CL)</i> ; wet; blocky; gravel at 5 feet					et	- 5.0	<u>•</u>	<u> </u>		During Drilling 1						5	
-				Olive-brown, organics; iron				wet; fir	ne sano	d; trace v	wood		- 8.0			0							
	10	_		Dark gray with to medium sa			pecks; /	Poorly	Gradeo	d Sand (a	'SP); we	et; fine	- 10.0	)									
S Typ: LKN																0							-   
Rev: JXS	15		┺┝╴			BC	TTOM	OF GE	OPRC	DBE			15.0	)  -	<u>· · · · ·</u>								15—
Log: CTC					BOTTOM OF GEOPROBE COMPLETED 2/25/2021																		
1 1																							
GEOPROBE WELL 21-12567.GPJ 21-20447.GPJ 9/27/22	2. 3. 4.	NOTES 1. In some cases where recovery was low in the upper part of the run, the soil sample may have slid down in the tube prior to removal from the ground. 2. Groundwater level, if indicated above, was estimated during probing and should be considered approximate. 3. Refer to KEY for definitions and explanation of symbols. 4. CT = corrosion test sample; TR = thermal resistivity sample; EN = environmental sample; GE = geotechnical sample; AR = archeological sample.					be 				880	Remedi 1 Easi Fukwila	t Ma a, W	rginal /ashin	Wa gtor	y S I	40						
E_WELL 21	3			ic Tube - No Soi ic Tube with Soi		Recover							Octo				F GE	:0	PRU		<b>: A5</b> -1-125		30
GEOPROB	Ţ	– Ru	n No				,					F	SH/ Geote	<b>AN</b> chni	NO ical an	N 8 d Env		SON al Con	I, INC sultants		F	IG.	

					LOG OF GEOPR	0	BE						
Date	e Starteo	ł	2/25/21	I	ocation 8801 East Marginal Way S., Tukwila, WA		G	Groun	d Ele	evation:	Approx.	13.0 feet	
Date	e Compl	eted	2/25/21		98108		Т	ypica	l Ru	in Length	5 feet		
Tota	l Depth	(ft)	15.0	I	Drilling Company: Holocene Drilling		Н	lole D	iam	eter:	2.25 inch	ies	
Depth (ft)	Probe Run	an	d probing me approximate b	ort i etho	<b>Soil Description</b> Text for a proper understanding of the subsurface materials ads. The stratification lines indicated below represent the undaries between soil types. Actual boundaries may be soil shifted inside sample tubes during extraction.		Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
		BI:	oncrete slab own to dark coarse san ack, <i>Clayey</i> <u>Wood orgar</u> ive, <i>Lean C</i>	b. k b nd; / S nic Xay	soil shifted inside sample tubes during extraction.	- 7 - ε - 1 - 1	<b>2</b> 1.0 11.5 12.5 15.0			During Dritting i⊲			
7.GPJ 21-2044	may hav . Groundv consider . Refer to . CT = cor	NOTES was low in the upper part of the run, the soil sample prior to removal from the ground. above, was estimated during probing and should be d explanation of symbols. R = thermal resistivity sample; EN = environmental nple; AR = archeological sample. <u>LEGEND</u>				880	)1 East I Tukwila,	l Excavatio Marginal W Washingto	ay S m				
3 ■ 1 ■ 1 ■ 1			ube - No Soi ube with Soil			С	Octob	per 2	022		2	1-1-12567-0	30
	– Run N	lo.	er Level ATD			S	<b>HA</b> eotech	NNO nnical ar	N 8	WILSO	ON, INC.	FIG.	

						LOG	OF G	EOPR	OBE						
Date	Started	1	2/25/21	Location	8801 East l		ay S., Tuku				d Ele	evation:	Approx.	13.0 feet	
Date	Compl	eted	2/25/21		98108	-	-	·	Т	уріса	al Ru	n Lengtl			
Tota	I Depth	(ft)	15.0	Drilling (	Company: He	olocene Dri	illing		F	lole D	)iame	eter:	2.25 incl	nes	
Depth (ft)	Probe Run	and	d probing me pproximate b	s rt text for a ہ thods. The ooundaries b	oroper unders stratification li etween soil ty	tiption tanding of the ines indicated ypes. Actual	e subsurface d below repres boundaries m ng extraction.	sent the nay be	Depth, ft.	Symbol	PID, ppm	Ground Water	Desc	Number, ription, Results	Depth (ft)
_		Со	ncrete slab	).						P 4	-				<u> </u>
			own, <i>Poorly</i> edium sand			<i>t (SP-SM);</i> n	noist; fine to	0	0.6		0				
- 5  - 				-			tions; fine s		8.1		260.3	Ā			5
- - - - - - - - - - - - - - - - - - -		Gr	ay Silt with	Sand (ML)	; wet; fine s	and; sheen	; petroleum	odor.			40.9	During Drilling  ∆			
155 rog.cic ver.axs	Dark gray, <i>Poorly Graded Sand with Silt (SP-SM</i> ); wet; fir medium sand. BOTTOM OF GEOPROBE COMPLETED 2/25/2021							to	- 13.7 - 15.0						
1 9/2/				NI	DTES										
7.GPJ 21-2044 3.	<ol> <li>In some cases where recovery was low in the upper part of the run, the soil may have slid down in the tube prior to removal from the ground.</li> <li>Groundwater level, if indicated above, was estimated during probing and sh considered approximate.</li> <li>Refer to KEY for definitions and explanation of symbols.</li> <li>CT = corrosion test sample; TR = thermal resistivity sample; EN = environm sample; GE = geotechnical sample; AR = archeological sample.</li> </ol>										880 ר	1 East Fukwila	al Excavatio Marginal W , Washingto	ay S on	
MELL 21	2" Pla	stic Tu	ube - No Soil	<u>LEC</u> I Recovery	<u>END</u>	·									20
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Resource	e of Washington Protection We report per well installed. See	and the first set of the set	Notice of Intent No. <u>A</u> Type of Well:	E66763	9
Type of Work:			Resource Protectio	n Well [] Injection Point [] Grounding Well	
	sslon ⇒ Original NOI N		Geotechnical Soil	Boring 🔲 Ground Source He	eat Pump
Ecology Well J	D Tag No e MU - 1A		Soil- 🗆 Xapor	ing Other	
Consulting Fire	m Faraba	******	Property Owne.	HENDDINHADOIM	
-	approved for this well/bo			OLE Makalinal	
	is the variance for?		City TUKWING	County king	
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WELL CONS	FRUCTION CERTIFICA		Location (see instruction	ns): WWM [] ection <u>33</u> Town <u>2444</u> Ra	
accept responsibili	ty for construction of this well, a onstruction standards. Materials	and its compliance with all		12345) rown <u></u> ra	-
reported are true to	my best knowledge and belief.				
🗷 Driller 🗆 Tr	ainee 🗆 Engineer			S 84 Coordinate System)	
Name (Print La	ast, First Name) <u>Curt</u>	5, Wunid	· · · ·	inches Casing diameter	inch
Driffer/Engined	or/Trainee Signatur			ft below top of casing Date	
Company Nam	11 11			letion with bollards $\Box$ Flush	
	s checked, sponsor's licen		_	well casing ft above gro	
	ature				
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Resource Protection Well Report Submit one well report per well installed. See page two for instruction	Notice of Intent No. <u>AE66763</u>
Type of Work:	Type of Well.
	Resource Protection Well     Injection Point     Remediation Well     Grounding Well
🔀 Decommission 😅 Original NOI No	Geotechnical Soil Boring Ground Source Heat Pump
Ecology Well ID Tag No	Environmental Boring Other
Ecology Well ID Tag No Site Well Name MU - GALR	Soil- 🗆 Vapor- 🗆 Water-sampling
Consulting Firm Faraba	Property Owner 1.1/ HOY LONIN 2001 NAMIN
Was a variance approved for this well/boring? 🗆 Yes 🗖 No	Well Street Address 50 5 NVWMMWWW
If yes, what was the variance for?	_ Ci TV YN I IO County King
	Tax Parcel No.
	Location (see instructions): WWM  or EWM
WELL CONSTRUCTION CERTIFICATION: I constructed and/	
accept responsibility for construction of this well, and its compliance with all	
Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.	
S Driller T Trainee T Engineer	Longitude (Example: -120.12345)
Name (Print Last, First Name) Custis, Bunid	(WGS 84 Coordinate System)
Driller/Engineer/Trainee Signatur	Borehole diameter inches Casing diameter inches
License No. 3284	Static water level ft below top of casing Date
Company Name Holt	☐ Above-ground completion with bollards ☐ Flush monument
If trainee box is checked, sponsor's license number:	
Sponsor's signature	
	Start Date <u>May 24,2021</u> Completed Date <u>May 24, 2021</u>
	Well Data Formation Description
TSSI I ISSI	
MONUMENT T	YPE:
CONCRETE SU	URFACE SEAL
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	t.
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WELL DEPTH	



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	Resource Protection Well Report Submit one well report per well installed. See page two for instructions.		rent No. <u>AE66763</u>						
Type of Work: Construction Construction Decommission $\Rightarrow$ Original NOI No. Ecology Well ID Tag No. Site Well Name MM - 7A Consulting Firm $F_{arcalon}$ Was a variance approved for this well/boring? $\Box$ Yes $\Box$ No		Type of Well: Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pump Environmental Boring Other Soil- Vapor- Water-sampling Property Owner CONTROL Water-sampling Well Street Address							
						Address JOOL CONTRACT	I INN S.		
					If yes, what was the variance for?	If yes, what was the variance for?		County king	
							Tax Parcel N	lo	
							Location (se	e instructions): WWM C	or EWM 🗖
					WELL CONSTRUCTION CERTIFICAT	WELL CONSTRUCTION CERTIFICATION: I constructed and/or		<u>SE 14, Section 33 Town 2414 R</u>	
					accept responsibility for construction of this well, a			ample: 47.12345)	
		Washington well construction standards. Materials reported are true to my best knowledge and belief.	used and the information						
🔉 Driller 🗆 Trainee 🗆 Engineer		Longitude (1	Example: -120,12345)	······································					
Name (Print Last, First Name) Cart	's Bunid	_	(WGS 84 Coordinate System)						
Name (Print Last, First Name) <u>Curt</u> Driller/Engineer/Trainee Signatur	2	Borehole dia	meter <u>6</u> inches Casing diameter	inches					
20 (4)		Static water	level ft below top of casing Da	to					
Company Name Holt			· •						
If trainee box is checked, sponsor's licens		_ `	□ Above-ground completion with bollards □ Flush monument						
	the second se	Stick-up of top of well casing ft above ground surface							
Sponsor's signature		Start Date	May 24,2021 Completed Date May	24,2021					
Construction/Design		Data	Formation Description						
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REMARKS

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·	ECOLOGY State of Washington			
	Resource Protection Well Report	Notice of Intent No. AE66763		
	Submit one well report per well installed. See page two for instructions,	Type of Well:		
	Type of Work;	Resource Protection Well [] Injection Point		
		Remediation Well Grounding Well		
	Decommission $\implies$ Original NOI No.	Geotechnical Soil Boring Ground Source Heat Pump		
	Ecology Well ID Tag No Site Well Name MU-8A			
	Consulting Firm Faraba	Property Owner CONTEXPOLINE 830 Margin		
	Was a variance approved for this well/boring?  Yes  No	Well Street Address TOLE MONGINAL WELLS		
	If yes, what was the variance for?	City TURINI County King		
		Tax Parcel No.		
		Location (see instructions): WWM 🗆 or EWM 🗔		
	WELL CONSTRUCTION CERTIFICATION: I constructed and/or	<u>SE 14-14 SE 14, Section 33</u> Town 2411 Range 4E		
	accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information	Latitude (Example: 47.12345)		
	reported are true to my best knowledge and belief.	Longitude (Example: -120.12345)		
	☎Driller □ Trainee □ Engineer	(WGS 84 Coordinate System)		
	Name (Print Last, First Name) Gustis, Bunid	Borehole diameter inches Casing diameter inches		
	Driller/Engineer/Trainee Signature			
	License No 3284	Static water level ft below top of casing Date		
	Company Name Holt	🗆 Above-ground completion with bollards 🛛 🗂 Flush monument		
	If trainee box is checked, sponsor's license number:	Stick-up of top of well casing ft above ground surface		
	Sponsor's signature	Start Date May 24,2021 Completed Date May 24,2021		
		Juli Dale / May 2 / 2 2 Commode Dale / Mac / 7 2021		
	Construction/Design We	ell Data Formation Description		
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	Construction/Design We	ell Data Formation Description		
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	DEPARTMENT OF ECOLOGY State of Washington	
Resou	rce Protection Well F	₹e

	<b>Resource Protection We</b>			tent No. AE66763
	Submit one well report per well installed. See Type of Work: Construction Decommission $\implies$ Original NOI N Ecology Well ID Tag No. Site Well Name $MU - 8B$ Consulting Firm $F_{are} b n$ Was a variance approved for this well/bo	0	Remedi Geoteci Environ Soi Property Ow	II: De Protection Well Injection Point Iation Well Grounding Well Inical Soil Boring Ground Source Heat Pump Imental Boring Other I- Vanor- Water-sampling Vner Mater-sampling Vner Mater Scol MANANCA
	If yes, what was the variance for?	-	City TUK	NoCounty King
	Company Name <u>Hol4</u> If trainec box is checked, sponsor's licen Sponsor's signature	and its compliance with all s used and the information	Latitude (Ex Longitude (I) Borehole dia Static water □ Above-gr Stick-ul Start Date	the instructions): WWM $\Box$ or EWM $\Box$ S/2 1/4, Section 33 Town 24/4 Range 4/2 tample: 47.12345) Example: -120.12345) (WGS 84 Coordinate System) ameter inches Casing diameter inches level ft below top of casing Date round completion with bollards $\Box$ Flush monument p of top of well casing ft above ground surface May 24,2021 Completed Date/May 24,2021
وه ومد از دراوه مراس	Construction/Design		ll Data	Formation Description
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Resource Protection Wel Submit one well report per well installed. See Type of Work: ☐ Construction ⊠ Decommission ⇒ Original NOI No Ecology Well ID Tag No. Site Well Name MW – 9A Consulting Firm Facebon Was a variance approved for this well/bot If yes, what was the variance for?	page two for instructions,	Type of We Resour Cected Environ Property Ov Well Street City	be Protection Well Injection Point ation Well Grounding Well Inical Soil Boring Other Inental Boring Other In Vapor- Water-sampling Address 2016 County County	Margine 1
WELL CONSTRUCTION CERTIFICAT accept responsibility for construction of this well, ar Washington well construction standards. Materials reported are true to my best knowledge and bellef. Driller 🗆 Trainee 🗆 Engineer Name (Print Last, First Name) Driller/Engineer/Trainee Signatur License No. 32844 Company Name 4614 If trainee box is checked, sponsor's licens Sponsor's signature	e number:	Static water Above-gr	e instructions): WWM <u>S/2</u> ¼, Section <u>33</u> Town <u>2444</u> R. tample: 47.12345) Example: -120.12345) (WGS 84 Coordinate System) ameter inches Casing diameter level ft below top of casing Dat ound completion with bollards  Flush to of top of well casing ft above grow May <u>24</u> , <u>2021</u> Completed Date May	inches
Construction/Design	Weil		Formation Description	
	MONUMENT TYPE: CONCRETE SURFAC 2 ft PVO BLANK BACKFILL 20 TYPE: Bendon CH SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	2 ft.	0 <u>ft</u> . <u>ft</u> . <u>t</u> . <u>t</u> . <u>t</u> . <u>t</u> . <u>t</u> .	



State of Washington         Resource Protection Well Report         Submit one well report per well installed. See page two for instructions.         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI No.         Ecology Well ID Tag No.         Site Well Name         MW - IO         Consulting Firm         Consulting Firm         Vas a variance approved for this well/boring?         Yes		Notice of Intent No. <u>AE66763</u> Type of Well: Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pump										
					Environmental Boring     Other     Soil- Vapor- Water-sampling     Property Owner     OWEN DECE SOI MARINE     Well Street Address SBD E MARINEL VAUES							
									Was a variance approved for this well/boring? Yes No If yes, what was the variance for?			MIL County king
											Tax Parcel No.	
						Location (see instructions): WWM $\square$ or EWM $\square$						
			SE 4, Section 33 Town 2411 Range 4E									
			xample: 47.12345)									
S Driller □ Trainee □ Engineer		Longitude (	Example: -120,12345)									
Name (Print Last, First Name) Curtis, Driller/Engineer/Trainee Signatur	Bun'd	· · · · ·	(WGS 84 Coordinate System)									
Driller/Engineer/Trainee Signatur			ameter <u>6</u> inches Casing diameter inches									
License No. 3284		Static water	level ft below top of casing Date									
Company Name Holt		🗆 Above-gi	round completion with bollards 🛛 🗖 Flush monument									
If trainee box is checked, sponsor's license num	nber:	$\hookrightarrow$ Stick-u	p of top of well casing ft above ground surface									
Sponsor's signature			May 24,2021 Completed Date May 24, 2021									
Construction/Design		Data	Formation Description									
		1 20 31 (14	Tothing on 1963 Eleftion									
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	- CONCRETE SURFA	CE SEAL	<u>o - ft.</u>									
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Notice of Intent No. AE66763 **Resource Protection Well Report** Submit one well report per well installed. See page two for instructions, Type of Well: Type of Work: Injection Point
 Grounding Well
 Ground Source Heat Pump Resource Protection Well Construction D Remediation Well 🔀 Decommission 🖙 Original NOI No. \_ Geotechnical Soil Boring Ecology Well ID Tag No. Environmental Boring Other \_\_\_\_\_ Soil- Vapor- Vater-sampling Site Well Name MW-11A Property Owner CENTORDWARSD MAKING Consulting Firm Faralon Well Street Address 8701 5. MARAINAI WAYS Was a variance approved for this well/boring? City TUKNING County king If yes, what was the variance for? \_\_\_\_ Tax Parcel No. Location (see instructions): WWM 🗆 or EWM 🗇 SE 14-14 SE 14, Section 33 Town 2411 Range 4E WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Latitude (Example: 47.12345) Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief. Longitude (Example: -120.12345) \_\_\_\_ 🔉 Driller 🗆 Trainee 🗆 Engineer (WGS 84 Coordinate System) Name (Print Last, First Name) Cartis, Bunid Borehole diameter \_\_\_\_\_ inches Casing diameter \_\_\_\_\_ inches Driller/Engineer/Trainee Signatur Static water level \_\_\_\_\_ ft below top of casing Date \_\_\_\_\_ License No.3284 □ Above-ground completion with bollards □ Flush monument Company Name Ho/+ Stick-up of top of well easing \_\_\_\_\_ ft above ground surface If trainee box is checked, sponsor's license number: \_\_\_\_ Sponsor's signature Start Date May 24,2021 Completed Date May 24, 2021 Construction/Design Well Data Formation Description MONUMENT TYPE: ft. CONCRETE SURFACE SEAL 2 ft ft. PVC BLANK BACKFILL TYPE: Bentonite Ð 2 PVC SCREEN SLOT SIZE: 揃 TYPE: GRAVEL PACK MATERIAL ft. 記 REMARKS . .

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Type of Work: Construction Decommission $\Longrightarrow$ Original NOI No. Ecology Well ID Tag No. Site Well Name $MW - 12 A$		lo	Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pump			
			Environmental Boring Other Soil- U Vanor- Water-sampling Property Owner COMPONE - SSOI MOVED			
-	Furnlon		Property Owner, J.I.I.IVI HOWNER - 8801 MAY			
,	**	oring? 🗆 Yes 🖾 No 🛛	Well Street Address 2201 5- Manging Manager S-			
If yes, what was the variance for?			Cit County King Tax Parcel No. Location (see instructions): SE 4-4 SE 4, Section 33 Town 2444 Range 4 Latitude (Example: 47.12345) Longitude (Example: -120.12345)			
		TION: I constructed and/or and its compliance with all is used and the information				
Name (Print La	st, First Name) <i>Curt</i>	is, Bunid	(WGS 84 Coordinate System)			
Driller/Engineer	st, First Name) <i>Curt</i> r/Trainee Signatur		Borehole diameter inches Casing diameter inches			
License No.32	84	· · · · · · · · · · · · · · · · · · ·	Static water level ft below top of casing Date			
Company Name	<u>Holt</u>		🗇 Above-ground completion with bollards 🛛 Flush monument			
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		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN X SLOT SIZE:				
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN X SLOT SIZE: TYPE:	ft			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ft			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ft			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ft			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ftt			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ft			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ftt			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	ftt			
		BACKFILL <u>20</u> TYPE: <u>Bendon He</u> Chip PVC SCREEN <u>VX</u> SLOT SIZE: <u>VX</u> TYPE: <u></u> GRAVEL PACK	fttt			



Resource Protection Well Report	Notice of Intent No. AE66763			
Submit one well report per well installed. See page two for instruction	Type of Well:			
Type of Work:	Resource Protection Well [] Injection Point			
Construction	Remediation Well Grounding Well			
Ø Decommission ⇒ Original NOI No.	Geotechnical Soil Boring Ground Source Heat Pump Environmental Boring Other Soil- Vanor- Water-sampling			
Ecology Well ID Tag No Site Well Name MW - 14 A				
Consulting Firm Faraba	Property Owner ////////////////////////////////////			
Was a variance approved for this well/boring? 🗆 Yes 🗆 No	Well Street Address 2301 5. May Ing Way 6			
If yes, what was the variance for?	City TUKINIA County King			
WELL CONSTRUCTION CERTIFICATION: I constructed and/c	- Location (see instructions): WWM $\Box$ or EWM $\Box$ or $\underline{SE}$ 4-4 $\underline{SE}$ 4, Section $\underline{33}$ Town $\underline{2414}$ Range $\underline{4E}$			
accept responsibility for construction of this well, and its compliance with all				
Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.	Latitude (Example: 47.12345)			
B Driller □ Trainee □ Engineer	Longitude (Example: ~120,12345)			
Name (Brint Last Einst Name) for this Boy in	(WGS 84 Coordinate System)			
Name (Print Last, First Name) <u>Cartis</u> , <u>Baunid</u> Driller/Engineer/Trainee Signatur	Borehole diameter 6 inches Casing diameter inches			
License No. 3284	Static water level ft below top of casing Date			
Company Name Ho/H	☐ Above-ground completion with bollards ☐ Flush monument			
If trainee box is checked, sponsor's license number:				
Sponsor's signature	Start Date May 24,2021 Completed Date May. 24, 2021			
Construction/Design	Well Data Formation Description			
MONUMENT T	(DE).			
	irre.			
CONCRETE SU	<u>0</u>			
	<u>- ft.</u>			
	ft.			
PVC BLANK	X			
BACKFILL				
TYPE: Bend	enite			
	Chips tt.			
PVC SCREEN _				
SLOT SIZE:	$X \mid$			
	t.			
TYPE:				
GRAVEL PACK	n th.			
	X			
MATERIAL:				
	44			
	<u>tt</u> ,			
	5. 10 S			
	DEMARKO			
	REMARKS			
WELL DEPTH	20, "			
WELL DEPTH -				



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Resource Protection Well Report         Submit one well report per well installed. See page two for instructions,         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI No.         Ecology Well ID Tag No.         Site Well Name         MW - 15A         Consulting Firm Faraba		Notice of Inte	nt No. AE66763					
		Type of Well:       Injection Point         Resource Protection Well       Grounding Well         Geotechnical Soil Boring       Ground Source Heat Pump         Environmental Boring       Other						
					Property Owner CENERATION - 330 March 100			
		If yes, what was the variance for?			County king			
						······································		
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all			instructions): WWM					
			<u><i>RE</i></u> 4, Section <u>33</u> Town <u>2444</u>					
Washington well construction standards. Mat reported are true to my best knowledge and be	Washington well construction standards. Materials used and the information		mple: 47.12345)					
Driller □ Trainee □ Engineer		Longitude (E:	xample: -120.12345)					
Name (Print Last First Name)	itis Bunid		(WGS 84 Coordinate System)					
Name (Print Last, First Name) Lieu Driller/Engineer/Trainee Signatur	270	Borehole diar	neter 🢪 inches Casing diameter	inches				
		Static water le	evel ft below top of casing D	ate				
Company Name Holt		🗆 Above-gro	und completion with bollards 🛛 Flu	ish monument				
If trainee box is checked, sponsor's l			of top of well casing ft above g					
Sponsor's signature		1		-				
			ay 24,2021 Completed Date May	61,0001				
Constitucion/Design	We	li Data	Formation Description	·····				
	MONUMENT TYPE:		· ·					
				Ĕ.				
	CONCRETE SURFA	CE SEAL	<u>0 ft</u>					
	2 f	<del>ب</del> ر ا						
			<i><i>T</i>¢</i>	i i				
	PVO BLANK	*x(	<u> </u>	f T				
				1				
	BACKFILL	Oft.						
	TYPE: Benton	ite		ŀ				
	6	hips	tt					
				1				
				i				
	PVC SCREEN	¥						
	SLOT SIZE:	$X_{}$		ļ				
	TYPE:		ft.					
		***************************************						
	GRAVEL PACK	ft.						
	MATERIAL:	$1 \cdot 1$						
	FFF I I MALE LEF WALL PRANTING ALL LAND							
			<u> </u>	5				
			- Anno	it t				
				•				
	•	1	REMARKS					
			·					
		1						
	24	3						
	WELL DEPTH 24	n						



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State of Washington         Resource Protection Well Report         Submit one well report per well installed. See page two for instructions,         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI No.         Ecology Well ID Tag No.         Site Well Name         MM4-16A         Consulting Firm         ✓ Available         Was a variance approved for this well/boring?         □ Yes         Was a variance approved for this well/boring?         □ Yes         Well.L CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.         ★Driller □ Trainee □ Engineer	Notice of Intent No.       AE66763         Type of Well:       Injection Point         Resource Protection Well       Grounding Well         Geotechnical Soil Boring       Ground Source Heat Pump         Soil- I Vapor- I Water-sampling         Property Owner       PODODIA FSOI         Well Street Address       SBDI E- MAGINAL NAMES         City       County         Tax Parcel No.       WWM I or EWM I         Stef 4-4 Ste       4, Section 33       Town 2444 Range 4/E         Latitude (Example: 47.12345)
Name (Print Last, First Name) <u>Curtis</u> , <u>Bunid</u>	Borehole diameter <u>6</u> inches Casing diameter <u>inches</u>
Driller/Engineer/Trainee Signatur	Static water level ft below top of casing Date
Company Name Ho/H	Above-ground completion with bollards
If trainee box is checked, sponsor's license number:	Stick-up of top of well casing ft above ground surface
Sponsor's signature	Start Date May 24, 2021 Completed Date May 24, 2021
Construction/Design Well	l Data Formation Description
MONUMENT TYPE: CONCRETE SURFAL Z ft PVO BLANK BACKFILL _2 TYPE: Scinton CI SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	$\frac{0 - tt}{t}$
WELL DEPTH 20	2 : 13



Resource Protection Well         Submit one well report per well installed. See p         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI NO.         Ecology Well ID Tag No.         Site Well Name         MU - ISA         Consulting Firm         Facalon         Was a variance approved for this well/bord         If yes, what was the variance for?	ng? [Yes No ON: I constructed and/or d Its compliance with all sed and the information	Remediation V Geotechnical S Environmental Soil- V Property Owner Well Street Addres City <b>DYACOM</b> Tax Parcel No. Location (see instru <u>SE</u> 1/4-1/4 <u>SE</u> Latitude (Example: Longitude (Example: Congitude (Example: Static water level Above-ground c	ection Well [] Injection Point Vell [] Grounding Well Soil Boring [] Ground Source Heat I Boring [] Other apor- [] Wator-sampling S 38D F- MADINA STOL S County Kry	WM D YE inches
Sponsor's signature			<u>4,2021</u> Completed Date <u>May. 24</u>	
Construction/Design	Well	Data	Formation Description	
	MONUMENT TYPE: CONCRETE SURFAC 2 ft. PVC BLANK BACKFILL 20 TYPE: Benlow CH SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	2 ft.	0t.	



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Resource Protection Well Report         Submit one well report per well installed. See page two for instructions         Type of Work; $\square$ Construction $\square$ Decommission $\Longrightarrow$ Original NOI No.         Ecology Well ID Tag No.         Site Well Name $MM - 22A$ Consulting Firm         Vas a variance approved for this well/boring?         If yes, what was the variance for?	Resource Protection Well     Injection Point     Remediation Well     Grounding Well     Geotechnical Soil Boring     Bruironmental Boring     Soil- □ Vapor- □ Water-sampling     Property Owner     COMMON Water-Sampling     Well Street Address     Soll - □ Vapor- □ Water-sampling
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief. B.Driller 🗆 Trainee 🗆 Engineer Name (Print Last, First Name) Lieutis, Buuid Driller/Engineer/Trainee Signatur License No. 32844 Company Name Holt If trainee box is checked, sponsor's license number: Sponsor's signature	Latitude (Example: 47.12345) Longitude (Example: -120.12345) (WGS 84 Coordinate System) Borehole diameter inches Static water level ft below top of casing Date Above-ground completion with bollards  Flush monument Stick-up of top of well casing ft above ground surface
	Vell Data Formation Description
BACKFILL	$\frac{0 - tt}{t}$ $\frac{1}{20 tt}$ $\frac{20 tt}{chips}$ $\frac{1}{t}$ $\frac{1}{t}$
Well DEPTH 2	<u>REMARKS</u>



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well/boring? 🗆 Yes 🗆 No	Brvironmental Boring Other Soil- Vapor- Water-sampling Property Owner, CONOCODION 380 MM Well Street Address 380 5 MARQUAR WOR	<u> </u>
FIFICATION: I constructed and/or his weil, and its compliance with all Materials used and the information nd belief. Suntis, Buuid r	Tax Parcel No.         Location (see instructions):       WWM □ or EWN         SE ¼-¼ SE ¼, Section 33 Town 2414 Range 4/4         Latitude (Example: 47.12345)         Longitude (Example: -120.12345)         (WGS 84 Coordinate System)         Borehole diameter inches         Casing diameter inches         Static water level ft below top of casing Date         □ Above-ground completion with bollards         □ Flush monum         Stick-up of top of well casing ft above ground sur	ches nent face
	· · · ·	<del></del>
PVC BLANK	ACE SEAL $ft_{$	
PVC SCREEN	- <u>tt.</u>	
	Well/boring? Yes No	NOI No.          Geotechnical Soil Boring         Groud Source Heat Pum         Barvironmental Boring         Soil-Upor-Water-sampling         Property Owner, Control Source Heat Pum         Sail-Upor-Water-sampling         Property Owner, Control Source Heat Pum         Soil-Upor-Water-sampling         Tax Parcel No.         Location (see Instructions):         Well Street Address         Start Date Mey 24/2021 Completed Date/Mey 24/202         Well Data         Formation Description         Start Date Mey 24/2021 Completed Date/Mey 24/202         Well Data         Formation Description         Start Date Mey 24/2021 Completed Date/Mey 24/202         Well Data         Formation Description         Start Date Mey 24/2021 Completed Date/Mey 24/202         Well Data         Formation Description         Start Date Mey 24/2021 Completed Date/Mey 24/20         Well Data         Formation Description         Start Date Mey 24/2021 Completed Date/Mey 24/20         Well Data         Formation Description         Start Date Mey 24/2021         Greater Heater Mey 24/202         Start Date Mey 24/2021

State of Washington		DEPARTMENT OF ECOLOGY State of Washington
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Resource Protection Well R		Notice of Inte	ent No. AE66763	
Submit one well report per well installed. See page Type of Work: Construction Solve Decommission $\Rightarrow$ Original NOI No. Ecology Well ID Tag No. Site Well Name $MW - 24A$ Consulting Firm Faraba Was a variance approved for this well/boring? If yes, what was the variance for?	□ Yes □ No	Remedia Geotechu Environr Soil- Property Own Well Street A City	: Protection Well Injection Point tion Well Grounding Well nical Soil Boring Ground Source H nental Boring Other Vanor- Water-sampling ner CENTCHODINA SEC Address SEC ENVERSE County Kmg 0.	Marginal
WELL CONSTRUCTION CERTIFICATION accept responsibility for construction of this well, and its Washington well construction standards. Materials used a reported are true to my best knowledge and belief. BDriller D Trainee D Engineer Name (Print Last, First Name) Curtis, Driller/Engineer/Trainee Signatur License No. 32844 Company Name Holt If trainee box is checked, sponsor's license nu Sponsor's signature	Compliance with all and the information	Latitude (Exa Longitude (E Borehole dial Static water I □ Above-gro Stick-up	e instructions): WWM □ SE ¼, Section 33 Town 2444 Re ample: 47.12345) xample: -120.12345) (WGS 84 Coordinate System) meter inches Casing diameter evel ft below top of casing Data bund completion with bollards □ Flush of top of well casing ft above gro lay 24,2021 Completed Date May	inches e u monument pund surface
 Construction/Design	Wel	Data	Formation Description	· · · · · · · · · · · · · · · · · · ·
	TYPE: Benton	CE SEAL	0	

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Resource Protection Well         Submit one well report per well installed. See         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI No         Ecology Well ID Tag No.         Site Well Name         MMY - 25 A         Consulting Firm         Consulting Firm         Yes, what was the variance for?         WELL CONSTRUCTION CERTIFICAT         accept responsibility for construction of this well, a         Washington well construction standards. Materials         reported are true to my best knowledge and belief.         ØDriller □ Trainee □ Engineer         Name (Print Last, First Name)         Driller	ring?  Yes No	Type of We Resour Remed Geotec Environ So: Property Ov Well Street City <b>Location</b> (so <u>SE</u> 4-4 Latitude (Ea Longitude (	ce Protection Well   Injection Point iation Well   Grounding Well hnical Soil Boring   Other immental Boring   Other il- Vaoor- Water-sampling water-sampling Address <b>720</b> County Kargen County Address <b>720</b> County Kargen County Kargen County No Ee instructions): WWM or EWM <u>SE</u> ¼, Section <u>33</u> Town <u>2414</u> Range <u>445</u> (WGS 84 Coordinate System)	ŗa
Driller/Engineer/Trainee Signatur	2		ameter inches Casing diameter inches	
License No.3284			level ft below top of casing Date	
Company Name Holt			round completion with bollards   Flush monument	
If trainee box is checked, sponsor's licen: Sponsor's signature			p of top of well casing ft above ground surface	
рания и продати и прод и продати и br>и продати и			May 24, 2021 Completed Date May 24, 2021	٦
Construction/Design	Wel	Data	Formation Description	
	MONUMENT TYPE: CONCRETE SURFAN 2 ft PVC BLANK BACKFILL 2 TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	CE SEAL ++	0ft. ft. ft. ft. ft. ft. ft.	



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Resource Protection Well         Submit one well report per well installed. See         Type of Work:         □ Construction         ⊠ Decommission ⇒ Original NOI No         Ecology Well ID Tag No.         Site Well Name         MM - 27M         Consulting Firm         Consulting Firm         Was a variance approved for this well/bo         If yes, what was the variance for?	ring?  Yes No	Notice of Intent No. <u>AE666763</u> Type of Well: Resource Protection Well Injection Point Geotechnical Soil Boring Other Soil- Vapor Water-sampling Property Owner <u>Water-sampling</u> Property Owner <u>Water-sampling</u> City TULNING County <u>King</u> Tax Parcel No. Location (see instructions): WWM $\Box$ or EWM $\Box$ SE 4-4 SE 4, Section <u>33</u> Town <u>2444</u> Range <u>4</u> Latitude (Example: 47.12345) Longitude (Example: -120.12345) <i>(WGS 84 Coordinate System)</i>
Name (Print Last, First Name) <u>Curt 1</u> Driller/Engineer/Trainee Signatur	S, QUUIN	Borehole diameter inches Casing diameter inches Static water level ft below top of casing Date
Company Name Holt		Above-ground completion with bollards 🛛 Flush monument
If trainee box is checked, sponsor's licens Sponsor's signature		Stick-up of top of well casing ft above ground surface
Construct[on/Design	Well Da	Start Date May 24,2021 Completed Date May 24,2021 Data Formation Description
	MONUMENT TYPE: CONCRETE SURFACE O 2 ft PVC BLANK X BACKFILL 20 TYPE: Bendon He Chip PVC SCREEN X SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	<u>ft.</u>

Resou Submit one Type of W Const Deco	truction mmission ⇔ Original NOI 1	ee page two for instructions,	Type of Well: Resource Remediat Geotechn	Protection Well Injection Well Grou leal Soil Boring Grou	3 and Source Heat Pur	np
Ecology V	Vell ID Tag No Name <b>M                                   </b>			iental Boring 🗌 Othe	яr	
	Name <u>NVV - 28/7</u> g Firm <u>Faralon</u>		Soil-	□ Xapor- □ Water-sampli		
	iance approved for this well/t		Well Street A	er OCHENPONA ddress 3801 E i N	Margan Margan	al a So
	at was the variance for?		City TIKKY	AND County k	me jilt in a	EF] O
town to the tax of the tax			Tax Parcel No		-J	
			Location (see		WWM 🗆 or EW	 M [7]
accept response Washington reported are	DNSTRUCTION CERTIFICA nsibility for construction of this well well construction standards. Materia true to my best knowledge and belie	, and its compliance with all als used and the information	<u>SE</u> 4-45 Latitude (Exa	1/2       14, Section 33       Tov         mple: 47.12345)          (ample: -120.12345)	wn <u>2414</u> Range <u>4</u>	E
Driller	🗆 Trainee 🗆 Engineer	the B it		(WGS 84 Coordinate S		
Name (Pri	nt Last, First Name) <u>Curri</u> gineer/Trainee Signatur	115, Quuid	Borehole diam	neter <u>6</u> inches Casin	g diameter ir	ches
License N	o <u>3284</u>	Ja	Static water le	vel ft below top of	f casing Date	
Company	Name <u>Ho/F</u>			and completion with bollar		
	oox is checked, sponsor's lice	ense number:		of top of well casing		
1	signature					
· · · ·		۵۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰		anning an any segmentation in a second se	the second	
	Construction/Design	Wel		Rautatitan D	Description	
. 1		1	Data	romanon E		
		MONUMENT TYPE:		Formation is		
		MONUMENT TYPE:				
		MONUMENT TYPE:	CE SEAL	<u>c</u>	-	
· · · · · ·		MONUMENT TYPE:	CE SEAL	<u> </u>	-	
		CONCRETE SURFA	CE SEAL	<u>c</u> <u>f</u> onjiation i.	- -	
		MONUMENT TYPE:	CE SEAL	<u>0 - ft.</u>	- -	
		CONCRETE SURFA	CE SEAL	<u>0 - ft.</u>	- -	
			CE SEAL	<u>0 - ft.</u>	- -	
			CE SEAL	<u>0 - ft.</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA	CE SEAL	<u>0 - ft.</u>	- -	
			CE SEAL	<u>0 ft.</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: Benden C,	CE SEAL	<u>0 ft.</u>	- -	
			CE SEAL	<u>0 ft.</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: Benden C,	CE SEAL	<u>0 ft.</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL TYPE: Benden C.	CE SEAL	<u>0 ft.</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: Benden C. PVC SOREEN SLOT SIZE: TYPE:	CE SEAL t	<u>0</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>0</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: Benden C. PVC SOREEN SLOT SIZE: TYPE:	CE SEAL t	<u>0</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>0                                    </u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>0</u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>0                                    </u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>0                                    </u>	- -	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>o                                    </u>	-	
		MONUMENT TYPE: CONCRETE SURFA 2 f PVC BLANK BACKFILL 2 TYPE: PVC SCREEN C.	CE SEAL t	<u>o                                    </u>	-	



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Resource Protection We         Submit one well report per well installed. Se         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI N         Becology Well ID Tag No.         Site Well Name         MW - 26 13         Consulting Firm         Consulting Firm         Was a variance approved for this well/be         If yes, what was the variance for?	e page two for instructions,	Type of Wel Resource Remedia Geotech Environ Soll Property Ow Well Street A City Vall Tax Parcel N Location (set SE 4-44, Latitude (Ex Longitude (F	ent No. <u>AE666763</u> l: e Protection Well Injection Point ation Well Ground Source Heat Pump mental Boring Other ner <u>Water-sampling</u> mer <u>Water-sampling</u> <u>County Karg</u> No e instructions): WWM or EWM <u>SIE</u> 1/4, Section <u>33</u> Town <u>2444</u> Range <u>446</u> ample: 47.12345) <u>(WGS 84 Coordinate System)</u> meter <u>6</u> inches Casing diameter inches
			level ft below top of casing Date
License No. <u>3284</u> Company Name <u>Ho17</u>			ound completion with bollards
If trainee box is checked, sponsor's licer	the second se	Stick-up	o of top of well casing ft above ground surface
Sponsor's signature		Start Date	1 24,2021 Completed Date May 24, 2021
Construction/Design		Data	Formation Description
	CONCRETE SURFA	CE SEAL	<u>0                                    </u>
	BACKFILL <u>2</u> TYPE: <u>Beintom</u> Ci PVC SCREEN <u>SLOT SIZE</u>	0 tt. 14e hips	- <u>-tt.</u>
	TYPE: GRAVEL PACK MATERIAL:	ft.	<u>tt.</u>
	WELL DEPTH 20	, <u>n</u>	REMARKS Chip in place



State of Washington						
<b>Resource Protection We</b>	-	Notice of Intent N	lo			
Submit one well report per well installed. Se	e page two for instructions.	Type of Well:				
Type of Work:		Resource Protection Well    Injection Point      Remediation Well    Grounding Well				
	T					
$\Box$ Decommission $\Longrightarrow$ Original NOI N			Soil Boring Ground Source Heat Pump			
Ecology Well ID Tag No.						
Site Well Name						
Consulting Firm						
Was a variance approved for this well/be	•		255			
If yes, what was the variance for?		City	County			
		Tax Parcel No.				
		Location (see inst	ructions): $WWM \square \text{ or } EWM \square$			
WELL CONSTRUCTION CERTIFICA		<u> </u>	<sup>1</sup> /4, Section Town Range			
accept responsibility for construction of this well, Washington well construction standards. Material		Latitude (Example: 47.12345) Longitude (Example: -120.12345)				
reported are true to my best knowledge and belief.						
🗆 Driller 🗆 Trainee 🗆 Engineer			(WGS 84 Coordinate System)			
Name (Print Last, First Name)			r inches Casing diameter inches			
Driller/Engineer/Trainee Signature						
License No.		Static water level	ft below top of casing Date			
Company Name		□ Above-ground	completion with bollards			
If trainee box is checked, sponsor's licer	nse number:	Stick-up of to	pp of well casing ft above ground surface			
Sponsor's signature			Completed Date			
Construction/Design	Well Da	ita	Formation Description			
	Concrete Surface Seal					
	Depth	FT	FT			
	Blank Casing (dia x dep)					
	Material					
	Backfill	FT				
	-					
	Туре		FT			
	Seal	FT				
	Gravel Pack	FT				
-	Material					
	Screen (dia x dep)		FT			

 Total Hole Depth
 FT

 ECY050-12 (07/2018) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources

 Program 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Slot Size

Material

Well Depth FT

Backfill

Material

**Space Reserved** 

for Ecology Stamp

of Receipt

Reso	State of Washington Surce Protection We		Notice of Int	ent No. AE66763	
	ne well report per well installed. Se	e page two for instructions,	Type of Wel		· ·
Type of				e Protection Well 🔲 Injection	
	nstruction commission ⇔ Original NOI N	Io		ation Well Groundin Inical Soil Boring Ground (	
				mental Boring Other_	Source Heat Pump
Site We	Well ID Tag No Il Name MU - 31A			- I Vapor- I Water	
	ing Firm Furnlon	*****	Property Ow	mer Centerpomt	80 Malaline
	ariance approved for this well/b	oring? 🗆 Yes 🗆 No	Well Street A	Address 8801 E RV	Vanal Nav
If yes, v	vhat was the variance for?	ىرىنى بىرىن مىسىنىنىنى ئىنى بىرىن مىسىنىنىنى ئىن ئىن ئىن ئىن ئىن يى يىنى بىرىن بىرىن بىرىن بىرىن بىرىن بىرىن بىر	CityII	AJAG County king	
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	·		Location (se	e instructions): V	
WELL	CONSTRUCTION CERTIFICA	TION: I constructed and/or		<u>SE</u> 4, Section <u>33</u> Town	
accept res Washingt	ponsibility for construction of this well, on well construction standards. Material	and its compliance with all		ample: 47.12345)	
reported a	re true to my best knowledge and belief.	s used and the information		Example: -120,12345)	
🔉 Drille	er 🗆 Trainee 🗆 Engineer			(WGS 84 Coordinate Syste	
Name (I	Print Last, First Name) <u>Curt</u>	is, Quuid	Borehole dia	ameter <u>6</u> inches Casing di	
Driller/I	Engineer/Trainee Signatur				
	No. <u>3284</u>			level ft below top of cas	
	y Name <u>Ho H</u>		_	ound completion with bollards	
	e box is checked, sponsor's licer	ise number:	Stick-up	of top of well casing ft a	bove ground surface
Sponsor	's signature		Start Date	May 24,2021 Completed Date	May 24,2021
• •	Construction/Design	\Ve!	Data	Formation Descr	
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		MONUMENT TYPE:			1
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Resource Protection Wel Submit one well report per well installed. See		Notice of Inten Type of Well:	tNo. AE6676.	3
Type of Work:			Protection Well [] Inject	tion Point
☐ Construction ☑ Decommission ⇒ Original NOI No		Remediatio	on Well 🗍 Grou	nding Well
*		Geotechnic		nd Source Heat Pump
Ecology Well ID Tag No Site Well Name <u>MW-32A</u>		G⇒ □ Soil- □	] Vanor- □ Water-sampli	ng
Consulting Firm Faralon		Property Owne	(2000001)	11-770) Marca
Was a variance approved for this well/bo	ring? 🗆 Yes 🗆 No	Well Street Add	Vapor- T Water-sampli r_ OENHONPUIV dress 301 E	ginginanys.
If yes, what was the variance for?		City <b>LINK</b> Tax Parcel No.	County K	rý
		Location (see in	nstructions):	WWM 🗆 or EWM 🗖
WELL CONSTRUCTION CERTIFICAT	TON: I constructed and/or		Z 4, Section <u>33</u> Tow	
accept responsibility for construction of this well, a Washington well construction standards. Materials	nd its compliance with all used and the information		ple: 47.12345)	-
eported are true to my best knowledge and belief.			ample: -120.12345)	
Driller 🗆 Trainee 🗆 Engineer	e B. I.		(WGS 84 Coordinate S	
Name (Print Last, First Name) Court. Driller/Engineer/Trainee Signatur	S, Quina	Borehole diame	eter <u>6</u> inches Casing	g diameter inches
License No.3284		Static water lev	el ft below top of	casing Date
Company Name Holt		🗖 Aboye-grou	nd completion with bollar	ds 🖸 Flush monument
If trainee box is checked, sponsor's licen	se number:	Stick-up of	f top of well casing	ft above ground surface
Sponsor's signature	الم		24,2021 Completed I	
Construction/Design		l Data	an and a second s	
Construction Dealgn			Formation D	escription
	MONUMENT TYPE:			( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )
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State nor well end of the well horized of the instructions       Type of Well:       Type of Well         Construction       Construction       Groundlag Well         Decompty Well TD Tay No.       Groundlag Well       Groundlag Well         Stee Well Name       Stee Well Name       Groundlag Well         Was a variance approved for this well/boring?       Yes a variance for?       Type of Well         Well Xame       Groundlag Well       Stee Vell         West Accomptone to prove the variance for?       Type of Well         West Accomptone to prove the variance for?       Type of Well         Well Xame       Construction of this well/boring?       Yes of Well         West Accomptone to prove the variance for?       Type of Well       Construction of this well were to prove the variance for?         Well Accomptone to prove the variance for?       Type of Well       Construction of this well were to prove the variance for?         Well Data       Construction of this well were to prove the top of the of this well were top of the of	<b>Resource Protection Wel</b>	I Report	Notice of Inte	nt No. AE66763	
Construction Cons		page two for instructions,			
Boccontristion to Train to Criginal NOI No      Boccontristion to Train to Criginal NOI No      Boccontristical Sol Boring Construction to Solo Marco Heat Pump     Boring Consulting Firm Caracteria and characteria Construction Co			Resource	Protection Well [] Injection Point	
Boology Well ID Top No.       Boology Well ID Top No.         Site Well Name MM - 3380       Site Well Name MM - 3380         Consulting Firm Cachea       Site Well Name MM - 3380         Was a variance approved for this well/borlog?       Yes a No.         If yes, what was the variance for?       Well Street Address:         WELL CONSTRUCTION CERTFICATION: I contracted adder scatter reportability be connection of the well and in exemptions which all weaking and bield?       Well Street Address:         Washingtow of traine = Dagines:       Name (Difference)       WWM = or BWM.         Dorller: Traine = Dagines:       Name (Print Last, First Name)       Construction address:       Longitude (Example: -1.0.12345)         Longitude (Sample: -1.0.12345)       Longitude (Example: -1.0.12345)       Longitude (Example: -1.0.12345)         Longitude (Sample: -1.0.12345)       Borehold functions:       Mittee of the boold age and bield?         If traines Dagines:       Inches       Static water level					
Site Well Name       MW - 3.38         Consulting Time       Section         Weil a variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well/boring?       Veil Store Address         Weil A variance approved for this well address and for the formation expender are not fixed to the information expender are not the boring and the information expender are not address and bield.       Development with a different expender and the information expender are not address and bield.         BADFUEL CONSTRUCTION CERTIFICATION:       Instender and the information expender and the information expender are not address and bield.       Development and the information expender an	-			nical Soil Boring [] Ground Source I	Heat Pump
Consulting Film Carchon Was a variance approved for this well/boring? □ Yes □No Hyse, what was the variance for?  WELL CONSTRUCTION CERTIFICATION: I constructed adver accept reproved ato not on y fort knowledge and beind Restrict atoms of the well, and its confilmer with all twistegies with constructed adver accept reproved atoms on y fort knowledge and beind Driller/Engineeu/Trainee Disginate Company Name (M/I)  Construction (SE S 4 Coordinate System) Borehold dameter	Site Well Name $MW = 32A$				
We availance approved for this well/boring?       If Yes, what was the variance for?       Well Street Address 255 Second With County & Menton 1 Nerve City (Micro 1 Nerve City (	Computing Firm F. a. la a	1. 1. 1. 1. 1	Property Own	PHAPMITINA STA	N NAVANO A
If yes, what was the variance for?  WELL CONSTRUCTION CERTIFICATION: Losseneted and/or WELL CONSTRUCTION CERTIFICATION: Losseneted and/or Washington well construction and/orb. Marriella the acompliance will and the acompliance and belief. BDDiller ID Traince ID Engineer Mane (Print Last, First Name) Curit's			Wall Street A	diana 3801 EL Marana	1 No road Car
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accept sepondbilly of construction advances, Marchan and the information reported at the to my beat how/dage and belof.       BACHEL = 120.12345)         Longitude (Example: 47.12345)       Longitude (Example: 47.12345)         Driller Claining					
Washington well onistruction stunderts. Materials used and the information period as the only best knowledge and belief.       Latitude (Example: 47.12345)         BD-Hiller D Trainee IE Angineer       Longitude (Example: 47.12345)       Longitude (Example: 47.12345)         Name (Print Last, First Name)       Contraction (Contraction)       Direction (Contraction)         License No. 32.8 - H       Company Name (Mill:       Direction)       Direction (Contraction)         If trainee too is objected, sponsor's ilecanse number;       Static water levelf telow top of casing Date         Sponsor's signature       Static water levelf telow top of casing Date         Construction/Design       Well Data       Forthation Description         Vel Data       Forthation Description       Static water level			<u>SE 1/4-1/4 S</u>	12 14, Section 33 Town 2414 R	lange $\underline{4E}$
reported as the or by bet knowledge and belief. BADriller [] Trainee E Engineer License No. <u>S228 4</u> Company Name [][[][][][][][][]][][]][][]][][]][][]					-
BD-Hiller D Trainee D Engineer       (HGS 84 Coordinate System)         Name (Print Last, First Name)       Buse his signature         License No. 52/844       Borehole diameter inches         Company Name (Bolt)       Borehole diameter inches         Company Name (Bolt)       Borehole diameter inches         If trainee box is chocked, sponsor's license number:       Borehole diameter inches         Sponsor's signature       Stick-up of top of well casing tabove ground surface         Static water level the bolt word of casing Date       Borehole diameter inches         Construction/Design       Well bata       Flush monument         Construction/Design       Well bata       Formation Description         Construction/Design       Well bata       Formation Description         If the sponsor's signature       O					
Name (Print Last, First Name) Liter 175 , Uter 144 Driller/Bngineer/Trainee SignaturBorehole diameter / inches Casing diameter inches Static water level ft below top of casing Date Company Name ////// Above-ground completion with bollards Flush monument Static water level ft above ground surface Start Date // 22/2021 Completed Date/May 24/2021 Construction/Design Well Data Romanian // 24/2021 Construction/Design // 24/2021 Construction/Desig	☎Driller 🗆 Trainee 🗆 Engineer	<b>0</b>			######################################
License No. 5284 Company Name //// I below top of casing Date // Below top of casing	Name (Print Last, First Name)	's, Quuid	Dorohata dia		last
License No. 5284 Company Name <u>Hol/H</u> If trainee box is obceked, sponsor's license number: Stick-up of top of well casing ft above ground surface Start Date <u>Hoy 24, 2621</u> Completed Date <u>May 24, 2621</u> Construction/Design Well Data Formation Description Well Data Formation Description MONUMENT TYPE: OONCRETE SURFACE SEAL 2 ft	Driller/Engineer/Trainee Signatur	2e			
If trainee box is elecked, sponsor's license number:       Stick-up of top of well casingft above ground surface         Start Date May 24 2021       Construction/Description         Construction/Description       Well Data         Romain Construction       Romain Construction Description         If trainee box is elecked, sponsor's signature       Stick-up of top of well casingft above ground surface         Construction/Description       Well Data         Romain Construction       Romain Construction Description         If the construction Description       If the construction Description	License No. 3284		Static water le	evel ft below top of casing Da	te
If trainee box is elecked, sponsor's license number:       Stick-up of top of well casingft above ground surface         Start Date May 24 2021       Construction/Description         Construction/Description       Well Data         Romain Construction       Romain Construction Description         If trainee box is elecked, sponsor's signature       Stick-up of top of well casingft above ground surface         Construction/Description       Well Data         Romain Construction       Romain Construction Description         If the construction Description       If the construction Description	Company Name Holt		🗆 Above-gro	und completion with bollards 🛛 🗂 Flus	h monument
Sponsor's signature     Start Date May 24 2021       Construction/Dasign     Weil Data       Rodnation Description       MONUMENT TYPE:       OONCRETE SURFACE SEAL       2 ft.       PVO BLANK       TYPE:       BACKFIL       20 ft.       TYPE:       BACKFIL       20 ft.       TYPE:       BACKFIL       20 ft.       TYPE:       BACKFIL       Chipso       ft.       BACKFIL       PVC SOREEN       SLOT SIZE:       TYPE:       GRAVEL PACK       MATERIAL:       PEMARKS       Chip on planx		se number:	Stick-up	of top of well casing ft above m	ound surface
Construction/Design     Well Data     Portulation Description       MONUMENT TYPE:     O     ft.       CONCRETE BURFACE BEAL     O     ft.       PVC BLANK     T.     ft.       BACKFIL     20     ft.       FVC BLANK     Tripe: Bechenite     ft.       BACKFIL     20     ft.       FVC SCREEN     SLOT SIZE:     Tripe:       TYPE:     ft.     ft.       GRAVEL PACK     ft.       MATERIAL:     ft.					
MONUMENT TYPE: OONCRETE SURFACE GEAL 2 t PVC BLANK <u>x</u> BACKFILL <u>20</u> ft. TYPE: <u>Bundonth</u> Chips <u>t</u> . ft. <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u>ft.</u> <u></u>	۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰۰ ۲۰۰		in property and the second sec	and we have a second	<u> </u>
CONCRETE SURFACE SEAL 2 tr PVC BLANK X BACKFIL 20 ft. TYPE: Bendonite Chip3 ft. PVC SCREEN X SLOT SIZE: TYPE:	Construction/Design	Weil	Data	Formation Description	
CONCRETE SURFACE SEAL 2 tr PVC BLANK X BACKFIL 20 ft. TYPE: Bendonite Chip3 ft. PVC SCREEN X SLOT SIZE: TYPE:		MON MENT TYPE		·	
CONCRETE SURFACE SEAL  CONCRETE SURFACE SEAL  C  C  C  C  C  C  C  C  C  C  C  C  C		A A A A A A A A A A A A A A A A A A A			
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PVO BLANK			1		
PVC BLANK		ζ π			
BACKFILL <u>20</u> ft. TYPE: <u>Bendonite</u> Chips <u>ft.</u> PVC SOREEN <u>s</u> SLOT SIZE: TYPE: <u>tt.</u> GRAVEL PACK <u>ft.</u> MATERIAL: <u>tt.</u> <u>FEMARKS</u> <u>Chip in place</u>		-	·······	<u>ft.</u>	
TYPE: Berdon/te Chips		PVC BLANK			ļ
TYPE: Berdonite Chips		•		•	4
TYPE: Berdonite Chips	$+$ $\square$ $\square$ $ $	7	A 4		
Chips					1 1.
PVC SCREEN SLOT SIZE: TYPE: TYPE: GRAVEL PACK <u>ft</u> . MATERIAL: <u>Tt</u> . <u>Tt</u> .					
PVC SCREEN			nips	<u> </u>	i i
PVC SCREEN					3
SLOT SIZE: TYPE: GRAVEL PACK <u>ft</u> . MATERIAL: <u>Tt.</u> <u>Tt.</u> <u>Tt.</u> <u>Tt.</u> <u>Tt.</u> <u>Tt.</u>		·			
TYPE:		PVC SCREEN			
TYPE:		SLOT SIZE:	Ă		l l
GRAVEL PACK <u>ft.</u> MATERIAL: <u><u>t.</u> <u>T.</u> <u>T.</u> <u>T.</u> <u>T.</u> <u>T.</u> <u>T.</u> <u>T.</u> <u>T</u></u>		TYPE:		<u> </u>	
MATERIAL:					
REMARKS Chip in place		GRAVEL PACK	ft.		
REMARKS Chip in place		MATERIAL	1		
REMARKS Chip in place					1
REMARKS Chip in place		•		tt.	8 1 3
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Chip in place				New .	
Chip in place				REMARKS	
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WELL DEPTH 20 "				unp in prace	
WELL DEPTH 20 , "					
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8	-			za k la se da mana ka mana ka mana ka mana nya mangkapitika manan ya manana ka mangka nanya mana mang	



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Type of Work: Construction Construction Consulting Firm $F_{ara}(bn)$ Was a variance approved for the	nal NOI No	Type of We Resour Remed Geotec Environ Property Ov Well Street Tax Parcel	ce Protection Well Injection Point iation Well Grounding We hnlcal Soil Boring Other amental Boring Other II- Vapor- Water-sampling wner, CATHY DINA 380 Address County King No.	Heat Pump
accept responsibility for construction of Washington well construction standard reported are true to my best knowledge DED Tiller Trainee Engineen Name (Print Last, First Name) Driller/Engineer/Trainee Signa License No. 32844 Company Name 1014 If trainee box is checked, spons	er Curtis, Busid	<u>SE</u> ¼-¼ Latitude (E: Longitude ( Borehole di Static water □ Above-gn Stick-u	ee instructions): WWM <u>SE</u> ¼, Section <u>33</u> Town <u>2444</u> (wample: 47.12345) Example: -120.12345) (WGS 84 Coordinate System) ameter inches Casing diameter level ft below top of casing D round completion with bollards □ Flup p of top of well casing ft above g May <u>24</u> , <u>2024</u> Completed Date May	Range
Construction/Desi	BIN W MONUMENT TYP CONCRETE SURJ Z PVC BLANK BACKFILL TYPE: Bende	ell Data E: FACE SEAL ft. 20 ft. mite chips x tt.	Portmátion Description          0       -       ft.        ft.      ft.	



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	and a design of the state of th	Intent No. <u>AE66763</u>
Submit one well report per well installed. See p Type of Work: ☐ Construction ☑ Decommission ⇔ Original NOI No.	☐ Resc ☐ Resc ☐ Rem ☐ Geo	Well: purce Protection Well [] Injection Point ediation Well [] Grounding Well technical Soil Boring [] Ground Source Heat Pump
Ecology Weil ID Tag No Site Weil Name		ronmental Boring Other
Site Well Name MW-38A	\Q	Soil- Kanor- Water-sampling
Consulting Firm Faralon	Property	Owner (ANITY PUNIT 8.30) MORONN
Was a variance approved for this well/boring	ng? 🗆 Yes 🗆 No 🛛 Well Stre	tet Address 8301 F. Marginal Way 5
If yes, what was the variance for?	City <b>IV</b>	El No
WELL CONSTRUCTION CERTIFICATI accept responsibility for construction of this well, and Washington well construction standards. Materials us reported are true to my best knowledge and belief. &Driller  Traince  Engineer	ON: I constructed and/or I its compliance with all sed and the information Latitude Longitud	(see instructions): WWM □ or EWM □ -¼ <u>SE</u> ¼, Section <u>33</u> Town <u>2444</u> Range <u>4</u> (Example: 47.12345) e (Example: -120.12345) (WGS 84 Coordinate System)
Name (Print Last, First Name) Luitis	, Bunich	
Name (Print Last, First Name) Guettis Driller/Engineer/Trainee Signatur	Borehole	diameter <u>6</u> inches Casing diameter inches
License No.3284	Static wa	ter level ft below top of casing Date
Company Name Holt	Above	-ground completion with bollards 🛛 🗖 Flush monument
If trainee box is checked, sponsor's license	number: Sticl	c-up of top of well casing ft above ground surface
Sponsor's signature	Start Dat	e May 24, 2021 Completed Date May 24, 2021
Construction/Design	Well Data	Formation Description
	MONUMENT TYPE:	
	CONCRETE SURFACE SEAL	· <u>0 · - tt.</u>
	<u>2</u> tt.	
	No. Constant	
	PVC BLANK	ft
	,	
$+$ $\otimes$ $\otimes$ $ $	BACKFILL 20 ft.	
	$D^{1}$	
	TYPE: Bentonite	
	TYPE: Bentonite Chips	- <u>t.</u>
		t.
		- <u>- tt.</u>
	Chips	- <u>t.</u>
	PVC SCREEN XX	- <u>t</u> .
	PVC SCREEN	- <u>t</u>
	PVC SCREEN XX SLOT SIZE:	- <u>tt.</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>t</u>
	PVC SCREEN XX SLOT SIZE:	- <u>t</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>tt.</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>+t.</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>- </u> <u>+t.</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>- </u> <u>+t.</u>
	PVC SCREEN XX SLOT SIZE: TYPE: GRAVEL PACK	- <u>- </u> <u>+t.</u>



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Site Well Name MW-39 A Consulting Firm Farebon Was a variance approved for this well/borin If yes, what was the variance for? WELL CONSTRUCTION CERTIFICATIO accept responsibility for construction of this well, and I Washington well construction standards. Materials use reported are true to my best knowledge and belief. DEDriller 🗆 Trainee 🗆 Engineer Name (Print Last, First Name) Lut tis Driller/Engineer/Trainee Signatur	ge two for instructions,	Notice of Intent No. <u>AE666763</u> Type of Well: Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Other Environmental Boring Other Soil- Vapor- Water-sampling Property Owner, <u>Ventopool XBOI NONG</u> Well Street Address <b>BOI F. MARGINE NEW</b> Well Street Address <b>BOI F. MARGINE NEW</b> City <b>TV-AUIC</b> County <b>K</b> -M City <b>TV-AUIC</b> County <b>K</b> -M
License No. <u>3284</u> Company Name <u>Ha</u> /H	5	Static water level ft below top of casing Date Above-ground completion with bollards
If trainee box is checked, sponsor's license i		Stick-up of top of well casing ft above ground surface
Sponsor's signature	] s	Start Date May 24, 2021 Completed Date May 24, 2021
Construction/Design	Well Da	
	MONUMENT TYPE: CONCRETE SURFACE S <u> </u>	SEAL
	- BACKFILL <u>20</u> TYPE: <u>Bentonite</u> Chip PVC SCREEN <u>X</u> SLOT SIZE: TYPE:	- <u>tt.</u>
	- GRAVEL PACK MATERIAL:	tt. <u>π</u> <u>π</u> <u>π</u> <u>π</u> <u>π</u> <u>π</u> <u>π</u> <u>π</u>



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Submit one well report per well installed. See p Type of Work: Construction Decommission $\Longrightarrow$ Original NOI NO. Ecology Well ID Tag No. Site Well Name $MM - 40A$ Consulting Firm Faxalon Was a variance approved for this well/bori If yes, what was the variance for?	ng? 🗆 Yes 🗖 No	Notice of Intent No. <u>AE666763</u> Type of Well: Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pump Environmental Boring Other Soil- Vapor- Water-sampling Property Owner CONCOMPAND MARK Well Street Address SOL E- MARGINAL MARK City PAKEN County Kmg Tax Parcel No. Location (see instructions): WWM or EWM D	-	
WELL CONSTRUCTION CERTIFICATI accept responsibility for construction of this well, and Washington well construction standards. Materials u reported are true to my best knowledge and belief. Driller  Trainee  Engineer	t its compliance with all sed and the information	<u>SE</u> 4-4 <u>SE</u> 4, Section <u>33</u> Town <u>2444</u> Range <u>4E</u> Latitude (Example: 47.12345) Longitude (Example: -120.12345)		
Name (Print Last, First Name) <u>Guitis</u> Driller/Engineer/Trainee Signatur License No. <u>3284</u>	s, Buu:'d	(WGS 84 Coordinate System) Borehole diameter <u>6</u> inches Casing diameter inches Static water level ft below top of casing Date □ Above-ground completion with bollards □ Flush monument		
Company Name <u>Holt</u> If trainee box is checked, sponsor's license Sponsor's signature		Stick-up of top of well casing ft above ground surface Start Date <u>May 24,2021</u> Completed Date <u>May 24, 2021</u>		
Construction/Design	Well	Il Data Formation Description	<del>,</del>	
	MONUMENT TYPE: CONCRETE SURFAC 2 ft PVC BLANK BACKFILL 2 TYPE: Scinton CI PVC SCREEN N SLOT SIZE: TYPE: GRAVEL PACK MATERIAL:	$\frac{O - ft}{ft}$		

	DEPARTMENT OF ECOLOGY State of Washington						
	Resource Protection Well		Notice of Intent No. <u>AE66763</u> Type of Well:				
	Submit one well report per well installed. See	page two for instructions,					
	Type of Work:	Type of Work; ☐ Construction ⊠ Decommission ⇔ Original NOI No		e Protection Well [] Injection Point			
				Remediation Well Grounding Well			
	Ecology Well ID Tag No Site Well Name $MW - 4018$ Consulting Firm Faraba			Geotechnical Soil Boring     Ground Source Heat Pump     Environmental Boring     Other			
	Was a variance approved for this well/bor		Property Owner COMPADINE 380 MARINE Well Street Address 380 E-Margues Well				
	If yes, what was the variance for?	-		<u>[ ] w w</u> ] 6-			
. •	II yes, what was the variance for						
	-			ło			
		·			or EWM 🗖		
	WELL CONSTRUCTION CERTIFICAT accept responsibility for construction of this well, ar		<u>SE 1/4-1/4</u>	5/E ¼, Section <u>33</u> Town <u>2414</u> Ra	nge $\frac{4E}{2}$		
	Washington well construction standards. Materials		Latitude (Ex	ample: 47.12345)			
	reported are true to my best knowledge and belief,		Longitude (I	Example: -120.12345)			
	SkDriller □ Trainee □ Engineer	BI		(WGS 84 Coordinate System)			
	Name (Print Last, First Name) Court i Driller/Bngineer/Trainee Signatur	S, Wanid	Borehole dia	ameter <u>6</u> inches Casing diameter	inches		
	Driller/Engineer/Trainee Signatur			level ft below top of casing Date			
	License No. 3284 Company Name Holf			ound completion with bollards $\Box$ Flush			
			-	-			
	If trainee box is checked, sponsor's licens	e number:		of top of well casing ft above gro			
	Sponsor's signature		] Start Date	May 24,2021 Completed Date May 2	24,2021		
	Construction/Design	\Ve	l Data	Formation Description			
				1,01/10100112/03011/101			
,		MONUMENT TYPE:					
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		CONCRETE SURFA	CE SEAL	<u>o                                     </u>			
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		BACKFILL 2	0 ft.				
		TYPE: <u>Benton</u> C.	ite		Г. 		
		C.	hips	ft			
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		PVC SCREEN	×				
		SLOT SIZE:	$X \mid$				
		TYPE:		- ft.			
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		GRAVEL PACK	ft.				
		MATERIAL:	۲		_ <u>_</u>		
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		WELL DEPTH 24	1 11				
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Submit one well report per well installed.	See page two for instructions,	Type of Well:
Type of Work:		Resource Protection Well     Grounding Well     Grounding Well
Decommission ⇒ Original NOI No      Ecology Well ID Tag No      Site Well Name MW - 4/A		Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pum
		Environmental Boring Other
Site Well Name $\frac{N(N - 4/14)}{Consulting Firm Faraban}$		Property Owner CONTONON 3301 M
Was a variance approved for this well/	boring? TVan TNo	Well Street Addres SON E. MARLINAL W
If yes, what was the variance for?		Cit Wish Ma County King
		Tax Parcel No.
	· .	Location (see instructions): WWM
WELL CONSTRUCTION CERTIFIC		SE 14-14 SE 14, Section 33 Town 2414 Range 41
accept responsibility for construction of this well Washington well construction standards. Mater	als used and the information	Latitude (Example: 47.12345)
reported are true to my best knowledge and bein Driller  Trainee  Engineer		Longitude (Example: -120,12345)
Name (Print Last, First Name)	tis, Quaid	(WGS 84 Coordinate System)
Driller/Engineer/Trainee Signatur	200	Borehole diameter <u>6</u> inches Casing diameter <u>inc</u> inc
License No. 3284		Static water level ft below top of casing Date
Company Name Holt		□ Above-ground completion with bollards □ Flush monum
If trainee box is checked, sponsor's lic	ense number:	Stick-up of top of well casing ft above ground sur
Sponsor's signature		Start Date May 24,2021 Completed Date May 24,20
Construction/Design	Wel	Data Formation Description
	MONUMENT TYPE:	
	CONCRETE SURFA	CE SEAL
	<u> </u>	
	PVC BLANK	<u>ft.</u>
	PVC BLANK	
	BACKFILL 2 TYPE: Benden	
	BACKFILL 2 TYPE: Benden	<u>o ft.</u>
	PVC BLANK BACKFILL TYPE: <u>Bendon</u> CI	<u>o ft.</u>
	PVC BLANK BACKFILL TYPE: <u>Bendom</u> CI	<u>o ft.</u>
	PVC BLANK BACKFILL TYPE: Benton CI PVC SCREEN SLOT SIZE:	<u>o ft.</u>
	PVC BLANK BACKFILL TYPE: <u>Bendom</u> CI	$\frac{0 \text{ ft.}}{1/2}$
	PVC BLANK BACKFILL TYPE: Benton CI PVC SCREEN SLOT SIZE:	$\frac{0 \text{ ft.}}{1/2}$
	PVC BLANK BACKFILL TYPE: Benden CI PVC SCREEN SLOT SIZE: TYPE:	$\frac{0 \text{ ft.}}{1/2}$
	PVC BLANK BACKFILL TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK	$\frac{ft}{t} = \frac{ft}{t}$
	PVC BLANK BACKFILL TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK	$\frac{0 \text{ ft.}}{1/2}$
	PVC BLANK BACKFILL TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK	$\frac{ft}{t} = \frac{ft}{t}$
	PVC BLANK BACKFILL TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK	$\frac{ft}{t} = \frac{ft}{t}$
	PVC BLANK BACKFILL TYPE: Bendon CI PVC SCREEN SLOT SIZE: TYPE: GRAVEL PACK	$\frac{ft}{t}$



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Resource Protection We Submit one well report per well installed. Se			ent No. AE66763
Submit one well report per well installed. See Type of Work: Construction Decommission $\implies$ Original NOI N Ecology Well ID Tag No. Site Well Name $MW - 42M$	Io	Remedia	e Protection Well Injection Point tion Well Grounding Well nical Soil Boring Ground Source Heat Pump nental Boring Öther
			her Antor PDNH 380 MAR
Consulting Firm Faraba	1		
Was a variance approved for this well/bo	-	Well Street A	Address 201 E. MAYOMAN WAYS
If yes, what was the variance for?		City City	O County king
		Location (see	instructions): WWM 🗆 or EWM 🗔
WELL CONSTRUCTION CERTIFICA			5/2 14, Section 33 Town 2411 Range 4/E
accept responsibility for construction of this well, a Washington well construction standards. Material			ample: 47.12345)
reported are true to my best knowledge and belief.			xample: -120.12345)
🕱 Driller 🗆 Trainee 🗆 Engineer		Longitude (E	
Name (Print Last, First Name) Level	is, Bunid		(WGS 84 Coordinate System)
Driller/Engineer/Trainee Signatur	-		meter 6 inches Casing diameter inches
License No. 3284		Static water l	evel ft below top of casing Date
Company Name Holf	ann an Anna an	🗆 Aboye-gro	und completion with bollards 🛛 Flush monument
If trainee box is checked, sponsor's licer	ise plimber		of top of well casing ft above ground surface
Sponsof's signature			
		Start Date	ay 24,2021 Completed Date/May 24, 2021
Construction/Design		Data	Formation Description
			<u>ott.</u>
	TYPE: Bendoni	0 tt. te hips	t.
	PVC SCREEN	X	
	SLOT SIZE:	$X \perp$	
			<del>.</del> tt
	TYPE:		<u></u>
	GRAVEL PACK	ft.	
	7		
	MATERIAL:		
			· 1
			<u> </u>
			Chip in phace
	WELL DEPTH 20	1 16	



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Submit one well report per well installed. See Type of Work: ☐ Construction ☑ Decommission ⇒ Original NOI No Ecology Well ID Tag No. Site Well Name <u>MW - 43/A</u> Consulting Firm <u>Fare for</u> Was a variance approved for this well/bor If yes, what was the variance for?	Construction Decommission ⇒ Original NOI No Ecology Well ID Tag No Site Well Name M - 4/3/A Consulting Firm Faraban Was a variance approved for this well/boring? □ Yes □ No If yes, what was the variance for? WBLL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all		tent No. <u>AE66763</u> l: be Protection Well Injection Point ation Well Grounding Well mical Soil Boring Ground Source Heat Pump umental Boring Other l- Vapor- Water-sampling wher, <u>COMPACONAL SOLVANGE</u> Address SSO SOLVANGE Address SSO SOLVANGE County King No e instructions): WWM or EWM D
<ul> <li>WELL CONSTRUCTION CERTIFICAT</li> <li>accept responsibility for construction of this well, and</li> <li>Washington well construction standards. Materials reported are true to my best knowledge and belief.</li> <li>Driller □ Trainee □ Engineer</li> <li>Name (Print Last, First Name)</li></ul>	d its compliance with all used and the information	Latitude (E× Longitude () Borehole dia Static water Above-gr Stick-up	SE       14, Section 33       Town 2444       Range 4/E         tample: 47.12345)
		Data	Formation Description
	MONUMENT TYPE: CONCRETE SURFAC Z ft PVC BLANK BACKFILL TYPE: Benden	CE SEAL ***	Pormation Description



#### **Resource Protection Well Report**

<b>Resource Protection W</b>	ell Report	Notice of Intent N	o. AE77221		
Submit one well report per well installed.	See page two for instructions.	Type of Well:			
Type of Work:		• •	tection Well 🔲 Injection Point		
Construction	N. RF06247	Remediation			
■ Decommission ⇒ Original NOI	No		Soil Boring Ground Source H	1	
Ecology Well ID Tag No. AAF-900			al Boring ☐ Other Vapor- □ Water-sampling		
Site Well Name MW-44A			CENTERPOINT 8801 MARGINAL		
Consulting Firm <u>AEC</u>		1 2			
Was a variance approved for this well/	e		8801 E MARGINAL WAY S		
If yes, what was the variance for?			County KING		
		Tax Parcel No. 54	12260-0060		
		Location (see inst	ructions): WWM □	or EWM 🔳	
WELL CONSTRUCTION CERTIFIC		<u>NW</u> 1/4-1/4 <u>SE</u>	<sup>1</sup> / <sub>4</sub> , Section <u>33</u> Town <u>24N</u> Ra	ange <u>4E</u>	
accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information		Latitude (Example	e: 47.12345)		
reported are true to my best knowledge and beli		Longitude (Exam	ple: -120.12345)		
■ Driller □ Trainee □ Engineer			(WGS 84 Coordinate System)		
Name (Print Last, First Name) Wright,			r <u>8.25</u> inches Casing diameter _	inches	
Driller/Engineer/Trainee Signature <u>Ju</u>	shn Wright	Static water level ft below top of casing Date Above-ground completion with bollards I Flush monumen Stick-up of top of well casing ft above ground surface			
License No. 3356					
Company Name Anderson Environmen					
If trainee box is checked, sponsor's lic	ense number:				
Sponsor's signature		Start Date03/0	7/2023 Completed Date 03/0	37/2023	
Construction/Design	Well Da	ata	Formation Descriptio	n	
	Concrete Surface Seal				
	Depth	FT		FT	
	Blank Casing (dia x dep)		CHIP IN PLACE		
	Material	CHIPS			
		25			
	Backfill	FT FT			
	Туре			FT	
	Seal	FT			
	Gravel Pack	FT			
	Material				
	Screen (dia x dep)			FT	
	Slot Size				
	Well Depth	15 FT			
	Backfill		Space Reserv	ed	

for Ecology Stamp of Receipt

Total Hole Depth 25 ECY050-12 (07/2018) To request ADA accommodation including materials in a format for the visually impaired, call Ecology Water Resources Program 360-407-6872. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

FT

Material



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Resource Protection We			AE66763	······	
Submit one well report per well installed. See page two for instructions, Type of Work:		Type of Well:			
Construction		Resource Protection Well     Injection Point     Remediation Well     Grounding Well			
$ \overrightarrow{\mathbb{N}} \text{ Decommission} \Longrightarrow \text{ Original NOI No.} \\  \overrightarrow{\mathbb{N}} \text{ Ecology Well ID Tag No.} \\  \overrightarrow{\mathbb{N}} \text{ Site Well Name } \overrightarrow{\mathbb{N}} \overrightarrow{\mathbb{N}} - \cancel{459} \\  \overrightarrow{\mathbb{N}} \text{ Original NOI No.} \\  \overrightarrow{\mathbb{N}} \text{ Original NO.} \\  \mathbb{N$			il Boring Ground Source H	Ieat Pumn	
		Environmental I			
		🖙 🗆 Soil- 🗆 Xar	or- □ Water-sampling		
Consulting Firm Furnlon		Property Owner	MADON 7801N 18801 E- Margir County 2003	Maina	
Was a variance approved for this well/bo	oring? 🗆 Yes 🗔 No	Well Street Address	8801 E. MANAIN	al Kinss	
If yes, what was the variance for?		City THENAH NA	County king		
			+		
		Location (see instruc	tions): WWM	or EWM 🗖	
WELL CONSTRUCTION CERTIFICA accept responsibility for construction of this well,			, Section <u>33</u> Town <u>2411</u> R	÷	
Washington well construction standards. Material	s used and the information	Latitude (Example: 4	7.12345)		
reported are true to my best knowledge and belief.		Longitude (Example	-120,12345)	an and a state of the state of	
ADriller □ Trainee □ Engineer Name (Print Last, First Name) <u>Curt</u>	ie B. I.	· · · · · · · · · · · · · · · · · · ·	GS 84 Coordinate System)		
Name (Frint Last, First Name) Ular	13, Whank	Borehole diameter	6 inches Casing diameter	inches	
Driller/Engineer/Trainee Signatur			ft below top of casing Dat		
License No. <u>3284</u>					
Company Name Holt		<b>–</b>	npletion with bollards 🗆 Flus		
If trainee box is checked, sponsor's licer			of well casing ft above gr		
and by a property of the later of the second s			2021 Completed Date May	24,2021	
Construction/Design	Well I	Data	Formation Description	······	
	MONUMENT TYPE:				
				6	
	CONCRETE SURFACE	- SCAI	<u>0 - ft.</u>		
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			<u> </u>		
	PVC BLANK	x		ſ	
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$+$ $\square$ $\square$ $ $	21	S 41	,		
	BACKFILL 20				
	TYPE: Bendenin	te		1. 1 5	
	Ch	195	- <u>ft.</u>		
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Submit one well report per well installed. See Type of Work: ☐ Construction ⊠ Decommission ⇒ Original NOI No Ecology Well ID Tag No. Site Well Name <u>MW-46A</u> Consulting Firm <u>Faradon</u>	Construction Construction Decommission $\Longrightarrow$ Original NOI No. Ecology Well ID Tag No. Site Well Name $MM - 46A$ Consulting Firm Face by Was a variance approved for this well/boring? $\Box$ Yes $\Box$ No		Address
If yes, what was the variance for?		City <b>TINK</b> Tax Parcel N	AND County king
WELL CONSTRUCTION CERTIFICAT accept responsibility for construction of this well, a Washington well construction standards. Materials reported are true to my best knowledge and belief. Driller 🗆 Trainee 🗆 Engineer Name (Print Last, First Name) Driller/Engineer/Trainee Signatur License No. 3284 Company Name Holt If trainee box is checked, sponsor's licent Sponsor's signature	nd its compliance with all used and the information	Latitude (Ex Longitude (I Borehole dia Static water Above-gr Stick-up	e instructions): WWM 🗆 or EWM 🗖 SIE 14, Section 33 Town 2444 Range 44E ample: 47.12345) Example: -120.12345) (WGS 84 Coordinate System) ameter 6 inches Casing diameter inches level ft below top of casing Date ound completion with bollards 🗆 Flush monument to of top of well casing ft above ground surface May 24,2021 Completed Date May 24, 2021
Construction/Design	Weil	Data	Formátion Description
	MONUMENT TYPE: CONCRETE SURFAC 2 ft PVC BLANK BACKFILL 2 TYPE: Backon CA PVC SCREEN N SLOT SIZE: TYPE: GRAVEL PACK MATERIAL: WELL DEPTH 20	o ft.	$\frac{0  t}{t}$ $\frac{-t}{t}$ $\frac{-t}{t}$ $\frac{-t}{t}$ $\frac{-t}{t}$ $\frac{-t}{t}$ $\frac{-t}{t}$

	State of Washington			AELL 7	17	
	strce Protection We well report per well installed. Se			No. AE6670	05	
Type of V		e page two for instructions,	Type of Well:			
	Construction			rotection Well [] Inj n Well 🛛 🗍 Gr	ection Point ounding Well	
	$\blacksquare$ Decommission $\Longrightarrow$ Original NOI No.		Geotechnic	al Soil Boring 🗍 Gr	ound Source Heat	Pumn
Ecology \	Well ID Tag No Name <u>MW -477</u>		. 🛄 Environme	ntal Boring 🛛 🗍 Ót	her	• 
Site Well	Name <u>MW-477</u>	· · · · · · · · · · · · · · · · · · ·	Property Owned CONTROL			(a) A) N
	g Firm Faralon		Property Owne	VINU HUI	F 8 8 0 1 TV	
	iance approved for this well/b	~	Well Street Add	ress 870)-E-A	NOW OTH AVI	new
If yes, wh	at was the variance for?			County	ing	
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	ONSTRUCTION CERTIFICA insibility for construction of this well,			4, Section <u>33</u> T		•
Washington	well construction standards. Materia	Is used and the information	Latitude (Exam	ple: 47.12345)		
	true to my best knowledge and belief		Longitude (Exa	mple: -120.12345)		
Nama (D-	int Last, First Name)	tic Build	•	(WGS 84 Coordinate		
Driller/En	igineer/Trainee Signatur	13, Quain	Borehole diame	ter <u>6</u> inches Cas	ing diameter	_ inches
W/ 131W1/ L/1	Io.3284		Static water lev	el ft below top	of casing Date	
	Name Holt			d completion with boli	-	
	box is checked, sponsor's lice	nse number		top of well casing		
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Resource Protection Well Report	Notice of Intent No. AE66763
Submit one well report per well installed. See page two for instructions.	Type of Well:
Type of Work;	Resource Protection Well Injection Point
Construction	Remediation Well Grounding Well
☑ Decommission	🗌 Geotechnical Soll Boring 🔄 Ground Source Heat Pump
Ecology Well ID Tag No. Site Well Name MU - 478	Environmental Boring     Other
Site Well Name 20109 - 178	Property Owner Certification Water-sampling
Consulting Firm Faralon	Property Owner WI IN VII II 200 DI VPIVIII VII
Was a variance approved for this well/boring?  Yes  No	Well Street Address 38DI E. Manghan Well S
If yes, what was the variance for?	City TURNING County king Tax Parcel No
	Location (see instructions): WWM $\Box$ or EWM $\Box$
WELL CONSTRUCTION CERTIFICATION: I constructed and/or	SE 14-14 SE 14, Section 33 Town 2411 Range 4/E
accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information	Latitude (Example: 47.12345)
reported are true to my best knowledge and belief.	Longitude (Example: -120.12345)
🕱 Driller 🗆 Trainee 🗆 Engineer	(WGS 84 Coordinate System)
Name (Print Last, First Name) <u>Guitis</u> , <u>Buaid</u> Driller/Engineer/Trainee Signatur	Borehole diameter inches Casing diameter inches
Driller/Engineer/Trainee Signature	
License No. <u>3284</u>	Static water level ft below top of casing Date
Company Name Holt	$\Box$ Above-ground completion with bollards $\Box$ Flush monument
If trainee box is checked, sponsor's license number:	Stick-up of top of well casing ft above ground surface
Sponsor's signature	Start Date May 24,2021 Completed Date May 24, 2021
Construction/Design Web	Data Formation Description
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MONUMENT TYPE:	
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CONCRETE SURFA	
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GRAVEL PACK	tt.
MATERIAL:	
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	Chip in place
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WELL DEPTH 20	



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Resource Protection Well Report         Submit one well report per well installed. See page two for instructions.         Type of Work:         □ Construction         ☑ Decommission ⇒ Original NOI No.         Ecology Well ID Tag No.         Site Well Name			ent No. AE66763	
		Type of Well: Resource Protection Well Injection Point Remediation Well Grounding Well Geotechnical Soil Boring Ground Source Heat Pump Environmental Boring Other Soil-		
		Property Own	ner Center Dont - 30 (Canal) (C	
Was a variance approved for this well/be		Well Street A	Address 500 F MOVIMON WON S	
If yes, what was the variance for?		City	With County Kry	
WELL CONSTRUCTION CERTIFICA accept responsibility for construction of this well, Washington well construction standards. Material reported are true to my best knowledge and belief. Driller  Trainee  Engineer	and its compliance with all s used and the information	Location (see instructions): WWM $\Box$ or EWM $\Box$ <u>SE</u> 4-4 <u>SE</u> 4, Section <u>33</u> Town <u>2444</u> Range <u>4</u> Latitude (Example: 47.12345) Longitude (Example: -120.12345)		
Nome (Print Last First Name)	ie Build		(WGS 84 Coordinate System)	
Name (Print Last, First Name) Lust Driller/Engineer/Trainee Signatur	- J Cruain	Borehole dia	meter inches Casing diameter inches	
License No 3284		Static water l	evel ft below top of casing Date	
Company Name <u>Ho/+</u>			ound completion with bollards	
If trainee box is checked, sponsor's licer	ise number:		of top of well casingft above ground surface	
Sponsor's signature				
			lay 24,2021 Completed Date May 24, 2021	
<u> </u>	Well	Data	Formation Description	
	TYPE: Benton	<u> </u>	<u>ot.</u>	
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	SLOT SIZE:		<u> </u>	
	GRAVEL PACK	ft.		
			<u>REMARKS</u> Chip in place	
	WELL DEPTH 20	1 11		



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Was a variance approved for this well/bo If yes, what was the variance for? WELL CONSTRUCTION CERTIFICA accept responsibility for construction of this well, Washington well construction standards. Materials reported are true to my best knowledge and belief. Driller 🗆 Trainee 🗆 Engineer Name (Print Last, First Name)	e page two for instructions.	Type of We Resour Remed Geotec Environ Volume City Tax Parcel Location (so <u>SE</u> 4-44 Latitude (E)	ce Protection Well Injection Point iation Well Grounding Well hnlcal Soil Boring Oround Source Heat Pump mmental Boring Other il- Vapor- Water-sampling wner (COHOPOINH STOL MAG) Address 30) COMMING (WM) S
Driller/Engineer/Trainee Signatur			
License No. <u>3284</u> Company Name <u>Ho</u> /H			revel ft below top of casing Date round completion with bollards
If trainee box is checked, sponsor's licen	ise number:	_	p of top of well casing ft above ground surface
Sponsor's signature			May 24,2021 Completed Date May 24,2021
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	19 53		Formation Description
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	TYPE: GRAVEL PACK MATERIAL:	ft.	tt.
	WELL DEPTH _20	1 16	REMARKS Chip in phone



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Resource Protection We Submit one well report per well installed. See Type of Work: ☐ Construction ⊠ Decommission ⇒ Original NOI N Ecology Well ID Tag No. Site Well Name MU - 499A Consulting Firm Farebon Was a variance approved for this well/bo If yes, what was the variance for? WELL CONSTRUCTION CERTIFICA	e page two for instructions,	Image: Special weak.         Image: Resource Protection Well         Image: Remediation (see instructions):         Image: Well Well         Image: Remediation Well         Image: Remediation Well         Image: Remediation Welle Well         Image: Remediatin the st		
accept responsibility for construction of this well, a Washington well construction standards. Material	and its compliance with all s used and the information		5/2 1/4, Section <u>33</u> Town <u>2411</u> Range <u>4/E</u> imple: 47.12345)	
reported are true to my best knowledge and belief.		Longitude (E	xample: -120.12345)	
Name (Print Last First Name)	is Bunid		(WGS 84 Coordinate System)	
Name (Print Last, First Name) Lever t Driller/Engineer/Trainee Signatur			neter inches Casing diameter inches	
License No 3284		Static water l	evel ft below top of casing Date	
Company Name Holt		🗖 Above-gro	und completion with bollards 🛛 Flush monument	
If trainee box is checked, sponsor's licer	ise number:	] ⇔Stick-up	of top of well casing ft above ground surface	
Sponsor's signature			ay 24,2021 Completed Date May 24, 2021	
Construction/Design	Wel	l Data	Formation Description	
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	BACKFILL <u>2</u> TYPE: <u>Benton</u>	0 tt. 1tc hips		
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	SLOT SIZE:			
	GRAVEL PACK	ft.	<u> </u>	
	MATERIAL:	<u> </u>		
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Resource Protection Well Submit one well report per well installed. See p Type of Work: ☐ Construction ☑ Decommission   Original NOI NO. Ecology Well ID Tag No. Site Well Name MU-49 3 Consulting Firm Facalon Was a variance approved for this well/bori If yes, what was the variance for?	ng? [] Yes [] No	Type of We Resour Remed Geotec Environ Toperty Ov Well Street City	De Protection Well       Injection Point         ation Well       Grounding Well         unlcal Soil Boring       Other         umental Boring       Other         I-       Vapor-         Water-sampling       Water-sampling         Address       Gounty         Mo.
WELL CONSTRUCTION CERTIFICATI accept responsibility for construction of this well, and Washington well construction standards. Materials u reported are true to my best knowledge and belief. ADTILLER Trainee Bigineer Name (Print Last, First Name) Driller/Engineer/Trainee Signatur License No. 32844 Company Name 10/14 If trainee box is checked, sponsor's license Sponsor's signature	a lts compliance with all sed and the information	SE 4-4 Latitude (E: Longitude ( Borehole di Static water Above-gn Stick-u	we instructions): WWM □ or EWM □ SE V4, Section 33 Town 2411 Range 4/E tample: 47.12345) Example: -120.12345) (WGS 84 Coordinate System) ameter 6 inches Casing diameter inches level ft below top of casing Date round completion with bollards □ Flush monument p of top of well casing ft above ground surface May 24,2021 Completed Date May 24,2021
Construction/Design		Data	Formation Description
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Resource Protection W		Notice of Inten	No. AE66763	
Submit one well report per well installed. See page two for instructions, Type of Work: Construction		Type of Well:         Image: Construction Well         Image: Construction		
Decommission > Original NO		Geotechnic	al Soil Boring 🗍 Groun	d Source Heat Pump
Ecology Well ID Tag No Site Well Name	anna an tha an	. Environme	antai Boring U Other	~
Consulting Firm Farallon		Property Owne	CPINERDIN	H-2301MAN
Was a variance approved for this well		Well Street Add	tress 8801 EasT M	larginal Way South
If yes, what was the variance for?		City Taku	illa_County_/	Kine - 17
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WELL CONSTRUCTION CERTIFIC			nstructions): <u>E</u> <sup>1</sup> /4, Section <u>33</u> Towr	
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reported are true to my best knowledge and bel	ief,		mple: -120.12345)	
Driller 🗆 Trainee 🗆 Engineer	TA Chiaman		(WGS 84 Coordinate Sys	stem)
Name (Print Last, First Name) <u>Rok</u> Driller/Engineer/Trainee Signature 7			eter inches Casing	diameter <u>6</u> inches
License No. <u>2991</u>			el <u>6</u> ft below top of c	
Company Name HolT Ser			nd completion with bollards	
If trainee box is checked, sponsor's lic			top of well casingf	
Sponsor's signature			<u>-Z-Z</u> Completed Da	
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	WELL DEPTH		L .	·····

## Appendix D Analytical Reports for Monitoring of Airborne Lead

#### CONTENTS

- NVL Laboratories, Batch # 2116366.00
- NVL Laboratories, Batch # 2116524.00

September 20, 2021

Christian Canfield Shannon & Wilson, Inc. - Seattle 400 North 34th Street, Suite 100 Seattle, WA 98103



#### NVL Batch # 2116366.00

#### RE: Total Metal Analysis Method: NIOSH 7082 Lead by FAA <air> Item Code: FAA-01

Client Project: 8801 Location: Tukwila, WA

Dear Mr. Canfield,

NVL Labs received 3 sample(s) for the said project on 9/16/2021. Preparation of these samples was conducted following protocol outlined in NIOSH 7082, unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with NIOSH 7082 Lead by FAA <air>. The results are usually expressed in ug/filter and ug/m<sup>3</sup>. Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results



Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227) 4708 Aurora Avenue North | Seattle, WA 98103-6516

## **Analysis Report**



Total Lead (Pb)

#### Batch #: 2116366.00

Matrix: Air Method: NIOSH 7082 Client Project #: 8801 Date Received: 9/16/2021 Samples Received: 3 Samples Analyzed: 3

Client: Shannon & Wilson, Inc. - Seattle Address: 400 North 34th Street, Suite 100 Seattle, WA 98103

Attention: Mr. Christian Canfield

Project Location: Tukwila, WA

Lab ID	Client Sample #	Vol (L)	RL ug/m³	Results in ug/filter	Results in ug/m³
21104773	S-1	718	7.0	< 5.0	< 7.0
21104774	S-2	816	6.1	< 5.0	< 6.1
21104775	S-3	810	6.2	< 5.0	< 6.2

Sampled by: Client Analyzed by: Yasuyuki Hida	Date Analyzed: 09/17/2021	Chalici Datel Lak Currencias
Reviewed by: Shalini Patel	Date Issued: 09/20/2021	Shalini Patel, Lab Supervisor
ug/ m <sup>3</sup> = Micrograms per cubicmeter		RL = Reporting Limit
ug/filter = Micrograms per filter		<pre>'&lt;' = Below the reporting Limit</pre>
Note : Method QC results are acceptable	unless stated otherwise. Concentration (u	ug/m <sup>3</sup> ) not reported if sample volume is zero.
Unless otherwise indicated, the co	ondition of all samples was acceptable at ti	me of receipt.
Preparation of above samples was	s conducted using microwave digestion in	accordance with EPA Method 3051.
Bench Run No: 2021-0917-02		

### LEAD LABORATORY SERVICES



Company Shannon & Wilson, Inc Seattle	NVL Batch Number 2116366.00
Address 400 North 34th Street, Suite 100	TAT 1 Day AH No
Seattle, WA 98103	Rush TAT
Project Manager Mr. Christian Canfield	Due Date 9/17/2021 Time 4:50 PM
Phone (206) 632-8020	Email ctc@shanwil.com
	<b>Fax</b> (206) 633-6777

Project Name/Number: 8801	Project Location: Tukwila, WA
Subcategory Flame AA (FAA)	

Item Code FAA-01 NIOSH 7082 Lead by FAA <air>

#### Total Number of Samples 3

#### Rush Samples \_\_\_\_\_ Lab ID Sample ID Description A/R 1 21104773 S-1 А 2 21104774 S-2 А 3 21104775 S-3 А

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	9/16/21	1650
Analyzed by	Yasuyuki Hida		NVL	9/17/21	
Results Called by					
Faxed Emailed					
Special					
Instructions:					

Date: 9/16/2021 Time: 4:50 PM Entered By: Kelly AuVu

Client Shannon & Wilson, Inc Seattle       NVL Batch Number       ØØ 0 /         Address 400 North 34th Street, Suite 100       Total Number of Samples       Z         Project Manager Christian Canfield       Email address ctc@shanwil.com       Print Below         Project Location       Tule W/A       Phone (206) 632-6020         Fax (206) 632-6020       Fax (206) 632-6020         Fax (206) 632-6020       Fax (206) 632-6020         Fax (206) 632-6020       Fax (206) 632-6020         Sample by       Company       Date         Manager Christian Canfield       SWT       9/16/2         Print Below       Company       Date         Sample by       Contact Statt       SWT         Analyzed by       Activities:       Sample Type:         Analyzed by       Activities:       Statt         Sample Type:       Ruah       Activities:         Protection:       Statt       Stop         Decon:       Time: 08.25       Total Manage         Sample Type:       Ruah       Activities:         Protection:       Statt       Stop         Decon:       Time: 08.25       Total Manage         Sample Type:       Ruah       Activities:         Sample Type:       Ru		AIR SAMPLIN	<b>16366</b>	Turn Around Time 1 Hr 6 Hrs 3 Days 2 Hrs 1 Day 4 Days 4 Hrs 2 Days 5 Days
Print Below       Sign Below       Company       Date       Time         Sampled by       Str. m       SWT       9/16/20       16 47         Relinquished by       SwT       9/16/20       16 47         Reviewed by       Image: Stop       9/16/20       16 47         Reviewed by       Activities:       9/16/20       16 47         Sample ID:       S-1       Location:       86/20         Sample ID:       Start       Stop       Fibers         Protection:       Start       Stop       Fibers         Date:       Rate:       2 LP/n       1.5 L P         Date:       Rate:       Stop       Stop       Fibers         Sample ID:       S-2       Location:       Stop       Stop         Sample ID:       S-2       Location:       Stop       Fibers         Protection:       Worker:       Stop       Stop       Stop         Sample Type:       Rub:       Activities:       Fibers       LOD       Fibers         Protection:       Stot       Stop	Address <u>400 Nor</u> Seattle, Project Manager <u>Christian</u>	h 34th Street, Suite 100 WA 98103 h Canfield	Client Job Number Total Number of Samples Email address Phone	'3       ctc@shanwil.com       (206) 632-8020
Sample ID:       Sample ID:       Sample ID:       Location:       8%61         Sample Type:       Rush       Activities:       Stop       Fibers       Fibers         Protection:       Time:       0.5 L PM       Iters       Fibers       Location:       Fibers         Pump #:       Pump #:       Rate:       Z LPM       Iters       Fibers       Location:       Store         Sample Type:       Rush       Activities:       Activities:       Activities:       Fibers       Fibers       Fibers         Sample Type:       Rush       Activities:       Activities:       Fibers       Fibers       Fibers         Pocon:       Start       Stop       Stop       Fibers       Fibers       Fibers         Pump #:       Rate:       Z LPM       Fibers       Fibers       Fibers       Fibers         Pump #:       Rate:       Z LPM       Fibers       Fibers       Fibers       Fibers         Date:       Rate:       Rate:       Stop       Fibers	Sampled by Relinquished by Received by Analyzed by		Company SWI	Date Time 9/16/21 1644
Sample TD:	Sample ID: <u>S 1</u> Sample Type: Rush Protection: Decon: Environment: Pump #:	Activities: Worker: Stell Start Stop Time: 0825 1515 Rate: ZLPM 1.5 LPM	– Liters /fields	
Sample Type:       Rush       Activities:         Protection:       Start       Stop         Decon:       Time:       08.30       1515         Environment:       Time:       08.30       1515         Pump #:       Time:       08.30       1515         Date:       Rate:       2UPM         Average       Average         Sample ID:       Location:         Sample Type:       Rush         Activities:       Vorker:         Sample Type:       Rush         Activities:       Vorker:         Protection:       Start         Start       Stop         Fibers       Fibers         Protection:       Start         Decon:       Time:         Time:       Total Minutes         Liters       Fibers         Pump #:       Total Minutes         Date:       Rate:	Sample Type: Rush Protection: Decon: Environment: Pump #:	Activities: Worker: SWL Start Stop Time: 0827 1515 ZUP/Intal Min Rate: ZLPM	Liters /fields	
Sample Type:       Rush       Activities:         Sample Type:       Rush       Worker:         Protection:       Start       Stop         Decon:       Time:       Liters         Fibers       Liters       /fields         Pump #:       Rate:       Total Minutes	Sample Type: Rush Protection: Decon: Environment: Pump #:	Activities: Worker: AEC Start Stop Time: 0830 _1515 Total Min Rate: 2 LPM _2 LPM	Liters /fields	
	Sample Type: Rush Protection: Decon: Environment:	Activities: Worker: Start Stop Time:	Liters /fields	

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227) 4708 Aurora Avenue North | Seattle, WA 98103-6516 September 21, 2021

Ryan Peterson Shannon & Wilson, Inc. - Seattle 400 North 34th Street, Suite 100 Seattle, WA 98103



#### NVL Batch # 2116524.00

#### RE: Total Metal Analysis Method: NIOSH 7082 Lead by FAA <air> Item Code: FAA-01

Client Project: 103485-008 Location: Tukwila, WA

Dear Mr. Peterson,

NVL Labs received 2 sample(s) for the said project on 9/20/2021. Preparation of these samples was conducted following protocol outlined in NIOSH 7082, unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with NIOSH 7082 Lead by FAA <air>. The results are usually expressed in ug/filter and ug/m<sup>3</sup>. Test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more detail.

At NVL Labs all analyses are performed under strict guidelines of the Quality Assurance Program. This report is considered highly confidential and will not be released without your approval. Samples are archived after two weeks from the analysis date. Please feel free to contact us at 206-547-0100, in case you have any questions or concerns.

Sincerely,

Shalini Patel, Lab Supervisor

Enc.: Sample results



Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227) 4708 Aurora Avenue North | Seattle, WA 98103-6516

## **Analysis Report**



Total Lead (Pb)

#### Batch #: 2116524.00

Client: Shannon & Wilson, Inc. - Seattle Address: 400 North 34th Street, Suite 100 Seattle, WA 98103

Attention: Mr. Ryan Peterson

Project Location: Tukwila, WA

Matrix: Air Method: NIOSH 7082 Client Project #: 103485-008 Date Received: 9/20/2021 Samples Received: 2 Samples Analyzed: 2

	Lab ID	Client Sample #	Vol (L)	RL ug/m³	Results in ug/filter	Results in ug/m³	
	21105430	S-4	720	6.9	< 5.0	< 6.9	
_	21105431	S-5	720	6.9	< 5.0	< 6.9	

Sampled by: Client Analyzed by: Yasuyuki Hida Reviewed by: Shalini Patel	Date Analyzed: 09/21/2021 Date Issued: 09/21/2021	Shalini Patel, Lab Supervisor
$ug/m^3$ = Micrograms per cubicmete	r	RL = Reporting Limit
ug/filter = Micrograms per filter		<pre>'&lt;' = Below the reporting Limit</pre>
	e unless stated otherwise. Concentration (u	ug/m <sup>3</sup> ) not reported if sample volume is zero.
Unless otherwise indicated, the c	ondition of all samples was acceptable at ti	me of receipt.
Preparation of above samples wa	as conducted using microwave digestion in	accordance with EPA Method 3051.
Danah Dun Nay 0001 0001 00		

Bench Run No: 2021-0921-02 FAA-01

### LEAD LABORATORY SERVICES



Rush Samples \_\_\_\_\_

Company	Shannon & Wilson, Inc Seattle
Address	400 North 34th Street, Suite 100
	Seattle, WA 98103
Project Manager	Mr. Ryan Peterson
Phone	(206) 632-8020

NVL Batch Number 2116524.00								
TAT	1 Day	/		AH No				
Rush	TAT							
Due D	Date	9/21/2021	Time	4:30 PM				
Email	rbp@	shanwil.com	1					
Fax	(206)	633-6777						

Project	Name/Number:	103485-008
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Project Location: Tukwila, WA

Subcategory Flame AA (FAA)

Item Code FAA-01 NIOSH 7082 Lead by FAA <air>

## Total Number of Samples \_\_\_\_\_

_	Lab ID	Sample ID	Description	A/R
1	21105430	S-4		Α
2	21105431	S-5		Α

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				
Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	9/20/21	1630
Analyzed by	Yasuyuki Hida		NVL	9/21/21	
Results Called by					
Faxed Emailed					
Special					
Instructions:					

Date: 9/20/2021 Time: 4:28 PM Entered By: Kelly AuVu

NDUSTRIAL MYGIEME SE ABDRATORY + MANAGEMENT + 1	R VICES RRAINING	WALK- SAMPL		ΜΙΤΤΑΙ	L FORM	Asbe	estos 1	6524
First Address Phone	Ayan 400 J Seatt	Last N. 34th S Ky WA 181	Peterson head, Sui 103	7- 1W	Company Cell (S Email	Shann 09)319 RBP@SP	- 1135 - 1135 hanmil.com	
	Number	103485-0	208	Р	Project Location	TG Kul	19, cvA	
<b>Pricing</b> Asbestos Lead Mold	<b>1-Hr</b> 75.00 N/A N/A	<b>2-Hr</b> 70.00 75.00 N/A	<b>4-Hr</b> 65.00 70.00 105.00	<b>1-Day</b> 50.00 50.00 82.50	2 Hours 4 Hours	(Asbestos on (Lead only) (Asbestos, L	ly) ead, & Mold) Lead, & Mold)	
Fotal Numb		amples		scription Her for	forsonal	air sa	mpla	A/R
2 <b>5-5</b> 3 4 5 6				Time	on: 1056 - off: 1544 rde: 25	3 san	n for both	
7 8 9 10								
	Print Name		Signatur	e	Comp	any	Date	Time
Sampled by	YAN	ETENSN	T	A	52	er	9/20/21	628
Office Use Only Received by Analyzed by Called by Faxed/Email by	Print Na		$\checkmark$	ature	Comp	any	Date 9120200	Lezo

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#### Appendix E

# Imported Fill; Selection, Placement, and Compaction

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Gravel Borrow, Gradation Results, Washington Rock Quarries Quality Test Report
Gravel Borrow, Gradation and Proctor Results, HWA GeoSciences, Inc., Project No. 2011-048-23
Gravel Borrow, Proctor Results, Shannon & Wilson, Project No. 103485-001
Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 21L769
Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 21L779
Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 22L573
Gravel Borrow, Chemical Results, Fremont Analytical, Inc., Work Order No. 2109200
Gravel Borrow, Chemical Results, ALS Environmental, Request No. K2198871
Gravel Borrow and Quarry Spall, Chemical Results, Fremont Analytical, Inc., Work Order No. 2207288
Quarry Spall, Chemical Results and #1 Modified SPLP, Fremont Analytical, Inc., Work Order No. 2109218
Area 5 Water, Chemical Results, Fremont Analytical, Inc., Work Order No. 2109439
Quarry Spall, #2 Modified SPLP Results, Fremont Analytical, Inc., Work Order No. 2110053
Quarry Spall, TCLP Results, ALS Environmental Work Order No. EV22020128
Quarry Spall, ALS Environmental, Work Order No. EV22070110
Quarry Spall, Fremont Analytical, Inc., Work Order No. 2208185
Crushed Rock, Gradation Results, Iron Mountain Quarry
Crushed Rock, Gradation Results, Shannon & Wilson, Project No. 103485-001
Crushed Rock, Gradation and Proctor Results, Krazan & Associates, Inc., Sample No. 21L827
Mirafi® 140N, Product Data Sheet, Tencate Geosynthetics
Compaction Reports, Krazan & Associates, Inc.

### E.1 EXECUTIVE SUMMARY

After excavation of contaminated soil and subsequent confirmation sampling, fill was imported, placed in excavation areas (Areas 1 through 8), and compacted. Excavation spoils were not used as backfill. The imported fill was evaluated for gradation, compaction characteristics, chemical concentrations prior to importation, and compaction characteristics during placement.

Approximately 7,847 tons of gravel borrow, 3,760 tons of quarry spalls, and 282 tons of crushed rock were used as fill. Quarry spalls were used where the excavations extended below the water table and were overlain by a geotextile. Gravel borrow, quarry spalls, or crushed rock were placed above the groundwater table.

Excavators were used to spread the fill in lifts. Quarry spalls were compacted at up to 1-foot lifts using an excavator bucket and by tracking the excavator over the lift. Quarry spalls were compacted until lifts were observed to have a dense and unyielding condition.

Gravel borrow and crushed rock were compacted at up to 8-inch lifts using a smooth drum vibratory roller. A walk-behind vibratory-plate compactor was used in areas where the larger vibratory roller was restricted due to excavation size. Gravel borrow and crushed rock were compacted to at least 95% of maximum dry density as measured by a nuclear densometer, except for Areas 2, 3, 4, and 5. Crushed rock at Area 2 was compacted to a dense and unyielding condition as evaluated using a ½-inch-diameter metal T-probe in a grid pattern throughout individual lifts. Gravel borrow at Areas 3, 4, and 5 was compacted to at least 90% of maximum dry density as measured by a nuclear

Additional detail is provided in the following sections.

#### E.2 IMPORTED FILL SELECTION

Imported fill was evaluated for gradation, compaction characteristics, and chemical concentrations prior to import to the 8801 property. The material types and sources are listed below followed by a discussion of findings from the evaluation:

- 4-inch-minus gravel borrow from King Creek Pit in Orting, Washington, operated by Washington Rock Quarries, Inc.
- Quarry spalls from the Granite Falls Quarry in Granite Falls, Washington, operated by Iron Mountain Quarry, LLC.

 2.5-inch-minus crushed rock from Granite Falls Quarry in Granite Falls, Washington, operated by Iron Mountain Quarry, LLC.

#### E.2.1 Gravel Borrow

Samples of gravel borrow were evaluated for gradation, compaction characteristics, and chemical contents as discussed below.

#### E.2.1.1 Gradation of Gravel Borrow

Results of gradation analysis of the gravel borrow were provided by the quarry (Attachment E-1) and the material was separately analyzed for gradation by HWA GeoSciences, Inc. (Attachment E-2). Based on the gradation results and visual observation, the material consisted of light brown, Poorly Graded Sand with Gravel. A photo of the gravel borrow is provided as Exhibit E-1.



Exhibit E-1: Photo of Gravel Borrow Delivered to Area 1 on the 8801 Property

#### E.2.1.2 Compaction Test of Gravel Borrow

Representative samples of gravel borrow were collected from the quarry prior to the commencement of excavations and were tested using a modified Proctor (ASTM D1557). The value of the rock-corrected maximum dry density measured by the modified Proctor was used as a reference value to measure percent compaction of lifts of gravel borrow in the excavation areas.

Representative samples of gravel borrow were also progressively collected from the 8801 property during importation of the gravel borrow and the samples were tested using a

modified Proctor to adjust the rock-corrected maximum dry density to the current imported material. The rock-corrected maximum dry density was measured at 121 to 145.4 pounds per cubic foot. The lab reports are available as Attachments E-2 through E-6.

Compaction verification procedures and results are discussed in Section E.4.

#### E.2.1.3 Chemical Analysis of Gravel Borrow

In accordance with the Compliance Monitoring Plan (CMP) Section 5.2.6, samples of gravel borrow were analyzed to confirm chemical concentrations, including that no total petroleum hydrocarbons (TPH) or polychlorinated biphenyls (PCBs) were present at detectable levels and that carcinogenic polycyclic aromatic hydrocarbons (cPAHs), arsenic, copper, and lead did not exceed the cleanup level (CUL). Four samples were analyzed, and 7,827 tons of gravel borrow were imported meeting the requirements of at least one sample tested per 5,000 tons. The sample results were acceptable when compared to the screening criteria as shown in Exhibit E-2 below. The lab reports are provided as Attachments E-7, E-8, E-9, and E-14 (sample ID "PAC-S1").

		Results				
Analyte	Screening Criteria					
TPH- gasoline	Not Detectable	Not Detected	Not Detected	Not Detected	Not Detected	
TPH-diesel	Not Detectable	Not Detected	Not Detected	Not Detected	Not Detected	
TPH-heavy oil	Not Detectable	Not Detected	Not Detected	Not Detected	Not Detected	
PCBs	Not Detectable	Not Detected	Not Detected	Not Detected	Not Detected	
Total cPAH TEQ	0.005	Not Detected	Not Analyzed	Not Detected	Not Detected	
Arsenic	7.3	4.20	3.4	3.93	4.1	
Copper	36	22.4	25	24.3	27	
Lead	250	2.70	3.8	2.74	3.0	

#### Exhibit E-2: Chemical Screening Criteria and Results

NOTES:

Criteria provided in milligrams per kilogram.

TEQ = toxicity equivalency quotient

#### E.2.2 Quarry Spalls

Samples of quarry spalls were evaluated for gradation and chemical contents as discussed below.

#### E.2.2.1 Gradation of Quarry Spalls

The quarry spalls were visually evaluated for gradation. The quarry spalls appeared to be predominantly bluish-gray, 2- to 8-inch angular rock with trace amounts of fine rock pieces. A photo of the quarry spalls is provided below (see Exhibit E-3).



Exhibit E-3: Photo of Quarry Spalls (Foreground) Delivered to Area 5 on the 8801 Property

#### E.2.2.2 Chemical Analysis of Quarry Spalls – September 2021

In accordance with the CMP Section 5.2.6, prior to mobilization for excavation activities in September 2021, samples of quarry spalls were analyzed to confirm chemical concentrations. Analytical screening criteria are summarized in Exhibit E-2. At least one sample per 5,000 tons was tested.

Chemical analysis of quarry spalls from multiple quarries was undertaken due to elevated detection of copper in samples. After examining the various sources, quarry spalls from the quarry with the lowest copper concentration was selected for further testing as discussed below.

In summary, the quarry spalls were found to have acceptable chemical characteristics based on analysis of chemical concentrations using standard methods and using a modified Synthetic Precipitation Leaching Procedure (SPLP) to evaluate for leachable copper. The analytical procedures and results as summarized in Exhibit E-4 and discussed below the exhibit.

Method	Analytical Methods	Results	Sample ID and Lab Report
Analysis of TPH, PCBs, cPAHs, arsenic, copper, and lead.	Standard methods were used including crushing of the sample to reduce particle size.	Concentrations were acceptable except for copper which was 95.4 mg/kg.	Sample ID = "Sample #2 Renton Concrete Recyclers Quarry Spalls Rock 4-8 Inch"
SPLP and analysis of leachate for copper	Standard methods were used. The sample was crushed to reduce particle size and synthetic precipitation with acid was used.	Copper detected at 38 ug/L in the leachate (exceeded groundwater CUL of 8 ug/L)	Lab Report available in Attachment E-10.
#1 Modified SPLP. Analysis of SPLP leachate for copper.	The SPLP was performed on four discrete samples of the same material. The SPLP was modified as follows: samples were processed as received (i.e., particle size was not reduced) and site groundwater was used to tumble the sample. Site groundwater was analyzed as well as SPLP leachate.	Uncorrected Corrected*24.1 ug/L4.1ug/L22.6 ug/L2.6 ug/L19.2 ug/L0.0 ug/L20.1 ug/L0.1 ug/L*Corrected by subtracting the 20.0ug/L dissolved copper detected in groundwater	Sample ID = "Renton Concrete Recyclers Quarry Spalls Rock 4- 8 Inch" Fractions A, B, C, and D. Lab Report available in Attachment F-10.
Analysis of copper in the groundwater collected from Area 5 pit on the 8801 property and used for SPLP.	Standard methods 20.0 ug/L dissolved		Sample ID = "A5-GW" Lab Report available in Attachment E-11.
#2 Modified SPLP. Analysis of SPLP leachate for copper.	The SPLP was performed on two discrete samples of the same material. The SPLP was modified as follows: The sample was processed as received (i.e., particle size was not reduced) and laboratory deionized (DI) water was used to tumble the sample and analyzed as the leachate.	< 4 ug/L < 4 ug/L (not detected)	Sample ID = "Renton Concrete Recyclers Quarry Spalls Rock 4- 8" A and B. Lab Report available in Attachment E-12.

#### Exhibit E-4: Findings from Chemical Analysis of Quarry Spalls – September 2021

ug/L = micrograms per liter

Initially, a sample of the quarry spalls was analyzed for concentrations of TPH, PCBs, cPAHs, arsenic, copper, and lead using standard procedures, including crushing the rock. Chemical concentrations detected in the sample were acceptable when compared to the screening criteria, except for copper, which was detected at 95.4 milligrams per kilogram (mg/kg) and exceeded the screening criteria of 36 mg/kg. The copper analysis was undertaken in accordance with U.S. Environmental Protection Agency Method 200.8 and involved acid digestion of the sample to evaluate the concentration of copper.

Subsequently, an SPLP was performed to evaluate the leachable copper in the quarry spalls, since the soil to groundwater pathway is the driver for the CUL of copper in soil at the 8801 property. In accordance with the SPLP, the particle size of the rock was reduced to 1 centimeter (via crushing) and a synthetic acid solution was used to tumble the crushed sample for the prescribed time. The reduction in grain size resulted in additional surface area and therefore greater leachability when compared to an unaltered sample. The synthetic acid solution was approximately 5.0 pH and was more acidic than groundwater at the 8801 property (5.6 to 6.3 pH measured in February 2021), which resulted in greater leachability when compared to actual conditions on the 8801 property. Copper was detected in the leachate at 38 micrograms per liter (ug/L) and exceeded the 8801 property groundwater CUL of 8 ug/L.

After consultation and acceptance of a modified approach by the Washington State Department of Ecology,<sup>1</sup> a separate sample of quarry spalls was analyzed using a modified SPLP (#1 modification in Exhibit E-4) under conditions that were more similar to the 8801 property to provide a more representative evaluation of leachable copper. The #1 modified SPLP was performed on four replicates and modified from standard SPLP as follows:

- The quarry spalls were processed "as received" (i.e., the particle size was not reduced). The quarry spalls that were imported to the 8801 property were predominantly 2 to 8 inch in size. The testing procedure used a sample of 2- to 4-inch quarry spalls due to equipment limitations. The 2- to 4-inch size provided a more representative surface area than the standard SPLP procedure which required reduction in grain size to 1 centimeter.
- Groundwater was collected from Area 5 pit on the 8801 property and used to tumble the rock sample for approximately 30 to 45 minutes. The tumbled solution then sat in the testing container for a total contact time of 20 hours. Groundwater from the Area 5 pit was used in place of a synthetic acid solution to provide a more representative pH that would be encountered on the 8801 property. The volume of water and total time that each sample remained in contact with the groundwater was consistent with the SPLP requirements.
- After tumbling, the leachate from the four replicate SPLPs were analyzed for copper per standard methods. Groundwater from the Area 5 pit was separately analyzed for copper content. The detected copper in the groundwater was subtracted from the detected copper in the leachate to provide the concentration of copper that had leached

<sup>&</sup>lt;sup>1</sup> Hobbs, Erin, 2021a, Telephone conversation between Ms. Erin Hobbs and Ms. Priscilla Tomlinson, 8801 Site Project Manager and LDW toxicologist, Washington State Department of Ecology, Toxics Cleanup Program, Shoreline, Wash., and Ms. Meg Strong, Shannon & Wilson, Seattle, Wash., September 30.

from the quarry spalls. The leached copper was detected up to 4.1 ug/L in the four replicates which was less than the groundwater CUL of 8 ug/L.

Based on the analytical results, the Ecology Project Manager agreed that the quarry spalls did not appear to be a significant source of leachable copper to groundwater.<sup>2</sup>

At the request of Ecology, a separate sample of quarry spalls was analyzed using a modified SPLP (#2 modification in Exhibit E-4). The #2 modified SPLP was performed for the record and was not used as selection criteria. The SPLP was performed on two replicates and differed from the #1 modified SPLP in that laboratory deionized (DI) water was used to tumble the sample instead of site groundwater. The #2 modified SPLP was otherwise performed according to the standard SPLP procedures with the #1 modifications.

Copper was not detected in the leachate from the two replicates tested using the #2 modified SPLP.

#### E.2.2.3 Chemical Analysis of Quarry Spalls – August 2022

Remedial excavation activities were suspended during December 2021 and recommenced during August 2022. Prior to recommencement, a sample of quarry spalls was collected from the source quarry and analyzed for concentrations of TPH, PCBs, cPAHs, arsenic, copper, and lead using standard procedures. Chemical analysis of the quarry spalls was performed in several iterations due to detections of cPAHs, arsenic, and copper in samples. In summary, the quarry spalls were found to have acceptable chemical characteristics based on analysis of chemical concentrations using standard methods and using a modified SPLP to evaluate for leachable copper and arsenic. The analytical procedures and results as summarized in Exhibit E-5 and discussed below the exhibit.

Method	Analytical Methods	Results	Sample ID and Lab Report
Analysis of TPH, PCBs, cPAHs, arsenic, copper, and lead.	Standard methods were used including crushing of the sample to reduce particle size. ALS crushed the sample.	Concentrations were acceptable except for cPAHs, arsenic, and copper.	Sample ID = "PAC-S2" Attachment E-14
Analysis of TPH, PCBs,	Standard methods were used	Concentrations were	Sample ID = "Quarry Spalls"
cPAHs, arsenic, copper,	including crushing of the sample to	acceptable except for arsenic	Attachment E-9
and lead in the whole	reduce particle size. Shannon &	and copper (based on acid	
rock. Modified SPLP	Wilson crushed the sample.	digestion of the whole rock).	
with analysis of arsenic			

#### Exhibit E-5: Findings from Chemical Analysis of Quarry Spalls – August 2022

<sup>&</sup>lt;sup>2</sup> Hobbs, Erin, 2021b, Email from Ms. Erin Hobbs, 8801 Site Project Manager, Washington State Department of Ecology, Toxics Cleanup Program, Shoreline, Wash., to Ms. Meg Strong, Shannon & Wilson, Seattle, Wash., October 1.

and copper in the leachate.	The SPLP was modified as follows: Laboratory DI water was used to tumble the sample and leachate analyzed.	Subsequent analysis of the SPLP leachate had acceptable concentrations of arsenic and copper.	
Analysis of cPAHs, arsenic, and copper.	Standard methods were used including crushing of the sample to reduce particle size. The quarry crushed the sample.	Concentrations were acceptable except for arsenic and copper.	Sample ID = "Quarry Spalls" Attachment E-15
TCLP with analysis of leachate for arsenic and copper.	Standard methods were used including crushing of the sample to reduce particle size. The quarry crushed the sample	Concentrations were acceptable.	Sample ID = "SCR Belt" Attachment E-13

ALS = Environmental; TCLP = Toxicity Characteristic Leaching Procedure

A sample of quarry spalls was collected from the source quarry and split into two subsamples. One sample was submitted to ALS Environmental of Everett, Washington, and the other was submitted to Fremont Analytical, Inc. of Seattle, Washington, for quality assurance purposes.

The sample submitted to ALS was crushed by ALS to reduce the particle size as required by the testing procedures and had detectable cPAHs and arsenic and copper that were greater than the acceptance criteria (Attachment E-14). The Fremont Analytical sample was crushed by Shannon & Wilson prior to submittal to the laboratory and had acceptable concentrations of chemicals (Attachment E-9).

Due to the detection of cPAHs, arsenic, and copper, a separate sample of quarry spalls was collected from the quarry and submitted to Fremont Analytical. The quarry crushed the rock to reduce the sample size as required by the testing procedures. The sample was analyzed for cPAHs, arsenic, and copper. Chemical concentrations detected in the samples were acceptable when compared to the screening criteria, except for arsenic, which was detected at 11.3 mg/kg and exceeded the screening criteria of 7.3 mg/kg and copper, which was detected at 36.5 mg/kg and exceeded the screening criteria of 36 mg/kg (Attachment E-15). Since cPAHs were detected in only the ALS sample and not the two samples submitted to Fremont Analytical, in our opinion, the detection of cPAHs was anomalous and potentially associated with the crushing equipment at ALS.

Due to the detections of arsenic and copper above the screening criteria in two of three analyses, an SPLP was performed to evaluate the leachable arsenic and copper in the quarry spalls, since the soil to groundwater pathway is the driver for the CUL of arsenic and copper in soil at the 8801 property. In accordance with the SPLP protocol, the particle size of the rock was reduced to 1 centimeter via crushing. Shannon & Wilson crushed the sample. The SPLP was modified to tumble the sample with a solution of DI water instead of an acid solution. Arsenic and copper were not detected in the SPLP leachate (Attachment E-9).

Furthermore, the quarry provided an analytical report for a sample of quarry spalls that was collected in February 2022 and analyzed for TCLP. The sample was crushed at the quarry to reduce the particle size consistent with the testing procedure. Other testing requirement were not modified according to the analytical report. Arsenic and copper were not detected in the TCLP leachate (Attachment E-13).

Based on the modified SPLP and standard TCLP results, the concentrations of arsenic and copper in the quarry spalls do not appear to be a significant source of leachable copper or arsenic to groundwater. The quarry spalls were accepted for use as backfill.<sup>3</sup>

#### E.2.3 Crushed Rock

Samples of crushed rock were evaluated for gradation, compaction characteristics, and chemical contents as discussed below.

#### E.2.3.1 Gradation of Crushed Rock

Samples of crushed rock was analyzed for gradation by three entities: the source quarry (Attachment E-16), Shannon & Wilson (Attachment E-17), and Krazan (Attachment E-18). Based on gradation results and visual observation, the material consisted of gray to brown, Well-Graded Gravel with Sand. A photo of the crushed rock is provided as Exhibit E-6.



Exhibit E-6: Photo of Crushed Rock Delivered to Area 2 on the 8801 Property

<sup>&</sup>lt;sup>3</sup> Kelley, Chris, 2022, 8801 – request for a call tomorrow follow up: Email from Chris Kelley, Department of Ecology, Toxics Cleanup Program, to Meg Strong, Shannon & Wilson, Seattle, Wash., August 22.

# E.2.3.2 Compaction Test of Crushed Rock

Krazan evaluated the compaction characteristics of a sample of crushed rock using a modified Proctor (ASTM D1557 Method C Modified) test. The results are provided as Attachment E-18.

## E.2.3.3 Chemical Analysis of Crushed Rock

The crushed rock was the same source material as the quarry spalls except a smaller particle size. Chemical analysis of the quarry spalls was used to characterize the crushed rock.

The copper content of the quarry spalls was found to be acceptable based on a modified SPLP. The copper content of the crushed rock is estimated to be like the quarry spalls. Placement of the crushed rock on the 8801 property was limited to Area 2. Due to the controlled and limited use of crushed rock, the potential leachability of copper in the crushed rock may be less than estimated from the quarry spalls analysis based on two factors:

- The crushed rock was placed above the water table in Area 2, reducing the potential to contact groundwater and therefore reducing the leachability.
- The crushed rock was placed beneath the proposed footprint of a new building. The construction plans for the building include a concrete slab floor overlying an impermeable membrane overlying soil. The building materials will limit the potential for infiltration of water through the crushed rock and therefore reduce the leachability.

# E.3 IMPORTED FILL PLACEMENT

Fill was imported to the 8801 property via truck and trailers and directly placed into the excavation areas or temporarily stockpiled prior to placement. Excavators were used to spread the imported fill in the excavation areas (Areas 1 through 8). The following criteria were used when placing fill in Areas 1 through 8:

- The proposed future use of the area was evaluated when selecting the fill type and depth. The proposed future use of areas was communicated by the property owner (CenterPoint).
- Quarry spalls were used for backfill below the water table. Based on previous assessments, groundwater on the 8801 property is estimated to be 8 to 10 feet below ground surface.
- Gravel borrow, quarry spalls, or crushed rock were placed above the groundwater table.
- A geotextile was placed between quarry spalls and overlying fill to limit the introduction of fines to the quarry spalls. The geotextile was Mirafi® 140N by Tencate

Geosynthetics. A product data sheet for Mirafi® 140N is provided as Attachment E-19. A representative photo of the placement of the geotextile is provided in the following Exhibit E-7.



Exhibit E-7: Photo of Quarry Spalls Overlain by Geotextile Overlain by Gravel Borrow at Area 5. View Direction is Northwest.

The quantity of fill placed in the 8801 property includes:

- 7,847 tons of gravel borrow
- 3,760 tons of quarry spalls
- 282 tons of crushed rock

The fill material selected for excavation areas is summarized in the following Exhibit E-8.

#### Exhibit E-8: Fill Placed in Excavation Areas

Area	Fill Material and Depths <sup>1</sup>
1	Gravel borrow was placed from the bottom of the excavation (~4 feet depth) to ground surface.
2	Quarry spalls were placed from the excavation bottom (~9 feet bgs) to 8 feet depth and overlain by a geotextile. Thereafter, crushed rock was placed to the ground surface.
3	Quarry spalls were placed from the excavation bottom (~7 feet depth) to 5 feet depth and overlain by a geotextile. Thereafter, gravel borrow was placed to the ground surface.
4	Quarry spalls were placed from the excavation bottom (up to 15 feet depth) to 3.5 feet depth and overlain by a geotextile. Thereafter, gravel borrow was placed to the ground surface.
5	Quarry spalls were placed from the excavation bottom (up to 12 feet depth) to 5 feet depth and overlain by a geotextile. Thereafter, gravel borrow was placed to the ground surface.
6	Gravel borrow was placed from the excavation bottom (~6 feet depth) to ground surface.
7	Gravel borrow was placed from the excavation bottom (~9 feet depth) to ground surface.
8	Quarry spalls were placed from the excavation bottom (~10 feet depth) to 5 feet depth and overlain by a geotextile. Thereafter, gravel borrow was placed to the ground surface.
NOTES:	

NOTES

In some areas, the vertical extent of excavation varied within the excavation due to the distribution of detected contamination and/or 1. obstructions to excavation. The horizontal and vertical extent of excavations are provided in cross sections in the main report.

~ = approximately; bgs = below ground surface

# E.4 IMPORTED FILL COMPACTION

Quarry spalls were compacted at up to 1-foot lifts using an excavator bucket and by tracking the excavator over the lift. Quarry spalls were compacted until lifts were observed to have a dense and unyielding condition.

Gravel borrow and crushed rock were compacted at up to 8-inch lifts using a smooth drum vibratory roller. A walk-behind vibratory-plate compactor was used for compaction in areas where the larger vibratory roller was restricted due to excavation size. Photos of compaction activities are provided as Exhibit E-9.



Exhibit E-9: Photos of Compaction Activities. Clockwise From Top-Left: Photo of Excavator Compacting Quarry Spalls in Area 5. View Direction is Southeast. Top-Right: Photo of Smooth-Drum Vibratory Roller in Area 1. View Direction is North. Bottom-Right: Photo of Walk-Behind Vibratory-Plate Compactor in Area 6. View Direction is Southwest. Bottom-Left: Photo of Nuclear Densometer in Area 1.

Gravel borrow and crushed rock were compacted to at least 95% of maximum dry density (except for Areas 2, 3, 4, and 5 as discussed below) as measured by a nuclear densometer. Percent compaction was measured at least once per 10,000 square feet per lift. Geotechnical staff from Krazan evaluated the compaction. Krazan's compaction reports are attached as Attachment E-20.

The nuclear densometer measurements were referenced to results from modified Proctors of representative samples. The Proctor tests were performed prior to the start of fill placement and progressively during placement and compaction of fill. Lab reports for the Proctors are provided as Attachments E-2 through E-6 and E-18.

Crushed rock at Area 2 was compacted to a dense and unyielding condition as evaluated using a <sup>1</sup>/<sub>2</sub>-inch-diameter steel T-probe in a grid pattern throughout the individual lifts. A

nuclear densometer was used to measure the percent compaction for informational purposes. The percent compaction was measured at values of at least 87% of maximum dry density except in one lift in a 6-foot square area where the measured compaction was 84%.

Gravel borrow at Areas 3, 4, and 5 was compacted to at least 90% of maximum dry density as measured by a nuclear densometer.

Gravel Borrow, Gradation Results, Washington Rock Quarries Quality Test Report



#### **Quality Test Report**

PlantP003-King CreekProduct1980-3-Gravel Borrow 4" MinusSpecification198-3 9-03.14(1) Gravel Borrow



Sample Information

	Date Sai	mpled By Type Method Location	10/23 RYAN Produ Produ AMI S	3/2021 09:00 N HOGG uction uction Cone	(W&D)		t <b>Note</b> good fo	I	lit Sample Resample 983-3 Gravel Bor	row for SEW	
	Dete	De men la te d	40/00	12024 00:00	Gra	adation Res	sults		Tested Dr. Co	a na a n La tha na	
	Date	ompleted	10/23/	/2021 09:00					Tested By Sp	encer Leinam	
<b>Unit</b> Ib	Moist	Mass	-	<b>7 Mass</b> 2.75	Wash Mass 12.31	s Moist	ure %	Was	<b>sh Loss %</b> 3.5	Proced	ure
Sieve	• N	lass Retain		Cum Mass Retained	Ind % Retained	% Retained	% P	assing	Target	Specification	Comment
8" (200m	nm)		00	0.00	0.0	0.0		100.0			
6" (150m	,		00	0.00	0.0	0.0		100.0			
4" (100m	nm)	0.	00	0.00	0.0	0.0		100.0		100-100	
3" (75m	m)	0.	00	0.00	0.0	0.0		100.0			
2 1/2" (63	mm)	0.	00	0.00	0.0	0.0		100.0			
2" (50m	m)	0.	00	0.00	0.0	0.0		100.0		75-100	
1/2" (37.	5mm)	0.	00	0.00	0.0	0.0		100.0			
1" (25m	m)	0.	74	0.74	5.8	5.8		94.2			
3/4" (19n		0.	54	1.28	4.2	10.0		90.0			
1/2" (12.5	mm)	1.	19	2.47	9.3	19.4		80.6			
3/8" (9.5r	mm)	0.	62	3.09	4.9	24.2		75.8			
#4 (4.75r	nm)	1.	25	4.34	9.8	34.0		66.0		50-80	
#10 (2m	ım)	1.	12	5.46	8.8	42.8		57.2			
#40 (.425	mm)	3.	67	9.13	28.8	71.6		28.4		0-30	
#50 (.3m	חm)	1.	45	10.58	11.4	83.0		17.0			
#100 (.15	,		32	11.90	10.4	93.3		6.7			
#200 (75	µm)		33	12.23	2.59	95.92		4.08		0-7	
Pan		0.	06	12.29	4.08	100.00		0.00			
					Oth	er Test Re	sults				
est Name				Date		Result	Unit	Target	Specif	ication	Comment
				Procedure		Lab			Testeo	іВу	
E				10/23/2021	09:00	64	%				
				ASTM D241	9				Spenc	er Letham	

Gravel Borrow, Gradation and Proctor Results, HWA GeoSciences, Inc., Project No. 2011-048-23



September 17, 2021 HWA Project No. 2011-048-23 Task 11

# Shannon & Wilson

400 North 34<sup>th</sup> Street, Suite 100 Seattle, WA 98103

Attn:	Mr. Ryan Peterson, P.E.
Subject:	MATERIALS LABORATORY REPOR 8801 Remediation
	Client Project No.: 103485-008

#### Dear Mr. Peterson;

In accordance with your request, HWA GeoSciences Inc. (HWA) performed laboratory testing for the above referenced project. Herein we present the results of our laboratory analyses, which are summarized on the attached Figures. The laboratory testing program was performed in general accordance with your instructions and appropriate ASTM Standards as outlined below.

**SAMPLE DESCRIPTION:** One sample of Gravel Borrow was delivered to our laboratory on September 14, 2021 by Shannon & Wilson personnel. The sample was delivered in three large plastic bags designated with the project number, material type, and material source. The bags were recombined before testing, and the sample was designated as AG-1.

**PARTICLE SIZE ANALYSIS OF SOILS:** The particle size distribution of the specified sample was determined in general accordance with ASTM D6913. The results are plotted on the attached Particle Size Distribution Report, Figure 1.

SAND EQUIVALENT VALUE OF SOILS AND FINE AGGREGATE: The sand equivalent value of the sample was determined in general accordance with ASTM D2419. The results are reported in the "Remarks" section of the Particle Size Distribution Report.

September 17, 2021 HWA Project No. 2011-048-23 Task 11

**LABORATORY COMPACTION CHARACTERISTICS OF SOIL (PROCTOR TEST):** The sample was tested using method ASTM D 1557 (Modified Proctor) Method C. The test was performed on the portion of the sample passing <sup>3</sup>/<sub>4</sub>", as required by the test procedure. The maximum dry density and optimum moisture content result have been corrected for the amount of over-sized material using method ASTM 4718. The test results are summarized on the Compaction Test Report, Figure 2.



**CLOSURE:** Experience has shown that test values on soil and other natural materials vary with each representative sample. As such, HWA has no knowledge as to the extent and quantity of material the tested samples may represent. HWA also makes no warranty as to how representative either the samples tested or the test results obtained are to actual field conditions. It is a well-established fact that sampling methods present varying degrees of disturbance that affect sample representativeness.

No copy should be made of this report except in its entirety.

We appreciate the opportunity to provide laboratory testing services on this project. Should you have any questions or comments, or if we may be of further service, please call.

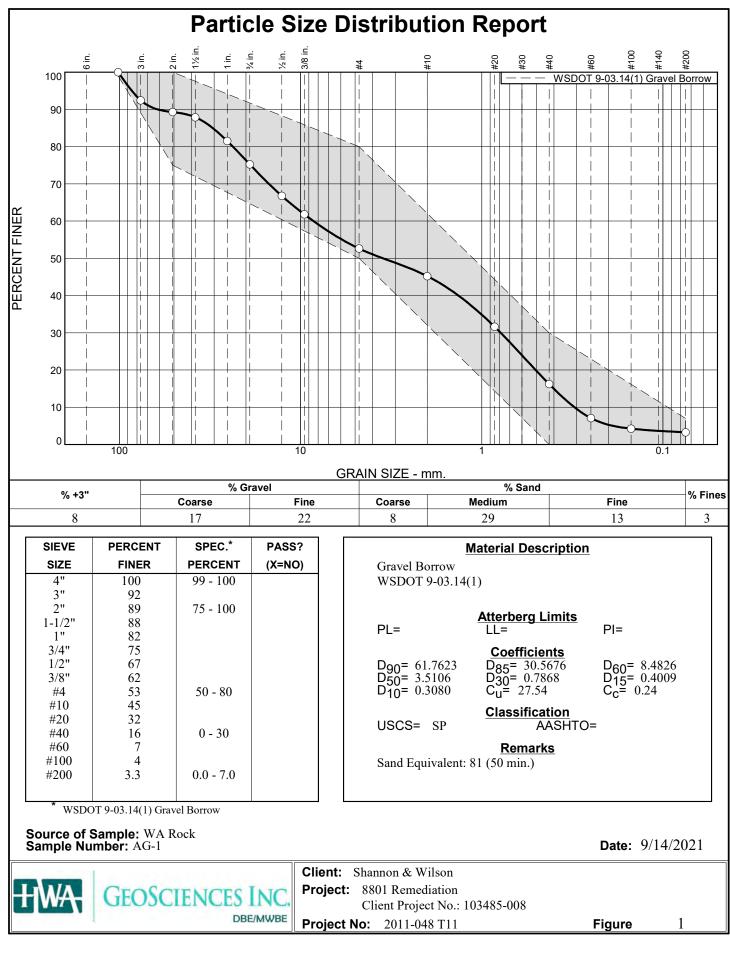
Sincerely, HWA GEOSCIENCES INC.

Greg Barker Materials Laboratory Supervisor

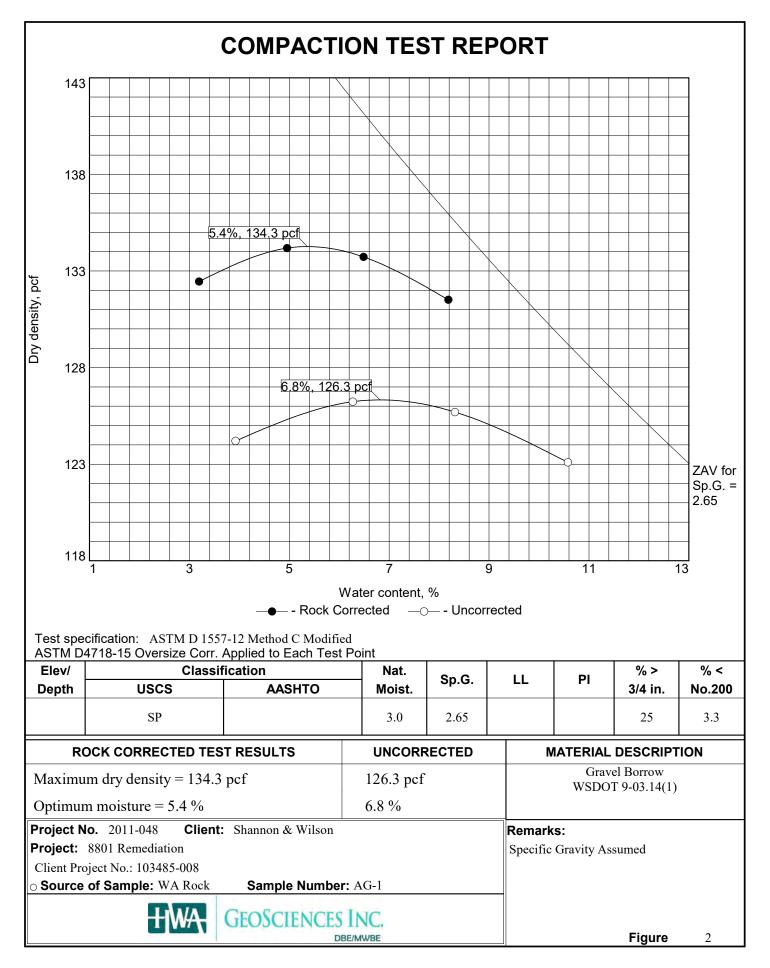
Steven E. Greene, L.G., L.E.G. Principal Engineering Geologist Vice President

Attachments:

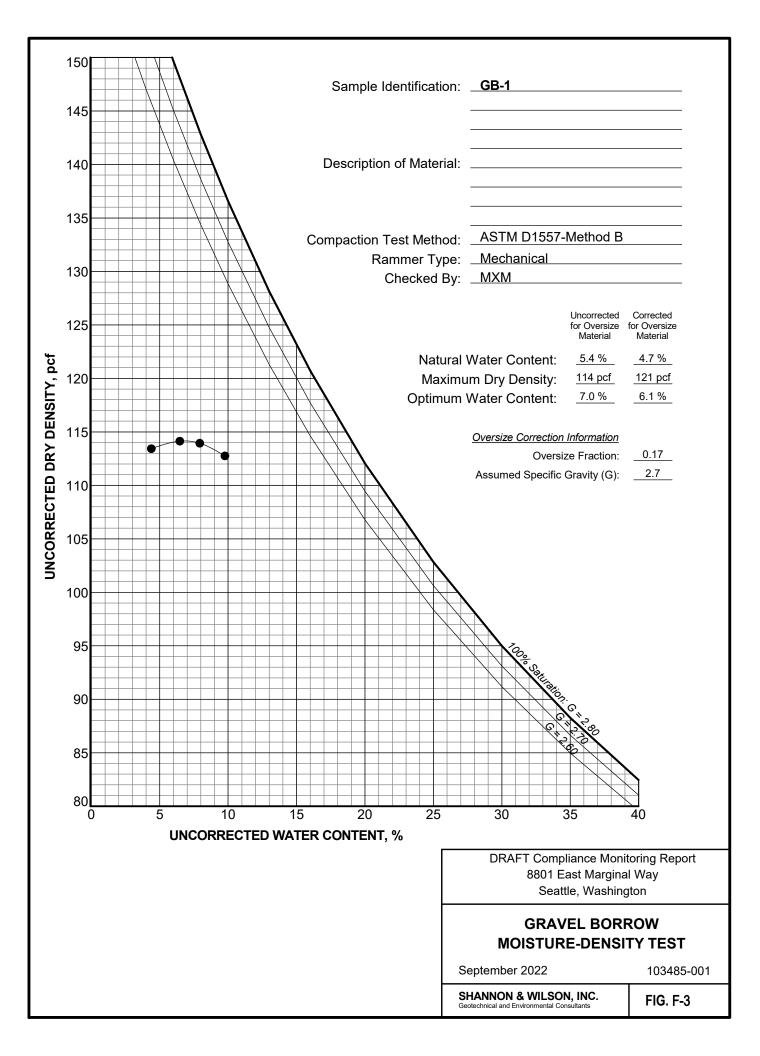
Figure 1 Figure 2 Particle Size Distribution Report Compaction Test Report



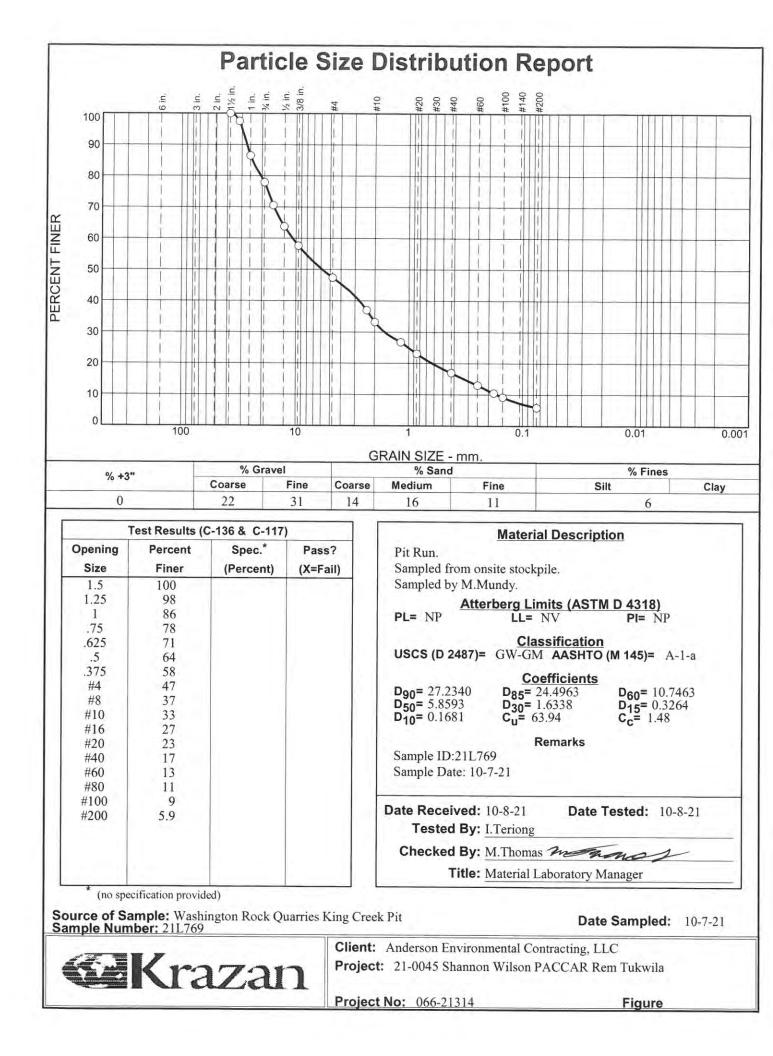
Checked By: SEG

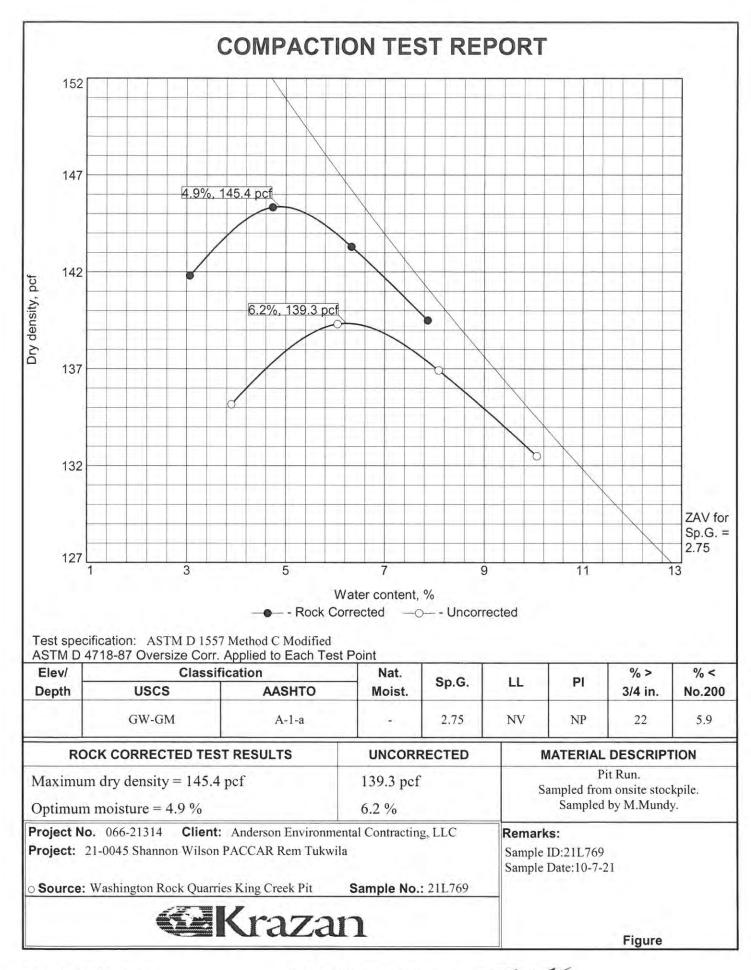


Gravel Borrow, Proctor Results, Shannon & Wilson, Project No. 103485-001



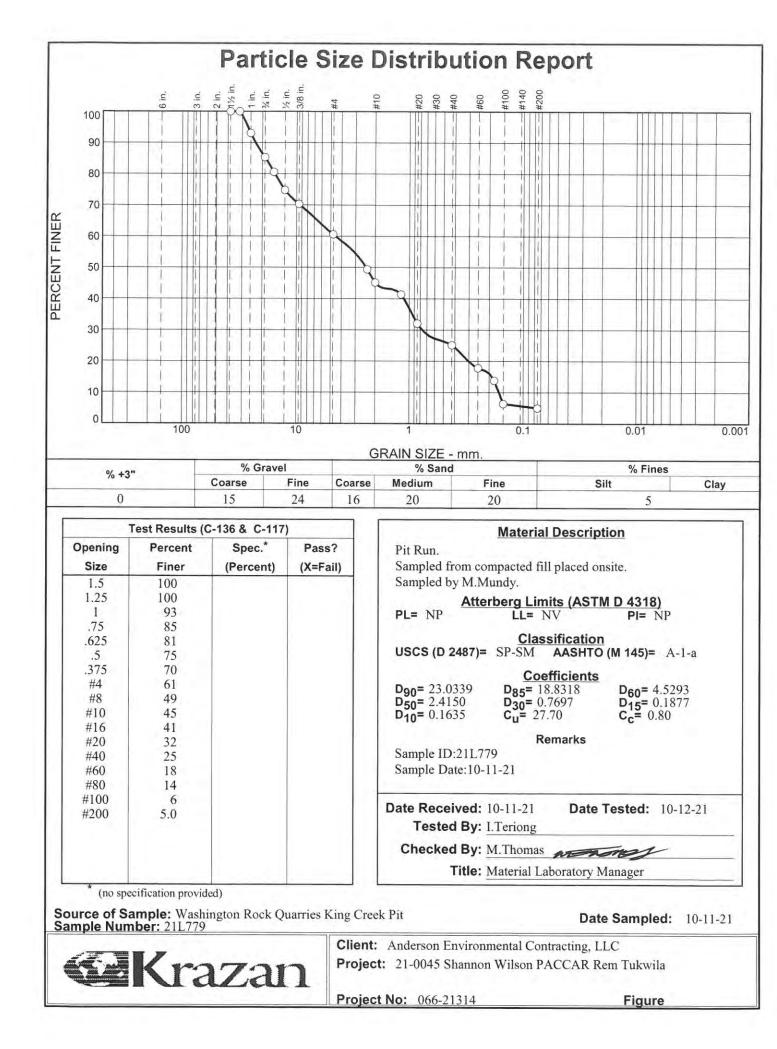
Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 21L769

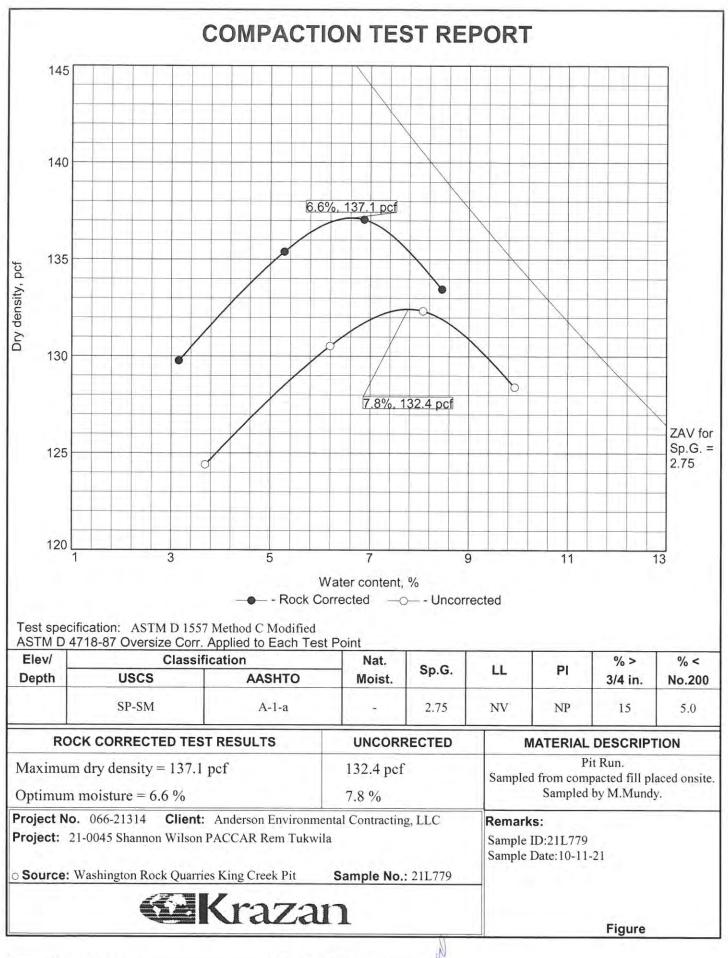




Checked By: M.Thomas

Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 21L779

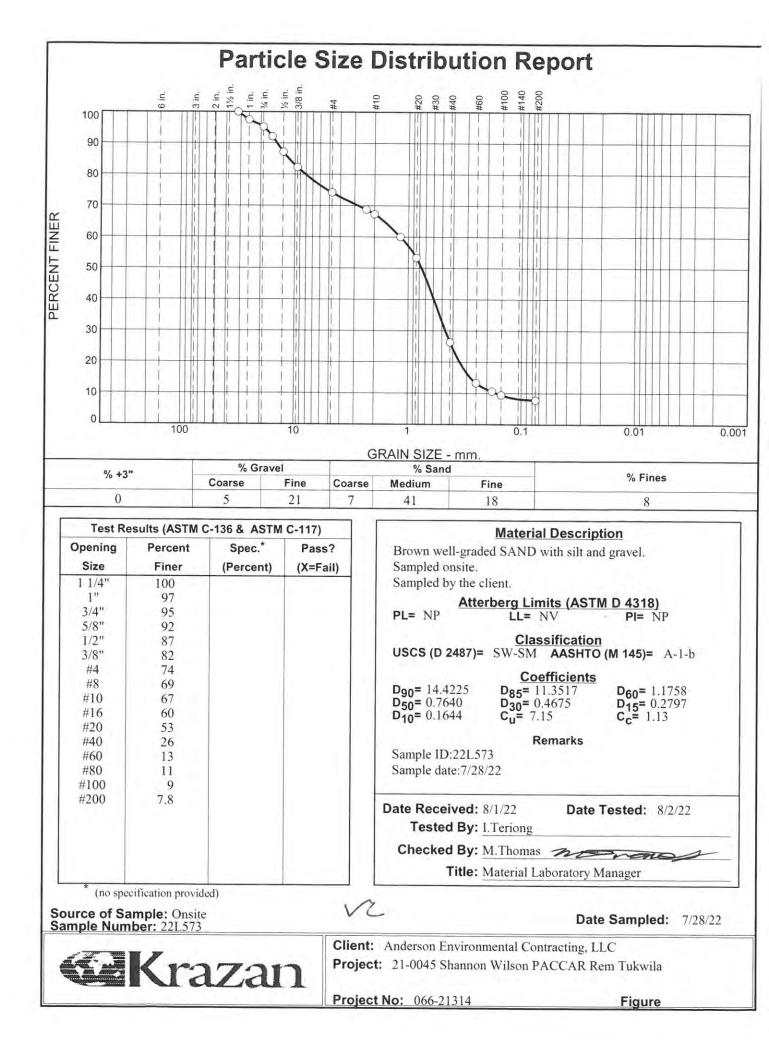


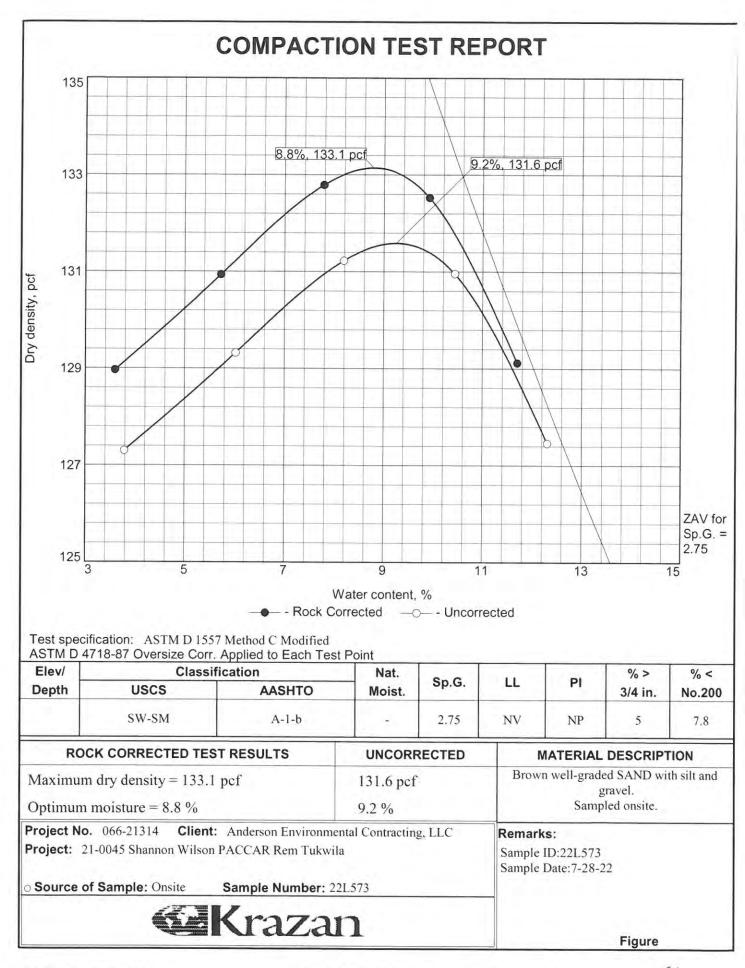


Tested By: I.Teriong

Checked By: M.Thomas

Gravel Borrow, Gradation and Proctor Results, Krazan & Associates, Inc., Sample Number 22L573





VC

Gravel Borrow, Chemical Results, Fremont Analytical, Inc., Work Order No. 2109200



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Shannon & Wilson Meg Strong 400 N. 34th Street, Suite 100 Seattle, WA 98103

RE: 8801 - Excavations Work Order Number: 2109200

September 17, 2021

#### **Attention Meg Strong:**

Fremont Analytical, Inc. received 1 sample(s) on 9/14/2021 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext. Gasoline by NWTPH-Gx Polyaromatic Hydrocarbons by EPA Method 8270 (SIM) Polychlorinated Biphenyls (PCB) by EPA 8082 Sample Moisture (Percent Moisture) Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Revision v1

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CLIENT: Project: Work Order:	Shannon & Wilson 8801 - Excavations 2109200	Work Order Sample Summary						
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received					
2109200-001	Gravel Borrow - WA Rock	09/14/2021 3:00 PM	09/14/2021 3:53 PM					



**Case Narrative** 

WO#: **2109200** Date: **9/17/2021** 

CLIENT:Shannon & WilsonProject:8801 - Excavations

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2109200-001A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2109200-001A) required Florisil Cleanup Procedure (Using Method No 3620C).

# **Qualifiers & Acronyms**



 WO#:
 2109200

 Date Reported:
 9/17/2021

#### Qualifiers:

- \* Associated LCS is outside of control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Method Detection Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery CCB - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate** HEM - Hexane Extractable Material ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



# **Analytical Report**

 Work Order:
 2109200

 Date Reported:
 9/17/2021

Client: Shannon & Wilson			Co	ollection Date:	9/14/20	021 3:00:00 PM
Project: 8801 - Excavations Lab ID: 2109200-001			Ma	atrix: Soil		
Client Sample ID: Gravel Borrow Analyses	- WA Rock Result	RL	MDL	Qual Units	DF	Date Analyzed
Polychlorinated Biphenyls (PCB)	by EPA 8082			Batch ID: 337	04	Analyst: SB
Aroclor 1016	ND	0.0491	0.00791	mg/Kg-d	∵y 1	09/15/21 13:53:36
Aroclor 1221	ND	0.0491	0.00791	mg/Kg-d	y 1	09/15/21 13:53:36
Aroclor 1232	ND	0.0491	0.00791	mg/Kg-d	-	09/15/21 13:53:36
Aroclor 1242	ND	0.0491	0.00791	mg/Kg-di	- ry 1	09/15/21 13:53:36
Aroclor 1248	ND	0.0491	0.00976	mg/Kg-d	-	09/15/21 13:53:36
Aroclor 1254	ND	0.0491	0.00976	mg/Kg-d	-	09/15/21 13:53:36
Aroclor 1260	ND	0.0491	0.00976	mg/Kg-d	γ 1	09/15/21 13:53:36
Aroclor 1262	ND	0.0491	0.00976	mg/Kg-d	-	09/15/21 13:53:36
Aroclor 1268	ND	0.0491	0.00976	mg/Kg-d	•	09/15/21 13:53:36
Total PCBs	ND	0.0491	0.00976	mg/Kg-d	-	09/15/21 13:53:36
Surr: Decachlorobiphenyl	104	20.6 - 142		%Rec	1	09/15/21 13:53:36
Surr: Tetrachloro-m-xylene	117	22 - 157		%Rec	1	09/15/21 13:53:36
Diesel and Heavy Oil by NWTPH-I	Dx/Dx Ext.			Batch ID: 337	03	Analyst: MM
Diesel (Fuel Oil)	ND	46.5	10.5	mg/Kg-d	ry 1	09/15/21 17:37:50
Heavy Oil	ND	93.1	20.3	mg/Kg-d	у 1	09/15/21 17:37:50
Total Petroleum Hydrocarbons	36.3	140	30.8	J mg/Kg-d	ту 1	09/15/21 17:37:50
Surr: 2-Fluorobiphenyl	79.4	50 - 150		%Rec	1	09/15/21 17:37:50
Surr: o-Terphenyl	92.3	50 - 150		%Rec	1	09/15/21 17:37:50
Polyaromatic Hydrocarbons by El	PA Method 8	<u>270 (SIM)</u>		Batch ID: 337	05	Analyst: SB
Benz(a)anthracene	ND	20.2	2.54	µg/Kg-dr	y 1	09/15/21 15:33:14
Chrysene	ND	40.4	7.32	μg/Kg-dr	-	09/15/21 15:33:14
Benzo(b)fluoranthene	ND	20.2	2.18	µg/Kg-dr		09/15/21 15:33:14
Benzo(k)fluoranthene	ND	20.2	2.73	μg/Kg-dr	-	09/15/21 15:33:14
Benzo(a)pyrene	ND	20.2	2.27	μg/Kg-dr		09/15/21 15:33:14
Indeno(1,2,3-cd)pyrene	ND	40.4	7.21	μg/Kg-dr		09/15/21 15:33:14
Dibenz(a,h)anthracene	ND	40.4	8.83	μg/Kg-dr		09/15/21 15:33:14
Surr: 2-Fluorobiphenyl	66.6	27.9 - 129		%Rec	1	09/15/21 15:33:14
Surr: Terphenyl-d14 (surr)	86.0	39.1 - 145	0	%Rec	1	09/15/21 15:33:14

Revision v1



# **Analytical Report**

 Work Order:
 2109200

 Date Reported:
 9/17/2021

Client: Shannon & Wilson Project: 8801 - Excavations		Collection Date: 9/14/2021 3:00:00 PM									
Lab ID: 2109200-001			Ma	atrix: Soil							
Client Sample ID: Gravel Borrow - W	A Rock										
Analyses	Result	RL	MDL	Qual Units DF	Date Analyzed						
Gasoline by NWTPH-Gx				Batch ID: 33708	Analyst: KT						
Gasoline	ND	6.77	2.70	mg/Kg-dry 1	09/15/21 17:06:54						
Surr: Toluene-d8	97.2	65 - 135		%Rec 1	09/15/21 17:06:54						
Surr: 4-Bromofluorobenzene	88.2	65 - 135		%Rec 1	09/15/21 17:06:54						
Total Metals by EPA Method 6020B				Batch ID: 33716	Analyst: EH						
Arsenic	4.20	0.0990	0.0332	mg/Kg-dry 1	09/16/21 17:49:17						
Copper	22.4	0.825	0.154	mg/Kg-dry 1	09/16/21 17:49:17						
Lead	2.70	0.165	0.0343	mg/Kg-dry 1	09/16/21 17:49:17						
Sample Moisture (Percent Moisture)				Batch ID: R69911	Analyst: KJ						
Percent Moisture	3.02	0.500	0.100	wt% 1	09/15/21 8:01:49						

Fremont
[ Analytical]

Work Or CLIENT:		2109200 Shannon & W	ilson								•			-
Project:		8801 - Excava	ations								Total Meta	als by EPA	wethoa	60200
Sample ID:	MB-337	16	SampTyp	e: MBLK			Units: mg/Kg	I	Prep Dat	te: <b>9/16/20</b>	)21	RunNo: 699	65	
Client ID:	MBLKS		Batch ID:	33716					Analysis Dat	te: 9/16/20	)21	SeqNo: 141	8604	
Analyte				Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				ND	0.0952									
Copper				0.165	0.794									J
Lead				ND	0.159									
Sample ID:	e ID: LCS-33716 SampType: LCS		e: LCS			Units: mg/Kg	I	Prep Dat	te: 9/16/20	)21	RunNo: 699	65		
Client ID:	D: LCSS Batch ID: 33716		33716					Analysis Dat	te: 9/16/20	)21	SeqNo: 141	8605		
Analyte				Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				36.7	0.0909	37.88	0	96.8	80	120				
Copper				36.5	0.758	37.88	0	96.4	80	120				
Lead				20.3	0.152	18.94	0	107	80	120				
Sample ID:	210920	0-001AMS	SampTyp	e: MS			Units: mg/Kg	J-dry	Prep Dat	te: 9/16/20	)21	RunNo: 699	65	
Client ID:	Gravel	Borrow - WA Ro	Batch ID:	33716					Analysis Dat	te: 9/16/20	)21	SeqNo: 141	8610	
Analyte				Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				44.6	0.101	41.92	4.201	96.4	75	125				
Copper				57.1	0.838	41.92	22.44	82.6	75	125				
Lead				21.2	0.168	20.96	2.700	88.2	75	125				
Sample ID:	210920	0-001AMSD	SampTyp	e: MSD			Units: mg/Kg	J-dry	Prep Dat	te: 9/16/20	)21	RunNo: 699	65	
Client ID:	Gravel	Borrow - WA Ro	Batch ID:	33716					Analysis Dat	te: 9/16/20	)21	SeqNo: 141	8611	
Analyte				Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic				47.8	0.0990	41.25	4.201	106	75	125	44.61	6.82	20	
Connor				61.1	0.825	41.25	22.44	93.8	75	125	57.08	6.83	20	
Copper														

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[Analytical]

	109200									QC S	SUMMAI	RY REF	PORT
	hannon & V								Discol	and Heavy		ייים דם	
Project: 8	801 - Exca	vations							Diesei	anu neavy			
Sample ID: MB-33703	3	SampType	E: MBLK			Units: <b>mg/Kg</b>		Prep Dat	te: <b>9/15/20</b>	)21	RunNo: 699	956	
Client ID: MBLKS		Batch ID:	33703					Analysis Da	te: 9/15/20	)21	SeqNo: 141	8260	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)			ND	50.0									
Heavy Oil			27.7	100									J
Total Petroleum Hydro	ocarbons		ND	150									
Surr: 2-Fluorobiphe	nyl		8.45		10.00		84.5	50	150				
Surr: o-Terphenyl			9.77		10.00		97.7	50	150				
Sample ID: LCS-3370	)3	SampType	E: LCS			Units: mg/Kg		Prep Dat	te: 9/15/20	)21	RunNo: 699	956	
Client ID: LCSS		Batch ID:	33703					Analysis Da	te: 9/15/20	)21	SeqNo: 141	18261	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydro	ocarbons		595	150	500.0	0	119	77.2	122				
Surr: 2-Fluorobiphe	nyl		11.4		10.00		114	50	150				
Surr: o-Terphenyl			14.4		10.00		145	50	150				
Sample ID: <b>2109206-0</b>	001AMS	SampType	e: MS			Units: mg/Kg·	dry	Prep Dat	te: 9/15/20	)21	RunNo: 699	956	
Client ID: BATCH		Batch ID:	33703					Analysis Da	te: 9/15/20	)21	SeqNo: <b>14</b> 1	18294	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydro	ocarbons		1,340	164	546.0	628.9	131	68	132				
Surr: 2-Fluorobiphe	nyl		10.6		10.92		96.8	50	150				
Surr: o-Terphenyl			14.3		10.92		131	50	150				
Sample ID: 2109206-0	001AMSD	SampType	e: MSD			Units: mg/Kg·	dry	Prep Da	te: 9/15/20	)21	RunNo: 699	956	
Client ID: BATCH		Batch ID:						Analysis Da	te: <b>9/15/20</b>	)21	SeqNo: <b>14</b> 1	18265	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydro	ocarbons		1,080	160	532.3	628.9	85.0	68	132	1,342	21.5	30	
Surr: 2-Fluorobiphe	nyl		18.4		21.29		86.4	50	150		0		
					21.29								



Work Order: CLIENT: Project:	2109200 Shannon & \ 8801 - Exca						C	QC S Viesel and Heavy	SUMMAF Oil by NW		-
Sample ID: 2109206-001AMSD		SampType: <b>MSD</b>	Units: mg/ł			dry		9/15/2021	RunNo: 69956		
Client ID: BATCH	1	Batch ID: 33703					Analysis Date:	9/15/2021	SeqNo: 141	8265	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	ighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: <b>210920</b>	8-008ADUP	SampType: <b>DUP</b>			Units: mg/Kg-	dry	Prep Date:	9/15/2021	RunNo: 699	56	
Client ID: BATCH Analyte	I	Batch ID: <b>33703</b> Result	RL	SPK value	SPK Ref Val	%REC	Analysis Date: LowLimit H	<b>9/15/2021</b> ighLimit RPD Ref Val			RPDLimit

Client ID: BATCH	Batch ID: 33703				Analysis Da	te: 9/15/20	SeqNo: 1418282			
Analyte	Result	RL	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	52.0					0	0	30	
Heavy Oil	ND	104					0	0	30	
Total Petroleum Hydrocarbons	ND	156					0	0	30	
Surr: 2-Fluorobiphenyl	9.07		10.41	87.2	50	150		0		
Surr: o-Terphenyl	10.2		10.41	97.8	50	150		0		



	09200	_							QC S	SUMMA	RY REF	POR
	annon & Wilso	Polyaromatic Hydrocarbons by EPA Mothod 9270 (S										0 (SIN
-,	01 - Excavatior					-	•	•		-		- (-
Sample ID: MB-33705	Sar	mpType: <b>MBLK</b>			Units: µg/Kg			e: 9/15/202		RunNo: 699	942	
Client ID: MBLKS	Bat	tch ID: 33705					Analysis Date	e: <b>9/15/20</b> 2	21	SeqNo: 141	7972	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene		ND	20.0									
Chrysene		ND	40.0									
Benzo(b)fluoranthene		ND	20.0									
Benzo(k)fluoranthene		ND	20.0									
Benzo(a)pyrene		ND	20.0									
Indeno(1,2,3-cd)pyrene		ND	40.0									
Dibenz(a,h)anthracene		ND	40.0									
Surr: 2-Fluorobipheny	<i>y</i> l	700		1,000		70.0	27.9	129				
Surr: Terphenyl-d14 (	(surr)	886		1,000		88.6	39.1	145				
Sample ID: LCS-33705	Sar	mpType: <b>LCS</b>			Units: µg/Kg		Prep Date	e: <b>9/15/20</b> 2	21	RunNo: 699	942	
Client ID: LCSS	Bat	tch ID: 33705					Analysis Date	e: <b>9/15/20</b> 2	21	SeqNo: 141	7973	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene		1,890	20.0	2,000	0	94.5	64.4	113				
Chrysene		1,700	40.0	2,000	0	84.8	57.3	113				
Benzo(b)fluoranthene		1,780	20.0	2,000	0	89.2	58.2	115				
Benzo(k)fluoranthene		1,730	20.0	2,000	0	86.7	53.4	121				
Benzo(a)pyrene		1,870	20.0	2,000	0	93.7	64.7	125				
Indeno(1,2,3-cd)pyrene		1,570	40.0	2,000	0	78.4	61.6	113				
Dibenz(a,h)anthracene		1,650	40.0	2,000	0	82.7	62.1	116				
Surr: 2-Fluorobipheny	<i>y</i> l	719		1,000		71.9	27.9	129				
Surr: Terphenyl-d14 (	(surr)	898		1,000		89.8	39.1	145				
Sample ID: LCSD-3370	<b>5</b> Sar	npType: <b>LCSD</b>			Units: µg/Kg		Prep Date	e: 9/15/202	21	RunNo: 699	942	
Client ID: LCSS02	Bat	tch ID: 33705					Analysis Date	e: 9/15/20	21	SeqNo: 141	7975	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene		1,850	20.0	2,000	0	92.5	64.4	113	1,890	2.16	30	

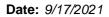


CLIENT:

Project:

#### Work Order: 2109200 QC SUMMARY REPORT Shannon & Wilson Polyaromatic Hydrocarbons by EPA Method 8270 (SIM) 8801 - Excavations Comm Bron Data: 0/15/2024 . . .. .....

Sample ID: LCSD-33705	SampType: LCSD			Units: µg/Kg		Prep Da	te: <b>9/15/20</b>	RunNo: 69942			
Client ID: LCSS02	Batch ID: 33705	atch ID: 33705				Analysis Da	te: 9/15/20	21	SeqNo: 141		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,680	40.0	2,000	0	83.9	57.3	113	1,695	1.07	30	
Benzo(b)fluoranthene	1,620	20.0	2,000	0	80.9	58.2	115	1,783	9.70	30	
Benzo(k)fluoranthene	1,880	20.0	2,000	0	94.2	53.4	121	1,735	8.27	30	
Benzo(a)pyrene	1,830	20.0	2,000	0	91.6	64.7	125	1,874	2.29	30	
Indeno(1,2,3-cd)pyrene	1,570	40.0	2,000	0	78.3	61.6	113	1,568	0.102	30	
Dibenz(a,h)anthracene	1,660	40.0	2,000	0	83.0	62.1	116	1,655	0.266	30	
Surr: 2-Fluorobiphenyl	713		1,000		71.3	27.9	129		0		
Surr: Terphenyl-d14 (surr)	852		1,000		85.2	39.1	145		0		



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Work Order:	2109200									QC S	SUMMA	RY REF	POR
CLIENT: Shannon & Wilson								D	olychlor	inated Biph	onvis (PC	B) by FD	A 808
Project:	8801 - Exca	avations							orychior		ienyis (i C		A 000
Sample ID: MB-33	3704	SampType	e: MBLK				Prep Da	te: 9/15/20	)21	RunNo: 69946			
Client ID: MBLK	KS	Batch ID:	33704					Analysis Da	te: 9/15/20	)21	SeqNo: 141	8048	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016			ND	0.0500									
Aroclor 1221			ND	0.0500									
Aroclor 1232			ND	0.0500									
Aroclor 1242			ND	0.0500									
Aroclor 1248			ND	0.0500									
Aroclor 1254			ND	0.0500									
Aroclor 1260			ND	0.0500									
Aroclor 1262			ND	0.0500									
Aroclor 1268			ND	0.0500									
Total PCBs			ND	0.0500									
Surr: Decachlor	robiphenyl		166		200.0		83.2	20.6	142				
Surr: Tetrachlor	ro-m-xylene		195		200.0		97.3	22	157				
Sample ID: LCS1.	-33704	SampType	e: LCS			Units: mg/Kg		Prep Da	te: 9/15/20	)21	RunNo: 699	946	
Client ID: LCSS		Batch ID:	33704					Analysis Da	te: 9/15/20	)21	SeqNo: 141	8049	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016			0.913	0.0500	1.000	0	91.3	52.2	136				
Aroclor 1260			1.01	0.0500	1.000	0	101	50.5	150				
Surr: Decachlor	robiphenyl		196		200.0		97.8	20.6	142				
Surr: Tetrachlor	ro-m-xylene		230		200.0		115	22	157				
Sample ID: LCS2-	-33704	SampType	e: LCS			Units: mg/Kg		Prep Da	te: 9/15/20	)21	RunNo: 699	946	
Client ID: LCSS	5	Batch ID:	33704					Analysis Da	ite: 9/15/20	)21	SeqNo: <b>14</b> 1	8050	
			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte													
Analyte Aroclor 1254			1.09	0.0500	1.000	0	109	48.1	147				
-	robiphenyl			0.0500	1.000 200.0	0	109 113	48.1 20.6	147 142				



Work Order: CLIENT: Project:	2109200 Shannon & V 8801 - Exca							Pc	olychlor	QC S	SUMMAI enyls (PC		-
Sample ID: LCS2-	33704	SampType:	LCS			Units: mg/Kg		Prep Dat	e: <b>9/15/2</b> 0	)21	RunNo: 699	946	
Client ID: LCSS		Batch ID:	33704					Analysis Dat	te: <b>9/15/20</b>	)21	SeqNo: 141	18050	
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS1E Client ID: LCSSE		SampType: Batch ID:	LCSD 33704			Units: <b>mg/Kg</b>		Prep Dat Analysis Dat	te: 9/15/20 te: 9/15/20		RunNo: <b>69</b> 9 SeqNo: <b>14</b> 1		
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016		0.	.956	0.0500	1.000	0	95.6	52.2	136	0.9129	4.59	20	
Aroclor 1260			1.04	0.0500	1.000	0	104	50.5	150	1.012	3.11	20	
Aroclor 1260 Surr: Decachloro	obiphenyl		1.04 201	0.0500	1.000 200.0	0	104 101	50.5 20.6	150 142	1.012	3.11 0	20	



Work Order:	2109200									QC S	SUMMAI	RY REF	PORT
CLIENT:	Shannon & V										Gasoline	by NWT	PH-G
Project:	8801 - Excav	ations									Cuconne	,,	
Sample ID: LCS-3	3708	SampTyp	e: LCS			Units: mg/Kg		Prep Date	e: 9/15/20	21	RunNo: 699	954	
Client ID: LCSS		Batch ID:	33708					Analysis Dat	e: <b>9/15/20</b>	21	SeqNo: <b>14</b> 1	8255	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			27.9	5.00	25.00	0	112	65	135				
Surr: Toluene-d8	3		1.28		1.250		102	65	135				
Surr: 4-Bromoflu	iorobenzene		1.29		1.250		104	65	135				
Sample ID: MB-33	708	SampTyp	e: MBLK			Units: mg/Kg		Prep Date	e: 9/15/20	21	RunNo: 699	954	
Client ID: MBLK	S	Batch ID:	33708					Analysis Dat	e: <b>9/15/20</b>	21	SeqNo: 141	18256	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			ND	5.00									
Surr: Toluene-d8	3		1.22		1.250		97.9	65	135				
Surr: 4-Bromoflu	lorobenzene		1.12		1.250		89.9	65	135				
Sample ID: 210920	00-001BDUP	SampTyp	e: DUP			Units: mg/Kg	dry	Prep Date	e: 9/15/20	21	RunNo: 699	954	
Client ID: Gravel	Borrow - WA Ro	Batch ID:	33708					Analysis Dat	e: <b>9/15/20</b>	21	SeqNo: 141	18243	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			ND	6.77						0	0	30	
Surr: Toluene-d8	3		1.66		1.692		98.1	65	135		0		
Surr: 4-Bromoflu	iorobenzene		1.52		1.692		89.8	65	135		0		
Sample ID: <b>21092</b> 1	11-003BMS	SampTyp	e: MS			Units: mg/Kg	dry	Prep Date	e: <b>9/15/20</b>	21	RunNo: 699	954	
Client ID: BATCH	н	Batch ID:	33708					Analysis Dat	e: <b>9/15/20</b>	21	SeqNo: 141	18249	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			17.6	4.08	20.42	2.090	75.9	65	135				
Surr: Toluene-d8	3		1.02		1.021		100	65	135				
Surr: 4-Bromoflu	iorobenzene		1.05		1.021		103	65	135				



## Sample Log-In Check List

С	lient Name:	SW	Work Order Numb	per: 2109200	
Lo	ogged by:	Clare Griggs	Date Received:	9/14/2021	3:53:00 PM
<u>Cha</u>	nin of Cust	ody			
1.	Is Chain of C	custody complete?	Yes 🖌	No 🗌	Not Present
2.	How was the	sample delivered?	<u>Client</u>		
<u>Log</u>	<u>. In</u>				
3.	Coolers are	present?	Yes 🗸	No 🗌	NA 🗌
4.	Shipping con	tainer/cooler in good condition?	Yes 🖌	No 🗌	
5.		ls present on shipping container/cooler? nments for Custody Seals not intact)	Yes	No 🗌	Not Present 🗹
6.	Was an atter	npt made to cool the samples?	Yes	No 🗸	NA 🗌
		<u>U</u>	nknown prior to re	<u>ceipt.</u>	
7.	Were all item	ns received at a temperature of >2°C to 6°C *	Yes 🗌	No 🗌	NA 🗹
8.	Sample(s) in	proper container(s)?	Yes 🔽	No 🗌	
9.	Sufficient sa	mple volume for indicated test(s)?	Yes 🗹	No 🗆	
10.	Are samples	properly preserved?	Yes 🖌	No 🗌	
11.	Was preserv	ative added to bottles?	Yes	No 🔽	NA 🗌
12.	Is there head	Ispace in the VOA vials?	Yes	No 🗌	NA 🔽
13.	Did all samp	les containers arrive in good condition(unbroken)?	Yes 🖌	No 🗌	
14.	Does paperw	vork match bottle labels?	Yes 🖌	No 🗌	
15.	Are matrices	correctly identified on Chain of Custody?	Yes 🖌	No 🗌	
16.	Is it clear wh	at analyses were requested?	Yes 🖌	No 🗌	
17.	Were all hold	ling times able to be met?	Yes 🖌	No 🗌	
<u>Spe</u>	cial Handl	ing (if applicable)			
18.	Was client n	otified of all discrepancies with this order?	Yes	No 🗌	NA 🔽
	Person	Notified: Date			
	By Who	om: Via:	eMail Pho	one 🗌 Fax	In Person
	Regard	ing:			
	Client Ir	nstructions:			
19.	Additional re	marks:			

#### Item Information

Item #	Temp ⁰C
Sample	20.5

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

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Image: Sharmon & Wilson     wave of 14/2021     wave of 14/802     wave of 14/800       same: 400 N. 34th Street, Suite 100     meanser, 103485-008     meanser, 103485-008       same: 400 N. 34th Street, Suite 100     meanser, 103485-008     meanser, 103485-008       same: 400 N. 34th Street, Suite 100     meanser, 103485-008     meanser, 103485-008       same: 400 N. 34th Street, Suite 100     meanser, 103485-008     meanser, 103485-008       same: 400 N. 34th Street, Suite 100     meanser, 103485-008     meanser, 103485-008       same: 506-685-6673     meanser, 103485-008     meanser, 103485-008       same: 506     same: 506     meanser, 103485-008     meanser, 103485-008       same: 506     same: 506     meanser, 103485-008     meanser, 103485-008       same: 506     same: 506     same: 506     meanser, 12485-008       same: 506     14/421     1500     1500     1500       same: 506     14/421     1500     1500     1500       same: 606     14/421     1500     1500     1500 <th>Page 1 of 2</th> <th>www.fremontanalytical.com</th> <th>www.fremo</th> <th></th> <th></th> <th>COC 1.3 - 11.06.20</th>	Page 1 of 2	www.fremontanalytical.com	www.fremo			COC 1.3 - 11.06.20
Super Super Super Nume:     BB01 - Excavations     Super Nume:     Super Nume		0	Date/Time		Print Name	Relinquished/Signature) x
Solid Science     Science <td>lexandra Trojo 09,</td> <td>Ceived (Signature)</td> <td>u 154</td> <td>Telson</td> <td>RYAN PE</td> <td>Relinquished (Signature)</td>	lexandra Trojo 09,	Ceived (Signature)	u 154	Telson	RYAN PE	Relinquished (Signature)
Inter- WW Statume:     Bit 1     Inter- 1     Internet Int	X 2 Pario	alf of the Client named above, that I have	Fremont Analytical on beha	Agreement with this Agreement.	enter into this d backside of	I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.
Subscription     Difference     Image: 1     Image: 1 <th< td=""><td></td><td></td><td>O-Phosphate</td><td></td><td>Chloride</td><td>***Anions (Circle): Nitrate Nitrite</td></th<>			O-Phosphate		Chloride	***Anions (Circle): Nitrate Nitrite
Les WM 3003     Date:     9/14/2021     Page:     1     aboratory Project No: (Internal): Second Remark:       206-332.7003     Project Num:     8801 - Excavations     Second Remark:     Second Remark:       Project Num:     103485-008     Second Remark:     Second Remark:       Project Num:     IO3485-008     Second Remark:     Second Remark:       Project Num:     IO3485-008     Second Remark:     Second Remark:       Project Num:     Collected by:     Ryan Peterson     Semple Disposition Disposition       Report To IPMI:     Meg Strong     Semple Disposition     Desum to diant       Project Num:     Meg Strong     Semple Disposition     Desum to diant       Project Num:     Meg Strong     Semple Disposition     Desum to diant       Project Num:     Meg Strong     Semple Disposition     Desum to diant       Project Num:     Meg Strong     Second Remark:     Second Remark:       Project Num:     Second Remark:     Second Remark:     Second Remark:       Sond     Second Remark:     Second Remark:     Second Remark:	Sr Sn Ti Ti V Zn Standard	Cr CW Fe Hg K	Ag Al As B Ba	TAL	Priority Pollutants	**Metals (Circle): MTCA-S RCRA-8 P
Level V 4/2021         Inge:         1         of.         1         Loboratory Project No. (Internal):         Special Remarks:         Special Remarks: <td>WW = Waste Water</td> <td></td> <td>SL = Solid, W = Water,</td> <td>S = Soil,</td> <td>O = Other, P = Pro</td> <td>latrix: A = Air, AQ = Aqueous, B = Bulk,</td>	WW = Waste Water		SL = Solid, W = Water,	S = Soil,	O = Other, P = Pro	latrix: A = Air, AQ = Aqueous, B = Bulk,
Lew My Substantions         Project Name:         9/14/2021         Project Name:         1         Laboratory Project No (Internal); Special Remarks:           206-352-7178         Project Name:         8801 - EXCaVations         Special Remarks:         Special Remarks:           Project Name:         R801 - EXCaVations         Special Remarks:         Special Remarks:         Special Remarks:           Collected by:         Ryan Peterson         Internal:         Sample Report to (PM):         Meg Strong         Sample Disposal:         Freuen to dient           Report to (PM):         Meg Strong         Sample Disposal:         Freuen to dient         Sample Disposal:         Freuen to dient           Imme         Mu finality:         Cont.         Coll         Coll </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>9</td>						9
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Er, WA 951/3         Date:         9/14/2021         Page:         1         of:         1         Laboratory Project No (internal):           206-352-7178         Project Name:         8801 - Excavations         Special Remarks:						2
Lew WA Status     Date:     9/14/2021     Page:     1     of:     1     Laboratory Project No (internal):       206-352-7178     Project Name:     8801 - Excavations     Special Remarks:     Special Remarks:       206-352-7178     Project No:     103485-008     Special Remarks:     Special Remarks:       Project No:     103485-008     Visit No (internal):     Special Remarks:     Special Remarks:       Collected by:     Ryan Peterson     Visit No (internal):     Special Remarks:     Special Remarks:       Uscation:     Ortling, WA     Uscation:     Ortling, WA     Sample Disposal:     Report to (PM): Meg Strong       PM Email:     MJS@shanwil.com     Sample Disposal:     Sample Disposal:     Return to client       Sample     Status     Status     Status     Status     Status       Visit     Status     Status     Status     Status     Status		X	_	-	9/14/21	1 Gravel Borrow - WA Rock
Low Model     Project Name:     9/14/2021     Page:     1     Laboratory Project No (internal):       206-352-7178     Project Name:     8801 - Excavations     Special Remarks:       Project No:     103485-008     Special Remarks:       Indication:     Orting, WA     Special Remarks:       Indication:     Orting, WA     Sample Disposal:       Report To (PM):     Meg Strong     Sample Disposal:       PM Email:     MJS@shanwil.com     Sample Disposal:		A1. Co 2 30 0 12 14	100-100-000-000-000-000-000-000-000-000		Sample Date	Sample Name
Lew, WA SPSUB     Date:     9/14/2021     Page:     1     Laboratory Project No (internal):       206-352-7178     Project Name:     8801 - Excavations     Special Remarks:       Project No:     103485-008     Special Remarks:       collected by:     Ryan Peterson     special Remarks:       Location:     Orting, WA     Sample Disposal:       Report To (PM):     Meg Strong     Sample Disposal:	111111		PM Email: MJS@shanw			Fax:
Inc., WA 95103         Date: 9/14/2021         Page: 1         1         1           206-352-7178         Project Name: 8801 - Excavations         Project No: 103485-008         Inclusion: 103485-008         Inclusion: Orting, WA         I		guo	Report To (PM): Meg Stro		*****	Telephone: 206-695-6673
Inc., WA 95103         Date:         9/14/2021         Page:         1         of:         1           206-352-7178         Project Name:         8801 - Excavations         1			Location: Orting, WA		33	city, State, Zip: Seattle, WA 98133
Date:         9/14/2021         Page:         1         of:         1           Project Name:         8801 - Excavations         Project No:         103485-008         Project No:         103485-00		erson	collected by: Ryan Pete	0	Suite 10	Address: 400 N. 34th Street, Suite 100
Date:         9/14/2021         Page:         1         of:         1           Project Name:         8801 - Excavations         1		8	Project No: 103485-008			client Shannon & Wilson
Date: 9/14/2021 Page: 1 of. 1	Special Remarks:	cavations	Project Name: 8801 - EX	x: 206-352-7178	ſ,	JI Analytical
	Laboratory Project No (internal): 209300	1 of:	Date: 9/14/2021	al: 206-352-3790		
3600 Fremont Ave N. Chain of Custody Record & Laboratory Services Agreement	pratory Services Agreement		Chain of Cu	Fremont Ave N.	3	

### Attachment E-8

# Gravel Borrow, Chemical Results, ALS Environmental, Request No. K2198871



ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626 **T** : +1 360 577 7222 **F** : +1 360 636 1068 www.alsglobal.com

September 02, 2021

Analytical Report for Service Request No: K2109971

Craig Nelson Anderson Environmental Contracting 705 Colorado Street Kelso, WA 98626

**RE:** Paccar

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory August 26, 2021 For your reference, these analyses have been assigned our service request number **K2109971**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3260. You may also contact me via email at Luke.Rahn@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Luke Rahn Project Manager



ALS Environmental ALS Group USA, Corp 1317 South 13th Avenue Kelso, WA 98626 **T :** +1 360 577 7222 **F :** +1 360 636 1068 www.alsglobal.com

## **Table of Contents**

Acronyms Qualifiers State Certifications, Accreditations, And Licenses Chain of Custody Subcontract Lab Results

### Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M MCL	Modified Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH tr	Total Petroleum Hydrocarbons Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

#### **Inorganic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

#### **Metals Data Qualifiers**

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- $i \,$   $\,$  The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
   DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- ${f F}$  The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

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### ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources- data/water-sciences-home-page/laboratory-certification-branch/non-field-lab- certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaborator yAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com to our laboratory's NELAP-approved quality assurance program. A complete	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.



# Chain of Custody

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

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Blank, Surrogate,	as					Dissolved	Metals:	Al As	Sb B	a Be	B Ca	Cd	Co	Cr Cu	ı Fe	Pb N	lg M	n Mo	o Ni	K Ag	Na	Se S	Sr TI	Sn V 🕻	Zn Hg
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Copyright 2012 by ALS Group

8801 East Marginal Way S, Tukwila, WA Remedial Excavation and Air Sparging / Soil Vapor Extraction (AS/SVE) System Specifications March 15, 2021

13.1(5) Quarry Spall, and shall be free from roots and other organic matter, trash, contamination, debris, concrete, recycled material, snow, ice or frozen materials.

E. One sample of material per backfill/bedding material source shall be collected and tested for chemical parameters at a frequency of once per 5,000 tons. The chemical parameters are listed below.

Chemical Parameter	Test Frequency	Criteria
Polychlorinated biphenyls (PCBs)	One per source	Non-detect at less than 0.1 milligrams per kilogram (mg/kg)
Total Petroleum Hydrocarbons (TPH)	One per source	Non-detect
Carcinogenic polycyclic aromatic hydrocarbons (cPAHs)	One per source	Below 0.001 mg/kg
Lead	One per source	Below 250 mg/kg
Arsenic	One per source	Below 7.3 mg/kg
Copper	One per source	Below 36 mg/kg

- F. The SVE screens, AS conduits, and adjacent gravel bedding material will be wrapped in a nonwoven geotextile to limit introduction of fines into the SVE screens. The geotextile will be Mirafi® 140N by Tencate Geosynthetics.
- G. Material specifications and certifications shall be submitted to the Engineer for approval prior to use on site.

#### 2.02 STOCKPILES

- A. If required, Contractor shall construct a stockpile for the temporary storage of excavation and trench spoils. The maximum stockpile size shall be 500 cubic yards. Stockpiles shall be constructed to include:
  - 1. A chemically resistant geomembrane liner placed underneath the stockpile material. The liner shall be free of holes or other damage. Non-reinforced geomembrane bottom liners shall have a minimum thickness of 10 mils. The ground surface on which the geomembrane liner is to be placed shall be free of rocks greater than 0.5 inches in diameter and any other object which could damage the membrane.
  - 2. A geomembrane top liner free of holes or other damage to prevent precipitation from entering the stockpile. The top liner shall be extended over the berms and anchored or ballasted to prevent it from being removed or damaged by wind. Non-reinforced geomembrane top liners shall have a minimum thickness of 6 mils.



for time or money will be made if resubmittals of the CMH Plan are required due to deficiencies in the plan. At a minimum, the CMH Plan shall include:

- a. Schedule of activities.
- b. Method of excavation and equipment to be used.
- c. Shoring or side-wall slopes proposed.
- d. Dewatering plan.
- e. Storage methods and locations for liquid and solid contaminated material.
- f. Borrow sources and haul routes.
- g. Methods and procedures for the transportation, and disposal of contaminated materials, in compliance with applicable federal, state, and local laws and regulations, including the documentation associated with contaminated material and the use of certified, licensed transporters.
- h. Decontamination procedures.

#### PART 2 PRODUCTS

#### 2.01 BEDDING AND BACKFILL MATERIAL

- A. Bedding and backfill material shall be procured and installed by the Contractor. Material excavated from the remedial excavations shall not be used as backfill.
- B. For AS/SVE excavations, bedding material shall be placed around the SVE lines and AS conduits as shown in Figures 1.6, 1.7, and 1.10. Bedding material shall be round washed gravel meeting the gradation requirements of Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction (2021), Section 9-03.1(4)C, Course Aggregate for Concrete, AASHTO Grading No. 8, or equal as approved by the Engineer. The bedding material shall be free from roots and other organic matter, trash, contamination, debris, snow, ice or frozen materials.
- C. For remedial excavations, backfill material above the water table shall include clean well-graded mixtures of sand and gravel (commonly called "gravel borrow" or "pit-run") meeting the gradation requirements of WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (2021), Section 9-03.14(1) Gravel Borrow, and shall be free from roots and other organic matter, trash, contamination, debris, snow, ice or frozen materials. Groundwater level in the vicinity has been observed at 8 to 10 feet below existing ground surface (begs).
- D. For remedial excavations, backfill material below the water table shall be clean quarry spall meeting the gradation requirements of WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (2021), Section 9-



## Subcontract Lab Results

ALS Environmental—Kelso Laboratory 1317 South 13th Avenue, Kelso, WA 98626 Phone (360)577-7222 Fax (360)636-1068 www.alsglobal.com

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September 1, 2021

Mr. Luke Rahn ALS Laboratory Group 1317 South 13th Avenue Kelso, WA 98626

Dear Mr. Rahn,

On August 31st, 1 sample was received by our laboratory and assigned our laboratory project number EV21080145. The project was identified as your K2109971. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Aler. Perry

Glen Perry Laboratory Director

 Page 1

 ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208
 PHONE 425-356-2600
 FAX 425-356-2626

 ALS Group USA, Corp dba ALS Environmental



#### CERTIFICATE OF ANALYSIS

CLIENT: CLIENT CONTACT: CLIENT PROJECT: CLIENT SAMPLE ID	ALS Laboratory Gro 1317 South 13th Av Kelso, WA 98626 Luke Rahn K2109971 1		COLI	DATE: ALS JOB#: ALS SAMPLE#: ATE RECEIVED: LECTION DATE: CCREDITATION:	EV21080145 EV21080145-01 08/31/2021 8/26/2021 11:27:00 AM		
		SAMPLE	DATA RESULTS				
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS / DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/31/2021	KLS
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/31/2021	JNF
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/31/2021	JNF
PCB-1016	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1221	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1232	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1242	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1248	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1254	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1260	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
PCB-1268	EPA-8082	U	0.10	1	MG/KG	09/01/2021	GAP
Arsenic	EPA-6020	3.4	0.20	1	MG/KG	08/31/2021	EBS
Copper	EPA-6020	25	0.10	1	MG/KG	08/31/2021	EBS
Lead	EPA-6020	3.8	0.10	1	MG/KG	08/31/2021	EBS
						ANALYSIS / DATE	
SURROGATE	METHOD	%REC				DATE	ВТ
TFT	NWTPH-GX	97.2				08/31/2021	KLS
C25	NWTPH-DX	85.3				08/31/2021	JNF
TCMX	EPA-8082	83.4				09/01/2021	GAP
DCB	EPA-8082	73.1				09/01/2021	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

Page 2 ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 PHONE 425-356-2600 FAX 425-356-2626 ALS Group USA, Corp dba ALS Environmental

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#### CERTIFICATE OF ANALYSIS

CLIENT:	ALS Laboratory Group	DATE:	9/1/2021
	1317 South 13th Avenue	ALS SDG#:	EV21080145
	Kelso, WA 98626	WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Luke Rahn		
CLIENT PROJECT:	K2109971		

#### LABORATORY BLANK RESULTS

#### MBG-083121S - Batch 169753 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	08/31/2021	KLS
U - Analyte analyzed for bu	It not detected at level above rep	porting limit.				
MB-083121S - Batch 1	69734 - Soil by NWT	PH-DX				
ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/31/2021	JNF
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/31/2021	JNF

#### MB-083121S - Batch 169762 - Soil by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1221	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1232	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1242	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1248	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1254	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1260	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP
PCB-1268	EPA-8082	U	MG/KG	0.10	09/01/2021	GAP

U - Analyte analyzed for but not detected at level above reporting limit.

#### MB-083121S - Batch 169735 - Soil by EPA-6020

				REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/31/2021	EBS
Copper	EPA-6020	U	MG/KG	0.10	08/31/2021	EBS
Lead	EPA-6020	U	MG/KG	0.10	08/31/2021	EBS

U - Analyte analyzed for but not detected at level above reporting limit.

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#### CERTIFICATE OF ANALYSIS

CLIENT:	ALS Laboratory Group
	1317 South 13th Avenue
	Kelso, WA 98626
CLIENT CONTACT:	Luke Rahn
CLIENT PROJECT:	K2109971

DATE: ALS SDG#: WDOE ACCREDITATION:

9/1/2021 EV21080145 C601

#### LABORATORY CONTROL SAMPLE RESULTS

#### ALS Test Batch ID: 169753 - Soil by NWTPH-GX

				LIMI	TS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
TPH-Volatile Range - BS	NWTPH-GX	70.0		66.5	122.7	08/31/2021	KLS
TPH-Volatile Range - BSD	NWTPH-GX	71.9	3	66.5	122.7	08/31/2021	KLS

#### ALS Test Batch ID: 169734 - Soil by NWTPH-DX

				LIN	NITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
TPH-Diesel Range - BS	NWTPH-DX	91.7		75.5	122.1	08/31/2021	JNF
TPH-Diesel Range - BSD	NWTPH-DX	96.5	5	75.5	122.1	08/31/2021	JNF

#### ALS Test Batch ID: 169762 - Soil by EPA-8082

	····, -···			LIN	IITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
PCB-1016 - BS	EPA-8082	96.0		50	150	09/01/2021	GAP
PCB-1016 - BSD	EPA-8082	99.4	3	50	150	09/01/2021	GAP
PCB-1260 - BS	EPA-8082	94.5		50	150	09/01/2021	GAP
PCB-1260 - BSD	EPA-8082	107	12	50	150	09/01/2021	GAP

#### ALS Test Batch ID: 169735 - Soil by EPA-6020

				LIMIT	S	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
Arsenic - BS	EPA-6020	95.6		80	120	08/31/2021	EBS
Arsenic - BSD	EPA-6020	95.7	0	80	120	08/31/2021	EBS
Copper - BS	EPA-6020	99.2		80	120	08/31/2021	EBS
Copper - BSD	EPA-6020	99.5	0	80	120	08/31/2021	EBS
Lead - BS	EPA-6020	94.0		80	120	08/31/2021	EBS
Lead - BSD	EPA-6020	94.4	0	80	120	08/31/2021	EBS

APPROVED BY

Aler, Perry

Laboratory Director

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ALS Contact: Luke Raim	5410				Invoice Information PO# 51K2109971 Bill to	Page 1
	EVZI080145	ง เเจ <sub>ิ</sub> ม	X		Report Requirements         I. Results Only         II. Results + QC Summaries         III. Results + QC and Calibration Summaries         III. Results + QC and Calibration Summaries         III. Results + QC and Calibration Summaries         PQL/MDL/J         PD         D	1200 Airbill Number:
ALS Environmental Chain of Custody 1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068		Sample Date Time Lab ID	8/26/21 1127 Everett ALS	Send ground sample to Everett.	Turnaround Requirements         RUSH (Surcharges Apply)         PLEASE CIRCLE WORK DAYS         1       2       4       5         STANDARD         Requested FAX Date:	Ver Perry ALS \$1/21 1:20AM Airbill Number.
ALS Env 1317 South 13th Aven		# of Cont. Matrix	Misc. Solid	K2109971-001 Se бх рсв Лз, Рл, Си	F and EDD) report to the following c-mail address:	8.30.2 ( Received By:
	Project Number: K2109971 Project Manager: Luke Rahn QAP: LAB QAP	Lab Code Sample ID	K2109971-001 1	st Comments Beage 15 of 15	Special Instructions/Comments Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKUS.Data@alsglobal.com. H Test is On Hold D. Test is Authorized for Dron Only.	

-

### Attachment E-9

Gravel Borrow and Quarry Spall, Chemical Results, Fremont Analytical, Inc., Work Order No. 2207288



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Shannon & Wilson Meg Strong 400 N. 34th Street, Suite 100 Seattle, WA 98103

RE: 8801 Work Order Number: 2207288

August 17, 2022

#### **Attention Meg Strong:**

Fremont Analytical, Inc. received 2 sample(s) on 7/20/2022 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext. Gasoline by NWTPH-Gx Metals (EPA 200.8) with SPLP Extraction (EPA 1312) Polyaromatic Hydrocarbons by EPA Method 8270 (SIM) Polychlorinated Biphenyls (PCB) by EPA 8082 Sample Moisture (Percent Moisture) Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Revision v2



CLIENT: Project: Work Order:	Shannon & Wilson 8801 2207288	Work Order S	der Sample Summary		
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received		
2207288-001	Gravel Borrow	07/20/2022 2:00 PM	07/20/2022 3:15 PM		
2207288-002	Quarry Spalls	07/20/2022 2:10 PM	07/20/2022 3:15 PM		

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2207288** Date: **8/17/2022** 

CLIENT:Shannon & WilsonProject:8801

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2207288-001A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2207288-002A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2207288-001A) required Florisil Cleanup Procedure (Using Method No 3620C).

Prep Comments for METHOD (PREP-PCB-S), SAMPLE (2207288-002A) required Florisil Cleanup Procedure (Using Method No 3620C).

8/12/2022: Revision 1 includes additional analysis that was inadvertently omitted from the original report. 8/17/2022: Revision 2 includes additional analysis requested by the client.

## **Qualifiers & Acronyms**



 WO#:
 2207288

 Date Reported:
 8/17/2022

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recoverv **CCB** - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate HEM - Hexane Extractable Material** ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



Client: Shannon & Wilson				Collection	Date	: 7/20/202	2 2:00:00 PM
Project: 8801							
<b>.ab ID:</b> 2207288-001				Matrix: So	oil		
Client Sample ID: Gravel Borro	w						
Analyses	Result	RL	Qual	Units	DF	Date	e Analyzed
Polychlorinated Biphenyls (PC	<u>B) by EPA 8082</u>	<u>!</u>		Batch	n ID: 3	37233	Analyst: OK
Aroclor 1016	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1221	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1232	ND	0.0481		mg/Kg-dry	1	7/26/20	)22 4:22:36 PM
Aroclor 1242	ND	0.0481		mg/Kg-dry	1	7/26/20	)22 4:22:36 PM
Aroclor 1248	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1254	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1260	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1262	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Aroclor 1268	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Total PCBs	ND	0.0481		mg/Kg-dry	1	7/26/20	022 4:22:36 PM
Surr: Decachlorobiphenyl	98.1	9.77 - 154		%Rec	1	7/26/20	022 4:22:36 PM
Surr: Tetrachloro-m-xylene	83.2	24.2 - 187		%Rec	1	7/26/20	022 4:22:36 PM
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Batch	n ID: 3	37242	Analyst: KJ
Diesel (Fuel Oil)	ND	50.1		mg/Kg-dry	1	7/26/20	)22 2:44:42 PM
Heavy Oil	ND	100		mg/Kg-dry	1	7/26/20	)22 2:44:42 PM
Total Petroleum Hydrocarbons	ND	150		mg/Kg-dry	1	7/26/20	)22 2:44:42 PM
Surr: 2-Fluorobiphenyl	94.5	50 - 150		%Rec	1	7/26/20	)22 2:44:42 PM
Surr: o-Terphenyl	100	50 - 150		%Rec	1	7/26/20	022 2:44:42 PM
Polyaromatic Hydrocarbons by	EPA Method 8	<u>270 (SIM)</u>		Batch	n ID: 3	37240	Analyst: OK
Naphthalene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
2-Methylnaphthalene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
1-Methylnaphthalene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Acenaphthylene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Acenaphthene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Fluorene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Phenanthrene	ND	39.6		μg/Kg-dry	1	7/26/20	022 3:41:39 PM
Anthracene	ND	39.6		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Fluoranthene	ND	39.6		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Pyrene	ND	39.6		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
Benz(a)anthracene	ND	19.8		µg/Kg-dry	1	7/26/20	022 3:41:39 PM
						7/26/20	
Chrysene	ND	39.6		µg/Kg-dry	1	1/20/20	022 3:41:39 PM
Chrysene Benzo(b)fluoranthene		39.6 19.8		µg/Kg-dry µg/Kg-dry	1 1		022 3:41:39 PM 022 3:41:39 PM
-	ND					7/26/20	
Benzo(b)fluoranthene	ND ND	19.8		µg/Kg-dry	1	7/26/20 7/26/20	022 3:41:39 PM



Client: Shannon & Wilson Project: 8801				Collection	Da	te: 7/20/20	22 2:00:00 PM	
Lab ID: 2207288-001				Matrix: So	oil			
Client Sample ID: Gravel Borrow								
Analyses	Result	RL	Qual	Units	DF	= Da	te Analyzed	
Polyaromatic Hydrocarbons by EPA	Method 8	8 <u>270 (SIM)</u>		Batch	ו ID:	37240	Analyst: OK	
Dibenz(a,h)anthracene	ND	39.6		µg/Kg-dry	1	7/26/	/2022 3:41:39 PM	
Benzo(g,h,i)perylene	ND	19.8		µg/Kg-dry	1	7/26/	2022 3:41:39 PM	
Surr: 2-Fluorobiphenyl	79.9	34.4 - 132		%Rec	1	7/26/	2022 3:41:39 PM	
Surr: Terphenyl-d14 (surr)	84.9	32.8 - 147		%Rec	1	7/26/	2022 3:41:39 PM	
Gasoline by NWTPH-Gx				Batch	n ID:	37238	Analyst: TN	
Gasoline	ND	4.77		mg/Kg-dry	1	7/26/	2022 6:26:22 AM	
Surr: Toluene-d8	97.6	65 - 135		%Rec	1	7/26/	2022 6:26:22 AM	
Surr: 4-Bromofluorobenzene	100	65 - 135		%Rec	1	7/26/	2022 6:26:22 AM	
Total Metals by EPA Method 6020B				Batch	ו ID:	37224	Analyst: EH	
Arsenic	3.93	0.0991		mg/Kg-dry	1	7/25/	2022 3:32:21 PM	
Copper	24.3	0.826		mg/Kg-dry	1	7/25/	2022 3:32:21 PM	
Lead	2.74	0.165		mg/Kg-dry	1	7/25/	2022 3:32:21 PM	
Sample Moisture (Percent Moisture	)			Batch	ו ID:	R77069	Analyst: ALB	
Percent Moisture	6.82	0.500		wt%	1	7/25/	2022 4:28:26 PM	



Client: Shannon & Wilson				Collection	Date	e: 7/20/20	)22 2:10:00 PM
Project: 8801							
Lab ID: 2207288-002				Matrix: So	olid		
Client Sample ID: Quarry Spalls							
Analyses	Result	RL	Qual	Units	DF	Da	ate Analyzed
Polychlorinated Biphenyls (PCB	<u>) by EPA 8082</u>	<u>.</u>		Batch	n ID: :	37233	Analyst: OK
Aroclor 1016	ND	0.0518		mg/Kg-dry	1	7/26	/2022 4:51:48 PM
Aroclor 1221	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1221 Aroclor 1232	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1242	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1248	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1254	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1260	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1262	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Aroclor 1268	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Total PCBs	ND	0.0518		mg/Kg-dry	1		/2022 4:51:48 PM
Surr: Decachlorobiphenyl	98.7	9.77 - 154		%Rec	1		/2022 4:51:48 PM
Surr: Tetrachloro-m-xylene	84.9	24.2 - 187		%Rec	1		/2022 4:51:48 PM
Diesel and Heavy Oil by NWTPH	-Dx/Dx Ext.			Batch	n ID: 3	37242	Analyst: KJ
Diesel (Fuel Oil)	ND	50.5		mg/Kg-dry	1	7/26	/2022 10:12:59 AM
Heavy Oil	ND	101		mg/Kg-dry	1		/2022 10:12:59 AM
Total Petroleum Hydrocarbons	ND	152		mg/Kg-dry	1		/2022 10:12:59 AM
Surr: 2-Fluorobiphenyl	106	50 - 150		%Rec	1		/2022 10:12:59 AM
Surr: o-Terphenyl	111	50 - 150		%Rec	1		/2022 10:12:59 AM
Polyaromatic Hydrocarbons by I	EPA Method 8	<u>270 (SIM)</u>		Batch	n ID: 3	37240	Analyst: OK
Naphthalene	ND	20.9		µg/Kg-dry	1	7/26	/2022 4:10:33 PM
2-Methylnaphthalene	ND	20.9		μg/Kg-dry	1		/2022 4:10:33 PM
1-Methylnaphthalene							/2022 4:10:33 PM
	ND	20.9		ua/Ka-drv			
	ND ND	20.9 20.9		µg/Kg-dry ua/Ka-drv	1 1	7/26	
Acenaphthylene	ND	20.9		µg/Kg-dry	1		/2022 4:10:33 PM
	ND ND	20.9 20.9		µg/Kg-dry µg/Kg-dry	1 1	7/26	/2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene	ND ND ND	20.9 20.9 20.9		μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1	7/26 7/26	/2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene	ND ND ND ND	20.9 20.9 20.9 41.8		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1	7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene	ND ND ND ND	20.9 20.9 20.9		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1	7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	ND ND ND ND	20.9 20.9 20.9 41.8 41.8		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1	7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene	ND ND ND ND ND ND	20.9 20.9 20.9 41.8 41.8 41.8 41.8		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1 1	7/26 7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene	ND ND ND ND ND ND ND	20.9 20.9 20.9 41.8 41.8 41.8 41.8 20.9		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1 1 1	7/26 7/26 7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene	ND ND ND ND ND ND ND	20.9 20.9 20.9 41.8 41.8 41.8 41.8 20.9 41.8		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1 1 1 1 1	7/26 7/26 7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene Benzo(b)fluoranthene	ND ND ND ND ND ND ND ND	20.9 20.9 20.9 41.8 41.8 41.8 41.8 20.9 41.8 20.9		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1 1 1 1 1 1 1	7/26 7/26 7/26 7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM
Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benz(a)anthracene Chrysene	ND ND ND ND ND ND ND	20.9 20.9 20.9 41.8 41.8 41.8 41.8 20.9 41.8		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1 1 1 1 1 1	7/26 7/26 7/26 7/26 7/26 7/26 7/26 7/26	/2022 4:10:33 PM /2022 4:10:33 PM



Client: Shannon & Wilson				Collection I	Dat	e: 7/20/2022 2:10:00 PM
Project: 8801						
Lab ID: 2207288-002				Matrix: Soli	d	
Client Sample ID: Quarry Spalls						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA	A Method 8	<u>3270 (SIM)</u>		Batch I	D:	37240 Analyst: OK
Dibenz(a,h)anthracene	ND	41.8		µg/Kg-dry	1	7/26/2022 4:10:33 PM
Benzo(g,h,i)perylene	ND	20.9		µg/Kg-dry	1	7/26/2022 4:10:33 PM
Surr: 2-Fluorobiphenyl	96.8	34.4 - 132		%Rec	1	7/26/2022 4:10:33 PM
Surr: Terphenyl-d14 (surr)	104	32.8 - 147		%Rec	1	7/26/2022 4:10:33 PM
Gasoline by NWTPH-Gx				Batch I	D:	37287 Analyst: TN
Gasoline Range Organics	ND	4.65		mg/Kg-dry	1	7/29/2022 12:11:07 PM
Surr: Toluene-d8	94.7	65 - 135		%Rec	1	7/29/2022 12:11:07 PM
Surr: 4-Bromofluorobenzene	100	65 - 135		%Rec	1	7/29/2022 12:11:07 PM
Total Metals by EPA Method 6020B				Batch I	D:	37403 Analyst: EH
Arsenic	0.483	0.102		mg/Kg-dry	1	8/12/2022 2:35:01 PM
Copper	3.04	0.847		mg/Kg-dry	1	8/12/2022 2:35:01 PM
Lead	0.800	0.169		mg/Kg-dry	1	8/12/2022 2:35:01 PM
Metals (EPA 200.8) with SPLP Extra	ction (EPA	<u> 1312)</u>		Batch I	D:	37223 Analyst: EH
Arsenic	ND	3.00		μg/L	1	7/26/2022 5:07:31 PM
Copper	ND	3.00		µg/L	1	7/26/2022 5:07:31 PM
Sample Moisture (Percent Moisture	) )			Batch I	D:	R77069 Analyst: ALB
Percent Moisture	6.26	0.500		wt%	1	7/25/2022 4:28:26 PM



Work Order: CLIENT: Project:	2207288 Shannon & Wils 8801	son								QC S	SUMMAI		_
Sample ID: MB-3	7 <b>224</b> S	ampType:	MBLK			Units: <b>mg/Kg</b>		Prep Dat	te: 7/25/20	22	RunNo: 770	)74	
Client ID: MBLK	K <b>S</b> B	atch ID:	37224					Analysis Da	te: 7/25/20	22	SeqNo: 158	82914	
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			ND	0.0923									
Copper			ND	0.769									
Lead			ND	0.154									
Sample ID: LCS-3	3 <b>7224</b> S	ampType:	LCS			Units: mg/Kg		Prep Dat	te: 7/25/20	22	RunNo: 770	)74	
Client ID: LCSS	В	atch ID:	37224					Analysis Da	te: 7/25/20	22	SeqNo: 158	32915	
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			38.0	0.0952	39.68	0	95.7	80	120				
Copper			40.8	0.794	39.68	0	103	80	120				
Lead			20.5	0.159	19.84	0	103	80	120				
Sample ID: 22072	7 <b>8-003AMS</b> S	ampType:	MS			Units: mg/Kg·	dry	Prep Dat	te: 7/25/20	22	RunNo: 770	)74	
Client ID: BATC	H B	atch ID:	37224					Analysis Da	te: 7/25/20	22	SeqNo: 158	32918	
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			45.7	0.0980	40.82	6.768	95.4	75	125				
Copper			60.0	0.816	40.82	23.66	89.1	75	125				
Lead			39.5	0.163	20.41	24.24	74.9	75	125				S
NOTES: S - Spiked amo	unt was low relative to	sample co	oncentratio	on. Outlying	spike recoveri	es may be expected							
Sample ID: 22072	78-003AMSD S	ampType:	MSD			Units: mg/Kg·	dry	Prep Dat	te: 7/25/20	22	RunNo: 770	)74	
Client ID: BATC	н в	atch ID:	37224					Analysis Da	te: 7/25/20	22	SeqNo: 158	32919	
Analyte		Re	esult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic			46.9	0.0980	40.82	6.768	98.3	75	125	45.69	2.59	20	
Copper			64.2	0.816	40.82	23.66	99.3	75	125	60.02	6.74	20	
Lead			49.1	0.163	20.41	24.24	122	75	125	39.54	21.6	20	R

R - High RPD observed.



CLIENT: S	207288 hannon & Wilson 801	& Wilson Tota		•	QC SUMMARY REPOR							
Sample ID: MB-37403	SampT	ype: MBLK			Units: mg/Kg		Prep Dat	te: 8/11/20	)22	RunNo: 775	605	
Client ID: MBLKS	Batch I	D: <b>37403</b>					Analysis Dat	te: <b>8/12/20</b>	)22	SeqNo: 159	2121	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.0930									
Copper		ND	0.775									
Lead		ND	0.155									
Sample ID: LCS-3740	3 SampT	ype: LCS			Units: mg/Kg		Prep Dat	te: 8/11/20	)22	RunNo: 775	605	
Client ID: LCSS	Batch I	D: 37403					Analysis Dat	te: <b>8/12/20</b>	)22	SeqNo: 159	2122	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		34.1	0.0938	39.06	0	87.4	80	120				
Copper		36.6	0.781	39.06	0	93.6	80	120				
Lead		19.6	0.156	19.53	0	101	80	120				
Sample ID: 2207288-0	002AMS SampT	ype: MS			Units: mg/Kg	-dry	Prep Dat	te: 8/11/20	)22	RunNo: 775	605	
Client ID: Quarry Sp	balls Batch I	D: 37403					Analysis Dat	te: <b>8/12/20</b>	)22	SeqNo: 159	2127	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		40.8	0.0992	41.35	0.4829	97.4	75	125				
Copper		60.7	0.827	41.35	3.043	140	75	125				S
Lead NOTES: S - Outlying spike re	ecovery(ies) observed. A	20.0	0.165 alvsis was pe	20.67	0.8004	92.7 ne	75	125				
Sample ID: 2207288-0		ype: MSD			Units: mg/Kg	-	Prep Dat	te: 8/11/20	)22	RunNo: 775	05	
Client ID: Quarry S					5.5		Analysis Dat			SeqNo: 159	2128	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC			RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		43.5	0.102	42.33	0.4829	102	75	125	40.76	6.53	20	
Copper		54.8	0.847	42.33	3.043	122	75	125	60.73	10.3	20	



CLIENT: S	2207288 Shannon & Wilson 8801						Metals (E	PA 200.	QC S 8) with SP	SUMMA LP Extrac		
Sample ID: MB-3722	3 SampTy	pe: MBLK			Units: µg/L		Prep Date	: 7/25/202	22	RunNo: 77	116	
Client ID: MBLKS	Batch ID	): <b>37223</b>					Analysis Date	7/26/202	22	SeqNo: 158	33855	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	3.00									
Copper		ND	3.00									
Sample ID: LCS-372	23 SampTy	pe: LCS			Units: µg/L		Prep Date	: 7/25/202	22	RunNo: 77	116	
Client ID: LCSS	Batch ID	): <b>37223</b>					Analysis Date	7/26/202	22	SeqNo: 158	33856	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		103	17.5	100.0	0	103	85	115				
Copper		97.9	10.0	100.0	0	97.9	85	115				
Sample ID: 2207316-	001CDUP SampTy	pe: DUP			Units: µg/L		Prep Date	: 7/25/202	22	RunNo: 77	116	
Client ID: BATCH	Batch ID	): <b>37223</b>					Analysis Date	7/26/202	22	SeqNo: 15	33858	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	3.00						0		30	
Copper		25.9	3.00						25.90	0.122	30	
Sample ID: 2207316-	001CMS SampTy	pe: MS			Units: µg/L		Prep Date	: 7/25/202	22	RunNo: 77	116	
Client ID: BATCH	Batch ID	): 37223					Analysis Date	7/26/202	22	SeqNo: 15	33859	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		97.0	17.5	100.0	0.8424	96.2	70	130				
Copper		118	10.0	100.0	25.90	92.0	70	130				



2207288

8801

Shannon & Wilson

Work Order:

CLIENT:

Project:

## QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: MB-37242	SampType: MBLK			Units: mg/Kg		Prep Dat	e: <b>7/25/20</b>	22	RunNo: 771	12	
Client ID: MBLKS	Batch ID: 37242					Analysis Dat	e: <b>7/26/20</b>	22	SeqNo: 158	33685	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Total Petroleum Hydrocarbons	ND	150									
Surr: 2-Fluorobiphenyl	10.7		10.00		107	50	150				
Surr: o-Terphenyl	11.0		10.00		110	50	150				
Sample ID: LCS-37242	SampType: LCS			Units: mg/Kg		Prep Dat	e: <b>7/25/20</b>	22	RunNo: 771	12	
Client ID: LCSS	Batch ID: 37242					Analysis Dat	e: <b>7/26/20</b>	22	SeqNo: 158	33686	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	490	150	500.0	0	98.0	65.4	132				
Surr: 2-Fluorobiphenyl	7.77		10.00		77.7	50	150				
Surr: o-Terphenyl	10.9		10.00		109	50	150				
Sample ID: 2207292-002AMS	SampType: <b>MS</b>			Units: mg/Kg·	dry	Prep Dat	e: <b>7/25/20</b>	22	RunNo: 771	12	
Client ID: BATCH	Batch ID: 37242					Analysis Dat	e: <b>7/26/20</b>	22	SeqNo: 158	33692	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	651	162	540.9	209.2	81.8	51.3	140				
Surr: 2-Fluorobiphenyl	11.3		10.82		105	50	150				
Surr: o-Terphenyl	14.4		10.82		133	50	150				
Sample ID: 2207292-002AMSD	SampType: <b>MSD</b>			Units: mg/Kg·	dry	Prep Dat	e: <b>7/25/20</b>	22	RunNo: 771	12	
Client ID: BATCH	Batch ID: 37242					Analysis Dat	e: <b>7/26/20</b>	22	SeqNo: 158	33695	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	700	167	557.2	209.2	88.1	51.3	140	651.4	7.19	30	
Surr: 2-Fluorobiphenyl	10.5		11.14		94.1	50	150		0		



#### Work Order: 2207288

CLIENT: Shannon & Wilson

### **QC SUMMARY REPORT**

Project: 8801

#### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Client ID:       MBLKS       Batch ID:       37240       Analysis Date:       7/26/2022       SeqNo:       1584236         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         Naphthalene       ND       20.0	Qual
Naphthalene         ND         20.0           2-Methylnaphthalene         ND         20.0           1-Methylnaphthalene         ND         20.0           Acenaphthylene         ND         20.0           Acenaphthene         ND         20.0           Fluorene         ND         20.0           Phenanthrene         ND         20.0           Actaraphthene         ND         20.0           Fluorene         ND         20.0           Phenanthrene         ND         40.0           Fluoranthene         ND         40.0           Fluoranthene         ND         40.0           Pyrene         ND         40.0           Benz(a)anthracene         ND         40.0           Benzo(b)fluoranthene         ND         20.0           Genzo(b)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Dibenz(a,h)pyrene         ND         40.0           Benzo(b,fluoranthene         ND         40.0	Qual
2-Methylnaphthalene       ND       20.0         1-Methylnaphthalene       ND       20.0         Acenaphthylene       ND       20.0         Acenaphthylene       ND       20.0         Fluorene       ND       20.0         Phenanthrene       ND       20.0         Anthracene       ND       40.0         Fluoranthene       ND       40.0         Pyrene       ND       40.0         Pyrene       ND       40.0         Benz(a)panthracene       ND       40.0         Fluoranthene       ND       40.0         Pyrene       ND       40.0         Benz(b)fluoranthene       ND       40.0         Benzo(b)fluoranthene       ND       40.0         Benzo(b)fluoranthene       ND       40.0         Benzo(k)fluoranthene       ND       40.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       40.0         Dibenz(a,h)aptracene       ND       40.0         Benzo(k)fluoranthene       ND       40.0         Benzo(k)fluoranthene       ND       40.0	
1-Methylene       ND       20.0         Acenaphthylene       ND       20.0         Acenaphthene       ND       20.0         Fluorene       ND       20.0         Phenanthrene       ND       20.0         Anthracene       ND       40.0         Fluorenthene       ND       40.0         Fluoranthene       ND       40.0         Fluoranthene       ND       40.0         Fluoranthene       ND       40.0         Fluoranthene       ND       40.0         Benz(a)anthracene       ND       40.0         Benzo(b)fluoranthene       ND       20.0         Chrysene       ND       40.0         Benzo(k)fluoranthene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       40.0         Dibenz(a,h)anthracene       ND       40.0         Benzo(g),hi)perylene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       40.0 <td></td>	
Acenaphtylene         ND         20.0           Acenaphthene         ND         20.0           Fluorene         ND         20.0           Phenanthrene         ND         40.0           Anthracene         ND         40.0           Fluoranthene         ND         40.0           Pyrene         ND         40.0           Benza(a)anthracene         ND         40.0           Benza(a)anthracene         ND         20.0           Chrysene         ND         40.0           Benza(a)anthracene         ND         20.0           Benza(a)anthracene         ND         20.0           Benza(a)giyrene         ND         20.0           Benza(a)pyrene         ND         20.0           Benza(a)pyrene         ND         20.0           Benza(a)pyrene         ND         20.0           Benza(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g),h,i)perylene         ND         20.0           Benzo(g),h,i)perylene         ND         20.0           Benzo(g),h,i)perylene         ND	
Acenaphtene         ND         20.0           Fluorene         ND         20.0           Phenanthrene         ND         40.0           Anthracene         ND         40.0           Fluoranthene         ND         40.0           Pyrene         ND         40.0           Benza(a)anthracene         ND         20.0           Chrysene         ND         20.0           Benza(b)fluoranthene         ND         20.0           Benzo(b)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g),h,i)perylene         ND         40.0           Benzo(g),h,i)perylene         ND         20.0           Benzo(g),h,i)perylene         ND         20.0           Benzo(g),h,i)perylene         ND         20.0           Benzo(g),h,i)perylene	
Fluorene       ND       20.0         Phenanthrene       ND       40.0         Anthracene       ND       40.0         Fluoranthene       ND       40.0         Pyrene       ND       40.0         Benz(a)anthracene       ND       20.0         Chrysene       ND       40.0         Benz(b)fluoranthene       ND       20.0         Benz(b)fluoranthene       ND       20.0         Benzo(b)fluoranthene       ND       20.0         Benzo(b)fluoranthene       ND       20.0         Benzo(a)pyrene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       20.0         Benzo(g,h,i)perylene       ND       20.0	
Phenanthrene         ND         40.0           Anthracene         ND         40.0           Fluoranthene         ND         40.0           Pyrene         ND         40.0           Benz(a)anthracene         ND         40.0           Chrysene         ND         20.0           Benzo(b)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Benzo(g,h,i)perylene         ND         20.0           Benzo (g,h,i)perylene         ND         20.0           Benzo (g,h,i)perylene         ND         20.0	
Anthracene       ND       40.0         Fluoranthene       ND       40.0         Pyrene       ND       40.0         Benz(a)anthracene       ND       20.0         Chrysene       ND       40.0         Benzo(b)fluoranthene       ND       20.0         Benzo(b)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       20.0         Dibenz(a,h)anthracene       ND       40.0         Benzo(g), h,i)perylene       ND       20.0         Surr: 2-Fluorobiphenyl       603       1,000       60.3       34.4       132	
Fluoranthene       ND       40.0         Pyrene       ND       40.0         Benz(a)anthracene       ND       20.0         Chrysene       ND       40.0         Benzo(b)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       20.0         Dibenz(a,h)anthracene       ND       40.0         Benzo(g),h,i)perylene       ND       20.0         Surr: 2-Fluorobiphenyl       603       34.4       132	
Pyrene       ND       40.0         Benz(a)anthracene       ND       20.0         Chrysene       ND       40.0         Benzo(b)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(a)pyrene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       40.0         Dibenz(a,h)anthracene       ND       40.0         Benzo(g,h,i)perylene       ND       20.0         Surr: 2-Fluorobiphenyl       603       1,000       60.3       34.4       132	
Benz(a)anthracene       ND       20.0         Chrysene       ND       40.0         Benzo(b)fluoranthene       ND       20.0         Benzo(k)fluoranthene       ND       20.0         Benzo(a)pyrene       ND       20.0         Indeno(1,2,3-cd)pyrene       ND       40.0         Dibenz(a,h)anthracene       ND       40.0         Benzo(g,h,i)perylene       ND       40.0         Surr: 2-Fluorobiphenyl       603       1,000       60.3       34.4       132	
Chrysene         ND         40.0           Benzo(b)fluoranthene         ND         20.0           Benzo(k)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Benzo(b)fluoranthene         ND         20.0           Benzo(k)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Benzo(k)fluoranthene         ND         20.0           Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Benzo(a)pyrene         ND         20.0           Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Indeno(1,2,3-cd)pyrene         ND         40.0           Dibenz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Diberz(a,h)anthracene         ND         40.0           Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Benzo(g,h,i)perylene         ND         20.0           Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Surr: 2-Fluorobiphenyl         603         1,000         60.3         34.4         132	
Surr Temphonyl d14 (surr) 625 1 000 62 5 22 0 447	
Surr: Terphenyl-d14 (surr)         635         1,000         63.5         32.8         147	
Sample ID: LCS-37240 SampType: LCS Units: µg/Kg Prep Date: 7/25/2022 RunNo: 77128	
Client ID:         LCSS         Batch ID:         37240         Analysis Date:         7/26/2022         SeqNo:         1584237	
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit	Qual
Naphthalene 1,440 20.0 2,000 0 72.2 64.3 115	
2-Methylnaphthalene 1,460 20.0 2,000 0 72.8 58.9 122	
1-Methylnaphthalene 1,410 20.0 2,000 0 70.3 57.4 122	
Acenaphthylene 1,400 20.0 2,000 0 70.1 52.9 120	
Acenaphthene 1,470 20.0 2,000 0 73.3 61.1 119	
Fluorene 1,480 20.0 2,000 0 74.0 63.6 120	



#### Work Order: 2207288

CLIENT: Shannon & Wilson

### **QC SUMMARY REPORT**

### Project: 8801

#### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: LCS-37240	SampType: LCS			Units: µg/Kg		Prep Date:	7/25/20	22	RunNo: 77	128	
Client ID: LCSS	Batch ID: 37240					Analysis Date:	7/26/20	22	SeqNo: 158	34237	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenanthrene	1,480	40.0	2,000	0	73.9	60	118				
Anthracene	1,500	40.0	2,000	0	75.1	59.5	119				
Fluoranthene	1,490	40.0	2,000	0	74.6	62.3	120				
Pyrene	1,520	40.0	2,000	0	76.1	61.1	120				
Benz(a)anthracene	1,490	20.0	2,000	0	74.7	61.5	123				
Chrysene	1,470	40.0	2,000	0	73.3	58.6	120				
Benzo(b)fluoranthene	1,480	20.0	2,000	0	74.1	62.1	124				
Benzo(k)fluoranthene	1,520	20.0	2,000	0	75.9	60.3	116				
Benzo(a)pyrene	1,370	20.0	2,000	0	68.7	51.6	115				
Indeno(1,2,3-cd)pyrene	1,400	40.0	2,000	0	69.9	53.8	127				
Dibenz(a,h)anthracene	1,310	40.0	2,000	0	65.6	53.3	127				
Benzo(g,h,i)perylene	1,250	20.0	2,000	0	62.6	48.6	122				
Surr: 2-Fluorobiphenyl	714		1,000		71.4	34.4	132				
Surr: Terphenyl-d14 (surr)	722		1,000		72.2	32.8	147				

Sample ID: 2207284-003AMS	SampType: <b>MS</b>			Units: µg/I	Kg-dry	Prep Da	te: 7/25/20	22	RunNo: 771	128	
Client ID: BATCH	Batch ID: 37240					Analysis Da	te: 7/26/20	22	SeqNo: 158	34242	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,620	19.5	1,947	0	83.4	55.7	105				
2-Methylnaphthalene	1,660	19.5	1,947	3.655	84.8	56.6	103				
1-Methylnaphthalene	1,600	19.5	1,947	3.052	82.0	56.1	101				
Acenaphthylene	1,640	19.5	1,947	30.61	82.8	53.8	100				
Acenaphthene	1,660	19.5	1,947	4.928	85.1	55.9	107				
Fluorene	1,700	19.5	1,947	5.828	86.8	55.7	107				
Phenanthrene	1,710	38.9	1,947	36.21	86.2	49.1	109				
Anthracene	1,860	38.9	1,947	92.87	90.9	52.4	107				
Fluoranthene	2,020	38.9	1,947	316.1	87.6	53.1	110				
Pyrene	2,010	38.9	1,947	293.5	88.1	52.5	109				
Benz(a)anthracene	1,860	19.5	1,947	101.4	90.4	53.4	112				
Chrysene	1,870	38.9	1,947	218.8	85.0	52	105				



#### Work Order: 2207288

CLIENT: Shannon & Wilson

### **QC SUMMARY REPORT**

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

#### Project: 8801

#### Sample ID: 2207284-003AMS SampType: MS Units: µg/Kg-dry Prep Date: 7/25/2022 RunNo: 77128 Client ID: BATCH Batch ID: 37240 Analysis Date: 7/26/2022 SeqNo: 1584242 Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual Analyte Benzo(b)fluoranthene 2,000 19.5 1,947 310.3 86.9 51.3 119 Benzo(k)fluoranthene 1,820 19.5 1.947 77.22 89.6 50.3 108 Benzo(a)pyrene 1,690 19.5 1,947 110.1 80.9 48.5 106 Indeno(1,2,3-cd)pyrene 1.470 38.9 1.947 60.85 72.3 42.1 113 Dibenz(a,h)anthracene 38.9 15.94 69.4 40.4 1,370 1,947 114 1,220 Benzo(g,h,i)perylene 19.5 1,947 54.11 59.7 34.7 105 Surr: 2-Fluorobiphenyl 821 973.6 84.4 34.4 132 Surr: Terphenyl-d14 (surr) 871 973.6 89.5 32.8 147

Sample ID: 2207284-003AMSD	SampType: <b>MSD</b>			Units: µg/ł	Kg-dry	Prep Dat	e: <b>7/25/20</b>	22	RunNo: 771	28	
Client ID: BATCH	Batch ID: 37240					Analysis Dat	e: <b>7/26/20</b>	22	SeqNo: 158	34243	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	1,670	18.8	1,876	0	88.8	55.7	105	1,624	2.54	30	
2-Methylnaphthalene	1,690	18.8	1,876	3.655	89.7	56.6	103	1,655	1.86	30	
1-Methylnaphthalene	1,630	18.8	1,876	3.052	86.9	56.1	101	1,599	2.12	30	
Acenaphthylene	1,670	18.8	1,876	30.61	87.6	53.8	100	1,642	1.91	30	
Acenaphthene	1,730	18.8	1,876	4.928	92.2	55.9	107	1,662	4.27	30	
Fluorene	1,760	18.8	1,876	5.828	93.3	55.7	107	1,695	3.57	30	
Phenanthrene	1,760	37.5	1,876	36.21	92.0	49.1	109	1,714	2.71	30	
Anthracene	1,890	37.5	1,876	92.87	95.8	52.4	107	1,862	1.47	30	
Fluoranthene	2,080	37.5	1,876	316.1	94.2	53.1	110	2,021	3.03	30	
Pyrene	2,100	37.5	1,876	293.5	96.4	52.5	109	2,010	4.50	30	
Benz(a)anthracene	1,920	18.8	1,876	101.4	97.1	53.4	112	1,862	3.27	30	
Chrysene	1,980	37.5	1,876	218.8	93.7	52	105	1,873	5.39	30	
Benzo(b)fluoranthene	2,160	18.8	1,876	310.3	98.6	51.3	119	2,001	7.63	30	
Benzo(k)fluoranthene	1,870	18.8	1,876	77.22	95.8	50.3	108	1,822	2.86	30	
Benzo(a)pyrene	1,770	18.8	1,876	110.1	88.7	48.5	106	1,686	5.14	30	
Indeno(1,2,3-cd)pyrene	1,500	37.5	1,876	60.85	76.6	42.1	113	1,469	1.96	30	
Dibenz(a,h)anthracene	1,390	37.5	1,876	15.94	73.4	40.4	114	1,368	1.82	30	
Benzo(g,h,i)perylene	1,240	18.8	1,876	54.11	63.0	34.7	105	1,216	1.74	30	



811

859

0

0

Work Order: CLIENT: Project:	2207288 Shannon & \ 8801	Wilson	QC SUMMARY REPOR Polyaromatic Hydrocarbons by EPA Method 8270 (SIM							
Sample ID: 22072 Client ID: BATC		SampType: <b>MSD</b> Batch ID: <b>37240</b>			Units: µg/Kg·	•	Prep Date: 7 Analysis Date: 7		RunNo: <b>77128</b> SeqNo: <b>1584243</b>	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit Higl	hLimit RPD Ref Val	%RPD RPDLimit	Qual

86.4

91.5

34.4

32.8

132

147

938.2

938.2



# Work Order: 2207288

CLIENT: Shannon & Wilson

## **Project:** 8801

# **QC SUMMARY REPORT**

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: MB-37233	SampType: <b>MBLK</b>			Units: mg/Kg		Prep Date	e: 7/25/20	22	RunNo: 770	)99	
Client ID: MBLKS	Batch ID: 37233					Analysis Date	e: 7/26/20	22	SeqNo: 158	33454	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0500									
Aroclor 1221	ND	0.0500									
Aroclor 1232	ND	0.0500									
Aroclor 1242	ND	0.0500									
Aroclor 1248	ND	0.0500									
Aroclor 1254	ND	0.0500									
Aroclor 1260	ND	0.0500									
Aroclor 1262	ND	0.0500									
Aroclor 1268	ND	0.0500									
Total PCBs	ND	0.0500									
Surr: Decachlorobiphenyl	231		200.0		115	9.77	154				
Surr: Tetrachloro-m-xylene	173		200.0		86.3	24.2	187				
Sample ID: LCS-37233	SampType: LCS			Units: mg/Kg		Prep Date	e: <b>7/25/20</b>	22	RunNo: 770	)99	
Client ID: LCSS	Batch ID: 37233					Analysis Date	e: 7/26/20	22	SeqNo: 158	33455	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.937	0.0500	1.000	0	93.7	75.7	162				
Aroclor 1260	0.873	0.0500	1.000	0	87.3	57.8	183				
Surr: Decachlorobiphenyl	214		200.0		107	9.77	154				
Surr: Tetrachloro-m-xylene	174		200.0		87.0	24.2	187				
Sample ID: 2207288-001AMS	SampType: <b>MS</b>			Units: mg/Kg-	dry	Prep Date	e: 7/25/20	22	RunNo: 770	)99	
Client ID: Gravel Borrow	Batch ID: 37233					Analysis Date	e: <b>7/26/20</b>	22	SeqNo: 158	34416	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.892	0.0453	0.9064	0	98.4	55.6	188				
Aroclor 1260	0.887	0.0453	0.9064	0	97.9	54.5	178				
Surr: Decachlorobiphenyl	182		181.3		100	9.77	154				
· · · ·			181.3		74.6	24.2	187				



#### Work Order: 2207288

Project:

CLIENT: Shannon & Wilson 8801

# **QC SUMMARY REPORT**

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: 2207288-001AMSD SampType: MSD				Units: mg/Kg-dry Prep Date: 7/25/2022						RunNo: 77099		
Client ID: Gravel Borrow	Batch ID: 37233					Analysis Da	te: 7/26/20	SeqNo: 1584417				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aroclor 1016	0.879	0.0522	1.045	0	84.1	55.6	188	0.8918	1.41	30		
Aroclor 1260	0.846	0.0522	1.045	0	80.9	54.5	178	0.8873	4.80	30		
Surr: Decachlorobiphenyl	189		209.0		90.2	9.77	154		0			
Surr: Tetrachloro-m-xylene	148		209.0		70.7	24.2	187		0			



	2207288	\								QC S	SUMMA		PORT
	Shannon & 8801	Wilson									Gasoline	e by NWT	PH-G
Sample ID: LCS-37	238	SampType	e: LCS			Units: mg/Kg		Prep Date	e: <b>7/25/20</b>	22	RunNo: 77	084	
Client ID: LCSS		Batch ID:	37238					Analysis Date	e: <b>7/25/20</b>	22	SeqNo: 15	B3101	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			25.8	5.00	25.00	0	103	65	135				
Surr: Toluene-d8			1.25		1.250		100	65	135				
Surr: 4-Bromofluc	orobenzene		1.27		1.250		101	65	135				
Sample ID: MB-372	238	SampType	e: MBLK			Units: mg/Kg		Prep Date	e: <b>7/25/20</b>	22	RunNo: 77	084	
Client ID: MBLKS	3	Batch ID:	37238					Analysis Date	e: <b>7/25/20</b>	22	SeqNo: 15	83100	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			ND	5.00									
Surr: Toluene-d8			1.24		1.250		99.3	65	135				
Surr: 4-Bromofluc	orobenzene		1.25		1.250		99.8	65	135				
Sample ID: 220727	8-005BDUP	SampType	e: DUP			Units: mg/Kg·	dry	Prep Date	e: <b>7/25/20</b>	22	RunNo: 77	084	
Client ID: BATCH	I	Batch ID:	37238					Analysis Date	e: <b>7/25/20</b>	22	SeqNo: 15	83083	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			6.11	4.40						2.528	82.9	30	
Surr: Toluene-d8			1.08		1.099		98.0	65	135		0		
Surr: 4-Bromofluc	orobenzene		1.16		1.099		106	65	135		0		
Sample ID: 220729	1-003BMS	SampType	e: MS			Units: mg/Kg·	dry	Prep Date	e: <b>7/25/20</b>	22	RunNo: 77	084	
Client ID: BATCH	I	Batch ID:	37238					Analysis Date	e: <b>7/26/20</b>	22	SeqNo: 15	83096	
Analyte			Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline			48.3	6.24	31.20	6.927	133	65	135				
Surr: Toluene-d8			1.56		1.560		99.7	65	135				
Surr: 4-Bromofluc	orobenzene		1.60		1.560		103	65	135				

Work Order:         2207288           CLIENT:         Shannon &           Project:         8801	Wilson							QC S	SUMMAI Gasoline		
Sample ID: 2207288-001BDUP	SampType: <b>DUP</b>			Units: mg/Kg	dry	Prep Date	e: <b>7/25/20</b> 2	22	RunNo: 770	)84	
Client ID: Gravel Borrow	Batch ID: 37238					Analysis Date	e: <b>7/26/20</b>	22	SeqNo: 158	33092	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	4.77						0		30	
Surr: Toluene-d8	1.15		1.192		96.4	65	135		0		
Surr: 4-Bromofluorobenzene	1.50		1.192		125	65	135		0		
Sample ID: LCS-37287	SampType: LCS			Units: mg/Kg		Prep Date	e: <b>7/29/20</b> 2	22	RunNo: 772	207	
Client ID: LCSS	Batch ID: 37287					Analysis Date	e: <b>7/29/20</b>	22	SeqNo: 158	35977	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline Range Organics	29.7	5.00	25.00	0	119	65	135				
Surr: Toluene-d8	1.20		1.250		95.7	65	135				
Surr: 4-Bromofluorobenzene	1.28		1.250		102	65	135				
Sample ID: MB-37287	SampType: MBLK			Units: mg/Kg		Prep Date	e: <b>7/29/20</b>	22	RunNo: 772	207	
Client ID: MBLKS	Batch ID: 37287					Analysis Date	e: <b>7/29/20</b>	22	SeqNo: 158	35976	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline Range Organics	ND	5.00									
Surr: Toluene-d8	1.18		1.250		94.7	65	135				
Surr: 4-Bromofluorobenzene	1.23		1.250		98.1	65	135				
Sample ID: 2207288-002BDUP	SampType: <b>DUP</b>			Units: mg/Kg	dry	Prep Date	e: <b>7/29/20</b>	22	RunNo: 772	207	
Client ID: Quarry Spalls	Batch ID: 37287					Analysis Date	e: <b>7/29/20</b>	22	SeqNo: 158	35973	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Gasoline Range Organics	ND	4.65						0		30	
Surr: Toluene-d8	1.11		1.162		95.7	65	135		0		
Surr: 4-Bromofluorobenzene	1.15		1.162		98.6	65	135		0		



# Sample Log-In Check List

Client Nam	ne: SW		Work Order Nur	nber: 2207288	
Logged by	: Clare Gri	ggs	Date Received:	7/20/2022	3:15:00 PM
Chain of C	<u>sustody</u>				
1. Is Chain	of Custody cor	nplete?	Yes 🗸	No	Not Present
2. How was	s the sample de	livered?	<u>Client</u>		
<u>Log In</u>					
-	are present?		Yes	No 🖌	NA 🗌
			No cooler pres	ent.	
4. Shipping	g container/cool	er in good condition?	Yes 🗹	No 🗌	
		on shipping container/cooler? Custody Seals not intact)	Yes	No 🗌	Not Present 🗹
6. Was an	attempt made t	o cool the samples?	Yes	No 🖌	NA 🗌
		<u>U</u>	nknown prior to	receipt.	
7. Were al	l items received	at a temperature of >2°C to 6°C *	Yes	No 🗌	NA 🗹
8 Sample	(s) in proper cor	ntainer(s)?	Yes 🖌	No 🗌	
•••		ne for indicated test(s)?	Yes 🖌	No 🗌	
01	ples properly p		Yes 🖌	No 🗌	
-	eservative added		Yes	No 🗹	NA 🗌
12. Is there	headspace in th	ne VOA vials?	Yes 🗌	No 🗌	NA 🗹
13. Did all s	amples contain	ers arrive in good condition(unbroken)?	Yes 🗹	No 🗌	
14. Does pa	aperwork match	bottle labels?	Yes ✔	No 🗌	
15. Are mat	rices correctly id	dentified on Chain of Custody?	Yes 🖌	No 🗌	
16. Is it clea	ar what analyses	s were requested?	Yes 🗹	No 🗌	
17. Were al	I holding times a	able to be met?	Yes 🖌	No 🗌	
Special Ha	andling (if a	oplicable)			
-	• • •	I discrepancies with this order?	Yes 🖌	No 🗌	NA 🗌
Pe	rson Notified:	Meg Strong Date	:	7/20/2022	
By	Whom:	Matt Langston Via:	V eMail 🗌 F	hone 🗌 Fax [	In Person
Re	garding:	Confirming analyses for sample two.			
Cli	ent Instructions:				
19. Addition	al remarks:				

#### Item Information

Item #	Temp ⁰C
Sample	25.2

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

COC 1.1 - 4.5.16 - 1 of 2

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Image: Set of the set of th	2     Querry     Spalls     Zpalz     1410     Slo       3     Zpalz     1410     Slo     Slo       3     Zpalz     1410     Slo       3     Zpalz     1410     Slo       3     Zpalz     1410     Slo       4     Zpalz     1410     Slo       4     Zpalz     1410     Slo       5     Spalls     Zpalz     1410     Slo       5     Spalls     Zpalz     Zpalz     Zpalz       6     Spalls     Zpalz     Zpalz     Zpalz       7     Zpalz     Zpalz     Zpalz     Zpalz	1 Gravel Bo 2 Qverry Sp 3 3 4 4 4 5 5 5 5 6 6 6 6 6 6 6 7 7 7 7 7 7 7 7 7
State	MTCA-S RCRA-8 Priority Pollutar NITCA-S RCRA-8 Priority Pollutar Nitrite Chloride Sulfate Return to Client Disposal by Late Return to Client Disposal by Late Nitrite Chloride Sulfate Return to Client Disposal by Late Return to Client Disposal by Late Disposal by Late Disposal by Late Return to Client Disposal b	1 Growel B 2 Querry S 3 4 4 5 5 5 5 5 5 5 5 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7
Comparison     Comparison <td>MTCA-5 RCRA-8 Priority Pollutar NITCA-5 INTE Chloride Sulfate Return to Client Disposal by La assessed if san</td> <td>1       Grewel       B.         2       Querry       S.         3      </td>	MTCA-5 RCRA-8 Priority Pollutar NITCA-5 INTE Chloride Sulfate Return to Client Disposal by La assessed if san	1       Grewel       B.         2       Querry       S.         3
mple de la construit de la con	MTCA-5 RCRA-8 I Nitrite Chloride	
mple de la construir de la con	MTCA-5 RCRA-8 I	Gravel Querry Metals Analysis (Circle): N
mple status stat	RCRA-8	Gravel Querry Metals Analysis (Circl
	I and 2 Carl	Gravel Quarry
	I and 2 Carl	Quarry
	2 001/2	Quarry
Image: Construction of the co	I and A	Gravel Quarry
Contraction of the second seco	2 ant	Gravel Quarry
Land A and A	I and	Gravel Quarry
Constraints of the second seco	I and 2	- x e
Constraints of the second seco	2 00/2	Re
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A Constant of the second of th	Barrow Had ILAN	a de la de
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Sample Time	Sample Name
luct, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW :		Matrix Codes: A = Air, AQ =
Report of the start of the star	101-121-800 DE	-th:
Ste. 100 Location:	344	I
Project No: 103	Shannon & Wilson	Client:
Project Name: \$801	Tel: 206-352-3790 Fax: 206-352-7178	3600 Fremont Ave N. Seattle, WA 98103
Date: 7/20/22 Laboratory Project No (internal): 22 0728	STRIGUTO	
Chain of Custody Record and Laboratory Services Agreement	Fremont	

COC 1.1 - 4.5.16 - 1 of 2

www.fremontanalytical.com

Distribution: White - Lab, Yellow - File, Pink - Originator

	Date/Time Received Lot Joate/Time P:53	agreement to each of the terms on the front and backside of this Agreement. Relinquished	II be held for 30 days unless otherwise noted. A fee may be on the following business day.	e): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite Turn-around times for samples	(Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al Ag B Ba Be Ca Cd Co Cr Ca Fe Ha K Market Are the Card				XXX	W = Drinking Water, GW = Ground Water,	Telephone: 206-2632-8020 Fax: PM Email: Meg. Strong Shornwin	40 N. 34th Street Ste. 100	e, WA 98103	3600 Fremont Ave N. Tel: 206.352.3700 Lab
the lab in adv	TAT → SameDay^ NextDay^ 2 Day 3 Day STD			Sbe Se Sr Sn Ti Ti U V Zn Special Remarks:					Comments	form Water, WW = Waste Water		Collected by: MEH	age 23	Laboratory Project No (internal); 2007288 of 23

Attachment E-10

Quarry Spall, Chemical Results and #1 Modified SPLP, Fremont Analytical, Inc., Work Order No. 2109218



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Anderson Environmental Contracting Craig Nelson 705 Colorado St. Kelso, WA 98626

RE: Paccar Work Order Number: 2109218

September 29, 2021

#### **Attention Craig Nelson:**

Fremont Analytical, Inc. received 7 sample(s) on 9/15/2021 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext. Metals (EPA 200.8) with SPLP Extraction (EPA 1312) Polyaromatic Hydrocarbons by EPA Method 8270 (SIM) Polychlorinated Biphenyls (PCB) by EPA 8082 Sample Moisture (Percent Moisture) Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Revision v2

\_\_\_\_



CLIENT: Project: Work Order:	Anderson Environmental Contracting Paccar 2109218	Work Order Sample Summary					
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received				
2109218-001	Sample #1 Renton concrete recyclers 3/	09/15/2021 12:00 PM	09/15/2021 4:00 PM				
2109218-002	Sample #2 Renton concrete recyclers q	09/15/2021 12:00 PM	09/15/2021 4:00 PM				
2109218-003	Leachate Water	09/27/2021 2:00 PM	09/27/2021 2:59 PM				
2109218-004	Renton concrete recyclers quarry spalls	09/15/2021 12:00 PM	09/15/2021 4:00 PM				
2109218-005	Renton concrete recyclers quarry spalls	09/15/2021 12:00 PM	09/15/2021 4:00 PM				
2109218-006	Renton concrete recyclers quarry spalls	09/15/2021 12:00 PM	09/15/2021 4:00 PM				
2109218-007	Renton concrete recyclers quarry spalls	09/15/2021 12:00 PM	09/15/2021 4:00 PM				



**Case Narrative** 

WO#: **2109218** Date: **9/29/2021** 

CLIENT:Anderson Environmental ContractingProject:Paccar

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Revision 1 reflects the analysis of the sample for leachable copper using the SPLP, EPA 1312, method as written, including particle size and acidified synthetic precipitation.

Revision 2 reflects the further analysis of four discrete chunks of sample (A, B, C, and D in this report) processed by a modified SPLP method, as follows. Four pieces were selected and processed "as received," i.e. particle size was not reduced. Samples were ~2-4" per size. The weights of each piece varied from ~80g to ~160g. Each piece was placed in a food-safe plastic container to which was added a volume (in mL) of site water equal to 20x the weight of the sample in grams. The site water was provided by the client, and was itself analyzed for total and dissolved copper by 200.8. Results of the site water analysis are available in a separate report.

After a short period of tumbling end-over-end at 30 rpm, it was determined that the containers were not leak-tight, and that overnight tumbling would result in a substantial or total loss of the leachate. The samples were left to sit in solution overnight. The following morning, the samples were tumbled using an alternative rotary tumbler which prevented contact with the leaking lid but that ensured the sample piece would agitate/tumble within the solution. Each sample was tumbled for between 30 and 45 minutes. The total time each sample remained in contact with the solution was 20 hours, including the periods of tumbling and overnight resting. This is consistent with (at the high end of) the SPLP timeframe for leaching duration.

Resulting leachates were respectively filtered through a 0.8 um filter, digested and analyzed for copper per 200.8.

# **Qualifiers & Acronyms**



 WO#:
 2109218

 Date Reported:
 9/29/2021

## Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery CCB - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate** HEM - Hexane Extractable Material ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



lient: Anderson Environmenta	I Contracting		Collection Date: 9/15/2021 12:00:00 PM							
roject: Paccar										
ab ID: 2109218-001		Matrix: Rock/Gravel								
lient Sample ID: Sample #1 Re		-	4 inch m	ninus						
nalyses	Result	RL	Qual	Units	DF	Da	te Analyzed			
Polychlorinated Biphenyls (PC	B) by EPA 8082	<u>}</u>		Batch	ו ID: 3	33734	Analyst: SB			
Aroclor 1016	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1221	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1232	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1242	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1248	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1254	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1260	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1262	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Aroclor 1268	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Total PCBs	ND	0.0485		mg/Kg-dry	1	9/17/	2021 5:04:12 PM			
Surr: Decachlorobiphenyl	88.4	20.6 - 142		%Rec	1	9/17/	2021 5:04:12 PM			
Surr: Tetrachloro-m-xylene	108	22 - 157		%Rec	1	9/17/	2021 5:04:12 PM			
Diesel and Heavy Oil by NWTP	H-Dx/Dx Ext.			Batch	ו ID: ג	33733	Analyst: MM			
Diesel (Fuel Oil)	ND	51.6		mg/Kg-dry	1	9/17/	/2021 8:29:36 PM			
Heavy Oil	1,760	103		mg/Kg-dry	1	9/17/	2021 8:29:36 PM			
Total Petroleum Hydrocarbons	1,760	155		mg/Kg-dry	1	9/17/	2021 8:29:36 PM			
Surr: 2-Fluorobiphenyl	67.1	50 - 150		%Rec	1	9/17/	2021 8:29:36 PM			
Surr: o-Terphenyl	72.0	50 - 150		%Rec	1	9/17/	2021 8:29:36 PM			
olyaromatic Hydrocarbons by	v EPA Method 8	270 (SIM)		Detek		33736	Analyst: IH			
		<u></u>		Balcr	י דער ו		Analyst. III			
Benz(a)anthracene	93.1	20.4			. LD. ۱	9/17/	2021 9:12:43 PM			
Benz(a)anthracene Chrysene	93.1 204			µg/Kg-dry			-			
Chrysene		20.4		μg/Kg-dry μg/Kg-dry	1	9/17/	/2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene	204	20.4 40.8		µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1	9/17/ 9/17/	/2021 9:12:43 PM /2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene	204 97.4	20.4 40.8 20.4		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1	9/17/ 9/17/ 9/17/	/2021 9:12:43 PM /2021 9:12:43 PM /2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	204 97.4 97.3	20.4 40.8 20.4 20.4		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1	9/17/ 9/17/ 9/17/ 9/17/	2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	204 97.4 97.3 99.0	20.4 40.8 20.4 20.4 20.4 40.8		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1 1	9/17/ 9/17/ 9/17/ 9/17/ 9/17/	2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	204 97.4 97.3 99.0 ND	20.4 40.8 20.4 20.4 20.4		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry	1 1 1 1 1	9/17/ 9/17/ 9/17/ 9/17/ 9/17/ 9/17/	2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	204 97.4 97.3 99.0 ND ND	20.4 40.8 20.4 20.4 20.4 40.8 40.8		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry	1 1 1 1 1 1	9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17,	2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl Surr: Terphenyl-d14 (surr)	204 97.4 97.3 99.0 ND 84.1 111	20.4 40.8 20.4 20.4 20.4 40.8 40.8 27.9 - 129		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry %Rec %Rec	1 1 1 1 1 1 1	9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17,	2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl Surr: Terphenyl-d14 (surr)	204 97.4 97.3 99.0 ND ND 84.1 111	20.4 40.8 20.4 20.4 20.4 40.8 40.8 27.9 - 129 39.1 - 145		μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry μg/Kg-dry %Rec %Rec Batch	1 1 1 1 1 1 1 1	9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 33748	2021 9:12:43 PM 2021 9:12:43 PM			
Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl	204 97.4 97.3 99.0 ND 84.1 111	20.4 40.8 20.4 20.4 20.4 40.8 40.8 27.9 - 129		µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry µg/Kg-dry %Rec %Rec	1 1 1 1 1 1 1	9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 9/17, 333748 9/20,	2021 9:12:43 PM 2021 9:12:43 PM			



Client: Anderson Environmental C	ontracting		Collection Date: 9/15/2021 12:00:00 PM									
Project: Paccar												
Lab ID:2109218-001Matrix:Rock/Gravel												
Client Sample ID: Sample #1 Renton concrete recyclers 3/4 inch minus												
Analyses	Result	RL	Qual	Units	DF	Date Analyzed						
Sample Moisture (Percent Moistu	<u>re)</u>			Batch	n ID: R6	9995 Analyst: cb						
Percent Moisture	5.80	0.500		wt%	1	9/20/2021 9:04:49 AM						



Client: Anderson Environmenta	I Contracting		(	Collectio	n Date:	9/15/202	21 12:00:00 PN
Project: Paccar _ab ID: 2109218-002			1	Matrix: R	ock/Gr	avel	
Client Sample ID: Sample #2 Re	nton concrete	recvclers a					
Analyses	Result	RL	Qual	Units	DF		e Analyzed
Polychlorinated Biphenyls (PCI	<u>B) by EPA 8082</u>	2		Batc	h ID: 3	3734	Analyst: SB
Aroclor 1016	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1221	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1232	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1242	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1248	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1254	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1260	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1262	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Aroclor 1268	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Total PCBs	ND	0.0487		mg/Kg	1	9/17/2	2021 5:14:02 PM
Surr: Decachlorobiphenyl	93.4	20.6 - 142		%Rec	1	9/17/2	2021 5:14:02 PM
Surr: Tetrachloro-m-xylene	125	22 - 157		%Rec	1		2021 5:14:02 PM
Diesel and Heavy Oil by NWTPI	H-Dx/Dx Ext.			Batc	h ID: 3	3733	Analyst: MM
Diesel (Fuel Oil)	ND	48.1		mg/Kg	1	9/17/2	2021 8:16:44 PM
Heavy Oil	ND	96.2		mg/Kg	1	9/17/2	2021 8:16:44 PM
Total Petroleum Hydrocarbons	ND	144		mg/Kg	1	9/17/2	2021 8:16:44 PM
Surr: 2-Fluorobiphenyl	81.8	50 - 150		%Rec	1	9/17/2	2021 8:16:44 PM
Surr: o-Terphenyl	92.8	50 - 150		%Rec	1	9/17/2	2021 8:16:44 PM
Polyaromatic Hydrocarbons by	EPA Method 8	<u>270 (SIM)</u>		Batc	h ID: 3	3736	Analyst: IH
Benz(a)anthracene	ND	19.1		µg/Kg	1	9/17/2	2021 9:34:37 PM
Chrysene	ND	38.2		µg/Kg	1	9/17/2	2021 9:34:37 PM
Benzo(b)fluoranthene	ND	19.1		μg/Kg	1	9/17/2	2021 9:34:37 PM
	ND	19.1		µg/Kg	1	9/17/2	2021 9:34:37 PM
Benzo(k)nuoraninene							
Benzo(k)fluoranthene Benzo(a)pyrene		19.1			1	9/17/2	2021 9:34:37 PM
Benzo(a)pyrene	ND	19.1 38.2		µg/Kg	1 1		2021 9:34:37 PM 2021 9:34:37 PM
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	ND ND	38.2		μg/Kg μg/Kg	1	9/17/2	2021 9:34:37 PM
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	ND ND ND	38.2 38.2		μg/Kg μg/Kg μg/Kg	1 1	9/17/2 9/17/2	2021 9:34:37 PM 2021 9:34:37 PM
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	ND ND	38.2		μg/Kg μg/Kg	1	9/17/2 9/17/2 9/17/2	2021 9:34:37 PM
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl Surr: Terphenyl-d14 (surr)	ND ND 85.2 112	38.2 38.2 27.9 - 129		μg/Kg μg/Kg μg/Kg %Rec %Rec	1 1 1	9/17/2 9/17/2 9/17/2 9/17/2	2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl Surr: Terphenyl-d14 (surr) Total Metals by EPA Method 60	ND ND 85.2 112 20B	38.2 38.2 27.9 - 129 39.1 - 145		µg/Kg µg/Kg µg/Kg %Rec %Rec Batc	1 1 1 h ID: 3	9/17/2 9/17/2 9/17/2 9/17/2 3748	2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM Analyst: EH
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Surr: 2-Fluorobiphenyl	ND ND 85.2 112	38.2 38.2 27.9 - 129		μg/Kg μg/Kg μg/Kg %Rec %Rec	1 1 1 1	9/17/2 9/17/2 9/17/2 9/17/2 3748 9/20/2	2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM 2021 9:34:37 PM



Client: Anderson Environmental C	Contracting		(	Collectior	Date:	9/15/2021 12:00:00 PM
Project: Paccar						
Lab ID: 2109218-002			I	Matrix: R	ock/Gra	vel
Client Sample ID: Sample #2 Rent	on concrete ree	cyclers qu	uarry spa	lls rock 4	-8 inch	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (EPA 200.8) with SPLP Ext	traction (EPA 1	<u>312)</u>		Batcl	n ID: 33	816 Analyst: EH
Copper	38.0	20.0	D	µg/L	5	9/24/2021 3:49:55 PM



Client:	Anderson Environmental	Contracting		(	Collection	n Date: 🤅	9/15/2021 12:00:00 PM
Project:	Paccar						
Lab ID:	2109218-004			Γ	Matrix: R	ock/Gra	vel
Client Sa	ample ID: Renton concre	te recyclers qua	arry spalls	rock 4-8	inch: Fra	action A	
Analyse	S	Result	RL	Qual	Units	DF	Date Analyzed
Metals Copper	(EPA 200.8) with SPLP E	ttraction (EPA 1 24.1	<b>312)</b> 5.00	D	Batc µg/L	h ID: 338 5	364 Analyst: EH 9/28/2021 4:55:09 PM



Work Order: 2109218 Date Reported: 9/29/2021

ontracting		C	Collection	n Date: 9	)/15/2021 12:00:00 PM
		r	<b>/latrix:</b> R	ock/Grav	/el
recyclers qua	rry spalls	rock 4-8	inch: Fra	action B	
Result	RL	Qual	Units	DF	Date Analyzed
action (EPA 1	<u>312)</u>		Batc	h ID: 338	364 Analyst: EH
	recyclers qua Result	recyclers quarry spalls	recyclers quarry spalls rock 4-8 Result RL Qual	Matrix: R recyclers quarry spalls rock 4-8 inch: Fra Result RL Qual Units	Matrix: Rock/Grav recyclers quarry spalls rock 4-8 inch: Fraction B Result RL Qual Units DF

Refer to Case Narrative for leaching procedure notes.



Work Order: 2109218 Date Reported: 9/29/2021

Client:	Anderson Environmental	Contracting		(	Collectio	n Date: 9	9/15/2021 12:00:00 PM
Project:	Paccar						
Lab ID:	2109218-006			I	Matrix: R	ock/Gra	vel
Client S	ample ID: Renton concre	ete recyclers qua	rry spalls	rock 4-8	inch: Fr	action C	;
Analyse	S	Result	RL	Qual	Units	DF	Date Analyzed
<u>Metals</u>	<u>(EPA 200.8) with SPLP E</u>	xtraction (EPA 1	<u>312)</u>		Bato	h ID: 33	864 Analyst: EH
Copper NOTE: Refer t		19.2	5.00	D	µg/L	5	9/28/2021 5:06:18 PM

Refer to Case Narrative for leaching procedure notes.



Client:	Anderson Environmenta	Contracting		C	Collection	n Date: 🤅	)/15/2021 12:00:00 PM
Project:	Paccar						
Lab ID:	2109218-007			N	<b>/latrix:</b> R	ock/Grav	/el
Client S	ample ID: Renton concr	ete recyclers qua	arry spalls	rock 4-8	inch: Fra	action D	
Analyse	S	Result	RL	Qual	Units	DF	Date Analyzed
Metals Copper	(EPA 200.8) with SPLP E	<b>xtraction (EPA 1</b> 20.1	<b>312)</b> 5.00	D	Batc µg/L	h ID: 338 5	9/28/2021 5:11:53 PM

Arsenic         ND         0.120           Copper         ND         0.00           Lead         ND         0.200           Sample ID:         LCS-33748         SampType:         LCS           Glient ID:         LCSS         Batch ID:         33748           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLim           Arsenic         47.4         0.120         50.00         0         94.8         80         120         Result         RE         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLim           Arsenic         47.4         0.120         50.00         0         101         80         120         RunNo: 70015         Sample ID: 2109234-002AMS         SampType: MS         Units: mg/Kg-dry         Prep Date:         9/20/2021         RunNo: 70015           Client ID:         BATCH         Batch ID:         33748         Analysis Date:         9/20/2021         SeqNo: 1420283           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit	ork Order: _IENT: oject:		Environment	al Contrad	cting						QC S	SUMMA als by EPA		-
Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLim           Arsenic         ND         0.120         ND         1.00         ND         1.00         ND         1.00         ND         0.200         Sample ID:         LCS-33748         SampType: LCS         Units: mg/Kg         Prep Date:         9/20/2021         SeqNo:         14/20277           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLim           Arsenic         47.4         0.120         50.00         0         94.8         80         120         SeqNo:         14/2027           Copper         50.6         1.00         50.00         0         101         80         120         SeqNo:         14/2028           Sample ID:         2109234-002AMS         SampType: MS         Units: mg/Kg-dry         Prep Date:         9/20/2021         SeqNo:         14/20283           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val <t< th=""><th>mple ID: MB-</th><th>-33748</th><th>SampType</th><th>e: MBLK</th><th></th><th></th><th>Units: mg/Kg</th><th></th><th>Prep Dat</th><th>te: <b>9/20/2</b></th><th>)21</th><th>RunNo: 70</th><th>015</th><th></th></t<>	mple ID: MB-	-33748	SampType	e: MBLK			Units: mg/Kg		Prep Dat	te: <b>9/20/2</b>	)21	RunNo: 70	015	
Arsenic Copper Lead       ND       0.120 1.00         Arsenic Capper Lead       ND       0.200         Sample ID:       LCS-33748       SampType:       LCS       Units:       mg/Kg       Prep Date:       9/20/2021       RunNo:       70015         Client ID:       LCSS       Batch ID:       33748       Units:       mg/Kg       Prep Date:       9/20/2021       SeqNo:       14/20277         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       47.4       0.120       50.00       0       94.8       80       120         Copper       50.6       1.00       50.00       0       94.8       80       120       RunNo:       70015         Sample ID:       2109234-002AMS       SampType:       MS       Units:       mg/Kg-dry       Prep Date:       9/20/2021       SeqNo:       14/20283         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Client ID:       BATCH       Batch ID:       33748       Cale for for for for for f	ent ID: MBI	LKS	Batch ID:	33748					Analysis Dat	te: <b>9/20/2</b> 0	021	SeqNo: 14	20275	
Copper Lead       ND       1.00 ND       1.00 0.200       ND       1.00 0.200         Sample ID: LCS-33748       SampType: LCS       Units: mg/Kg       Prep Dait:       9/20/2021       RunNo: 70015         Client ID: LCSS       Batch ID:       33748       RE       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPD Im         Analysic       Result       RL       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPD Im         Arsenic       47.4       0.120       50.00       0       94.8       80       120       RUNNo: 70015         Copper       50.6       1.00       50.00       0       101       80       120       RUNNo: 70015         Lead       2109234-002AMS       SampType: MS       Units: mg/Kg-dry       Prep Dait:       9/20/2021       RuNNo: 70015         Client ID:       BATCH       Batch ID:       33748       Units: mg/Kg-dry       SREf Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       64.6       0.136       56.79       6.086       103       75       125       SeqNo: 1420283	alyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lad       ND       0.200         Sample ID: LCS-33748       SampType: LCS       Units: mg/Kg       Prep Date:       9/20/2021       RunNo: 70015         Client ID: LCSS       Batch ID:       33748       E       Analysis Date:       9/20/2021       SeqNo: 1420277         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLint       HighLint       RPD Ref Val       %RPD       RPLint         Arisenic       47.4       0.120       50.00       0       94.8       80       120       Copper       50.6       1.00       50.00       0       101       80       120       Copper       50.6       1.00       25.00       0       101       80       120       SeqNo: 1420283         Sample ID: 2109234-002AMS       SampType: MS       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       BATCH       Batch ID:       33748       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Capper       2102       1.14       56.79       6.086       103       75       125       RunNo: 70015         Capper       212       1.14       56.79       6.086       103       75	enic			ND	0.120									
Sample ID: LCS-33748       SampType: LCS       Units: mg/Kg       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       LCSS       Batch ID:       33748       SampType: LCS       Analysis Date:       9/20/2021       SeqNo: 1420277         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLinit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       47.4       0.120       50.00       0       94.8       80       120       RPD Ref Val       %RPD       RPDLim         Copper       50.6       1.00       50.00       0       101       80       120       RNNo: 70015       RNNo: 70015         Sampte ID:       2109234-002AMS       SampType: MS       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Sample ID:       2109234-002AMS       SampType: MS       Units: mg/Kg-dry       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Analyte       Result       RL       SPK value       SPK	pper			ND	1.00									
Client ID:       LCSS       Batch ID:       33748       Analysis       Date:       9/20/2021       SeqNo:       1420271         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPD Lim         Arsenic       50.6       1.00       50.00       0       94.8       80       120       Corpor       25.4       0.200       25.00       0       101       80       120       Corpor       SeqNo:       1420283       Result       RU       SeqNo:       120       SeqNo:       1420283       Result       RU       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Analyte       Result       RL       SPK Value       SPK Ref Val	ad			ND	0.200									
Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPD Im           Arsenic         47.4         0.120         50.0         0         94.8         80         120           Copper         50.6         1.00         50.00         0         101         80         120           Sample ID:         2109234-002AMS         SampType: MS         Units:         mg/Kg-dry         Prep Date:         9/20/2021         RunNo:         70015           Client ID:         BATCH         Batch ID:         33748         Visits:         mg/Kg-dry         Prep Date:         9/20/2021         SeqNo:         1420283           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RPDLim           Arsenic         64.6         0.136         56.79         6.086         103         75         125         SeqNo:         1420283           Arsenic         64.6         0.136         56.79         6.086         103         75         125         SeqNo:         125         SeqNo:         1420286	mple ID: LCS	5-33748	SampType	e: LCS			Units: mg/Kg		Prep Dat	te: <b>9/20/2</b> (	)21	RunNo: 70	015	
Arsenic       47.4       0.120       50.0       0       94.8       80       120         Copper       50.6       1.00       50.00       0       101       80       120         Lead       25.4       0.200       25.00       0       101       80       120         Sample ID: 2109234-002AMS       SampType: MS       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       BATCH       Batch ID:       33748       Analysis Date:       9/20/2021       SeqNo: 1420283         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       64.6       0.136       56.79       6.086       103       75       125       Copper       212       1.14       56.79       144.1       119       75       125       NOTES:       S - Analyte concentration was too high for accurate spike recovery(ies).       NOTES:       S - Analyte       Yep Date:       9/20/2021       RunNo: 70015         Sample ID:       2109234-002AMSD       SampType: MSD       Units: mg/Kg-dry       Prep Date:       9/20/2021       SeqNo: 1420286         Client ID:	ent ID: LCS	SS	Batch ID:	33748					Analysis Dat	te: <b>9/20/20</b>	021	SeqNo: 14	20277	
Copper Lead       50.6 25.4       1.00 25.00       50.00 25.00       0       101       80       120         Sample ID: Client ID:       2109234-002AMS       SampType: Batch ID:       33748       Units: rmg/Kg-dry       Prep Date: 9/20/2021       9/20/2021       RunNo: r0015       RunNo: r0015         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         Arsenic       64.6       0.136       56.79       6.086       103       75       125       SeqNo:       1420283         Copper       212       1.14       56.79       144.1       119       75       125       VENT       VENT <td>alyte</td> <td></td> <td>I</td> <td>Result</td> <td>RL</td> <td>SPK value</td> <td>SPK Ref Val</td> <td>%REC</td> <td>LowLimit</td> <td>HighLimit</td> <td>RPD Ref Val</td> <td>%RPD</td> <td>RPDLimit</td> <td>Qual</td>	alyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1       25.4       0.200       25.00       0       101       80       120         Sample ID: 2109234-002AMS       SampType: MS       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       BATCH       Batch ID:       33748       T       Analysis Date:       9/20/2021       SeqNo: 1420283         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       64.6       0.136       56.79       6.086       103       75       125       Prep Date:       9/20/2021       %RPD       RPD Im         Arsenic       64.6       0.136       56.79       6.086       103       75       125       Prep Date:       9/20/2021       %RPD       KPD Im         Copper       212       1.14       56.79       144.1       119       75       125       V	enic			47.4	0.120	50.00	0	94.8	80	120				
Sample ID:       2109234-002AMS       SampType:       MS       Units:       mg/Kg-dry       Prep Date:       9/20/2021       RunNo:       70015         Client ID:       BATCH       Batch ID:       33748       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         Arsenic       64.6       0.136       56.79       6.086       103       75       125       RPDLimit       RPD Ref Val       %RPD       RPDLimit         Arsenic       64.6       0.136       56.79       6.086       103       75       125       RUNNO:       70015         Copper       212       1.14       56.79       144.1       119       75       125       RUNNO:       70015         Lead       55.2       0.227       28.39       34.33       73.6       75       125       RUNNO:       70015         Somple ID:       2109234-002AMSD       SampType:       MSD       Units:       mg/Kg-dry       Prep Date:       9/20/2021       RunNo:       70015	pper			50.6	1.00	50.00	0	101	80	120				
Client ID:       BATCH       Batch ID:       33748       Analysis Date:       9/20/2021       SeqNo:       1420283         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit         Arsenic       64.6       0.136       56.79       6.086       103       75       125       75       125       75       125       75       125       75       125       75       125       75       125       75       125       75	ad			25.4	0.200	25.00	0	101	80	120				
Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim         Arsenic       64.6       0.136       56.79       6.086       103       75       125<	mple ID: <b>210</b>	9234-002AMS	SampType	e: MS			Units: mg/Kg·	dry	Prep Dat	te: <b>9/20/2</b> 0	021	RunNo: 70	015	
Arsenic       64.6       0.136       56.79       6.086       103       75       125         Copper       212       1.14       56.79       144.1       119       75       125         Lead       55.2       0.227       28.39       34.33       73.6       75       125         NOTES:       S - Analyte concentration was too high for accurate spike recovery(ies).       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Sample ID:       2109234-002AMSD       SampType:       MSD       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       Batch ID:       33748       The secult       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLim	ent ID: BAI	ГСН	Batch ID:	33748					Analysis Dat	te: <b>9/20/2</b> 0	021	SeqNo: 14	20283	
Copper       212       1.14       56.79       144.1       119       75       125         Lead       55.2       0.227       28.39       34.33       73.6       75       125         NOTES: S - Analyte concentration was too high for accurate spike recovery(ies).       Vinits: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Sample ID: 2109234-002AMSD       SampType:       MSD       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       BATCH       Batch ID:       33748       Fight Spice       SeqNo: 1420286         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RPDLimit	alyte		I	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead       55.2       0.227       28.39       34.33       73.6       75       125         NOTES: S - Analyte concentration was too high for accurate spike recovery(ies).         Sample ID: 2109234-002AMSD       SampType: MSD       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo: 70015         Client ID:       BATCH       Batch ID:       33748       Analysis Date:       9/20/2021       SeqNo: 1420286         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD RPDLim	enic			64.6	0.136	56.79	6.086	103	75	125				
NOTES:       S - Analyte concentration was too high for accurate spike recovery(ies).         Sample ID: 2109234-002AMSD       SampType: MSD       Units: mg/Kg-dry       Prep Date: 9/20/2021       RunNo: 70015         Client ID:       Batch ID:       33748       Analysis Date: 9/20/2021       SeqNo: 1420286         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       High Limit       RPD Ref Val       %RPD       RPDLimit	pper			212	1.14	56.79	144.1	119	75	125				
S - Analyte concentration was too high for accurate spike recovery(ies).         Sample ID: 2109234-002AMSD       SampType: MSD       Units: mg/Kg-dry       Prep Date: 9/20/2021       RunNo: 70015         Client ID:       Batch ID: 33748       Analysis Date: 9/20/2021       SeqNo: 1420286         Analyte       Result       RL       SPK Ref Val       %REC       LowLimit       HighLimit       RPD RPD Limit	ad			55.2	0.227	28.39	34.33	73.6	75	125				S
Sample ID: 2109234-002AMSD       SampType: MSD       Units: mg/Kg-dry       Prep Date:       9/20/2021       RunNo:       70015         Client ID:       Batch ID:       33748       Analysis Date:       9/20/2021       SeqNo:       1420286         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD RPDLim		oncentration was to	oo high for accu	urate spike i	recovery(ies	).								
Client ID:     BATCH     Batch ID:     33748     Analysis Date:     9/20/2021     SeqNo:     1420286       Analyte     Result     RL     SPK value     SPK Ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD     RPD     Image: SPK ref Val     %REC     LowLimit     HighLimit     RPD     RPD <t< td=""><td></td><td></td><td></td><td></td><td>,</td><td>,</td><td>Units: ma/Ka</td><td>drv</td><td>Prep Dat</td><td>te: <b>9/20/2</b>(</td><td>021</td><td>RunNo: 70</td><td>015</td><td></td></t<>					,	,	Units: ma/Ka	drv	Prep Dat	te: <b>9/20/2</b> (	021	RunNo: 70	015	
Analyte Result RL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLim	•						5-5	•				-		
Arsenic 61.9 0.136 56.79 6.086 98.2 75 125 64.65 4.37 2			I	Result	RL	SPK value	SPK Ref Val		-			•	RPDLimit	Qual
	enic			61.9	0.136	56.79	6.086	98.2	75	125	64.65	4.37	20	
Copper 206 1.14 56.79 144.1 110 75 125 212.0 2.65 2	pper			206	1.14	56.79	144.1	110	75	125	212.0	2.65	20	

64.6

0.227

28.39

34.33

106

75

125

55.22

Lead

Se Eremont

20 20

15.6



Work Order: CLIENT: Project:	2109218 Anderson E Paccar	nvironmenta	al Contrac	sting				Metals (	EPA 200	QC S 0.8) with SP	SUMMA		-
Sample ID: MB-33	816	SampType:	MBLK			Units: µg/L		Prep Da	te: <b>9/24/2</b>	021	RunNo: <b>70</b>	132	
Client ID: MBLK	S	Batch ID:	33816					Analysis Da	te: <b>9/24/2</b>	021	SeqNo: 142	22490	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	4.00									
Sample ID: LCS-3	3816	SampType	LCS			Units: µg/L		Prep Da	te: <b>9/24/2</b> (	)21	RunNo: 70	132	
Client ID: LCSS		Batch ID:	33816					Analysis Da	te: <b>9/24/2</b> (	021	SeqNo: 142	22491	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			107	10.0	100.0	0	107	85	115				
Sample ID: 210934	1-005BDUP	SampType:	DUP			Units: µg/L		Prep Da	te: <b>9/24/2</b> 0	)21	RunNo: 70	132	
Client ID: BATCH	4	Batch ID:	33816					Analysis Da	te: <b>9/24/2</b> 0	021	SeqNo: 142	22493	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	10.0						0		30	
Sample ID: 210934	41-005BMS	SampType:	MS			Units: µg/L		Prep Da	te: <b>9/24/2</b> (	)21	RunNo: 70	132	
Client ID: BATCH	ł	Batch ID:	33816					Analysis Da	te: <b>9/24/2</b> (	021	SeqNo: 142	22494	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			516	10.0	500.0	0	103	70	130				
Sample ID: 210934	1-005BMSD	SampType:	MSD			Units: µg/L		Prep Da	te: <b>9/24/2</b> (	)21	RunNo: <b>70</b>	132	
Client ID: BATCH	4	Batch ID:	33816					Analysis Da	te: <b>9/24/2</b> 0	021	SeqNo: 142	22495	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			519	10.0	500.0	0	104	70	130	516.0	0.570	30	



Work Order:	2109218			u						QCS	SUMMA	RY REF	PORT
CLIENT: Project:	Anderson Env Paccar	lionmenta	al Contrac	ung				Metals (	EPA 200.8	8) with SP	LP Extrac	tion (EPA	A 1312)
Sample ID: 210921	8-002AMS	SampType	: MS			Units: µg/L		Prep Da	ite: <b>9/24/202</b>	1	RunNo: 70	132	
Client ID: Sampl	e #2 Renton con	Batch ID:	33816					Analysis Da	ite: 9/24/202	1	SeqNo: 14	22497	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			526	20.0	500.0	38.00	97.7	70	130				D
Sample ID: MB2-3	3816	SampType	: MBLK			Units: µg/L		Prep Da	ite: 9/24/202	1	RunNo: 70	132	
Client ID: MBLK	S	Batch ID:	33816					Analysis Da	ite: 9/24/202	1	SeqNo: 14	22498	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	20.0									D
Sample ID: MB2-3	3864	SampType	: MBLK			Units: µg/L		Prep Da	ite: <b>9/28/202</b>	1	RunNo: 70	198	
Client ID: MBLK	S	Batch ID:	33864					Analysis Da	te: 9/28/202	1	SeqNo: 14	24180	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Copper <b>NOTES:</b> Filter Blank			ND	5.00									D
Sample ID: 210921	8-007AMS	SampType	: MS			Units: µg/L		Prep Da	ite: 9/28/202	1	RunNo: <b>70</b> 4	198	
Client ID: Rentor	n concrete recycl	Batch ID:	33864					Analysis Da	ite: 9/28/202	1	SeqNo: 142	24185	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Copper NOTES:	e recoveries were	associated	156 with this sam	5.00	100.0	20.12	136	70	130				DS
Sample ID: MB-33		SampType				Units: µg/L		Prep Da	ite: 9/28/202	1	RunNo: <b>70</b> '	198	
Client ID: MBLK	S	Batch ID:	33864					Analysis Da	ite: 9/28/202	1	SeqNo: 14	24228	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	10.0									



CLIENT: A	2109218 Anderson E Paccar	nvironmenta	Il Contract	ling				Metals (I	EPA 200	QC S .8) with SP	SUMMA LP Extrac		
Sample ID: LCS-338	64	SampType:	LCS			Units: µg/L		Prep Dat	e: <b>9/28/20</b>	21	RunNo: <b>70</b> ′	198	
Client ID: LCSS		Batch ID:	33864					Analysis Dat	e: <b>9/28/20</b>	21	SeqNo: 142	24229	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			113	10.0	100.0	0	113	85	115				
Sample ID: 2109397-	006GDUP	SampType:	DUP			Units: µg/L		Prep Dat	e: <b>9/28/20</b>	21	RunNo: <b>70</b> '	198	
Client ID: BATCH		Batch ID:	33864					Analysis Dat	e: <b>9/28/20</b>	21	SeqNo: 142	24231	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	10.0						0		30	
Sample ID: 2109397-	006GMS	SampType:	MS			Units: µg/L		Prep Dat	e: <b>9/28/20</b>	21	RunNo: 70	198	
Client ID: BATCH		Batch ID:	33864					Analysis Dat	e: <b>9/28/20</b>	21	SeqNo: 142	24232	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			114	10.0	100.0	8.279	106	70	130				
Sample ID: 2109397-	006GMSD	SampType:	MSD			Units: µg/L		Prep Dat	e: 9/28/20	21	RunNo: <b>70</b> ′	198	
Client ID: BATCH		Batch ID:	33864					Analysis Dat	e: <b>9/28/20</b>	21	SeqNo: 142	24235	
Analyte		F	lesult	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			117	10.0	100.0	8.279	108	70	130	114.2	2.10	30	

	Fremont
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Paccar

#### Work Order: 2109218

Project:

# CLIENT: Anderson Environmental Contracting

# QC SUMMARY REPORT

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: MB-33733	SampType: <b>MBLK</b>			Units: mg/Kg		Prep Date	e: <b>9/17/202</b>	1	RunNo: 699	996	
Client ID: MBLKS	Batch ID: 33733					Analysis Date	e: <b>9/17/202</b>	1	SeqNo: 141	9162	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	50.0									
Heavy Oil	ND	100									
Total Petroleum Hydrocarbons	ND	150									
Surr: 2-Fluorobiphenyl	10.1		10.00		101	50	150				
Surr: o-Terphenyl	11.2		10.00		112	50	150				
Sample ID: LCS-33733	SampType: LCS			Units: mg/Kg		Prep Date	e: <b>9/17/202</b>	1	RunNo: 699	996	
Client ID: LCSS	Batch ID: 33733					Analysis Date	e: <b>9/17/202</b>	1	SeqNo: 141	19163	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	528	150	500.0	0	106	77.2	122				
Surr: 2-Fluorobiphenyl	10.0		10.00		100	50	150				
Surr: o-Terphenyl	12.3		10.00		123	50	150				
Sample ID: 2109160-001AMS	SampType: <b>MS</b>			Units: mg/Kg-	dry	Prep Date	e: <b>9/17/202</b>	1	RunNo: 699	996	
Client ID: BATCH	Batch ID: 33733					Analysis Date	e: <b>9/17/202</b>	1	SeqNo: 141	9169	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	697	181	603.7	0	115	68	132				
Surr: 2-Fluorobiphenyl	10.8		12.07		89.6	50	150				
Surr: o-Terphenyl	14.2		12.07		118	50	150				
Sample ID: 2109160-001AMSD	SampType: <b>MSD</b>			Units: mg/Kg-	dry	Prep Date	e: <b>9/17/202</b>	1	RunNo: 699	996	
Client ID: BATCH	Batch ID: 33733					Analysis Date	e: <b>9/17/202</b>	1	SeqNo: 141	19170	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Total Petroleum Hydrocarbons	600	185	617.1	0	97.2	68	132	696.5	14.9	30	
Surr: 2-Fluorobiphenyl	8.07		12.34		65.4	50	150		0		
			12.34								



### Work Order: 2109218

Project:

#### CLIENT: Anderson Environmental Contracting Paccar

# QC SUMMARY REPORT

Diesel and Heavy	Oil by NWTPH-Dx/Dx Ext.	
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Sample ID: 2109160-001AMSD	SampType: <b>MSD</b>		Units: mg/Kg-	dry	Prep Date: 9/17/20	21	RunNo: 699	96	
Client ID: BATCH	Batch ID: 33733				Analysis Date: 9/17/20	21	SeqNo: 141	9170	
Analyte	Result	RL	SPK value SPK Ref Val	%REC	LowLimit HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 2109230-003ADUP	SampType: <b>DUP</b>			Units: mg/l	Kg-dry	Prep Da	te: <b>9/17/20</b>	021	RunNo: 699	996	
Client ID: BATCH	Batch ID: 33733					Analysis Da	te: <b>9/17/20</b>	)21	SeqNo: 141	19175	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel (Fuel Oil)	ND	46.7						0		30	
Heavy Oil	ND	93.4						0		30	
Total Petroleum Hydrocarbons	ND	140						0		30	
Surr: 2-Fluorobiphenyl	5.23		9.335		56.0	50	150		0		
Surr: o-Terphenyl	5.75		9.335		61.6	50	150		0		



Paccar

### Work Order: 2109218

Project:

## **CLIENT:** Anderson Environmental Contracting

# QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: MB-33736	SampType: <b>MBLK</b>			Units: µg/Kg		Prep Date:	9/17/2021	RunNo: 699	98	
Client ID: MBLKS	Batch ID: 33736					Analysis Date:	9/17/2021	SeqNo: 141	9194	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	lighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	ND	20.0								
Chrysene	ND	40.0								
Benzo(b)fluoranthene	ND	20.0								
Benzo(k)fluoranthene	ND	20.0								
Benzo(a)pyrene	ND	20.0								
Indeno(1,2,3-cd)pyrene	ND	40.0								
Dibenz(a,h)anthracene	ND	40.0								
Surr: 2-Fluorobiphenyl	838		1,000		83.8	27.9	129			
Surr: Terphenyl-d14 (surr)	1,130		1,000		113	39.1	145			

Sample ID: LCS-33736	SampType: LCS			Units: µg/Kg		Prep Date	e: 9/17/2021	RunNo: 69998	
Client ID: LCSS	Batch ID: 33736					Analysis Date	e: 9/17/2021	SeqNo: 1419195	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benz(a)anthracene	2,150	20.0	2,000	0	108	64.4	113		
Chrysene	2,000	40.0	2,000	0	100	57.3	113		
Benzo(b)fluoranthene	1,950	20.0	2,000	0	97.7	58.2	115		
Benzo(k)fluoranthene	2,120	20.0	2,000	0	106	53.4	121		
Benzo(a)pyrene	2,110	20.0	2,000	0	106	64.7	125		
Indeno(1,2,3-cd)pyrene	1,780	40.0	2,000	0	89.1	61.6	113		
Dibenz(a,h)anthracene	1,900	40.0	2,000	0	94.8	62.1	116		
Surr: 2-Fluorobiphenyl	766		1,000		76.6	27.9	129		
Surr: Terphenyl-d14 (surr)	1,020		1,000		102	39.1	145		
Sample ID: 2109230-003AMS	SampType: <b>MS</b>			Units: µg/Kg	dry	Prep Date	e: 9/17/2021	RunNo: 69998	
Client ID: BATCH	Batch ID: 33736					Analysis Date	e: 9/17/2021	SeqNo: 1419199	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benz(a)anthracene	1,770	19.0	1,901	9.067	92.6	45	110		



## Work Order: 2109218

## CLIENT: Anderson Environmental Contracting

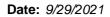
# QC SUMMARY REPORT

Project: Paccar

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: 2109230-003AMS	SampType: <b>MS</b>			Units: µg/k	(g-dry	Prep Da	te: 9/17/2021	RunNo: 69	998	
Client ID: BATCH	Batch ID: 33736					Analysis Da	te: 9/17/2021	SeqNo: 14	19199	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref	/al %RPD	RPDLimit	Qual
Chrysene	1,620	38.0	1,901	14.09	84.5	42.4	106			
Benzo(b)fluoranthene	1,640	19.0	1,901	3.434	86.3	43.7	108			
Benzo(k)fluoranthene	1,740	19.0	1,901	3.142	91.2	39.5	113			
Benzo(a)pyrene	1,810	19.0	1,901	4.578	95.0	44.1	122			
Indeno(1,2,3-cd)pyrene	1,530	38.0	1,901	0	80.4	40.2	109			
Dibenz(a,h)anthracene	1,610	38.0	1,901	0	84.9	31.4	126			
Surr: 2-Fluorobiphenyl	628		950.5		66.0	27.9	129			
Surr: Terphenyl-d14 (surr)	814		950.5		85.7	39.1	145			

Sample ID: 2109230-003AMSD	SampType: <b>MSD</b>			Units: µg/K	g-dry	Prep Da	te: <b>9/17/20</b>	)21	RunNo: 69	998	
Client ID: BATCH	Batch ID: 33736					Analysis Da	te: <b>9/17/20</b>	)21	SeqNo: 14	19200	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	1,850	19.2	1,918	9.067	96.2	45	110	1,770	4.68	30	
Chrysene	1,690	38.4	1,918	14.09	87.2	42.4	106	1,620	3.97	30	
Benzo(b)fluoranthene	1,660	19.2	1,918	3.434	86.2	43.7	108	1,645	0.747	30	
Benzo(k)fluoranthene	1,900	19.2	1,918	3.142	98.7	39.5	113	1,737	8.74	30	
Benzo(a)pyrene	1,900	19.2	1,918	4.578	98.6	44.1	122	1,810	4.59	30	
Indeno(1,2,3-cd)pyrene	1,600	38.4	1,918	0	83.5	40.2	109	1,529	4.64	30	
Dibenz(a,h)anthracene	1,690	38.4	1,918	0	88.1	31.4	126	1,615	4.56	30	
Surr: 2-Fluorobiphenyl	645		958.9		67.2	27.9	129		0		
Surr: Terphenyl-d14 (surr)	840		958.9		87.6	39.1	145		0		



Fremont
[ Analytical ]

Paccar

## Work Order: 2109218

Project:

## **CLIENT:** Anderson Environmental Contracting

# **QC SUMMARY REPORT**

Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID: MB-33734	SampType: <b>MBLK</b>			Units: mg/Kg		Prep Date	e: <b>9/17/20</b>	21	RunNo: 699	88	
Client ID: MBLKS	Batch ID: 33734					Analysis Date	e: <b>9/17/20</b>	21	SeqNo: 141	8973	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0500									
Aroclor 1221	ND	0.0500									
Aroclor 1232	ND	0.0500									
Aroclor 1242	ND	0.0500									
Aroclor 1248	ND	0.0500									
Aroclor 1254	ND	0.0500									
Aroclor 1260	ND	0.0500									
Aroclor 1262	ND	0.0500									
Aroclor 1268	ND	0.0500									
Total PCBs	ND	0.0500									
Surr: Decachlorobiphenyl	249		200.0		124	20.6	142				
Surr: Tetrachloro-m-xylene	256		200.0		128	22	157				
Sample ID: LCS1-33734	SampType: LCS			Units: mg/Kg		Prep Date	e: <b>9/17/20</b>	21	RunNo: 699	88	
Client ID: LCSS	Batch ID: 33734					Analysis Date	e: <b>9/17/20</b>	21	SeqNo: 141	8974	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	1.06	0.0500	1.000	0	106	52.2	136				
Aroclor 1260	1.08	0.0500	1.000	0	108	50.5	150				
Surr: Decachlorobiphenyl	219		200.0		109	20.6	142				
Surr: Tetrachloro-m-xylene	245		200.0		122	22	157				
Sample ID: LCS2-33734	SampType: LCS			Units: mg/Kg		Prep Date	e: <b>9/17/20</b>	21	RunNo: 699	88	
Client ID: LCSS	Batch ID: 33734					Analysis Date	e: <b>9/17/20</b>	21	SeqNo: 141	8975	
Choncies ECCC			SDK voluo	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result	RL	SFK value		/0110		0				
	Result 1.25	RL 0.0500	1.000	0	125	48.1	147				
Analyte											



Work Order:	2109218									00.9	SUMMA		
CLIENT:	Anderson E	nvironmenta	al Contra	cting				_		• - •			-
Project:	Paccar							Po	lychlor	inated Biph	enyls (PC	B) by EP	A 808
Sample ID: LCS2-3	33734	SampType	LCS			Units: mg/Kg	l	Prep Dat	e: 9/17/20	)21	RunNo: 69	988	
Client ID: LCSS		Batch ID:	33734					Analysis Dat	e: <b>9/17/2</b> 0	021	SeqNo: 14	18975	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 210922	20-020AMS	SampType	MS			Units: <b>mg/Kg</b>	-dry	Prep Dat	e: <b>9/17/2</b> (	021	RunNo: 69	988	
Client ID: BATCH	н	Batch ID:	33734					Analysis Dat	e: <b>9/17/2</b> 0	021	SeqNo: 14	18977	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016			0.994	0.0394	0.7885	0	126	38.6	146				
Aroclor 1260			0.940	0.0394	0.7885	0	119	24.6	161				
Surr: Decachloro	obiphenyl		113		157.7		71.8	20.6	142				
Surr: Tetrachloro	o-m-xylene		126		157.7		79.8	22	157				
Sample ID: 210922	20-020AMSD	SampType	MSD			Units: mg/Kg	-dry	Prep Dat	e: <b>9/17/2</b> (	021	RunNo: 69	988	
Client ID: BATCH	н	Batch ID:	33734					Analysis Dat	e: <b>9/17/2</b> 0	021	SeqNo: 14	18978	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016			1.08	0.0406	0.8126	0	133	38.6	146	0.9945	8.22	30	
Aroclor 1260			1.12	0.0406	0.8126	0	138	24.6	161	0.9398	17.6	30	
Surr: Decachloro	obiphenyl		134		162.5		82.5	20.6	142		0		
Surr: Tetrachloro	o-m-xylene		144		162.5		88.4	22	157		0		



# Sample Log-In Check List

Client Name: AEC	Work Order Numb	er: 2109218	
Logged by: Gabrielle Coeuille	Date Received:	9/15/2021	4:00:00 PM
Chain of Custody			
1. Is Chain of Custody complete?	Yes 🖌	No 🗌	Not Present
2. How was the sample delivered?	Client		
Log In			
3. Coolers are present?	Yes	No 🗸	NA 🗌
	No cooler preser	<u>nt</u>	
4. Shipping container/cooler in good condition?	Yes 🖌	No 🗌	
<ol> <li>Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)</li> </ol>	Yes 🗌	No 🗌	Not Present 🗹
6. Was an attempt made to cool the samples?	Yes	No 🗹	
	Unknown prior to re	<u>ceipt</u>	
7. Were all items received at a temperature of $>2^{\circ}C$ to $6^{\circ}C$	* Yes	No 🗌	NA 🖌
8. Sample(s) in proper container(s)?	Yes 🔽	No 🗌	
9. Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
10. Are samples properly preserved?	Yes 🖌	No 🗌	
11. Was preservative added to bottles?	Yes	No 🗹	NA 🗌
12. Is there headspace in the VOA vials?	Yes	No 🗌	NA 🗹
13. Did all samples containers arrive in good condition(unbrok	ken)? Yes 🗹	No 🗌	
14. Does paperwork match bottle labels?	Yes 🖌	No 🗌	
15. Are matrices correctly identified on Chain of Custody?	Yes 🖌	No 🗌	
16. Is it clear what analyses were requested?	Yes 🖌	No 🗌	
17. Were all holding times able to be met?	Yes 🖌	No 🗌	
Special Handling (if applicable)			
18. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
Person Notified:	Date:		
By Whom:	Via: eMail Pho	one 🗌 Fax [	In Person
Regarding:			
Client Instructions:			

#### Item Information

Item #	Temp °C
Sample 1	23.6

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

		al com	vtic	nntanal	www.fremontanalytical.com	WW							0013-110620
Date/Time	Aunt Name	AMM A	Signatu	Received (signatur		)ē	Date/Time			Print Name		u(e)	Relinquished (Signature) <
1 Court 4/17/1, 14	Mant Name		Signatu	x A		9-16-21	Date/Time			Craig nelson	<b>S</b> Craig	2 and	Relinquished (Signature)
	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	named above, tha	Client	alf of the (	tical on beh	nt Analy	1 Fremo	nent with eement.	is Agreer f this Agr	inter into th backside o	uthorized to e the front and	at I am ai terms on	I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.
3 Day		te	Nitrate+Nitrite	e Nitrat	e Fluoride	O-Phosphate	de c	Bromide	Sulfate	Chloride	Nitrite	Nitrate	***Anions (Circle):
TI V Zn	Na NI Pb sb se sr sn Ti T	Mg Mn Mo	О Fe нg к		a Be Ca Cd Co Cr	Individual: Ag Al As B Ba Be	ial: Ag A	Individu		Priority Pollutants	RCRA-8	2	**Metals (Circle): MTCA-5
W = Waste Water Turn-around Time:	er, SW = Storm Water, WW = Waste Water	er, GW = Ground Water,	ng Wate	DW = Drinking Water,	O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water,	SL = Solio	Sediment,	Soil, SD =	roduct, S =	Other, P = P	15, B = Bulk, O =	Q = Aqueou	Matrix: A = Air, AQ = Aqueous, B = Bulk,
													10
													9
													20
													6
													5
													4
													3
cPAHs		×	×	×	×			0	12.00	9/15/21	ock 4-8 inch	y spalls n	2 recyclers quarry spalls rock 4-8 inch
cPAHs		×	-	×				S	12.00	9/15/21	ete	ton concr	Sample #1 Renton concrete 1 recyclers 3/4 inch minus
Comments			7. 12 12 12.1		LOCIER CONTRACTOR	10C 100	# of Cont.	Sample Type (Matrix)*	Sample	5ample Date			Sample Name
	t>	Craig Nelson <craign@aecllc.net></craign@aecllc.net>	raig	Ison <c< td=""><td>raig Ne</td><td></td><td>PM Email:</td><td>1</td><td></td><td></td><td></td><td></td><td>Fax:</td></c<>	raig Ne		PM Email:	1					Fax:
Sample Disposal:  Return to client Disposal by lab (after 30 days)	Sample Dispos	of a language of the contract of the second s		Craig Nelson	Craig	Report To (PM):	Report						Telephone:
						on:	Location:						City, State, Zip:
	Numero Constanti de					ted by:	Collected by:						Address:
update per CIN 9/10/21- gac	upual					t No:	Project No:						client: AEC
	Special Remarks				Project Name: Paccar	t Name:	Projec	57-1718	Fax: 200-332-1118	NUM	TOND IN TOTAL		
Laboratory Project No (internal); 21, 21, 21, 21, 21, 21, 21, 21, 21, 21,	Laboratory Pri	of:	Page:				Date:	52-3790	Tel: 206-352-3790		IGHIOH	5	
Laboratory Services Agreement	Laboratory	Chain of Custody Record &	dy F	ustoc	in of C	Cha	Γ	t Ave N. 98103	3600 Fremont Ave N. Seattle, WA 98103	36		5	

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図道「ちちちう	38	3600 Fremont Ave N.	Ave N.	Chain of Custody Record & Labo	aboratory Services Agreement
- remon		Seattle, WA 98103 Tel: 206-352-3790	98103 2-3790	of:	Laboratory Project No (internal): 210921X
Anniyinan	RUN	Fax: 206-352-7178	2-7178	tname: Paccar	Special Remarks'
client: AEC				Project No:	Y – Run SPI P Cur ASAP TAT
Address:				Collected by:	9/23/21 -CG
City, State, Zip:				Location:	
Telephone:				Report To (PM): Craig Nelson	Sample Disposal: Return to client Disposal by lab (after 30 days)
Fax:				Craig Nelson <craig< td=""><td></td></craig<>	
Sample Name	Sample	Sample	Sample Type (Matrix)*	35	
Sample #1 Renton concrete 1 recyclers 3/4 inch minus	9/15/21	12.00	S	X X X	CPAHs comments
Sample #2 Renton concrete 2 recyclers quarry spalls rock 4-8 inch	9/15/21	12:00	S	× × ×	X cPAHs
3					
4					
5					
6					
7					
8					
9					
10					
ous, B = Bulk,	= Other, P = P	roduct, S = S	oil, SD = S	W = Water, DW = Drinking Water,	GW = Ground Water, SW = Storm Water, WW = Waste Water Turn-around Time:
***Anions (Circle): Nitrate Nitrite	Chloride	Sulfate	Bromide	Bromide O-Phosphate Fluoride Nitrate+Nitrite	sr sn Ti Ti V Zn
I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.	enter into th I backside o	iis Agreem If this Agre	ent with ement.	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.	verified (Tient's agreement ASAP
Relinquisted (Signature)	Craig nelson	2		9-16-21 × A	Child A Date/Time 4/17/15, 14
Relinquished (Signature) X	Print Name			Réceived (Signatura WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	nt Name Date/Time Otto
06.97.1.2.1.00.				www.fremontanalytical.com	

Page 25 of 25

Attachment E-11

Area 5 Water, Chemical Results, Fremont Analytical, Inc., Work Order No. 2109439



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Shannon & Wilson Ryan Peterson 400 N. 34th Street, Suite 100 Seattle, WA 98103

RE: 8801 - Excavations Work Order Number: 2109439

September 30, 2021

#### **Attention Ryan Peterson:**

Fremont Analytical, Inc. received 1 sample(s) on 9/27/2021 for the analyses presented in the following report.

## Dissolved Metals by EPA Method 200.8 Total Metals by EPA Method 200.8

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910

Original



CLIENT: Project: Work Order:	Shannon & Wilson 8801 - Excavations 2109439	Work Order Sample Summary							
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received						
2109439-001	A5-GW	09/27/2021 2:00 PM	09/27/2021 2:59 PM						

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2109439** Date: **9/30/2021** 

CLIENT:Shannon & WilsonProject:8801 - Excavations

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

# II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

## III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

# **Qualifiers & Acronyms**



 WO#:
 2109439

 Date Reported:
 9/30/2021

# Qualifiers:

- \* Associated LCS is outside of control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Method Detection Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery **CCB** - Continued Calibration Blank **CCV** - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate HEM - Hexane Extractable Material** ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



# **Analytical Report**

 Work Order:
 2109439

 Date Reported:
 9/30/2021

Client: Shannon & Wils		С	Collection Date: 9/27/2021 2:00:00 PM										
Project: 8801 - Excavati Lab ID: 2109439-001 Client Sample ID: A5-G		Matrix: Water											
Analyses	Result	RL	MDL	Qual	Units	DF	Date Analyzed						
Dissolved Metals by EP	A Method 200.8		Batch	ID: 3381	9	Analyst: EH							
Copper	20.0	4.00	2.13	D	µg/L	2	09/29/21 20:29:04						
Total Metals by EPA Me	<u>ethod 200.8</u>			Batch ID: 33854 Analyst									
Copper	49.6	10.0	0.777	D	µg/L	5	09/29/21 14:08:47						



	9439 nnon & Wilson						QC	SUMMARY REPO	ORT
Project: 880	1 - Excavations						Dissolved M	letals by EPA Method	200.8
Sample ID: MB-33819	SampType: MBLK			Units: µg/L		Prep Date	9/24/2021	RunNo: 70205	
Client ID: MBLKW	Batch ID: 33819					Analysis Date	9/28/2021	SeqNo: 1424344	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Copper	ND	2.00							
Sample ID: 2109341-003	CMS SampType: MS			Units: µg/L		Prep Date	: <b>9/24/2021</b>	RunNo: 70205	
Client ID: BATCH	Batch ID: 33819					Analysis Date	: <b>9/28/2021</b>	SeqNo: 1424348	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Copper	538	2.00	500.0	0	108	70	130		
Sample ID: 2109341-003	CMSD SampType: MSD			Units: µg/L		Prep Date	9/24/2021	RunNo: 70205	
Client ID: BATCH	Batch ID: 33819					Analysis Date	: <b>9/28/2021</b>	SeqNo: 1424349	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Copper	534	2.00	500.0	0	107	70	130 538.	5 0.869 30	
Sample ID: MB-33818FE	SampType: MBLK			Units: µg/L		Prep Date	9/24/2021	RunNo: 70205	
Client ID: MBLKW	Batch ID: 33819					Analysis Date	: <b>9/29/2021</b>	SeqNo: 1425186	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit I	HighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Copper <b>NOTES:</b> Filter Blank	ND	2.00							
Sample ID: LCS-33819	SampType: LCS			Units: µg/L		Prep Date	: <b>9/24/2021</b>	RunNo: 70205	
Client ID: LCSW	Batch ID: 33819					Analysis Date	: <b>9/29/2021</b>	SeqNo: 1425187	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	al %RPD RPDLimit	Qual
Copper	106	2.00	100.0	0	106	85	115		



Work Order:	2109439									00.5	SUMMAF		ORT
CLIENT:	Shannon & V	Vilson							ь.	-			
Project:	8801 - Excav	ations							Dis	solved Met	als by EP	A Method	1 200.8
Sample ID: 21093	41-003CDUP	SampType:	DUP			Units: µg/L		Prep Da	te: 9/24/20	21	RunNo: 702	05	
Client ID: BATCI	н	Batch ID:	33819					Analysis Da	te: <b>9/29/20</b>	21	SeqNo: 142	5189	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	2.00						1.078	200	30	



Work Order: CLIENT:	2109439 Shannon & V	Wilson									SUMMAI		
Project:	8801 - Exca	vations								Total Met	als by EP	A Method	200.8
Sample ID: MB-338	854	SampType:	MBLK			Units: µg/L		Prep Date	e: 9/28/202	:1	RunNo: 702	209	
Client ID: MBLKW	N	Batch ID:	33854					Analysis Date	e: 9/28/202	:1	SeqNo: 142	4451	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	2.00									
Sample ID: LCS-33	3854	SampType:	LCS			Units: µg/L		Prep Date	e: 9/28/202	:1	RunNo: 702	209	
Client ID: LCSW		Batch ID:	33854					Analysis Date	e: 9/28/202	1	SeqNo: 142	4452	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			105	2.00	100.0	0	105	85	115				
Sample ID: 210942	23-002AMS	SampType:	MS			Units: µg/L		Prep Date	e: 9/28/202	21	RunNo: 702	209	
Client ID: BATCH	1	Batch ID:	33854					Analysis Date	e: <b>9/29/202</b>	:1	SeqNo: 142	4464	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			126	2.00	100.0	8.246	118	70	130				
Sample ID: 210942	23-002AMSD	SampType:	MSD			Units: µg/L		Prep Date	e: 9/28/202	:1	RunNo: 702	209	
Client ID: BATCH	1	Batch ID:	33854					Analysis Date	e: 9/29/202	:1	SeqNo: 142	4465	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			130	2.00	100.0	8.246	122	70	130	125.9	3.37	30	
Sample ID: MB-338	854	SampType:	MBLK			Units: µg/L		Prep Date	e: 9/28/202	:1	RunNo: 702	209	
Client ID: MBLKW	N	Batch ID:	33854					Analysis Date	e: 9/29/202	1	SeqNo: 142	4791	
Analyte		F	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper			ND	2.00									



Work Order:	2109439								00.5	SUMMAR		ORT					
CLIENT:	Shannon & V	Shannon & Wilson								QC SUMMARY REPORT							
Project:	8801 - Excav	rations							Total Met	als by EP	A Method	1 200.8					
Sample ID: 21094	23-002ADUP	SampType: <b>DUP</b>			Units: µg/L		Prep Da	te: <b>9/28/2</b> (	)21	RunNo: 702	209						
Client ID: BATC	н	Batch ID: 33854					Analysis Da	te: <b>9/29/20</b>	)21	SeqNo: 142	4794						
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual					
Copper		8.00	2.00						8.246	2.99	30						



# Sample Log-In Check List

Client Name: SW	Work Order Numb	er: 2109439	
Logged by: Clare Griggs	Date Received:	9/27/2021	2:59:00 PM
Chain of Custody			
1. Is Chain of Custody complete?	Yes 🖌	No	Not Present
2. How was the sample delivered?	<u>Client</u>		
Log In			
3. Coolers are present?	Yes 🖌	No 🗌	
4. Shipping container/cooler in good condition?	Yes 🖌	No 🗌	
<ol> <li>Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)</li> </ol>	Yes	No 🗌	Not Present 🗹
6. Was an attempt made to cool the samples?	Yes	No 🖌	
	Unknown prior to re	<u>ceipt.</u>	
7. Were all items received at a temperature of $>2^{\circ}C$ to $6^{\circ}C$ *	Yes 🗌	No 🗌	NA 🗹
8. Sample(s) in proper container(s)?	Yes 🔽	No 🗌	
9. Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
10. Are samples properly preserved?	Yes 🖌	No 🗌	
11. Was preservative added to bottles?	Yes	No 🔽	NA 🗌
12. Is there headspace in the VOA vials?	Yes	No 🗌	NA 🗹
13. Did all samples containers arrive in good condition(unbroken)?	Yes 🖌	No 🗌	
14. Does paperwork match bottle labels?	Yes 🖌	Νο	
15. Are matrices correctly identified on Chain of Custody?	Yes 🖌	No 🗌	
16. Is it clear what analyses were requested?	Yes 🖌	No 🗌	
17. Were all holding times able to be met?	Yes 🖌	No 🗌	
<u>Special Handling (if applicable)</u>			
18. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
Person Notified: Da	te:		
By Whom: Via	a: eMail Pho	one 🗌 Fax	In Person
Regarding:			
Client Instructions:			

#### Item Information

Item #	Temp °C
Sample	15.6

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

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Relinguished (Signature) x	Relinquished (Signature) × ////	I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement	***Anions (Circle): Nitrate Nitrite	**Metals (Circle): MTCA-5 RCRA-8	Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, SD = Sediment, SL = Solid, W = Water,	5		20	7	5	5	4	3	2	1 AS-GW	Sample Name			Fax:	Telephone:	City, State, Zip: & HC, W)	Address 400 No 34th St Sick	client Shencen & Wilson	-11 Analytical	Fremonu	
Print Name	YAN PERUCU	enter into this / ud backside of th	Chloride S	Priority Pollutants	) = Other, P = Produ		/								alizz 10	Sample Sa Date 1					WA 98103	st Suf	85			ω
		Agreement with his Agreement.	Sulfate Bromide	TAL Individuo	ct, S = Soil, SD = So										1400 W		Sample					0		Fax: 206-352-7178	Seattle, WA 98103 Tel: 206-352-3790	3600 Fremont Ave N.
x	M	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have to each of the terms on the front and backside of this Agreement.	O-Phosphate Fluoride Nitrate+Nitrite	individuol: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb	DW = Drinking Water, GW = Ground Water,						Copper	Alsalvee	the left			1000 100 00 000 000 000	270210	anic Ct. in	25	Report To (PM): / Lyna Kat/Son	Location: The Kyrale, Luft	collected by: Ryan Ktorson	Project No: 103485-408	Project Name: 8801- CKCaudocus	Date: 9/127/2,1 Page: 1 of: 1	Chain of Custody Record & Labor
Print Name Date/Time	tober a	ed Client's agreeme	🗌 3 Day 🗌 Same Day	Se Sr Sn Ti TI V Zn	SW = Storm Water, WW = Waste Water Turn-around Time:							Spells.	Dickedure for frains	By use in leade	Gw from Aleas	Comments	////	/////	11111	Sample Disposal: Return to client Pubsposal by Iab (arter Su days)	/		Lob to Alter as needed	Not Ach Alberda	Laboratory Project No (internal): 2109439	Laboratory Services Agreement

Attachment E-12

Quarry Spall, #2 Modified SPLP Results, Fremont Analytical, Inc., Work Order No. 2110053



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Shannon & Wilson Meg Strong 400 N. 34th Street, Suite 100 Seattle, WA 98103

RE: Paccar - Anderson Work Order Number: 2110053

October 13, 2021

## **Attention Meg Strong:**

Fremont Analytical, Inc. received 2 sample(s) on 10/4/2021 for the analyses presented in the following report.

## Metals (EPA 200.8) with SPLP Extraction (EPA 1312)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910



CLIENT: Project: Work Order:	Shannon & Wilson Paccar - Anderson 2110053	Work Order Sample Summar						
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received					
2110053-001	Renton Concrete Recyclers Quarry Spal	09/15/2021 12:00 PM	09/17/2021 2:34 PM					
2110053-002	Renton Concrete Recyclers Quarry Spal	09/15/2021 12:00 PM	09/17/2021 2:34 PM					

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2110053** Date: **10/13/2021** 

CLIENT:Shannon & WilsonProject:Paccar - Anderson

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

# II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

## III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Note: This report contains results for two pieces of a single source of rock processed by a modified SPLP method, as follows. Two pieces of rock were selected and processed "as received," i.e. particle size was not reduced. Samples were ~4-6" per side. Per project scope and client request, samples were tumbled in laboratory DI water. They were otherwise treated according to typical SPLP procedure, including tumbling and filtration prior to analysis for copper by ICP-MS.

# **Qualifiers & Acronyms**



WO#: 2110053 Date Reported: 10/13/2021

# Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recovery CCB - Continued Calibration Blank CCV - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate** HEM - Hexane Extractable Material ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



# **Analytical Report**

 Work Order:
 2110053

 Date Reported:
 10/13/2021

Client: Shannon & Wilson			(	Collectior	n Date:	9/15/2021 12:00:00 PM
Project: Paccar - Anderson						
Lab ID: 2110053-001			I	Matrix: S	olid	
Client Sample ID: Renton Concrete	e Recyclers Qu	arry Spa	lls 4-8" A			
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (EPA 200.8) with SPLP Extr		Batc	h ID: 33	974 Analyst: EH		
Copper	ND	4.00	D	µg/L	2	10/12/2021 6:51:47 PM



# **Analytical Report**

 Work Order:
 2110053

 Date Reported:
 10/13/2021

Client: Shannon & Wilson			(	Collection	n Date:	9/15/2021 12:00:00 PM
Project: Paccar - Anderson						
Lab ID: 2110053-002			I	Matrix: S	olid	
Client Sample ID: Renton Concret	e Recyclers Qu	arry Spa	ls 4-8" B			
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Metals (EPA 200.8) with SPLP Ext		Batc	h ID: 33	974 Analyst: EH		
Copper	ND	4.00	D	µg/L	2	10/12/2021 6:49:27 PM



Copper         ND         10.0           Sample ID: LCS-33974         SampType: LCS         Units: µg/L         Prep Date: 10/7/2021         RunNo: 70506           Cilent ID:         LCSS         Batch ID: 33974         Analysis Date: 10/12/2021         SeqNo: 1432091           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RP         RPD RP           Copper         108         10.0         100.0         0         108         85         115           Sample ID:         2110088-009BDUP         SampType: DUP         Units: µg/L         Prep Date: 10/7/2021         RunNo: 70506           Cilent ID:         BATCH         Batch ID:         33974         Analyte         Prep Date: 10/7/2021         RunNo: 70506           Copper         ND         10.0         0         108         85         115           Copper         ND         10.0         Units: µg/L         Prep Date: 10/7/2021         RunNo: 70506           Copper         ND         10.0         0         108         90         0         0           Sample ID: 2110088-009BMS         SampType: MS         Units: µg/L         Prep Date: 10/7/2021         RunNo: 70506	REPORT	MARY REF	SUMMA	QC S									2110053		Orde	
Project:         Patcal - Artiderson         Project:         Project: </th <th>(FPA 1312)</th> <th>straction (FP</th> <th>P Extrac</th> <th>8) with SP</th> <th>PA 200</th> <th>tals (FI</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>-</th>	(FPA 1312)	straction (FP	P Extrac	8) with SP	PA 200	tals (FI										-
Client ID:         MBLKS         Batch ID:         33974         Analysis         Analysis Date:         10/12/2021         SeqNo:         1432091           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RP         %RPD RP           Copper         ND         10.0            KenV         %RPD RP         Prep Date:         10/7/2021         RunNo:         70506           Sample ID:         LCSS         Batch ID:         33974          Analysis Date:         10/7/2021         RunNo:         70506           Copper         108         10.0         100.0         0         108         85         115           KRPD RP         <				.o) with Si	I A 200	itais (Li							Paccar - Anderson		ect:	Pro
Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD RP           Copper         ND         10.0		lo: <b>70506</b>	RunNo: 70	21	10/7/20	Prep Date:		Units: µg/L				pType: <b>MBLK</b>	<b>3974</b> SampTy	3397	e ID: N	Sam
Copper         ND         10.0           Sample ID: LCS-33974         SampType: LCS         Units: µg/L         Prep Date: 10/7/2021         RunNo: 70506           Client ID:         LCSS         Batch ID: 33974         Analysis Date: 10/12/2021         SeqNo: 1432091           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RP         RPD RP         Result         %RPD RP         %RPD RP         Result         %RPD RP         Result         %RPD RP         %RPD RP         Result         %RPD RP		lo: 1432098	SeqNo: <b>14</b>	021	10/12/2	lysis Date:	A					h ID: 33974	S Batch ID	KS	D: N	Clien
Sample ID:         LCS.33974         SampType:         LCS         Units:         µg/L         Prep Date:         10/7/2021         RunNo:         70506           Client ID:         LCSS         Batch ID:         33974	Limit Qual	6RPD RPDLimit	%RPD	RPD Ref Val	HighLimit	wLimit H	EC	K Ref Val	S	SPK value	RL	Result			Ð	Analy
Client ID:       LCSS       Batch ID:       33974       Analysis Date:       10/12/2021       SeqNo:       1432091         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RP         Copper       108       10.0       100.0       0       108       85       115       8000:       1432091         Sample ID:       2110088-009BDUP       SampType: DUP       Units:       µg/L       Prep Date:       10/7/2021       RunNo:       70506         Client ID:       BATCH       Batch ID:       33974       V       Analysis Date:       10/12/2021       SeqNo:       1432102         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD R       RP         Copper       ND       10.0       Units:       µg/L       Prep Date:       10/7/2021       RunNo:       70506         Sample ID:       2110088-009BMS       SampType: MS       Units:       µg/L       Prep Date:       10/7/2021       SeqNo:       1432102         Analyte       Result       RL       SPK value       SPK Ref Val       %REC<											10.0	ND			r	Copp
Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val         %RPD         RP         RP           Copper         108         10.0         100.0         0         108         85         115         Interview         RunNo: 70506           Sample ID:         2110088-009BDUP         SampType: DUP         Units:         µg/L         Prep Date:         10/7/2021         RunNo: 70506         RunNo: 70506<		lo: <b>70506</b>	RunNo: 70	21	10/7/20	Prep Date:		Units: µg/L				pType: <b>LCS</b>	<b>3974</b> SampTy	-339	e ID: L	Sam
Copper         108         10.0         100.0         0         108         85         115           Sample ID: 2110088-009BDUP         SampType: DUP         Units: µg/L         Prep Date:         10/12/2021         RunNo:         70506           Client ID:         BATCH         Batch ID:         33974         Analysis Date:         10/12/2021         SeqNo:         1432103           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RPf Val         %RPD         RP           Copper         ND         10.0         Units:         µg/L         Prep Date:         10/12/2021         RunNo:         70506           Sample ID: 2110088-009BMS         SampType: MS         Units:         µg/L         Prep Date:         10/12/2021         RunNo:         70506           Client ID:         BATCH         Batch ID:         33974         Units:         µg/L         Prep Date:         10/12/2021         SeqNo:         1432102           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD R/Val         %RPD R/Val         %RPD R/Val         %RPD R/Val         %RPD R/Val         %RP		lo: 1432099	SeqNo: 14	021	10/12/2	lysis Date:	A					h ID: 33974	Batch ID	S	D: L	Clien
Sample ID: 2110088-009BDUP       SampType: DUP       Units: µg/L       Prep Date: 10/7/2021       RunNo: 70506         Client ID:       BATCH       Batch ID: 33974       Analysis Date: 10/12/2021       SeqNo: 143210:         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RP         Copper       ND       10.0       Units: µg/L       Prep Date:       10/7/2021       RunNo: 70506         Sample ID: 2110088-009BMS       SampType: MS       Units: µg/L       Prep Date:       10/7/2021       RunNo: 70506         Copper       ND       10.0       Units: µg/L       Prep Date:       10/7/2021       RunNo: 70506         Sample ID: 2110088-009BMS       SampType: MS       Units: µg/L       Prep Date:       10/12/2021       SeqNo: 1432100         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD RP         Copper       99.4       10.0       100.0       0.3848       99.0       70       130       307         Sample ID: 2110088-009BMSD       SampType: MSD       Units: µg/L       Prep Date:       10/12/2021       RunNo: 70506       Analys	Limit Qual	6RPD RPDLimit	%RPD	RPD Ref Val	lighLimit	wLimit H	EC	K Ref Val	S	SPK value	RL	Result			Э	Analy
Client ID:       BATCH       Batch ID:       33974       RL       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RP         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RP       RP         Copper       ND       10.0       Units:       µg/L       Prep Date:       10/12/2021       RunNo:       70506         Sample ID:       2110088-009BMS       SampType: MS       Units:       µg/L       Prep Date:       10/12/2021       SeqNo:       1432102         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD RP       RP         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD RP       RP         Copper       99.4       10.0       100.0       0.3848       99.0       70       130       130       100       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0<					115	85	08	0	)	100.0	10.0	108			r	Copp
AnalyteResultRLSPK valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val%RPDRPCopperND10.010.0Units:µg/LPrep Date:10/7/2021RunNo:70506Sample ID: 2110088-009BMSSampType:MSUnits:Units:µg/LPrep Date:10/7/2021SeqNo:1432104AnalyteResultRLSPK valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val%RPDRPCopper99.410.0100.00.384899.070130Units:µg/LPrep Date:10/7/2021RunNo:70506Sample ID: 2110088-009BMSDSampType:SampType:MSDUnits:µg/LPrep Date:10/7/2021RunNo:70506Sample ID: 2110088-009BMSDSampType:MSDUnits:µg/LPrep Date:10/7/2021RunNo:70506Client ID:BATCHBatch ID:33974Units:µg/LPrep Date:10/7/2021RunNo:70506Sample ID: 2110088-009BMSDSampType:MSDUnits:µg/LPrep Date:10/7/2021RunNo:70506Client ID:BATCHBatch ID:33974Units:µg/LPrep Date:10/12/2021SeqNo:1432104Copper99.410.0Units:µg/LPrep Date:10/12/2021SeqNo:1432104Copper99.410.0Units:µg/LPrep Date:10/12/2021SeqNo:		lo: 70506	RunNo: 70	021	10/7/20	Prep Date:		Units: µg/L				pType: <b>DUP</b>	88-009BDUP SampTy	088	e ID: 2	Sam
Copper         ND         10.0         Units:         µg/L         Prep Date:         10/7/2021         RunNo:         70506           Sample ID:         2110088-009BMS         SampType:         MS         Units:         µg/L         Prep Date:         10/7/2021         RunNo:         70506           Client ID:         BATCH         Batch ID:         33974         Image: SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RP         RP           Analyte         Result         RL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD RP         RP           Copper         99.4         10.0         100.0         0.3848         99.0         70         130         Image: SeqNo:         1432104           Sample ID:         2110088-009BMSD         SampType:         MSD         Units:         µg/L         Prep Date:         10/7/2021         RunNo:         70506           Gient ID:         BATCH         Batch ID:         33974         Units:         µg/L         Prep Date:         10/12/2021         SeqNo:         1432104		lo: 1432103	SeqNo: 14	021	10/12/2	lysis Date:	A					h ID: 33974	H Batch ID	СН	D: <b>B</b>	Clien
Sample ID: 2110088-009BMS       SampType: MS       Units: µg/L       Prep Date: 10/7/2021       RunNo: 70506         Client ID:       BATCH       Batch ID: 33974       Analysis Date: 10/12/2021       SeqNo: 1432104         Analyte       Result       RL       SPK value       SPK Ref Val       %REC       LowLimit       HighLimit       RPD Ref Val       %RPD       RP         Copper       99.4       10.0       100.0       0.3848       99.0       70       130       Total       Total <td< td=""><td>Limit Qual</td><td>6 RPD RPDLimit</td><td>%RPD</td><td>RPD Ref Val</td><td>lighLimit</td><td>wLimit H</td><td>EC</td><td>K Ref Val</td><td>S</td><td>SPK value</td><td>RL</td><td>Result</td><td></td><td></td><td>e</td><td>Analy</td></td<>	Limit Qual	6 RPD RPDLimit	%RPD	RPD Ref Val	lighLimit	wLimit H	EC	K Ref Val	S	SPK value	RL	Result			e	Analy
Client ID:BATCHBatch ID:33974Analysis Date:10/12/2021SeqNo:1432104AnalyteResultRLSPK valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val%RPDRPCopper99.410.0100.00.384899.070130SampType:MSDUnits:Prep Date:10/7/2021RunNo:70506Sample ID:2110088-009BMSDSampType:MSDUnits:Units:µg/LPrep Date:10/12/2021SeqNo:1432104Client ID:BATCHBatch ID:33974SampType:SampType:SampType:SampType:SeqNo:1432104Client ID:BATCHBatch ID:33974SampType:SeqNo:SeqNo:1432104Client ID:BATCHBatch ID:33974SeqNo:SeqNo:1432104	30	30		0							10.0	ND			r	Copp
AnalyteResultRLSPK valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val%RPD RPCopper99.410.0100.00.384899.070130Sample ID: 2110088-009BMSDSampType: MSDUnits: µg/LPrep Date:10/7/2021RunNo: 70506Client ID:BATCHBatch ID:33974EESeqNo:1432105		lo: 70506	RunNo: 70	21	10/7/20	Prep Date:		Units: µg/L				рТуре: <b>МЅ</b>	88-009BMS SampTy	088	e ID: 2	Sam
Copper         99.4         10.0         100.0         0.3848         99.0         70         130           Sample ID: 2110088-009BMSD         SampType: MSD         Units: µg/L         Prep Date:         10/7/2021         RunNo: 70506           Client ID:         BATCH         Batch ID:         33974         Example ID:         10/12/2021         SeqNo:         1432105		lo: 1432104	SeqNo: 14	021	10/12/2	lysis Date:	A					h ID: 33974	H Batch ID	СН	D: <b>B</b>	Clien
Sample ID: 2110088-009BMSD         SampType: MSD         Units: µg/L         Prep Date:         10/7/2021         RunNo:         70506           Client ID:         Batch ID:         33974         Analysis Date:         10/12/2021         SeqNo:         1432105	Limit Qual	6RPD RPDLimit	%RPD	RPD Ref Val	lighLimit	wLimit H	EC	K Ref Val	S	SPK value	RL	Result			e	Analy
Client ID:         BATCH         Batch ID:         33974         Analysis Date:         10/12/2021         SeqNo:         1432105					130	70	9.0	0.3848	)	100.0	10.0	99.4			r	Copp
		lo: <b>70506</b>	RunNo: 70	21	10/7/20	Prep Date:		Units: µg/L				pType: <b>MSD</b>	88-009BMSD SampTy	088	e ID: 2	Sam
Analyte Result RI SPK value SPK Ref Val %REC Lowl imit Highlimit RPD Ref Val %RPD RP		lo: 1432105	SeqNo: 14	021	10/12/2	lysis Date:	A					h ID: 33974	H Batch ID	СН	D: <b>B</b>	Clien
	Limit Qual	6RPD RPDLimit	%RPD	RPD Ref Val	HighLimit	wLimit H	EC	K Ref Val	S	SPK value	RL	Result			Э	Analy
Copper         99.1         10.0         100.0         0.3848         98.7         70         130         99.39         0.319	30	0.319 30	0.319	99.39	130	70	8.7	0.3848	)	100.0	10.0	99.1			r	Copr





Work Order: CLIENT: Project:	2110053 Shannon & V Paccar - And						QC S Metals (EPA 200.8) with SF	SUMMARY REPORT PLP Extraction (EPA 1312)
Sample ID: MB2-3		SampType: <b>MBLK</b>			Units: µg/L		Prep Date: 10/7/2021	RunNo: 70506
Client ID: MBLK	S	Batch ID: 33974					Analysis Date: <b>10/12/2021</b>	SeqNo: 1432113
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Copper		ND	2.00					

NOTES:

SPLP Filter Blank



# Sample Log-In Check List

С	lient Name:	SW	Work Order N	umber: 2110053	
Lo	ogged by:	Natt Langston	Date Received	d: <b>10/4/2021</b>	5:28:04 PM
<u>Cha</u>	nin of Custo	<u>dy</u>			
1.	Is Chain of Cus	stody complete?	Yes 🖌	No 🗌	Not Present
2.	How was the sa	ample delivered?	Lab Generation	ated	
Log	<u>In</u>				
3.	Coolers are pre	esent?	Yes 🖌	No 🗌	
4.	Shipping conta	iner/cooler in good condition?	Yes 🖌	No 🗌	
5.		present on shipping container/cooler? ents for Custody Seals not intact)	Yes	No 🗌	Not Present 🗹
6.	Was an attemp	t made to cool the samples?	Yes 🖌	No 🗌	NA 🗌
7.	Were all items	received at a temperature of >2°C to 6°C *	Yes 🖌	No 🗌	
8.	Sample(s) in p	roper container(s)?	Yes 🖌	No 🗌	
9.	Sufficient samp	ble volume for indicated test(s)?	Yes 🖌	No 🗌	
10.	Are samples p	operly preserved?	Yes 🖌	No 🗌	
11.	Was preservat	ve added to bottles?	Yes	No 🔽	NA 🗌
12.	Is there heads	pace in the VOA vials?	Yes	No 🗌	NA 🗹
13.	Did all samples	containers arrive in good condition(unbroken)?	Yes 🖌	No 🗌	
14.	Does paperwor	k match bottle labels?	Yes 🖌	No	
15.	Are matrices co	prrectly identified on Chain of Custody?	Yes 🖌	No 🗌	
16.	Is it clear what	analyses were requested?	Yes 🖌	No 🗌	
17.	Were all holdin	g times able to be met?	Yes 🗹	No 🗌	
<u>Spe</u>	cial Handlin	<u>g (if applicable)</u>			
18.	Was client noti	fied of all discrepancies with this order?	Yes	No 🔽	
	Person N	otified: Date:			
	By Whom	: Via:	eMail	Phone 🗌 Fax	In Person
	Regarding	j:			
	Client Inst	tructions:			
19	Additional rema	arks:			

# Item Information

<sup>\*</sup> Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

	360	0 Fremont		Chain of Cu				ustody Record & Laboratory Services Agreement									ient						
Fremo		eattle, WA Tel: 206-35	2-3790	Date:							Page:		1	of:	1		Labord	atory	Project No	(internal):	2110	053	
Analyti	cal	Fax: 206-35	2-7178	Proje	ct Nam	e: P	acc	ar -	- Ai	nder	son	1					Special Remarks: Do not reduce sample size, perform SPLP using DI water						
client: Shannon & Wilso	on			Proje	ct No:														wdl 10/7		•		Ū
Address:				Collec	ted by	: Cr	aig	Ne	elso	lson													
City, State, Zip:				Locati																			
Telephone:				+		M). N	/leg	ı Si	tro	na							Sample	e Disp	osal: 🗌 Re	turn to clie	nt 🗙 Disp	osal by lab	(after 30 days)
Fax:				1						il.coi	 n						<u> </u>						
									/			*/	7	7	00,8]			/			/		
			Comula				1601624	21.42	Stearno Pe	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Step 5		892 - 1089 892 - 1089	A.0.0	L O								
Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	JO		Craft	Hudroc Hudroc	oieselling		STOLES STOLES	Ne.	als	I ANIC							Сог	nments	
1 Renton Concrete Recyclers Quarry Spalls 4-8" A	9/15/21	12:00 PM	SL	1								<		Ť		1			SPLF	° Mo	d*		
2 Renton Concrete Recyclers Quarry Spalls 4-8" B	9/15/21	12:00 PM	SL	1								$\langle$							SPLF	P Mc	d*		
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
*Matrix: A = Air, AQ = Aqueous, B = Bulk, O										·····V·····													und Time:
**Metals (Circle): MTCA-5 RCRA-8 I ***Anions (Circle): Nitrate Nitrite	Priority Pollutar Chloride	nts TAL Sulfate	Individu Bromic		Al As O-Pho			Ca Cd Fluorid	•••••	r Củ Fe Nitrate		Mg	Mn	Mo N	la Ni	Pb Sb	Se Sr	Sn 1	i TI V Zn		🗶 Sta	ndard	🗌 Next Day
I represent that I am authorized to												ame	ed abo	ove, t	hat I	have	verifie	d Cli	ent's agr	eement	- O 3 C	ау	Same Day
to each of the terms on the front an	d backside o		eement.																0		2 0	ау	(specify)
Relinquished (Signature) x	Print Name			Date/T	ime				Rec x	eived (Sig	m	4	-	_	N		Lar	ng	ston		e/Time 0/4/2	1	
Relinquished (Signature) x	Print Name			Date/T	ime				Rec x	eived (Si	gnature	)				Print	Name			Dat	e/Time		

Attachment E-13

Quarry Spall, TCLP Results, ALS Environmental, Work Order No. EV22020128



February 28, 2022

Mr. Lee Langley Iron Mountain Quarry 22121 - 17th Ave SE, Suite 117 Bothell, WA 98021-7404

Dear Mr. Langley,

On February 23rd, 3 samples were received by our laboratory and assigned our laboratory project number EV22020128. The project was identified as your Screenings. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Aler, Perg

Glen Perry Laboratory Director

Page 1
ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 | PHONE 425-356-2600 | FAX 425-356-2626
ALS Group USA, Corp dba ALS Environmental

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## CERTIFICATE OF ANALYSIS

CLIENT:	Iron Mountain Quar 22121 - 17th Ave S Bothell, WA 98021-	É, Suite 117		DATE: ALS JOB#: ALS SAMPLE#:	2/28/2022 EV22020128 EV22020128-01			
CLIENT CONTACT:	Lee Langley		D	ATE RECEIVED:	02/23/20	)22		
CLIENT PROJECT:	Screenings		COL	LECTION DATE:	2/23/202	22 10:30:00	AM	
CLIENT SAMPLE ID	SCR Belt		WDOE AC	CREDITATION:	C601			
		SAMPLE	DATA RESULTS					
			REPORTING LIMITS	DILUTION FACTOR		ANALYSIS DATE	ANALYSIS BY	
ANALYTE	METHOD	RESULTS	_	TACTOR	UNITS			
Mercury (TCLP)	EPA-7470/1311	U	0.00020	1	MG/L	02/24/2022	RAL	
Arsenic (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	
Barium (TCLP)	EPA-6020/1311	0.12	0.031	6.25	MG/L	02/24/2022	RAL	
Cadmium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	
Chromium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	
Lead (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	
Selenium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	
Silver (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL	

U - Analyte analyzed for but not detected at level above reporting limit.

 Page 2

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 FAX 425-356-2626

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CERTIFICATE OF ANALYSIS												
CLIENT:	Iron Mountain Quai 22121 - 17th Ave S	•		DATE: ALS JOB#:	2/28/202 EV2202							
	Bothell, WA 98021	-7404		ALS SAMPLE#:	EV2202	0128-02						
CLIENT CONTACT:	Lee Langley		DA	ATE RECEIVED:	02/23/20	)22						
CLIENT PROJECT:	Screenings		2/23/202	22 10:30:00	AM							
CLIENT SAMPLE ID	SCR Stock 1		C601									
		SAMPLE	DATA RESULTS									
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS / DATE	ANALYSIS BY					
Mercury (TCLP)	EPA-7470/1311	U	0.00020	1	MG/L	02/24/2022	RAL					
Arsenic (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Barium (TCLP)	EPA-6020/1311	0.14	0.031	6.25	MG/L	02/24/2022	RAL					
Cadmium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Chromium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Lead (TCLP)	EPA-6020/1311	0.16	0.031	6.25	MG/L	02/24/2022	RAL					
Selenium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Silver (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					

U - Analyte analyzed for but not detected at level above reporting limit.

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Page 3



CERTIFICATE OF ANALYSIS												
CLIENT:	Iron Mountain Qua	ry		DATE:	2/28/202	2/28/2022						
	22121 - 17th Ave S	E, Suite 117		ALS JOB#:	EV22020128							
	Bothell, WA 98021	-7404		ALS SAMPLE#:	EV2202	0128-03						
CLIENT CONTACT:	Lee Langley		DA	ATE RECEIVED:	02/23/20	)22						
CLIENT PROJECT:	Screenings	creenings COLLECTION DATE:					AM					
CLIENT SAMPLE ID	SCR Stock 2		C601									
		SAMPLE	DATA RESULTS									
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS	ANALYSIS BY					
Mercury (TCLP)	EPA-7470/1311	U	0.00020	1	MG/L	02/24/2022	RAL					
Arsenic (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Barium (TCLP)	EPA-6020/1311	0.15	0.031	6.25	MG/L	02/24/2022	RAL					
Cadmium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Chromium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Lead (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Selenium (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					
Silver (TCLP)	EPA-6020/1311	U	0.031	6.25	MG/L	02/24/2022	RAL					

U - Analyte analyzed for but not detected at level above reporting limit.

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 PHONE 425-356-2600
 FAX 425-356-2626

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#### CERTIFICATE OF ANALYSIS

CLIENT:	Iron Mountain Quarry	DATE:	2/28/2022
	22121 - 17th Ave SE, Suite 117	ALS SDG#:	EV22020128
	Bothell, WA 98021-7404	WDOE ACCREDITATION:	C601
CLIENT CONTACT: CLIENT PROJECT:	Lee Langley Screenings		

#### LABORATORY BLANK RESULTS

# MBLK-R403202 - Batch R403202 - TCLP Extract by EPA-7470

				REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
Mercury	EPA-7470	U	MG/L	0.00020	02/24/2022	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

#### MBLK-R403204 - Batch R403204 - TCLP Extract by EPA-6020

				REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
Arsenic	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Barium	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Cadmium	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Chromium	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Lead	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Selenium	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL
Silver	EPA-6020	U	MG/L	0.0050	02/24/2022	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

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#### CERTIFICATE OF ANALYSIS

CLIENT:	Iron Mountain Quarry	DATE:	2/28/2022
	22121 - 17th Ave SE, Suite 117	ALS SDG#:	EV22020128
	Bothell, WA 98021-7404	WDOE ACCREDITATION:	C601
CLIENT CONTACT:	Lee Langley		
CLIENT PROJECT:	Screenings		

#### LABORATORY CONTROL SAMPLE RESULTS

## ALS Test Batch ID: R403202 - TCLP Extract by EPA-7470

			LIMITS	ANALYSIS ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC RPD QUAL	MIN MAX	DATE
Mercury - BS	EPA-7470	98.4	85 115	02/24/2022 RAL
Mercury - BSD	EPA-7470	99.2 1	85 115	02/24/2022 RAL

#### ALS Test Batch ID: R403204 - TCLP Extract by EPA-6020

				LIN	AITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
Arsenic - BS	EPA-6020	95.0		89.1	110	02/24/2022	RAL
Arsenic - BSD	EPA-6020	96.0	1	89.1	110	02/24/2022	RAL
Barium - BS	EPA-6020	96.0		88.5	108	02/24/2022	RAL
Barium - BSD	EPA-6020	95.0	1	88.5	108	02/24/2022	RAL
Cadmium - BS	EPA-6020	98.0		89.4	109	02/24/2022	RAL
Cadmium - BSD	EPA-6020	98.0	0	89.4	109	02/24/2022	RAL
Chromium - BS	EPA-6020	95.0		86.2	107	02/24/2022	RAL
Chromium - BSD	EPA-6020	95.0	0	86.2	107	02/24/2022	RAL
Lead - BS	EPA-6020	91.0		87.5	107	02/24/2022	RAL
Lead - BSD	EPA-6020	92.0	1	87.5	107	02/24/2022	RAL
Selenium - BS	EPA-6020	96.0		90.2	113	02/24/2022	RAL
Selenium - BSD	EPA-6020	96.0	0	90.2	113	02/24/2022	RAL
Silver - BS	EPA-6020	99.0		80	120	02/24/2022	RAL
Silver - BSD	EPA-6020	99.0	0	80	120	02/24/2022	RAL

APPROVED BY

LIMITO

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Laboratory Director

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ALS Environmental 8620 Holly Drive, Suite 100	Chain O	Chain Of Custody/		ALS Job# (Laboratory Use Only)	E
Everett Phone Fax	Laboratory Ar	-aboratory Analysis Request		EV22020128	
(ALS) http://www.alsglobal.com			Date	Page Of	1.3
PROJECT ID: Servening S	ANALYSIS REQUESTED	DUESTED		OTHER (Specify)	
REPORT TO COMPANY: Iron Mountain Quarry PROJECT: Lee Langley ADDRESS: 22121 17th Aue SF Suife 1 Bothull W/A 98021-7404 PHONE: 206-953-2626 PO.#: E-MAL: leve ironnt.net Involue To same as above ATTENTION: ADDRESS: ADDRESS: ADDRESS: ADDRESS: DATE I.D. DATE TIME TYPE	ВТЕХ by EPA 8021 □         ВТЕХ by EPA 8260 □	MTBE by EPA 8021 □ MTBE by EPA 8260 □ Halogenated Volatiles by EPA 8260 Volatile Organic Compounds by EPA 8260 EDB / EDC by EPA 8260 SIM (water) EDB / EDC by EPA 8260 SIM (water) Semivolatile Organic Compounds by EPA 8270 Semivolatile Organic Compounds by EPA 8270 PCB by EPA 8082 □ Pesticides by EPA 8081 □ PCB by EPA 8082 □ Pesticides by EPA 8081 □	Metals-MTCA-5 RCRA-8 Pri Pol TAL Metals Other (Specify) TCLP-Metals VOA Semi-Vol Pest Herbs	RECEIVED IN GOOD CONDITION?	
1. SCR Belt 2/23/22/10:30 Soil			×		-
2. SCR STOCK 1 2/23/22 10:30	5		×		
	3		×		-
4.					-
5.					- 1
6					-
7.					1
8.					- 1
ő					T
10.					
SPECIAL INSTRUCTIONS					1
SIGNATURES (Name, Company, Date, Time):	U; ×// ≥	TURNAROUNI Organic, <u>M</u> etals & Inorganic Analysis	AROUND RE	TURNAROUND REQUESTED in Business Days* Janic Analysis	
127/2 Stratter	12 130	10     3     2     1       Summary       Fuels & Hydrocarbon Analysis	] swe Day	Specify:	T T
		5 3 1 Switcher	82		È T

\*Turnaround request less than standard may incur Rush Charges

# Attachment E-14

# Quarry Spall, ALS Environmental, Work Order No. EV22070110

# CONTENTS

- Sample ID "PAC-S1" is a sample of 4-inch-minus gravel borrow from King Creek Pit in Orting, Washington, operated by Washington Rock Quarries, Inc.
- Sample ID "PAC-S2" is a sample of quarry spalls from the Granite Falls Quarry in Granite Falls, Washington, operated by Iron Mountain Quarry, LLC



August 8, 2022

Mr. Kelly Kellogg Anderson Environmental Contracting 705 Colorado St Kelso, WA 98626

Dear Mr. Kellogg,

On July 27th, 2 samples were received by our laboratory and assigned our laboratory project number EV22070110. The project was identified as your Paccar. The sample identification and requested analyses are outlined on the attached chain of custody record.

No abnormalities or nonconformances were observed during the analyses of the project samples.

Please do not hesitate to call me if you have any questions or if I can be of further assistance.

Sincerely,

ALS Laboratory Group

Aler, Perg

Glen Perry Laboratory Director

Page 1
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## CERTIFICATE OF ANALYSIS

		%REC				ANALYSIS / DATE	ANALYSIS BY
Lead	EPA-6020	3.0	0.10	1	MG/KG	08/05/2022	RAL
Copper	EPA-6020	27	0.10	1	MG/KG	08/05/2022	RAL
Arsenic	EPA-6020	4.1	0.20	1	MG/KG	08/05/2022	RAL
Total PCBs	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
Chlordane	EPA-8082	U	0.50	1	MG/KG	08/08/2022	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
	EPA-8082	-	0.10			08/08/2022	JMK
PCB-1016 PCB-1221	EPA-8082	U	0.10	1	MG/KG MG/KG	08/08/2022	JMK
Benzo[G,H,I]Perylene PCB-1016	EPA-8270 SIM	U		1		08/08/2022	
Dibenz[A,H]Anthracene		U	20 20	1	UG/KG UG/KG		JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM EPA-8270 SIM	U	20 20	1	UG/KG UG/KG	08/08/2022	JMK
Benzo[A]Pyrene	EPA-8270 SIM EPA-8270 SIM	U	20 20	1	UG/KG UG/KG	08/08/2022	JMK
• •	EPA-8270 SIM EPA-8270 SIM	U	20 20	1	UG/KG UG/KG	08/08/2022	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG UG/KG	08/08/2022	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG UG/KG	08/08/2022	JMK
Chrysene	EPA-8270 SIM	U	20	1	UG/KG UG/KG	08/08/2022	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Pyrene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Fluoranthene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Phenanthrene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/05/2022	JNF
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/05/2022	JNF
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/04/2022	KLS
ANALYTE	METHOD	RESULTS	REPORTING LIMITS	DILUTION FACTOR	UNITS	ANALYSIS / DATE	ANALYSIS BY
		SAMPLE DA	ATA RESULTS				
CLIENT SAMPLE ID	PAC-S1			CCREDITATION:	C601		
						2 11.30.00	AIVI
CLIENT PROJECT:	Paccar			LECTION DATE:		22 11:30:00	A N /
CLIENT CONTACT:	Kelly Kellogg		D	ATE RECEIVED:	07/27/20		
	Kelso, WA 98626			ALS JOD#. ALS SAMPLE#:	EV2207		
OLILINI.	705 Colorado St	entar Contracting		ALS JOB#:	EV2207		
CLIENT:	Anderson Environme	antal Contracting		DATE:	8/8/2022	)	

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ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 PHONE 425-356-2600 FAX 425-356-2626 ALS Group USA, Corp dba ALS Environmental



		CERTIFICATE (	OF ANALYSIS		
CLIENT:	Anderson Environme 705 Colorado St Kelso, WA 98626	ntal Contracting	DATE: ALS JOB#: ALS SAMPLE#:	8/8/2022 EV22070110 EV22070110-01	
CLIENT CONTACT:	Kelly Kellogg		DATE RECEIVED:	07/27/2022	
CLIENT PROJECT:	Paccar		COLLECTION DATE:	7/22/2022 11:30:00	AM
CLIENT SAMPLE ID	PAC-S1		WDOE ACCREDITATION:	C601	
		SAMPLE DAT	A RESULTS		
SURROGATE	METHOD	%REC		ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	130		08/08/2022	JMK
TCMX	EPA-8082	88.6		08/08/2022	JMK
DCB	EPA-8082	108		08/08/2022	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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		CERTIFICATE	OF ANALYSIS				
CLIENT:	Anderson Environn 705 Colorado St Kelso, WA 98626	nental Contracting		DATE: ALS JOB#: ALS SAMPLE#:	8/8/2022 EV2207 EV2207		
CLIENT CONTACT:	Kelly Kellogg		D	ATE RECEIVED:	07/27/20	)22	
CLIENT PROJECT:	Paccar		COL	LECTION DATE:	7/22/202	22 11:30:00	AM
CLIENT SAMPLE ID	PAC-S2		WDOE AC	CCREDITATION:	C601		
		SAMPLE DA	TA RESULTS				
			REPORTING	DILUTION		ANALYSIS	
ANALYTE	METHOD	RESULTS	LIMITS	FACTOR	UNITS	DATE	BY
TPH-Volatile Range	NWTPH-GX	U	3.0	1	MG/KG	08/04/2022	KLS
TPH-Diesel Range	NWTPH-DX	U	25	1	MG/KG	08/05/2022	JNF
TPH-Oil Range	NWTPH-DX	U	50	1	MG/KG	08/05/2022	JNF
Naphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Acenaphthylene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Acenaphthene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Fluorene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Phenanthrene	EPA-8270 SIM	130	20	1	UG/KG	08/08/2022	JMK
Anthracene	EPA-8270 SIM	23	20	1	UG/KG	08/08/2022	JMK
Fluoranthene	EPA-8270 SIM	160	20	1	UG/KG	08/08/2022	JMK
Pyrene	EPA-8270 SIM	130	20	1	UG/KG	08/08/2022	JMK
Benzo[A]Anthracene	EPA-8270 SIM	47	20	1	UG/KG	08/08/2022	JMK
Chrysene	EPA-8270 SIM	68	20	1	UG/KG	08/08/2022	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	62	20	1	UG/KG	08/08/2022	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	26	20	1	UG/KG	08/08/2022	JMK
Benzo[A]Pyrene	EPA-8270 SIM	23	20	1	UG/KG	08/08/2022	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	20	1	UG/KG	08/08/2022	JMK
PCB-1016	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1221	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1232	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1242	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1248	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1254	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
PCB-1260	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
Chlordane	EPA-8082	U	0.50	1	MG/KG	08/08/2022	JMK
PCB-1268	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
Total PCBs	EPA-8082	U	0.10	1	MG/KG	08/08/2022	JMK
Arsenic	EPA-6020	13	0.20	1	MG/KG	08/05/2022	RAL
Copper	EPA-6020	88	0.10	1	MG/KG	08/05/2022	RAL
Lead	EPA-6020	8.6	0.10	1	MG/KG	08/05/2022	RAL
SURROGATE	METHOD	%REC				DATE	BY
TFT	NWTPH-GX	93.8				08/04/2022	KLS
C25	NWTPH-DX	88.0				08/05/2022	JNF

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		CERTIFICATE (	OF ANALYSIS		
CLIENT:	Anderson Environm 705 Colorado St Kelso, WA 98626	ental Contracting	DATE: ALS JOB#: ALS SAMPLE#:	8/8/2022 EV22070110 EV22070110-02	
CLIENT CONTACT:	Kelly Kellogg		DATE RECEIVED:	07/27/2022	
CLIENT PROJECT:	Paccar		COLLECTION DATE:	7/22/2022 11:30:00	AM
CLIENT SAMPLE ID	PAC-S2		WDOE ACCREDITATION:	C601	
		SAMPLE DAT	A RESULTS		
SURROGATE	METHOD	%REC		ANALYSIS DATE	ANALYSIS BY
Terphenyl-d14	EPA-8270 SIM	139		08/08/2022	JMK
TCMX	EPA-8082	91.8		08/08/2022	JMK
DCB	EPA-8082	112		08/08/2022	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

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#### CERTIFICATE OF ANALYSIS

CLIENT:	Anderson Environmental Contracting	DATE:	8/8/2022
	705 Colorado St	ALS SDG#:	EV22070110
	Kelso, WA 98626	WDOE ACCREDITATION:	C601
CLIENT CONTACT: CLIENT PROJECT:	Kelly Kellogg Paccar		

#### LABORATORY BLANK RESULTS

# MBG-080422S - Batch 182052 - Soil by NWTPH-GX

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
TPH-Volatile Range	NWTPH-GX	U	MG/KG	3.0	08/04/2022	KLS
U - Analyte analyzed for but MB-080422S - Batch 18	not detected at level above rep 82114 - Soil by NWTI	6		REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
TPH-Diesel Range	NWTPH-DX	U	MG/KG	25	08/05/2022	JNF
TPH-Oil Range	NWTPH-DX	U	MG/KG	50	08/05/2022	JNF

U - Analyte analyzed for but not detected at level above reporting limit.

#### MB-080422S - Batch 182095 - Soil by EPA-8270 SIM

				REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
Naphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
2-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
1-Methylnaphthalene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Acenaphthylene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Acenaphthene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Fluorene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Phenanthrene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Benzo[A]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Chrysene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Benzo[B]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Benzo[K]Fluoranthene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Benzo[A]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Indeno[1,2,3-Cd]Pyrene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Dibenz[A,H]Anthracene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
Benzo[G,H,I]Perylene	EPA-8270 SIM	U	UG/KG	20	08/08/2022	JMK
				CONTROL LIMITS	ANALYSIS	ANALYSIS
SURROGATE	METHOD	%REC		MIN MAX	DATE	BY
Terphenyl-d14	EPA-8270 SIM	181 S		28.9 157	08/08/2022	JMK

S - Outside of control limits.

U - Analyte analyzed for but not detected at level above reporting limit.

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#### CERTIFICATE OF ANALYSIS

#### CLIENT:

Anderson Environmental Contracting 705 Colorado St Kelso, WA 98626 **CLIENT CONTACT:** Kelly Kellogg CLIENT PROJECT: Paccar

DATE: ALS SDG#: WDOE ACCREDITATION:

8/8/2022 EV22070110 C601

#### LABORATORY BLANK RESULTS

#### MB-080422S - Batch 182148 - Soil by EPA-8082

ANALYTE	METHOD	RESULTS	UNITS	REPORTING LIMITS	ANALYSIS DATE	ANALYSIS BY
PCB-1016	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
		-				
PCB-1221	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
PCB-1232	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
PCB-1242	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
PCB-1248	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
PCB-1254	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
PCB-1260	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
Chlordane	EPA-8082	U	MG/KG	0.50	08/08/2022	JMK
PCB-1268	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK
Total PCBs	EPA-8082	U	MG/KG	0.10	08/08/2022	JMK

U - Analyte analyzed for but not detected at level above reporting limit.

#### MB-080522S - Batch 181940 - Soil by EPA-6020

				REPORTING	ANALYSIS	ANALYSIS
ANALYTE	METHOD	RESULTS	UNITS	LIMITS	DATE	BY
Arsenic	EPA-6020	U	MG/KG	0.20	08/05/2022	RAL
Copper	EPA-6020	U	MG/KG	0.10	08/05/2022	RAL
Lead	EPA-6020	U	MG/KG	0.10	08/05/2022	RAL

U - Analyte analyzed for but not detected at level above reporting limit.

Page 7 ADDRESS 8620 Holly Drive, Suite 100, Everett, WA 98208 PHONE 425-356-2600 FAX 425-356-2626 ALS Group USA, Corp dba ALS Environmental

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#### CERTIFICATE OF ANALYSIS

#### CLIENT:

**CLIENT CONTACT:** CLIENT PROJECT:

Anderson Environmental Contracting 705 Colorado St Kelso, WA 98626 Kelly Kellogg Paccar

DATE: ALS SDG#: WDOE ACCREDITATION: 8/8/2022 EV22070110 C601

#### LABORATORY CONTROL SAMPLE RESULTS

#### ALS Test Batch ID: 182052 - Soil by NWTPH-GX

			LIN	IITS	ANALYSIS	ANALYSIS BY	
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
TPH-Volatile Range - BS	NWTPH-GX	92.2		66.5	122.7	08/04/2022	KLS
TPH-Volatile Range - BSD	NWTPH-GX	92.6	0	66.5	122.7	08/04/2022	KLS

#### ALS Test Batch ID: 182114 - Soil by NWTPH-DX

	·····,····			LIN	IITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
TPH-Diesel Range - BS	NWTPH-DX	109		75.5	122.1	08/05/2022	JNF
TPH-Diesel Range - BSD	NWTPH-DX	103	6	75.5	122.1	08/05/2022	JNF

#### ALS Test Batch ID: 182095 - Soil by EPA-8270 SIM

	· · · · · · · · · · · · · · · · · · ·				LI	MITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD	QUAL	MIN	MAX	DATE	
Naphthalene - BS	EPA-8270 SIM	112			20	150	08/08/2022	JMK
Naphthalene - BSD	EPA-8270 SIM	92.3	19		20	150	08/08/2022	JMK
2-Methylnaphthalene - BS	EPA-8270 SIM	110			20	150	08/08/2022	JMK
2-Methylnaphthalene - BSD	EPA-8270 SIM	90.6	19		20	150	08/08/2022	JMK
1-Methylnaphthalene - BS	EPA-8270 SIM	107			20	150	08/08/2022	JMK
1-Methylnaphthalene - BSD	EPA-8270 SIM	89.1	18		20	150	08/08/2022	JMK
Acenaphthylene - BS	EPA-8270 SIM	112			20	150	08/08/2022	JMK
Acenaphthylene - BSD	EPA-8270 SIM	91.5	20		20	150	08/08/2022	JMK
Acenaphthene - BS	EPA-8270 SIM	113		SQ1	41	107	08/08/2022	JMK
Acenaphthene - BSD	EPA-8270 SIM	93.1	19	SR1	41	107	08/08/2022	JMK
Fluorene - BS	EPA-8270 SIM	116			20	150	08/08/2022	JMK
Fluorene - BSD	EPA-8270 SIM	95.3	20		20	150	08/08/2022	JMK
Phenanthrene - BS	EPA-8270 SIM	114			20	150	08/08/2022	JMK
Phenanthrene - BSD	EPA-8270 SIM	95.0	18		20	150	08/08/2022	JMK
Anthracene - BS	EPA-8270 SIM	114			20	150	08/08/2022	JMK
Anthracene - BSD	EPA-8270 SIM	94.7	18		20	150	08/08/2022	JMK
Fluoranthene - BS	EPA-8270 SIM	114			20	150	08/08/2022	JMK
Fluoranthene - BSD	EPA-8270 SIM	93.2	20		20	150	08/08/2022	JMK
Pyrene - BS	EPA-8270 SIM	121			18	136	08/08/2022	JMK
Pyrene - BSD	EPA-8270 SIM	99.1	20		18	136	08/08/2022	JMK
Benzo[A]Anthracene - BS	EPA-8270 SIM	116			20	150	08/08/2022	JMK
Benzo[A]Anthracene - BSD	EPA-8270 SIM	91.3	23		20	150	08/08/2022	JMK
Chrysene - BS	EPA-8270 SIM	117			20	150	08/08/2022	JMK
Chrysene - BSD	EPA-8270 SIM	96.7	19		20	150	08/08/2022	JMK
Benzo[B]Fluoranthene - BS	EPA-8270 SIM	112			20	150	08/08/2022	JMK
Benzo[B]Fluoranthene - BSD	EPA-8270 SIM	92.1	20		20	150	08/08/2022	JMK
Benzo[K]Fluoranthene - BS	EPA-8270 SIM	115			20	150	08/08/2022	JMK

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#### CERTIFICATE OF ANALYSIS

#### CLIENT:

Anderson Environmental Contracting 705 Colorado St Kelso, WA 98626 Kelly Kellogg Paccar

DATE: ALS SDG#: WDOE ACCREDITATION:

8/8/2022 EV22070110 C601

#### **CLIENT CONTACT:** CLIENT PROJECT:

				LIN	NITS	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
Benzo[K]Fluoranthene - BSD	EPA-8270 SIM	94.7	19	20	150	08/08/2022	JMK
Benzo[A]Pyrene - BS	EPA-8270 SIM	99.8		20	150	08/08/2022	JMK
Benzo[A]Pyrene - BSD	EPA-8270 SIM	82.0	20	20	150	08/08/2022	JMK
Indeno[1,2,3-Cd]Pyrene - BS	EPA-8270 SIM	115		20	150	08/08/2022	JMK
Indeno[1,2,3-Cd]Pyrene - BSD	EPA-8270 SIM	93.0	21	20	150	08/08/2022	JMK
Dibenz[A,H]Anthracene - BS	EPA-8270 SIM	108		20	150	08/08/2022	JMK
Dibenz[A,H]Anthracene - BSD	EPA-8270 SIM	87.4	21	20	150	08/08/2022	JMK
Benzo[G,H,I]Perylene - BS	EPA-8270 SIM	107		20	150	08/08/2022	JMK
Benzo[G,H,I]Perylene - BSD	EPA-8270 SIM	87.9	19	20	150	08/08/2022	JMK
				LIN	NITS	ANALYSIS	ANALYSIS BY
SURROGATE	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
Terphenyl-d14 - BS	EPA-8270 SIM	139	S	58	132	08/08/2022	JMK

S - Outside of control limits.

SQ1 - Spike outside of control limits with a high bias. Associated compounds non-detect. No corrective action taken.

SR1 - RPD outside of control limits.

#### ALS Test Batch ID: 182148 - Soil by EPA-8082

				LIMIT	S	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAL	MIN	MAX	DATE	
PCB-1016 - BS	EPA-8082	62.6		50	150	08/08/2022	JMK
PCB-1016 - BSD	EPA-8082	65.8	5	50	150	08/08/2022	JMK
PCB-1260 - BS	EPA-8082	68.8		50	150	08/08/2022	JMK
PCB-1260 - BSD	EPA-8082	74.5	8	50	150	08/08/2022	JMK

#### ALS Test Batch ID: 181940 - Soil by EPA-6020

				LI	will 5	ANALYSIS	ANALYSIS BY
SPIKED COMPOUND	METHOD	%REC	RPD QUAI	MIN	MAX	DATE	
Arsenic - BS	EPA-6020	99.6		80	120	08/05/2022	RAL
Arsenic - BSD	EPA-6020	97.2	2	80	120	08/05/2022	RAL
Copper - BS	EPA-6020	105		80	120	08/05/2022	RAL
Copper - BSD	EPA-6020	102	3	80	120	08/05/2022	RAL
Lead - BS	EPA-6020	98.4		80	120	08/05/2022	RAL
Lead - BSD	EPA-6020	96.1	2	80	120	08/05/2022	RAL

APPROVED BY

Ale, Perg

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Laboratory Director

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RIGHT SOLUTIONS RIGHT PARTNER

ALS	1317 South	13th Ave	Kelso WA		CHA							DER /Fou		-	N					]		
PROJECT NAME PACCI PROJECT NUMBER ZI-C PROJECT MANAGER Kell, COMPANY NAME AEC ADDRESS 705 CITY/STATE/ZIP Kelse E-MAIL ADDRESS Kell, PHONE E		299 201220 2 980	57	98626	DF CONTRACT			Пны		10/	1	1 8151D		DOCI NH-2, 10, 20, 20, 10, 10, 10, 10, 10, 10, 10, 10, 10, 1		017 AOX 16501	OF CO3 D HOT 2000 D	8290 D 03 D	JMethane CO2D	52 70 Manel Ethenen 00	>#	
SAMPLER'S SIGNATURE	DATE	TIME	LAB I.D.	MATRIX	NUMBER	Semivor	Volatile			Pesticid 608	Chlorop		(circle) of	(circle) N	N. D.	Alkalinity.	Dioxins/	Dissolve	PAH	1	/	REMARI
PAC-51 PAC-52	7/22	1130		Sal	)	-		×	×			*							XX			
						-																
						-							1									
REPORT REQUIRI			DICE INFO						e analyzed		Cd (		Cu Ee	Ph A	40 M	n Mo	Ni	K Ag	Na	Co C	с П. 1	Sn V Zn
I. Routine Report Blank, Surroga required		Bill To:			Di	ssolved M	etals: Al	As SI		B Ca	Cd	Co Cr	Cu Fe	Pb	Ng M	In—Me	Ni	K Ag	Na	Se S	r TI	Sn V Zn
<ul> <li>II. Report Dup., I required</li> <li>III. CLP Like Sum (no raw data)</li> <li>IV. Data Validation V. EDD</li> </ul>	mary	24 5 d Sta		_ 48 hr. orking day	ENTS S				VS/COM										- nerti			LUNIOLL (
	UISHED BY	: 11.44	equested Rep	mu	RECEIVE	DBY:	122	ment o		1	-	ROISH	ED BY	812-			r	1		CEIVI	811	28 1
Printed Name	Date/Tir ACC Firm	me	Signa	ed Name	lig	Date/T	ACS	5	h h	ted Na	Reel	lan -	Date/Ti	me			Sigela	ed Nar	C	)	Date	S-Tu

-F

#### Attachment E-15

# Quarry Spall, Fremont Analytical, Inc., Work Order No. 2208185



3600 Fremont Ave. N. Seattle, WA 98103 T: (206) 352-3790 F: (206) 352-7178 info@fremontanalytical.com

Anderson Environmental Contracting Kelly Kellogg 705 Colorado St. Kelso, WA 98626

#### RE: Shannon Wilson PACCAR Work Order Number: 2208185

August 16, 2022

#### **Attention Kelly Kellogg:**

Fremont Analytical, Inc. received 1 sample(s) on 8/12/2022 for the analyses presented in the following report.

#### Polyaromatic Hydrocarbons by EPA Method 8270 (SIM) Sample Moisture (Percent Moisture) Total Metals by EPA Method 6020B

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.3 for Environmental Testing ORELAP Certification: WA 100009 (NELAP Recognized) for Environmental Testing Washington State Department of Ecology Accredited for Environmental Testing, Lab ID C910



CLIENT: Project: Work Order:	Anderson Environmental Contracting Shannon Wilson PACCAR 2208185	Work Order S	ample Summary
Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received

2208185-001

Quarry Spalls

08/11/2022 11:00 AM

08/12/2022 12:22 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned



**Case Narrative** 

WO#: **2208185** Date: **8/16/2022** 

CLIENT:Anderson Environmental ContractingProject:Shannon Wilson PACCAR

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

#### II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

#### **III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

## **Qualifiers & Acronyms**



WO#: **2208185** Date Reported: **8/16/2022** 

#### Qualifiers:

- \* Flagged value is not within established control limits
- B Analyte detected in the associated Method Blank
- D Dilution was required
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- I Analyte with an internal standard that does not meet established acceptance criteria
- J Analyte detected below Reporting Limit
- N Tentatively Identified Compound (TIC)
- Q Analyte with an initial or continuing calibration that does not meet established acceptance criteria
- S Spike recovery outside accepted recovery limits
- ND Not detected at the Reporting Limit
- R High relative percent difference observed

Acronyms:

%Rec - Percent Recoverv **CCB** - Continued Calibration Blank **CCV** - Continued Calibration Verification **DF** - Dilution Factor **DUP - Sample Duplicate HEM - Hexane Extractable Material** ICV - Initial Calibration Verification LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate MCL - Maximum Contaminant Level MB or MBLANK - Method Blank MDL - Method Detection Limit MS/MSD - Matrix Spike / Matrix Spike Duplicate PDS - Post Digestion Spike Ref Val - Reference Value **REP - Sample Replicate RL** - Reporting Limit **RPD** - Relative Percent Difference **SD** - Serial Dilution SGT - Silica Gel Treatment SPK - Spike Surr - Surrogate



## **Analytical Report**

 Work Order:
 2208185

 Date Reported:
 8/16/2022

<b>Client:</b> Anderson Environmental Cor <b>Project:</b> Shannon Wilson PACCAR	ntracting			Collection	Da	<b>te:</b> 8/11/2022 11:00:00 AM
Lab ID: 2208185-001				Matrix: Ro	ock/(	Gravel
Client Sample ID: Quarry Spalls						
Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA	A Method 8	<u>270 (SIM)</u>		Batch	n ID:	37436 Analyst: OK
Benz(a)anthracene	ND	19.9		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Chrysene	ND	39.8		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Benzo(b)fluoranthene	ND	19.9		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Benzo(k)fluoranthene	ND	19.9		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Benzo(a)pyrene	ND	19.9		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Indeno(1,2,3-cd)pyrene	ND	39.8		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Dibenz(a,h)anthracene	ND	39.8		µg/Kg-dry	1	8/16/2022 10:33:28 AM
Surr: 2-Fluorobiphenyl	93.1	34.4 - 132		%Rec	1	8/16/2022 10:33:28 AM
Surr: Terphenyl-d14 (surr)	99.0	32.8 - 147		%Rec	1	8/16/2022 10:33:28 AM
Total Metals by EPA Method 6020B				Batch	n ID:	37425 Analyst: EH
Arsenic	11.3	0.0968		mg/Kg-dry	1	8/15/2022 6:01:02 PM
Copper	36.5	0.806		mg/Kg-dry	1	8/15/2022 6:01:02 PM
Lead	2.23	0.161		mg/Kg-dry	1	8/15/2022 6:01:02 PM
Sample Moisture (Percent Moisture	)			Batch	n ID:	R77547 Analyst: me
Percent Moisture	1.59	0.500		wt%	1	8/16/2022 9:38:17 AM



Work Order: CLIENT:	2208185 Anderson E	nvironmental Contra	oting						QC S	SUMMAI	RY REF	PORT
Project:		ilson PACCAR	ung						Total Meta	als by EPA	Method	6020E
Sample ID: MB-37	/425	SampType: MBLK			Units: mg/Kg		Prep Dat	e: <b>8/15/20</b>	22	RunNo: 775	46	
Client ID: MBLK	S	Batch ID: 37425					Analysis Dat	e: <b>8/15/20</b>	22	SeqNo: 159	2871	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.0916									
Copper		ND	0.763									
Lead		ND	0.153									
Sample ID: LCS-3	7425	SampType: LCS			Units: mg/Kg		Prep Dat	e: <b>8/15/20</b>	22	RunNo: 775	646	
Client ID: LCSS		Batch ID: 37425					Analysis Dat	e: <b>8/15/20</b>	22	SeqNo: 159	2872	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		34.5	0.0916	38.17	0	90.3	80	120				
Copper		35.9	0.763	38.17	0	94.0	80	120				
Lead		19.5	0.153	19.08	0	102	80	120				
Sample ID: 22081	72-006AMS	SampType: <b>MS</b>			Units: mg/Kg-	dry	Prep Dat	e: <b>8/15/20</b>	22	RunNo: 775	<b>i</b> 46	
Client ID: BATC	н	Batch ID: 37425					Analysis Dat	e: <b>8/15/20</b>	22	SeqNo: 159	2877	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		41.5	0.100	41.67	3.507	91.3	75	125				
Copper		54.0	0.833	41.67	14.94	93.6	75	125				
Lead		21.5	0.167	20.83	1.937	93.9	75	125				
Sample ID: 22081	72-006AMSD	SampType: <b>MSD</b>			Units: mg/Kg-	dry	Prep Dat	e: <b>8/15/20</b>	22	RunNo: 775	646	
Client ID: BATC	н	Batch ID: 37425					Analysis Dat	e: <b>8/15/20</b>	22	SeqNo: 159	2878	
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		43.3	0.103	43.00	3.507	92.5	75	125	41.55	4.05	20	
Copper		54.8	0.860	43.00	14.94	92.7	75	125	53.95	1.59	20	
Lead		21.6	0.172	21.50	1.937	91.3	75	125	21.51	0.301	20	

Original



#### Work Order: 2208185

Project:

CLIENT: Anderson Environmental Contracting

Shannon Wilson PACCAR

### QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: MB-37436	SampType: MBLK			Units: µg/Kg		Prep Da	ite: <b>8/15/20</b>	22	RunNo: 775	557	
Client ID: MBLKS	Batch ID: 37436					Analysis Da	ite: 8/16/20	22	SeqNo: 159	3110	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	ND	20.0									
Chrysene	ND	40.0									
Benzo(b)fluoranthene	ND	20.0									
Benzo(k)fluoranthene	ND	20.0									
Benzo(a)pyrene	ND	20.0									
Indeno(1,2,3-cd)pyrene	ND	40.0									
Dibenz(a,h)anthracene	ND	40.0									
Surr: 2-Fluorobiphenyl	1,140		1,000		114	34.4	132				
Surr: Terphenyl-d14 (surr)	1,170		1,000		117	32.8	147				

Sample ID: LCS-37436	SampType: LCS			Units: µg/Kg		Prep Dat	e: <b>8/15/2022</b>	RunNo: 77557	
Client ID: LCSS	Batch ID: 37436					Analysis Dat	e: <b>8/16/2022</b>	SeqNo: 1593111	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benz(a)anthracene	1,970	20.0	2,000	0	98.6	61.5	123		
Chrysene	1,900	40.0	2,000	0	95.2	58.6	120		
Benzo(b)fluoranthene	2,090	20.0	2,000	0	104	62.1	124		
Benzo(k)fluoranthene	2,000	20.0	2,000	0	100	60.3	116		
Benzo(a)pyrene	1,960	20.0	2,000	0	97.8	51.6	115		
Indeno(1,2,3-cd)pyrene	2,050	40.0	2,000	0	103	53.8	127		
Dibenz(a,h)anthracene	1,960	40.0	2,000	0	97.9	53.3	127		
Surr: 2-Fluorobiphenyl	1,030		1,000		103	34.4	132		
Surr: Terphenyl-d14 (surr)	1,090		1,000		109	32.8	147		
Sample ID: 2208158-006AMS	SampType: <b>MS</b>			Units: µg/Kg-a	lry	Prep Dat	e: <b>8/15/2022</b>	RunNo: 77557	
Client ID: BATCH	Batch ID: 37436					Analysis Dat	e: <b>8/16/2022</b>	SeqNo: 1593114	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benz(a)anthracene	1,670	20.2	2,016	6.335	82.7	53.4	112		
Chrysene	1,640	40.3	2,016	0	81.2	52	105		
Benzo(b)fluoranthene	1,840	20.2	2,016	3.642	91.0	51.3	119		



Work	Order:	2208185
work	Order:	2208185

CLIENT: Anderson Environmental Contracting

### QC SUMMARY REPORT

Project: Shannon Wilson PACCAR

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: 2208158-006AMS	SampType: <b>MS</b>			Units: µg/K	g-dry	Prep Da	te: 8/15/20	22	RunNo: 775	557	
Client ID: BATCH	Batch ID: 37436					Analysis Da	te: 8/16/20	22	SeqNo: 159	93114	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	1,690	20.2	2,016	0	83.9	50.3	108				
Benzo(a)pyrene	1,680	20.2	2,016	2.944	83.4	48.5	106				
Indeno(1,2,3-cd)pyrene	1,780	40.3	2,016	0	88.6	42.1	113				
Dibenz(a,h)anthracene	1,700	40.3	2,016	0	84.3	40.4	114				
Surr: 2-Fluorobiphenyl	909		1,008		90.2	34.4	132				
Surr: Terphenyl-d14 (surr)	939		1,008		93.2	32.8	147				
Sample ID: 2208158-006AMSD	SampType: <b>MSD</b>			Units: µg/K	g-dry	Prep Da	te: 8/15/20	22	RunNo: 775	557	
Client ID: BATCH	Batch ID: 37436					Analysis Da	te: 8/16/20	22	SeqNo: 159	3115	
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit		RPD Ref Val	%RPD	RPDLimit	Qual
Analyte Benz(a)anthracene		RL 20.1	SPK value 2,014	SPK Ref Val		,		RPD Ref Val			Qual
	Result				%REC	LowLimit	HighLimit		%RPD	RPDLimit	Qual
Benz(a)anthracene	Result 1,850	20.1	2,014	6.335	%REC 91.7	LowLimit 53.4	HighLimit 112	1,672	%RPD	RPDLimit 30	Qual
Benz(a)anthracene Chrysene	Result 1,850 1,800	20.1 40.3	2,014 2,014	6.335 0	%REC 91.7 89.6	LowLimit 53.4 52	HighLimit 112 105	1,672 1,636	%RPD 10.3 9.73	RPDLimit 30 30	Qual
Benz(a)anthracene Chrysene Benzo(b)fluoranthene	Result 1,850 1,800 2,020	20.1 40.3 20.1	2,014 2,014 2,014	6.335 0 3.642	%REC 91.7 89.6 100	LowLimit 53.4 52 51.3	HighLimit 112 105 119	1,672 1,636 1,837	%RPD 10.3 9.73 9.40	RPDLimit 30 30 30	Qual
Benz(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene	Result 1,850 1,800 2,020 1,850	20.1 40.3 20.1 20.1	2,014 2,014 2,014 2,014	6.335 0 3.642 0	%REC 91.7 89.6 100 91.7	LowLimit 53.4 52 51.3 50.3	HighLimit 112 105 119 108	1,672 1,636 1,837 1,692	%RPD 10.3 9.73 9.40 8.70	RPDLimit 30 30 30 30	Qual
Benz(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	Result 1,850 1,800 2,020 1,850 1,840	20.1 40.3 20.1 20.1 20.1	2,014 2,014 2,014 2,014 2,014	6.335 0 3.642 0 2.944	%REC 91.7 89.6 100 91.7 91.4	LowLimit 53.4 52 51.3 50.3 48.5	HighLimit 112 105 119 108 106	1,672 1,636 1,837 1,692 1,684	%RPD 10.3 9.73 9.40 8.70 8.98	RPDLimit 30 30 30 30 30	Qual
Benz(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	Result 1,850 1,800 2,020 1,850 1,840 1,940	20.1 40.3 20.1 20.1 20.1 40.3	2,014 2,014 2,014 2,014 2,014 2,014	6.335 0 3.642 0 2.944 0	%REC 91.7 89.6 100 91.7 91.4 96.5	LowLimit 53.4 52 51.3 50.3 48.5 42.1	HighLimit 112 105 119 108 106 113	1,672 1,636 1,837 1,692 1,684 1,785	%RPD 10.3 9.73 9.40 8.70 8.98 8.51	RPDLimit 30 30 30 30 30 30 30	Qual



## Sample Log-In Check List

Client Name: AEC	Work Order Numb	per: 2208185	
Logged by: Elisabeth Samoray	Date Received:	8/12/2022	12:22:00 PM
Chain of Custody			
1. Is Chain of Custody complete?	Yes 🖌	No 🗌	Not Present
2. How was the sample delivered?	<u>Courier</u>		
Log In			
3. Coolers are present?	Yes	No 🗸	
	<u>No cooler prese</u> r	<u>nt</u>	
4. Shipping container/cooler in good condition?	Yes 🗹	No 🗌	
<ol> <li>Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)</li> </ol>	Yes	No 🗌	Not Present 🗹
6. Was an attempt made to cool the samples?	Yes	No 🗸	
L	Jnknown prior to re	eceipt	
7. Were all items received at a temperature of >2°C to 6°C *	Yes	No 🗌	NA 🗹
8. Sample(s) in proper container(s)?	Yes 🖌	No 🗌	
9. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌	
10. Are samples properly preserved?	Yes 🗹	No 🗌	
11. Was preservative added to bottles?	Yes	No 🗹	NA 🗌
12. Is there headspace in the VOA vials?	Yes	No 🗌	NA 🔽
13. Did all samples containers arrive in good condition(unbroken)?	Yes 🗹	No 🗌	
14. Does paperwork match bottle labels?	Yes 🖌	No 🗌	
15. Are matrices correctly identified on Chain of Custody?	Yes	No 🖌	
16. Is it clear what analyses were requested?	Yes 🗹	No 🗌	
17. Were all holding times able to be met?	Yes 🖌	No 🗌	
<u>Special Handling (if applicable)</u>			
18. Was client notified of all discrepancies with this order?	Yes	No 🗌	NA 🗹
Person Notified: Date	:		
By Whom: Via:		one 🗌 Fax 🛛	In Person
Regarding:			
Client Instructions:			
19. Additional remarks:			
Item Information			

	Item #	Temp °C
Sample 1		21.8

\* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

Fremont	w	3600 Fremont Ave N. Seattle, WA 98103	Chair	Chain of Custody Record &	-	aboratory Services Agreement
		Tel: 206-352-3790 Fax: 206-352-7178	pate: August 11, 2022	11, 2022 Page: 1 of	1 Labora	Laboratory Project No (internal): 270 X 85
	a contract	11 100 335 TAID	+	CAR	Specia	Special Remarks
dient. Anderson Environmental Contracting LLC	mental Cont	racting LLC		045	Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti-	
Address: 705 Colorado Street	reet			collected by: Quarry Representative	ere) e no se atemación cole (ce qui e que	
city, state, Zip: Kelso, WA 98626	626		Iron N	Iron Mountain Outpan	an a the start of a strange ( ) ) is a strange week	
Telephone: 360-577-9194	and the statement of the	- be (nisionprojectore) perceptions and a statistical in Fig.	Ke		an and a strategy and	
360-577-9198	والمراجع	the second second set of second protection (see set	Report to (PM): TOTI Y INCIDUG		-	Sample Disposal: Return to client X Disposal by lab (after 30 days)
8616-1/C-00C :Kes			PM Email: kellyk(	PM Email: kellyk@aecllc.net (and) karik@aecllc.net	" not	
				20, 40, 40, 40, 40, 40, 40, 40, 40, 40, 4	11	
Sample Name	Sample	Sample Sample Time (Matrix)*	not cont.			
Quarry Spalls		1 1	1	10 10 10 10	XX	Comments
0						
*Matrix: A = Air, AQ = Aqueous, B = Bulk, (	0 = Other, P = Product, S = Soil	t. S = Soil 50 = Se	5D = Sediment SI = Solid W			
** Metals (Circle): MTCA-5 RCRA-8	Priority Pollutants	IAL Individual		water, DW = Drinking Water,	r, SW = Storm Water,	GW = Ground Water, SW = Storm Water, WW = Waste Water Turn-ground Time:
*** Anions (Circle): Nitrate Nitrite	Chloride 50	Sulfate Bromide	O.Phosphate	Calce Color Culie Hg King Min Mo Na Ni PB Fluoride Nitrate+Nitrite	NiPB Sb Se Sr Sn Ti TI V Zn	TI TI V Zn X Standard Next Day
I represent that I am authorized to to each of the terms on the front an	enter into this A	greement with I	Fremont Analytical	If of	I have verified C	Tient's agreement
Kari Kaiser	Fruit Name Digita Date:	Digitally signed by Kari Kalser Date: 2022.08.12 12:33:53 -07:00	ale/Tinie (alser 3 -07'00'	Received (Signature)	Print Name	Date/Trime
(einquished (Signature)	Elim Name	D	Date/Time	Received (Signifure)	Prof Nante	ST12/22 B:01

Page 10 of 12

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<b>Fremont</b>	w	3600 Fremont Ave N. Seattle, WA 98103	Chain	of Custody Record &	Laborat	Chain of Custody Record & Laboratory Services Agreement
		Tel: 206-352-3790 Fax: 206-352-7178	Date: August 11, 2022	1,2022 Page: 1 of	1 Labo	Laboratory Project No (internal): 270 8 85
	Contraction of the local division of the loc	Ton whe are rain	-	CAR	Spec	Special Remarks
dient. Anderson Environmental Contracting LLC	imental Col	ntracting LL(		)45	U	Updated by ES 8/12/22
Address: 705 Colorado Street	treet			collected by: Quarry Representative	and the second se	
city, state, Zip: Kelso, WA 98626	8626	ومحاربه بالاعترار وماريعهم المرابع والمحاولة والمحاولين والمحاولين والمحاولين والمحاولين والمحاولين والمحاولين	Iron M	Iron Mountain Outpan	an a the second and the second second second	
Telephone: 360-577-9194	and the logic best desires on the other base between	tet të tri ba (nddërrëjrë janë) parët e të në në në në të të të të të të të	Locaturit		19 (19 (19 (19 (19 (19 (19 (19 (19 (19 (	
360 577 0400	en andre and set of the set of th	whether the same that is in the set of the strength of the str	Report To (PM): IVEILY IVEILUGU	IIY NEILOGG	gimes	Sample Disposal: C Return to client X Disposal by lab (after 30 days)
Fax: 360-577-9198			PM Email: kellyk(C	PM Email: kellyk@aecllc.net (and) karik@aecllc.net	-	
				1 1 1 1 1 Main Waldecin	Jaire	1111
Sample Name	Sample	Sample Type	a of			Y HARRING
Quarry Spalls	8/11/22	11am Soil	4 1 8	13 13 15 1	X	Comments
				>	>	
-						
10						
ous.	B = Bulk, O = Other, P = Product, S = Soil	duct, S = Soil SD = Se	5D = Sediment, SL = Solid, W =	W = Water BW = Deckon Water City C		
"Metals (Circle): MTCA-5 RCRA-8	Priority Pollutants	IAL I	Individual' Ag Al As B Ba Ba		r, sw = storm Wat	-
**Anions (Circle): Nitrate Nitrite	Chloride	Sulfate Bromide	0.Phosphate	Fluoride Nitrate+Nitrite		Sb Se Sr Sn Ti Ti V Zn X Standard 🗌 Next Day
I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.	to enter into this and backside of r	Agreement with his Agreement.	Fremont Analytical o	If of	I have verified	ve verified Client's agreement
Kari Kaiser	Print Name Dig Da	Digitally signed by Kari Kalser Date: 2022.08.12 12:33:53 -07'00'	∂t∉/Time Galser 3 -07'00'	Received (Signature)	Print Name	Date/Time
elinquished (Signaturo)	Film Name	0	Date/Time	Received (Signature)	Progr Nand	ST12/22 B-01

Page 11 of 12

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Fege 1 of 2

<b>Fremont</b>	36	3600 Fremont Ave N. Seattle, WA 98103	Chain	Chain of Custody Record &	Laborat	Laboratory Services Agreement	eement
1112		Tel: 206-352-3790 Fax: 206-352-7178	Project Name: Shannon W	pate: August 11, 2022 Page: 1 of Project Name: Shannon Wilson PACCAR	1 Labo	Laboratory Project No (internal): 220 8 85 Special Remarks:	58 18
dient Anderson Environmental Contracting LLC	nmental Con	tracting LLC		45	UL Provinsional UL	Updated by ES 8/12/22	
Address: 705 Colorado Street	Street	ى بىرىنى بىرىنى بىرىغى بىرىنى بىرى بىرىنى بىرىنى		collected by: QUATTY Representative	AS	ASAP TAT 8/15/22 per KK- gac	dac
City, State, Zip: Kelso, WA 98626	8626	مىرى بىرىنىغۇ بىيەر يىسىرىدىن بىرىمىيەت تەر بىيەت بىرى بىيەر يېرىيەت بىرىمىيەت بىيەر يېرىيەت بىيەر يېرىپ بېيەر بىرى	ucation: Iron Mountain Ottarry	Intain Ollarry	and the second second second second second		C
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Fax: 360-577-9198	arran a san an an an Arrista (a car a c	and the second second second property of the local second	Report to IMMIS TACHTY INCIDENT			Sample Disposal: 🛄 Return to client 🛛 Disp	Disposal by Jab (after 30 days)
			PM Email: kellyk@	PM Email: kellyk@aecllc.net (and) karik@aecllc.net	lc.net		
Sample Name	Sample	Sample Time (Matrix)*	n of Concession		1113	Hard Contraction	
1 Quarry Spalls	N	n Soil		-	XX	( Com	Comments
3							
6							
7							
0							
IQ = Aqueous.	B = Bulk, O = Other, P = Product, S = Soil	ct, S = Soil SD = Sec	5D = Sediment, SL = Solid, W = Water	_			
1 2	Priority Pollutants	TAL Individual' Ag AT As	B Ba Be	Ca Cd O Cr Co Fe He K Me Mn Mn Na N So sh se Storm Water, WW = Waste Water	Ni bi ci ci ci ci	0	
Anions (Circle): Nitrate Nitrite	e Chloride S	Sulfate Bromide	O-Phosphate Fi	Fluoride Ntrate+Ntrite	ac ac	Sr Sn Ti Ti V Zn XI Standard	ard 🗌 Next Day
I represent that I am authorized to enter into this Agreement wit to each of the terms on the front and backside of this Agreement.	to enter into this A and backside of th	greement with F is Agreement.	remont Analytical on	I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I had to each of the terms on the front and backside of this Agreement.	t I have verified	ve verified Client's agreement	
Kari Kaiser	Front Name Digit Date:	Digitally signed by Kari Kalser Date: 2022.08.12 12:33:53 -07:00	-07'00'	Received (Signature)	Print Name	Date/Time	(specify)
enoquistied Exignature)	Film NAme	Dat	Date/Time	Received (Signature)	Prov Nane	S1122 1	10:4

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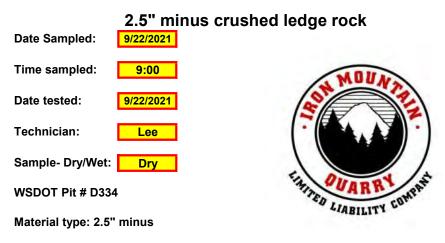
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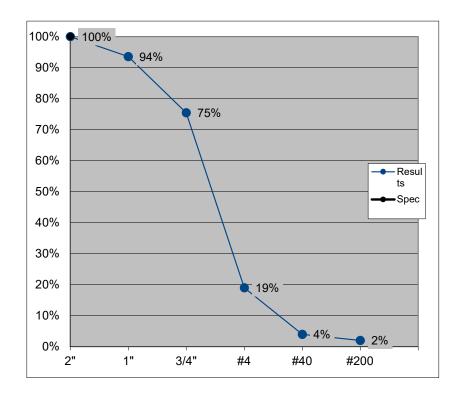
Fege 1 of 2

Attachment E-16

# Crushed Rock, Gradation Results, Iron Mountain Quarry



			10 minute	sieve time
Sample Weight (g)	Sieve Size	Cum. Wt (g)	% retained	% passed
7708	2"	0	0.0%	100%
	1"	497	6.4%	94%
NOTES	3/4"	1892	24.5%	75%
	#4	6211	80.6%	19%
	#40	7401	96.0%	4%
	#200	7554	98.0%	2%



Attachment E-17

Crushed Rock, Gradation Results, Shannon & Wilson, Project No. 103485-001

## SHANNON & WILSON, INC.

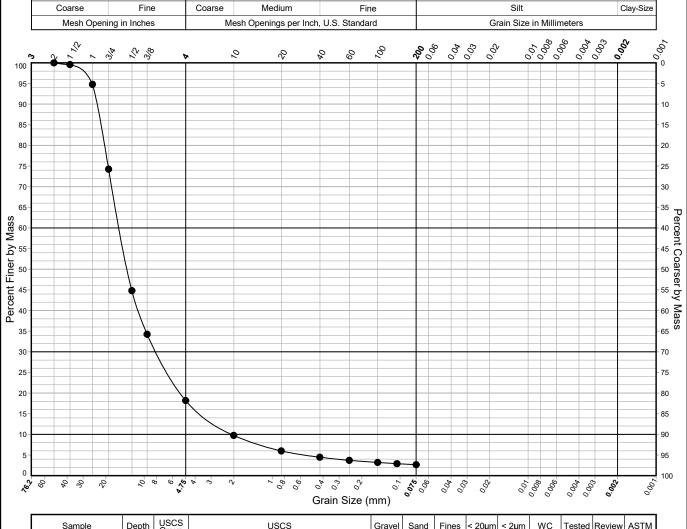
#### 8801 East Marginal Way

**Pilot Injection** 

## Iron Mountain Excavations|0

Fines

Seattle, Washington Gravel Coarse Fine Coarse Mesh Opening in Inches \$

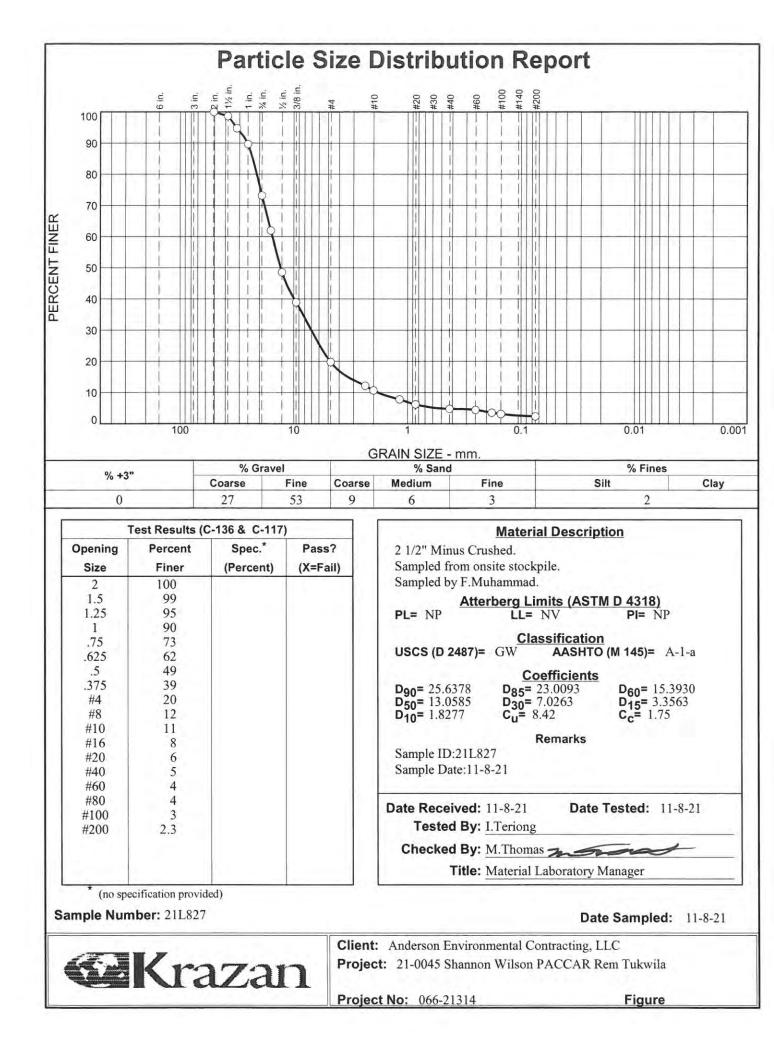


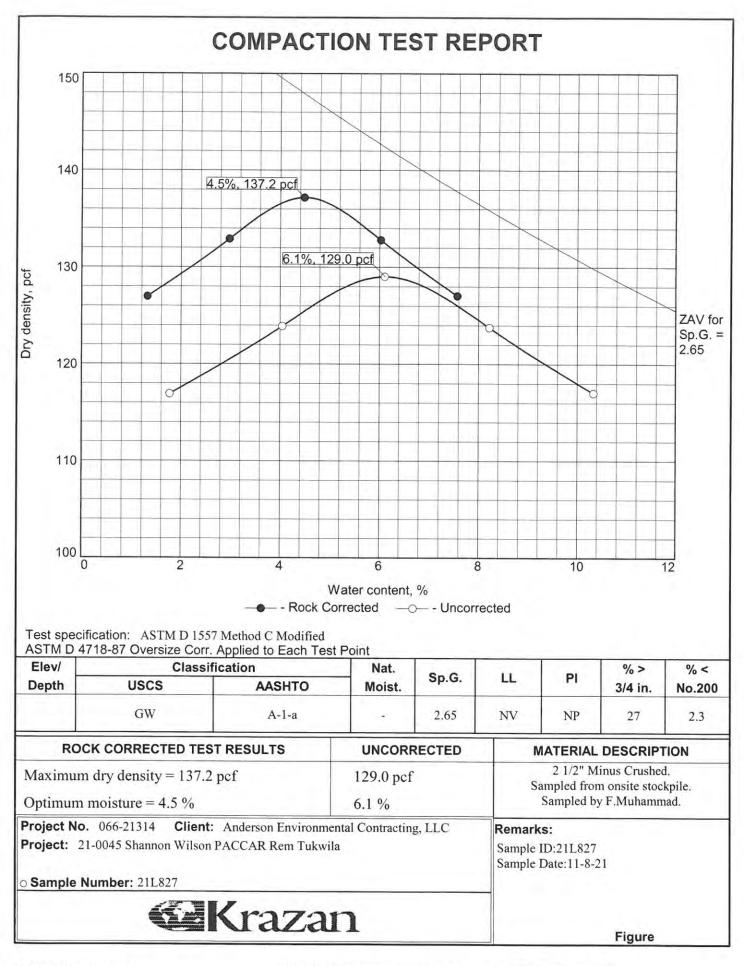
Sand

Sample Identification	Depth (ft)	USCS Group Symbol	USCS Group Name	Gravel %	Sand %	Fines %	< 20µm %	< 2µm %	WC %	Tested By	Review By	ASTM Std.
● Iron Mountain Excavations, <del>3-2.5-inch minus</del>	0.0	GW	Well-Graded Gravel with Sand	82	16	2.7			3.6	SJD	MXM	D6913

Attachment E-18

Crushed Rock, Gradation and Proctor Results, Krazan & Associates, Inc., Sample No. 21L827





Checked By: M.Thomas

Attachment E-19

# Mirafi® 140N, Product Data Sheet, Tencate Geosynthetics



TENCATE GEOSYNTHETICS Americas

## Mirafi<sup>®</sup> 140N



Mirafi<sup>®</sup> 140N is a nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi<sup>®</sup> 140N is inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids. Mirafi<sup>®</sup> 140N meets AASHTO M288-15 Class 3 for Elongation > 50%.

TenCate Geosynthetics Americas Laboratories are accredited by Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Roll \	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	120 (534)	120 (534)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	50 (223)	50 (223)
CBR Puncture Strength	ASTM D6241	lbs (N)	310 (*	1380)
			Maximum Opening S 70 (0.212) Minimum Roll Value 1.7	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)		
Permittivity	ASTM D4491	sec <sup>-1</sup>		
Flow Rate	ASTM D4491	gal/min/ft <sup>2</sup> (l/min/m <sup>2</sup> )	135 (8	5500)
			Minimum 7	est Value
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	7	0

Physical Properties	Unit	Roll Sizes					
Roll Dimensions (width x length)	ft (m)	12.5 x 360 (3.8 x 110)	15 x 360 (4.5 x 110)				
Roll Area	yd² (m²)	500 (418)	600 (502)				

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Mirafi<sup>®</sup> is a registered trademark of Nicolon Corporation.

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365 South Holland Drive Pendergrass, GA 30567

FGS000385

e Tel 706 693 2226 7 Tel 888 795 0808 Fax 706 693 4400 www.tencate.com



GAI-LAP-25-97

Attachment E-20

Compaction Reports, Krazan & Associates, Inc.



Report NO.: 06621314DFR1072021MM

DATE: 10/7/2021	Set Count:	Count: CONTRACTOR: Anderson Evviromental				
PROJECT #: 06621314		PERMIT #: N/A				
PROJECT: Shannon and Wils	on PACCAR	INSPECTOR: Marty Mundy				
LOCATION: 8801 East Marg	inal Way South	JURISDICTION: Tukwila				
KA P.M.: Bill Throne		WEATHER: Cloudy TEMP: 50°				

On site for soil compaction testing.

Soil compaction test was taken, with a Troxler nuclear densometer, on the first lift of the backfill material placed for Pit 1. A sample of the material was obtained for proctor evaluation and sieve analysis. See report 6621314SCR1072021MM for compaction test result. The compaction test result is currently pending the results of the proctor evaluation.

Reviewed By:	A	ASTM Test #:	Asset Number(s):	
	10			

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		Geotechnical Engineering • Environm Construction Testing and Ins 7/2021 521314 annon and Wilson PACCAR 01 East Marginal Way South			DNTRA PER INSPE		ty Mundy		al TEMI	
NUCLEAR DENSOMETER ASTM D6938 LOCATION MAP				NDCONE M D1556		<ul> <li>Paved Are:</li> <li>Building Par</li> <li>Utility :</li> <li>Other :</li> </ul>				
			Curve	Pit Run		Unified Soils sification or Des 79			Maximum Dr Density / Rice (PCF) 137.1	
	Sec. 1	*			MODE &					REQUIRED
TEST 1	ELEVATION 1st Lift	LOCATION Pit 1	1		DEPTH 8	(PCF) 125.7	MOISTURE 5.1%	-	ACTION CO	92%
_										
DAI F To	LY AVERAGE S Reviewed By:	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: W	in accordance wit	21303 1793 644	m te ar lir no th	his testing does n his testing does n ay be loosened b sts were perform nd indicate relativ nits of the compa of guarantee earth e contractor's res pecifications. ns, specification	y future constructed at the approxi- e compaction at the acted areas were nwork or paving of ponsibility to control of the second sec	tion or rain imate loca those locat determine construction form to the	afall events. T tions and ele tions. Horizon ed by others. n, nor does o approved pro	he compaction vations shown tal and vertica Our firm does ur work relieve

Superintendent/Representative:

Technician:

M. Mundy

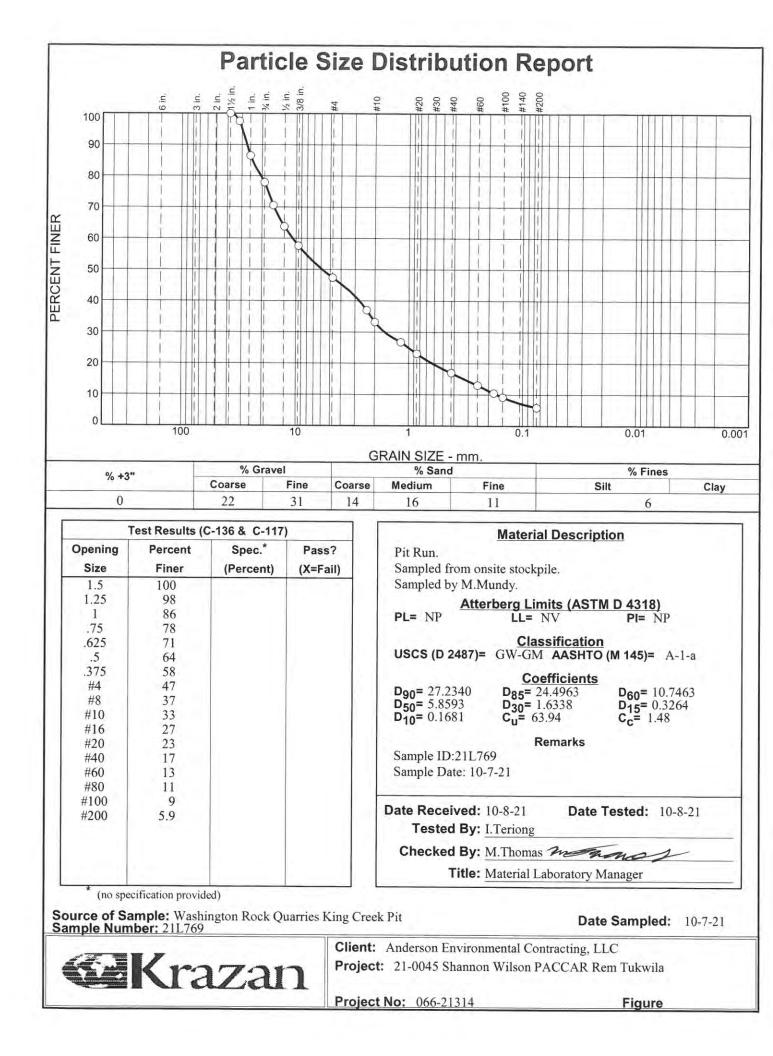
#### Offices Serving the Western United States

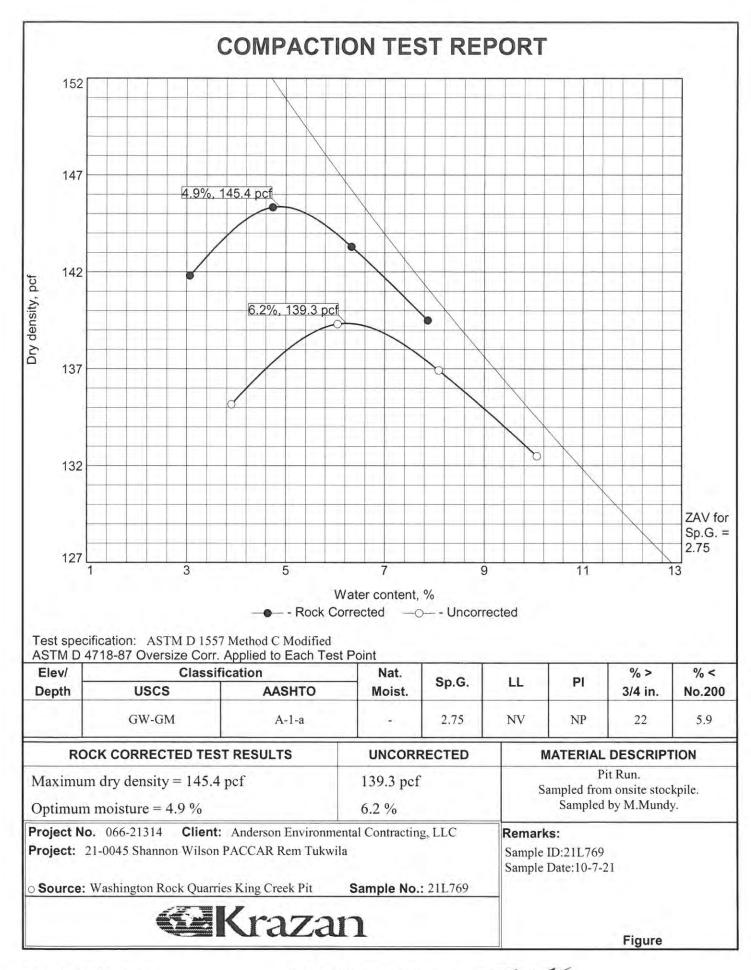
Compaction Report

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

Effective 12/15/2020

## The information provided on this report is prepared for the exclusive use of the client. This report may not be reproduced in any format without the written permission of the client and Krazan & Associates. This report indicates our inspectors observation and testing results based on site conditions and contractor activities. This information has been provided by others on site. The test results apply only to the specific locations, and items inspected or tested.





Checked By: M.Thomas



Report NO .: 06621314DFR1082021SM

DATE: 10/8/2021 Set Co	ount: CONTRACTOR:	
PROJECT #: 06621314	PERMIT #: Not AUNIT	the.
PROJECT: 21-0045 Shannon Wilson PACCA	R Rem INSPECTOR: Saleh Musapour	r
LOCATION: 8801 E Marginal Way S	JURISDICTION: City of Tuky	wila
KA P.M.: WBT	WEATHER: Partly Sunny	TEMP: 63° F

A representative of Krazan and Associates, Inc. arrived on site per request for Soil Compaction Test. The project was backfilling of paved area.

As I tried many times to get a compaction result but to technical issue of the gauge I couldn't get a result of compaction and contractor said we are done for today and we want to reschedule this test for next day.

Reviewed By:	And	ASTM Test #:	Asset Number(s):	
rectioned 25.	611	TTO THE FOOTH?		

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

Field



Report NO.: 06621314DFR10112021MM

Set Count:	CONTRACTOR: Anderson Environmental				
	PERMIT #: N/A				
PACCAR	INSPECTOR: Marty Mundy				
Way South	JURISDICTION: Tukwila				
	WEATHER: Partly Cloudy	TEMP: 52° F			
	Set Count: PACCAR Way South	PERMIT #: N/A PACCAR INSPECTOR: Marty Mundy Way South JURISDICTION: Tukwila			

On site for soil compaction testing.

Soil compaction tests were taken, with a Troxler nuclear densometer, on the backfill material placed in Pit 1. The material was placed in 8" lifts and compacted with a vibratory roller. See report 6621314SCR10112021MM-1 for compaction test results. Obtained a sample of the backfill material from the compacted material for a proctor evaluation. The compaction test results are currently pending the results of the proctor evaluation.

Reviewed By:	ASTM Test #:	Asset Number(s):	
iterienea 29.	$rio i m i voi \pi$ .	Asset Number(s).	

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

#### Offices Serving the Western United States Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		621314 annon and Wilson PACCAR 01 East Marginal Way South	mental Engineering		CONT P INS JURIS	ERM PEC <sup>-</sup> DICT		ty Mundy			EMP:	
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		NDCO M D1		0000						
			Curve	Pit F			Unified Soils cation or De			Maximum Density / I (PCF) 137.	Rice	Optimum Moisture 6.6%
EST	ELEVATION	LOCATION	CUR	VE	MOD DEP		DENSITY (PCF)	MOISTURE	CON	PACTION	and the second second	QUIRED
1	1st Lift	Pit 1	1		8		125.9	7.1%	-	92%		92%
2	2nd Lift	Pit 1	1		8	_	130.7	7.4%		95%	-	95%
3	3rd Lift 4th Lift	Pit 1 Pit 1	1		8		132.0 129.6	6.4% 5.8%	_	96% 95%		95% 95%
DAII	LY AVERAGE S	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: WARNING WAS performed	d in accordance with	1	303 787 648	may tests and i limits not g the ci speci	be loosened b were perform ndicate relative of the compa uarantee earth ontractor's res fications.	ot preclude the po by future construc- ed at the approxi- e compaction at t acted areas were hwork or paving c ponsibility to conf	tion or mate lo hose lo detern constructor form to	rainfall event ocations and ocations. Hori nined by othe ction, nor doe the approved	s. The elevat izontal ers. O es our	compaction ions shown and vertica ur firm doe work relieve

Superintendent/Representative:

Technician:

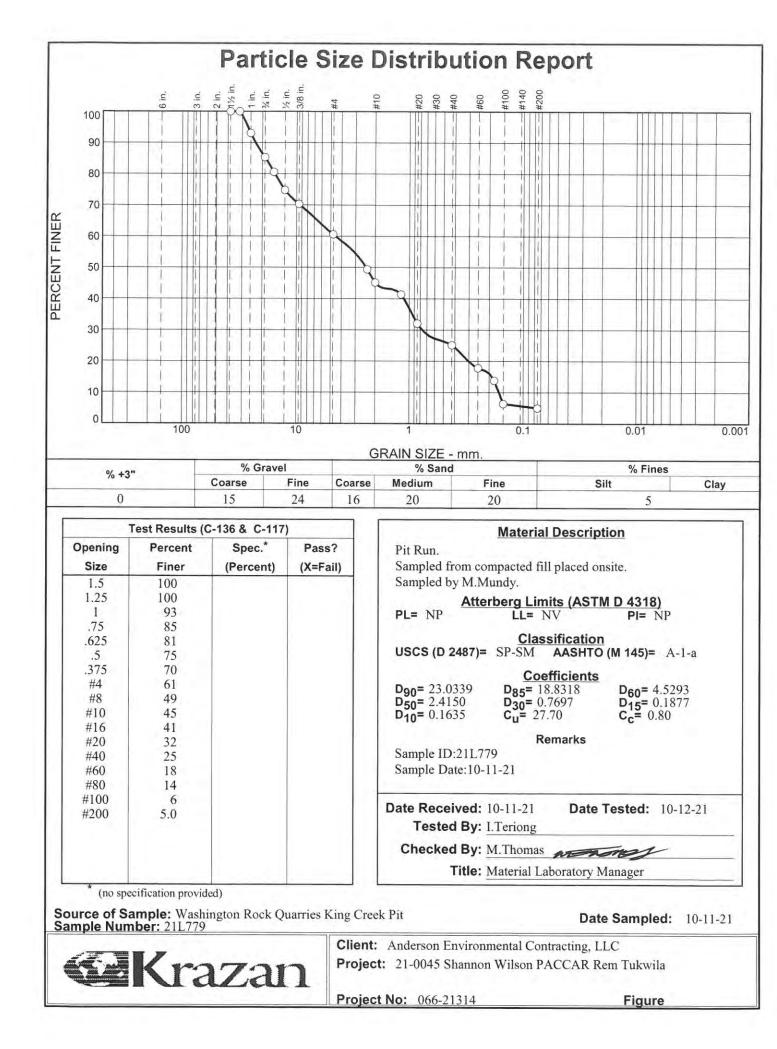
Mr. Mundry

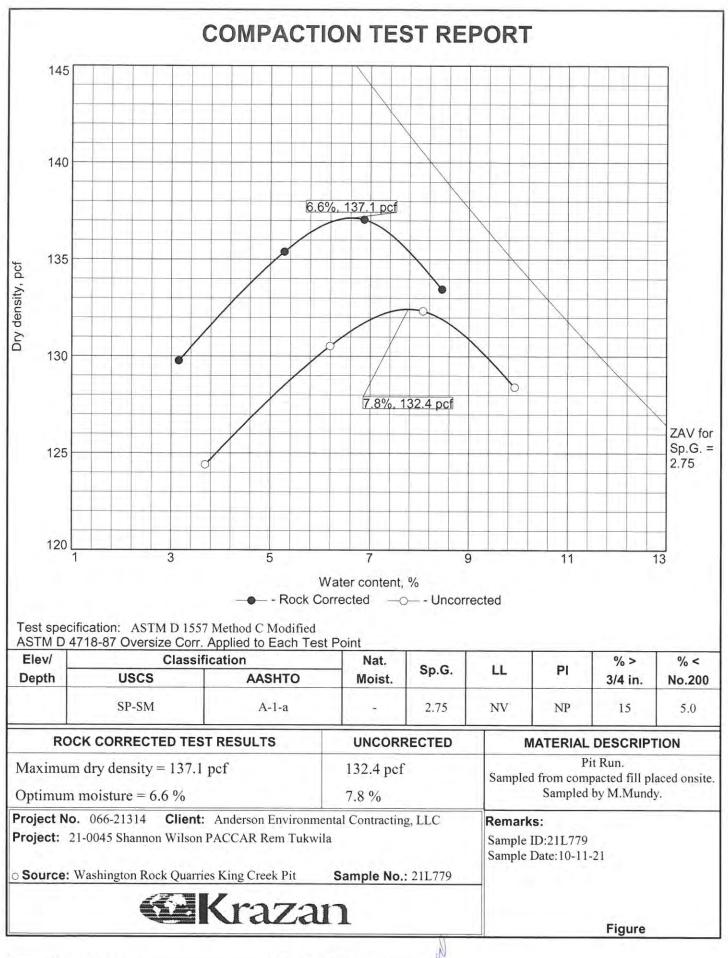
Effective 12/15/2020

#### Offices Serving the Western United States

Compaction Report

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500





Tested By: I.Teriong

Checked By: M.Thomas



Report NO.: 06621314DFR10122021PS

DATE: 10/12/2021	Set Count:	CONTRACTOR: S&W / Andersen Environmental				
PROJECT #: 06621314		PERMIT #: D20-0241				
PROJECT: 21-0045 Shannon W		INSPECTOR: Paulo Salvan				
LOCATION: 8801 E Marginal	Way S	JURISDICTION: City of Tu	kwila			
KA P.M.: Bill Throne		WEATHER: cloudy	TEMP: 42° F			

A representative of Krazan and Associates, Inc. arrived onsite to observe the placement of lifts and perform soil compaction tests on backfill in Pit #1.

On arrival, I spoke with foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction tests took place on Pit #1. The material used for backfill was Import Gravel Borrow (Pit Run). I observed the contractor place approximately 8" thick loose lifts for lifts #5 and #6. I performed 2 density tests with the Troxler Density Gauge. The density tests indicate the backfill met the minimum required compaction level of 95 percent. Please refer to reports 06621314SCR10122021PS for test results and locations.

Reviewed By:	ASTM Test #:	Asset Number(s):
	and the second	1.00001100n(0).

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

## Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		621314 -0045 Shannon Wilson PACCA 01 E Marginal Way S	nspection	CON I IN: JURI:	REF TRACTOR: A PERMIT #: D SPECTOR: F	20-0241 aulo Salvan ity of Tukwila	0662131450	CR1012	
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		IDCONE M D1556	O Paved.	DTHER Areas : Pad(s) : <u>Pit #1</u>			
			Curve 1		Unified S Classification or ravel Borrow)	Description	Densit	um Dry //Rice <u>SE)</u> 7.1	Optimum Moisture 6.6%
TEST 1 2	ELEVATION Lift #5 Lift #6	LOCATION Pit #1 Pit #1	CUR 1 1	VE DEF 8 11	PTH (PCF)	MOISTURE	COMPACTIC 100% 98%		EQUIRED MPACTION 95% 95%
		EQUIPMENT NO.: STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT:		14617 1481 609	may be loosene tests were perfe	s not preclude the po d by future construc prmed at the approxi ative compaction at t	tion or rainfall ever mate locations a	ents. The	e compaction
R To	eviewed By:		in accordance with		limits of the council not guarantee end the contractor's specifications.	mpacted areas were arthwork or paving c responsibility to conf	determined by construction, nor construction, no	thers. C loes our red proje	our firm doe work relieve

Compaction Report

Technician:

## Offices Serving the Western United States

Effective 12/15/2020

# Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR10142021PS

PERMIT #: D20-0241	
INSPECTOR: Paulo Salvan	
JURISDICTION: city of Tukwila	
WEATHER: cloudy	TEMP: 48° F
	JURISDICTION: city of Tukwila

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction tests.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction tests took place on Pit #1-lift #7 and on Pit #8 for lifts #1-4. The material used for backfill and tested for soil compaction was Pit Run. The contractor placed approximately 8" lifts for the pits. I performed (1) soil compaction tests for each lifts with a Troxler Density Gauge and all tests met and exceeded the minimum requirement of 95% soil compaction tests. Please refer to report 06621314SCR10142021PS for test results.

Reviewed By:	And	ASTM Test #:		Asset Number(s):	
To the best of my regulatory require		bove WAS performed	in accordance wi	th the approved plans, spec	ifications and
Superintendent/Re	epresentative:		Technician:		
				(Inter -	

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

Geotechnical Engineering • Environmental Construction Testing and Inspection DATE: 10/14/2021 PROJECT #: 06621314 PROJECT: 21-0045 Shannon Wilson PACCAR Res LOCATION: 8801 Marginal Way S KA P.M.: Bill Throne	Engineering	CONT P INS JURIS	ERMIT PECT DICTI	OR: AEC T#: D20 OR: Paul	-0241	0662	21314SCR1	MP:	1-PS 48
NUCLEAR DENSOMETER ASTM D6938 LOCATION MAP		DCONE M D1556	0	OTH Paved Area Building Pao Utility : Other :	as :	8			
	Curve 1	( Pit run		Inified Soils ation or Des			Maximum Density / F (PCF) 137.	Rice	Optimum Moisture 6.6%
TEST ELEVATION LOCATION	CUR	VE DEF PR	TH	DENSITY (PCF) 131.1	MOISTURE 5.7%		IPACTION 96%		QUIRED
2 Lift #1 Pit #8	1	PR		130.5	7.0%	-	95%		
3 Lifrt #2 Pit #8	1	PR		134.1	6.0%		98%		
4 Lift #3 Pit #8	1	PR		136.0	6.1%	-	99%		
5 Lift #4 Pit #8	1	PR	&6	135.7	5.8%		99%		
EQUIPMENT NO.: DAILY AVERAGE STANDARD DENSITY COUNT: DAILY AVERAGE STANDARD MOISTURE COUNT:		14617 1485 604	may b tests v and in limits	e loosened b were perform dicate relativ of the compa	ot preclude the po by future construc- ed at the approxi e compaction at t acted areas were	tion or r mate lo hose lo determ	rainfall event ocations and ocations. Hor nined by oth	s. The elevat izontal ers. O	compaction ions shown and vertica ur firm does
To the best of my knowledge, the above WAS performed in ac	cordance with	the approved	the co specif	ntractor's res ications.	nwork or paving o	form to	the approved		

Technician:

PAULO S.

## Offices Serving the Western United States

Effective 12/15/2020

#### Compaction Report

### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR10152021PS

DATE: 10/15/2021	Set Count:	CONTRACTOR: AEC	
PROJECT #: 06621314		PERMIT #: D20-0241	
PROJECT: 21-0045 Shannon V	Vilson PACCAR Rem	INSPECTOR: Paulo Salvan	
LOCATION: 8801 Marginal W	ay South	JURISDICTION: city of Tukwila	
KA P.M.: Bill Throne		WEATHER: cloudy	TEMP: 54° F

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction test.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for soil compaction tests. The soil compaction test took place on Pit #8 for lifts #5 and #6. On arrival, I tested lift #5 with a Troxler Density Gauge, the contractor placed approximately 8" of Pit run. The test met and exceeded the minimum requirement of 95% soil compaction tests. Due to scheduling, I had to leave site to cover a project and return in the afternoon to test the last lift on pit #8. On my return, I tested the last lift, lift #6 with a Troxler Density Gauge, the contractor placed approximately 8" of pit run. The test met and exceeded the minimum requirement of 95% soil compaction test. Please refer to report 06621314SCR10152021PS for test results.

Reviewed By: ASTM Test #:	Asset Number(s):	
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To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PRO		521314 0045 Shannon Wilson PACCAR 01 E Marginal Way South	ental Engineering pection	CONT F INS JURIS	PERMI SPECT	REPO TOR: AEC T #: D20 TOR: Pau	-0241	066	21314SCR	10152 :MP:	
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		0CONE 1 D1556	0000	Paved Are Building Pa Utility :					
			Curve 1	Pit Run		Unified Soils cation or De			Maximum Density / I (PCF) 137.	Rice	Optimum Moisture 6.6%
TEST	ELEVATION Lift 5	LOCATION				DENSITY (PCF) 135.9	MOISTURE 5.1%	-	PACTION		QUIRED
2	Lift 6	Pit #8	1		&8	135.1	5.4%		99%		
		EQUIPMENT NO.:		14617	This	lesting does n	ot preclude the po		y that the soi	orbol	mix aspha
DAIL	Y AVERAGE S	E STANDARD DENSITY COUNT:		1485 604	may tests and i limits not g the c speci	be loosened to were perform ndicate relative of the comp- uarantee eart ontractor's rest fications.	by future construct and at the approxi- re compaction at the acted areas were hwork or paving co- sponsibility to conf	tion or imate lo those lo detern constructor form to	rainfall event ocations and ocations. Hor nined by oth- ction, nor doe the approved	s. The elevat izontal ers. Or es our	compactions shown and verticator ur firm doe work reliev

Technician:

PAULO S.

#### **Offices Serving the Western United States**

Effective 12/15/2020

#### Compaction Report

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

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PR		21314 0045 Shannon Wilson PACCAR I 1 E. Marginal Way S	ection	li JUF	PERN ISPEC	TOR: AEC MT #: D20 TOR: Paul TION: Tuky R: cloudy	-0241 o Salvan		TE	MP:	58
		JCLEAR DENSOMETER STM D6938 LOCATION MAP	and the second se	DCONE M D1556		Paved Area Building Pac Utility :					
			Curve 1	Gravel B		Unified Soils fication or Des			Maximum Density / I (PCF) 137.	Rice	Optimum Moisture 6.6%
TEST	ELEVATION	LOCATION	CUR		DDE &	DENSITY (PCF)	MOISTURE	COM	IPACTION		QUIRED
1	Lift #1	Pit #5	1	F	R&6"	135.9	6.5%		99%		95%
2	Lift #2	Pit #5	1		R&8	136.1	7.2%		99%		95%
3	Lift #2	Pit #5	1		R&8	135.1	6.5%		99%		95%
		FOURDMENTING		14617	Тъ	is testing does n	ot preclude the po	peeibilit	, that the soi		mix aspha
DAI F	LY AVERAGE S Reviewed By:	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: Automatical descent of the second sec		14617 1480 562	ma tes and lim not the spe	y be loosened b ts were perform d indicate relativ its of the compa- guarantee eart contractor's res ecifications.	by future construc- ed at the approxi- e compaction at the acted areas were hwork or paving of sponsibility to contra-	tion or i imate lo those lo determ construct form to	rainfall event ocations and ocations. Hor nined by oth ction, nor do the approve	ts. The eleval izontal ers. O es our	compactio ions showr and vertica ur firm doe work reliev

Technician:

Paulo 5.

Offices Serving the Western United States

Effective 12/15/2020

Compaction Report

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO .: 06621314DFR10182021PS

DATE: 10/18/2021	Set Count:	CONTRACTOR: AEC			
PROJECT #: 06621314		PERMIT #: D-20-0241			
PROJECT: 21-0045 Shannon V	Wilson PACCAR Rem	INSPECTOR: Paulo Salvan			
LOCATION: 8801 E. Margina	l Way S	JURISDICTION: City of Tukwila			
KA P.M.: Bill Throne		WEATHER: cloudy	TEMP: 58° F		

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction test.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction test took place on Pit #5, the contractor placed approximately (2) 8" lifts of Gravel Barrow. I tested (1) on the 1st lift and (2) on the 2nd lift with the Troxler Density Gauge. All 3 tests met and exceeded the minimum requirement of 95% soil compaction tests. Please refer to report 06621314SCR10182021PS for test results.

Reviewed By:	AN	ASTM Test #:	Asset Number(s):
To the best of my regulatory require		bove WAS performed in accorda	nce with the approved plans, specifications and

Superintendent/Representative: Technician:

Exelin

#### Offices Serving the Western United States

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Report NO .: 06621314DFR10192021PS

PROJECT: 21-0045 Shannon Willson PACCAR Re	
LOCATION: 8801 E. Marginal Way S	JURISDICTION: City of Tukwila

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction test took place on Pit #7 and Pit #5. The contractor placed approximately 8" of Gravel Barrow for the backfill of the pits. I performed (8) soil compaction tests on Pit #8 – 1 test per lift with a Troxler Density Gauge and all 8 tests met and exceeded the minimum requirement of 95% soil compaction. I performed (4) soil compaction tests on Pit #5 – 2 tests on lift #3 and 2 tests on lifts #4 with a Troxler Density Gauge and all 4 tests met and exceeded the minimum requirement of 95% soil compaction tests. Please refer to reports 06621314SCR10192021PS-1 and 06621314SCR10192021PS-2 for test results.

Reviewed By:	ASTM Test #:	Asset Number(s):
regulatory requirements. Superintendent/Representative:	Techn	iician:
		12 11 - 10-

#### Offices Serving the Western United States Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		621314 -0045 Shannon Wilson PACCAR 01 E. Marginal Way S	spection	CON I IN: JURI:	PERM SPEC	TOR: AE		<u>06621314SC</u>	R1019	
		NUCLEAR DENSOMETER NSTM D6938	SANDCO ASTM D		0000	Paved Are Building Pa Utility :				
			Curve 1 Gra	vel Bar		Unified Soil ication or De		Maximu Density (PC) 137	Rice	Optimur Moisture 6.6%
TEST	ELEVATION	LOCATION	CURVE	MOD		DENSITY				QUIRED
1	Lift #1	Pit #7	1	DEF		(PCF) 135.9	MOISTURE	COMPACTION	CON	PACTIO
2	Lift #2	Pit #7	1	PR		132.9	6.5% 7.7%	99% 97%	1	95%
3	Lift #3	Pit #7	1	PR		135.1	5.5%	99%	-	95%
4	Lift #4	Pit #7	1	PR		133.3	6.5%	99%	-	95% 95%
5	Lift #5	Pit #7	1	PR	-	136.0	6.2%	99%	-	95%
6	Lift #6	Pit #7	1	PR		136.1	5.4%	99%		95% 95%
7	Lift #7	Pit #7	1	PR		136.3	6.1%	99%	-	95%
8	Lift #8	Pit #7	1	PR		135.8	5.4%	99%	-	95%
					165					0070
DAIL	Y AVERAGE S	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: whowledge, the above WAS performed in	1	617 494 6.5	may tests and i limits not g the c speci	be loosened b were perform ndicate relative of the compa- uarantee earth ontractor's res flications.	by future construct ed at the approxi- e compaction at the acted areas were twork or paving constibility to confi	ssibility that the so ion or rainfall even mate locations and hose locations. Ho determined by oth onstruction, nor do orm to the approve	ts. The l elevat rizontal lers. O es our	compactic ions show and vertic ur firm doe work reliev

Compaction Report

Technician:

PANO 5.

## Offices Serving the Western United States

Effective 12/15/2020

## Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

P		621314 -004 Shannon Wilson PACCAR I 01 E. Marginal Way S	ental Engineering spection	CON IN JURI	PERN SPEC SDIC	TOR: AE	0-0241	<u>06621314SC</u>	EMP:	21-PS -2
		UCLEAR DENSOMETER	SANDCO ASTM D		0000	Paved Are Building Pa Utility :	1.4.1			
			Curve 1 Gra	vel Bai		Unified Soils		Maximu Density / (PCF 137	Rice	Optimum Moisture 6.6%
				MOL	DE &	DENSITY			REC	UIRED
TEST 1	ELEVATION Lift #3	LOCATION Pit #5	CURVE	DEF		(PCF)	MOISTURE	COMPACTION		
2	Lift #3	Pit #5	1	PR		136.1	5.3%	99%		95%
3	Lift #4	Pit #5	1	PR		135.3	5.6%	99%	-	95%
4	Lift #4	Pit #5	1	PR		136.0 135.8	5.4%	99%		95%
						100.0	6.2%	99%		95%
									-	
DAI F	LY AVERAGE S Reviewed By:	EQUIPMENT NO.:	1	617 494 605	may tests and i limits not g the ci speci	be loosened b were performendicate relative of the compa uarantee earth ontractor's resp fications.	y future construct ed at the approxi- e compaction at the cted areas were work or paving consibility to confe-	ssibility that the so ion or rainfall even mate locations and hose locations. Hor determined by oth onstruction, nor do orm to the approve	ts. The c elevatic izontal a ers. Our es our w	compaction ons shown and verticat firm does

Compaction Report

Technician:

PAULO 5

# Offices Serving the Western United States

Effective 12 15 2020

## Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

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Report NO.: 06621314DFR10202021PS

DATE: 10/20/2021	Set Count:	CONTRACTOR: AEC	
PROJECT #: 06621314		PERMIT #: D20-0241	
PROJECT: 21-0045 Shannon V	Vilson PACCAR Rem	INSPECTOR: Paulo Salvan	
LOCATION: 8801 E. Marginal	Way S	JURISDICTION: City of Tuky	vila
KA P.M.: Bill Throne		WEATHER: cloudy	TEMP: 55° F

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction tests.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction tests took place on Pit #5 for lifts 5 and on Pit #6 for lifts 1-5. The material used for backfill and testing was Gravel Barrow @ 8" lifts. I performed (2) soil compaction tests on Pit #5 and (5) soil compaction tests on Pit #6 with a Troxler Density Gauge. All 7 tests met and exceeded the minimum requirement of 95% soil compaction. Please refer to report 06621314SCR10202021PS for test results.

Reviewed By:	NU	ASTM Test #:	Asset Number(s):
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To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

Jall -

### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR LOC		621314 -0045 Shannon Wilson PACCAR 01 E Marginal Way S	oction	<u>,   n c</u> - - -	CONT P INS JURIS	ERM PEC DICT	REPO           TOR: AEC           IT #: D20           TOR: Pau	-0241		21314SCR	210202 EMP:	
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		NDCON		0000	Paved Area Building Pad Utility :		#6			
			Curve 1	Grav	c vel Barr	lassifi	Unified Soils cation or Des			Maximum Density / (PCF) 137.	Rice	Optimum Moisture 6.6%
TEST	ELEVATION lift #5	LOCATION	CUR	VE	MODE	н	DENSITY (PCF)	MOISTURE		PACTION	COM	
2	lift #5	Pit #5	1	-	PR&		135.5	6.7%	-	99%		95%
3	lift #1	Pit #6	1	-	PR& PR8		136.1	7.6%	-	99%	_	95%
4	lift #2	Pit #6	1	-	PR8		135.1	5.8% 5.5%	-	99%	-	95%
5	lift #3	Pit #6	1	-	PR&	_	135.9	5.7%	-	99% 99%		95% 95%
6	lift #4	Pit #6	1	-	PR&		135.0	5.8%		98%		95%
7	lift #5	Pit #6	1	-	PR&	_	134.0	5.4%	+	98%		95%
DAIL	Y AVERAGE S eviewed By:	EQUIPMENT NO.: STANDARD DENSITY COUNT: TANDARD MOISTURE COUNT: 		6	193 612	may l tests and in limits not gr the co specifi	be loosened by were performendicate relative of the compa- uarantee earth- pontractor's resp fications.	of preclude the po future construct ed at the approxit compaction at the toted areas were work or paving co possibility to confe	ion or ra mate lo hose loo determ onstruct orm to t	ainfall events cations and cations. Hori ined by othe tion, nor doe he approved	s. The elevati zontal ers. Ou is our v	compactio ons shown and vertica ir firm doe work relieve

Technician:

P. Salvan

Compaction Report

## Offices Serving the Western United States

Effective 12/15/2020

# Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR10212021PS

DATE: 10/21/2021	Set Count:	CONTRACTOR: AEC			
PROJECT #: 06621314		PERMIT #: D20-0241			
PROJECT: 21-0045 Shannon	Wilson PACCAR Rem	INSPECTOR: Paulo Salvan			
LOCATION: 8801 E. Margina	l Way S	JURISDICTION: City of Tukw	vila		
KA P.M.: Bill Throne		WEATHER: cloudy	TEMP: 55° F		

A representative of Krazan and Associates, Inc. arrived onsite to perform soil compaction tests.

On arrival, I spoke with the foreman onsite and we discussed the scope of work for the soil compaction tests. The soil compaction tests took place on the pits #5 and #6. I performed (2) soil compaction tests on Pit #5 for lift #6 and (3) soil compaction tests on Pit #6 for lifts #6, #7, and #8 with a Troxler Density Gauge. The material used for Gravel for backfill, the contractor placed approximately 8" of the Gravel Barrow. Please refer to report 06621314SCR10212021PS for test results.

Reviewed By:	N	ASTM Test #:	Asset Number(s):	
	11			-

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

1. Bucht - St

### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		Geotechnical Engineering • Environme Construction Testing and Insp 21/2021 321314 0045 Shannon Wilson PACCAR 01 E. Marginal Way S	pection		CONT P INS JURIS	ERM PEC DICT	TOR: <u>AEC</u> IT #: <u>D20</u> TOR: <u>Pau</u>	-0241	_066;	21314SCR	10212 MP:	
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		IDCOI		0000	Paved Area Building Pac Utility :					
			Curve 1	-	vel Bar	Classifi	Unified Soils cation or Des			Maximum Density / I (PCF) 137.	Rice	Optimum Moisture 6.6%
TEST	ELEVATION	LOCATION	CUF	VE	MOD DEP		DENSITY (PCF)	MOISTURE	СОМ			QUIRED
1	Lift #6	Pit #5	1		PR8	\$10	135.9	5.4%		99%		95%
2	Lift #6	Pit #5	1		PR	-	136.0	5.6%	1.5	99%	_	95%
3	Lift #6	Pit #6	1		PR		133.8	6.5%		98%		95%
4	Lift #7	Pit #6	1		PR		134.1	5.4%		98%		95%
5	Lift #8	Pit #6	1		PR&	x12	135.1	5.1%		99%		95%
				14	617	This	tooting docs a	ot preclude the po		uthat the set	as het	miy aart-
D		EQUIPMENT NO.: E STANDARD DENSITY COUNT:			492	may	be loosened b	y future construct	tion or i	rainfall event	s. The	compactio
DAII					608	and limits not g	indicate relatives of the compa- guarantee earth	ed at the approxi e compaction at t acted areas were nwork or paving c ponsibility to conf	hose lo detern construc	ocations. Hor nined by othe ction, nor doe	izontal ers. Ou es our	and vertica ur firm doe work relieve

Technician:

P. Salvan

**Offices Serving the Western United States** 

Effective 12/15/2020

#### Compaction Report

## Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR10292021MM

DATE: 10/29/2021	Set Count:	CONTRACTOR: Anderson Environmental			
PROJECT #: 06621314		PERMIT #: N/A			
PROJECT: Shannon Wilson		INSPECTOR: Marty Mundy			
LOCATION: 8801 East Margina	al Way Soutn	JURISDICTION: Tukwila			
KA P.M.: Bill Throne		WEATHER: Cloudy	TEMP: 45° F		

On site for soil compaction testing.

On site as scheduled. Was notified, upon arrival, that no work was being performed today.

Reviewed By:	Ap	ASTM Test #:	Asset Number(s):
To the best of my k	mowledge, the a	bove WAS performed f	or information purposes only.
Superintendent/Rep	presentative:		Technician:
		9	Muty Many

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Report NO .: 06621314DFR1132021MM

DATE: 11/3/2021	Set Count:	CONTRACTOR: Anderson Environmental				
PROJECT #: 06621314		PERMIT #: N/A				
PROJECT: Shannon and Wilso	n PACCAR	INSPECTOR: Marty Mundy	c.			
LOCATION: 8801 East Margin	nal Way South	JURISDICTION: Tukwila				
KA P.M.: Bill Throne		WEATHER: Cloudy TEMP:45				

On site for soil compaction testing.

Arrived on site as scheduled. After being on stand-by for two hours, was notified that no work would be performed today due to water issues.

	:
To the best of my knowledge, the above WAS performed for information purposes only.	
Superintendent/Representative: Technician:	

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Report NO .: 066213141142021JK

DATE: 11/4/2021 Se	et Count:	CONTRACTOR: Shannon and Wilson
PROJECT #: 06621314		PERMIT #: P20-0241
PROJECT: Shannon & Wilson PACCAR	REM TUK	INSPECTOR: Joe Karahuta
LOCATION: 8801 E Marginal Way	- C - C - C - C	JURISDICTION: Tukwila
KA P.M.: Bill Throne		WEATHER: Rain TEMP: 54

Krazan and Associates, Inc. Representative Joe Karahuta arrived onsite per the request of Craig with AEC to perform soils compaction tests. Inspector noticed some standing water in 20'x14' area to be tested. The contractor could not use any compaction efforts due to the amount of rain in the last few days.

The first test taken was at 8" with Proctor #21L779 137.1 pcf at 6.4% moisture. The average of the two tests was 90.2% with an average of 11.2% Moisture. The moisture falls outside the 3% which makes the tests invalid. The contractor will use it as a informational baseline.

Craig with AEC had me take a few more tests with no improvement.

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Report NO .: 066213141142021JK

Reviewed By: To the best of my knowledge,	ASTM Test #: the above WAS NOT performed in	Asset Number(s): accordance with the approved plans, specifications
and regulatory requirements. Superintendent/Representative	:: Tec	hnician:
		Doe K.

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Report NO .: 066213141152021JK

Set Count: CONTRACTOR: Shannon and Wilson PERMIT #:				
PERMIT #:				
TUK INSPECTOR: Joe Karahuta				
JURISDICTION: Tukwila				
WEATHER: Partly Cloudy TEMP:48° F				

Krazan and Associates, Inc. Representative Joe Karahuta arrived onsite per the request of Craig with AEC to perform soils compaction tests in 20'x14' area the Inspector tested the area with no improvement from yesterday which averaged 90% where 95% is required. The contractor has opted to remove the 8" of Pit Run from Washington Rock and replace it with dryer material in lifts to achieve the required compaction.

In Pit #2 1 Passing Compaction Test was Achieved on the 3rd Lift. The crew moved to Pit #3 where the 1st Lift passed compaction. Before butting the job up for the day Anderson Environmental opted to fill Pit #2 to the top while using an excavator to track in the material to let it sit over the weekend.

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Report NO .: 066213141152021JK

Reviewed By:	al	ASTM Test #:	Asset Number(s):	
To the best of my regulatory require		above WAS performed i	n accordance with the approved plans, specif	fications and
Superintendent/Re	epresentative:		Technician:	
			A	

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Ś	Geotechnical Engineering • Environmental Er Construction Testing and Inspection	igineering	<u>C.</u>		ACTION RT NO.:	06621314SC	R110521-JK -2
DATE: <u>11</u> ROJECT #: <u>06</u>	/5/2021 621314		PERM	IT #: N/A		on / Anderso	n Environme
	annon Wilson PACCAR Rem Tuk 01 E Marginal Way S I Throne		JURISDICT WEATHER		of Tukwila	т	EMP: 56
	NUCLEAR DENSOMETER	SANDCO ASTM D		ОТІ	HER		
				Utility :		13	
MAP LOC	ATION ATTACHED SEPARATELY	Curve		Unified Soils ication or Des t Run 21L7	scription	Maximu Density (PCF 137	Rice Moistur
			At C	O T-355 M lient's Dire	ethod "A" ection		
1		Res	ults reported a	1 1	age of 2 1-min	tests	
ST ELEVATION 3rd Lift	LOCATION Pit #2	CURVE	MODE & DEPTH 8"	DENSITY (PCF) 128.9	MOISTURE		
2 1st Lift	Pit #3	1	8"	130.6	7.8% 7.7%	94.0% 95.3%	95% 95%
			1				
3		1				1	
	E STANDARD DENSITY COUNT:	20983 615 1759	may tests and limit not g the o	be loosened b s were perform indicate relative s of the compa guarantee earth	by future construct ed at the approxi e compaction at t acted areas were hwork or paving c	assibility that the so- tion or rainfall ever mate locations and hose locations. Ho determined by oth construction, nor do form to the approve	nts. The compactions show rizontal and vertioners. Our firm do bes our work relied bes our
REMARKS : All a	knowledge, the above WAS performed in accor asphalt placed on southbound (inbound) side of Stad Representative:		ations based off o				
				J. Ka	- urahiita		

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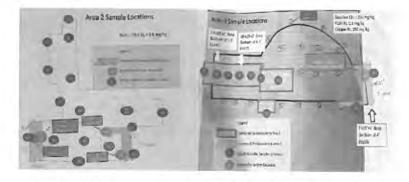


Report NO .: 06621314DFR1182021FM

DATE: 11/8/2021	Set Count:	CONTRACTOR: AEC				
PROJECT #: 06621314		PERMIT #: D20-0241				
PROJECT: 21-0045 Shannon V	Wilson PACCAR Rem	INSPECTOR: Faizan Muhammad				
LOCATION: 8801 E Marginal	Way S	JURISDICTION: City Of Tukwila	1			
KA P.M.: WBT		WEATHER: Cloudy	TEMP: 56° F			

Krazan field representative was onsite as requested by the contractor for earthwork observation and to perform required compaction testing. Upon arrival, the representative met Craig with AEC and reviewed the details, approved plans, and specifications.

Soil compaction tests took place on Area numbers 2 and 3 (also referenced as Pits 2 and 3) as marked in the diagram below. Contractor started with Area# 2. The material in this area was wet due to the amount of rain over the last few days. The pit had been backfilled loosely on Friday (11.5.21) with approximately 8 feet of import Gravel Borrow and lightly tracked in to fill the hole over the weekend in preparation for the anticipated rains. At request of contractor, KA inspector performed 3 density tests starting from the top lift, and then excavating down to the next test elevation, and finally to approximately 7 feet below the ground surface. All 3 density tests conducted on fill in Area 2 did not meet the minimum compaction requirement of 95% and the percentage moister was around 10%. This was expected since the pit was basically just filled in quickly at the end of the day to prevent the hole from becoming filled with water over the weekend, and lifts were not placed in accordance with the thickness or compaction requirements. Since the previously placed loose backfill was removed, this does not result in a nonconformance.



In Area 3, AEC placed approximately 7 lifts of Gravel Borrow over about half of this area using a Kobelco-360 excavator and compacted the material using a BOMAG-BW-211-D single drum roller. Six (6) density tests were conducted by using a Troxler 3440 nuke gauge. The fill material in the portion of Area 3 that was placed and compacted exceeded the compaction requirement of 90%. Please refer to report# 06621314SCR1182021FM-1 for density test information and results.

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per



A representative sample of  $2\frac{1}{2}$ " (Minus) crushed rock was obtained from the stock pile in accordance with ASTM D75 for and brought to our laboratory to conduct a proctor test. The contractor plans to use the  $2\frac{1}{2}$ " minus material as backfill in Area 2.

Reviewed By:	FRN	ASTM Test #:	Asset Number(s):
To the best of my	knowledge, the a	above WAS performed in accorda	nce with the approved plans, specifications and
		· · · · · · · · · · · · · · · · · · ·	and and approved plane, operations and
regulatory require			

Faizan Muhammad

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PR		621314 0045 Shannon Wilson PACCAR Rem 01 E Marginal Way S		- - J	PE INSP URISD	RMIT			nad	TE	MP:	56
		UCLEAR DENSOMETER STM D6938	the second	IDCONE M D155		0	OTH Paved Area Building Pac Utility : Other :	as :				
			Curve 1	Grave	Cla I Borro	assifica	Inified Soils ation or Des IL779)			Maximum Density / I (PCE) 137.	Rice	Optimum Moisture 6.6%
EST	ELEVATION	LOCATION	CUR		MODE		DENSITY (PCF)	MOISTURE	СОМ	PACTION	1. 22 March	QUIRED
1	FSG-2'	Area 2 (failed - then soil removed)	1		6		124.1	8.3%	-	91%		95%
2	FSG-4'	Area 2 (failed - then soil removed)	1		8		125.8	9.5%	1 9	92%	1	95%
3	FSG-6'	Area 2 (failed - then soil removed)	1		10	- 1	122.1	8.5%	1	39%		95%
4	Lift 1	Area 3	1		8		125.7	8.2%		92%		90%
5	Lift 2	Area 3	1		8		126.2	8.3%	-	92%		90%
6	Lift 3	Area 3	1		12	-	126.2	8.3%	-	92%		90%
7	Lift 4	Area 3	1		12	-	124.1	6.7%		91%		90%
8	Lift 5	Area 3	1		12		126.3	8.6%		92%		90%
9	Lift 6	Area 3	1		12	-	129.0	7.1%		94%		90%
		EQUIPMENT NO.:		344 147 66	70 39	may be tests w and inc limits c	e loosened by vere performed dicate relative of the compa	of preclude the po y future construct ed at the approxi e compaction at t cted areas were work or paving c	ion or ra mate lo hose loo determ	ainfall events cations and cations. Hori ined by othe	s. The elevat zontal ers. Ou	compact ions show and verti ur firm do

Technician:

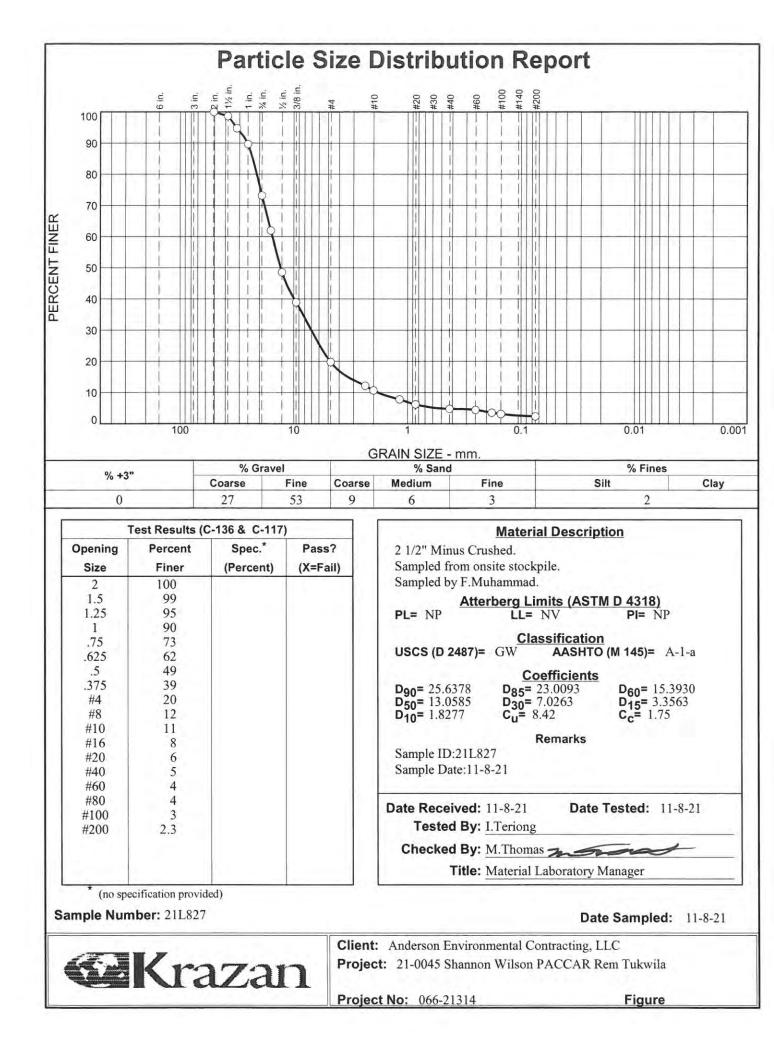
Jen roz Faizan Muhammad

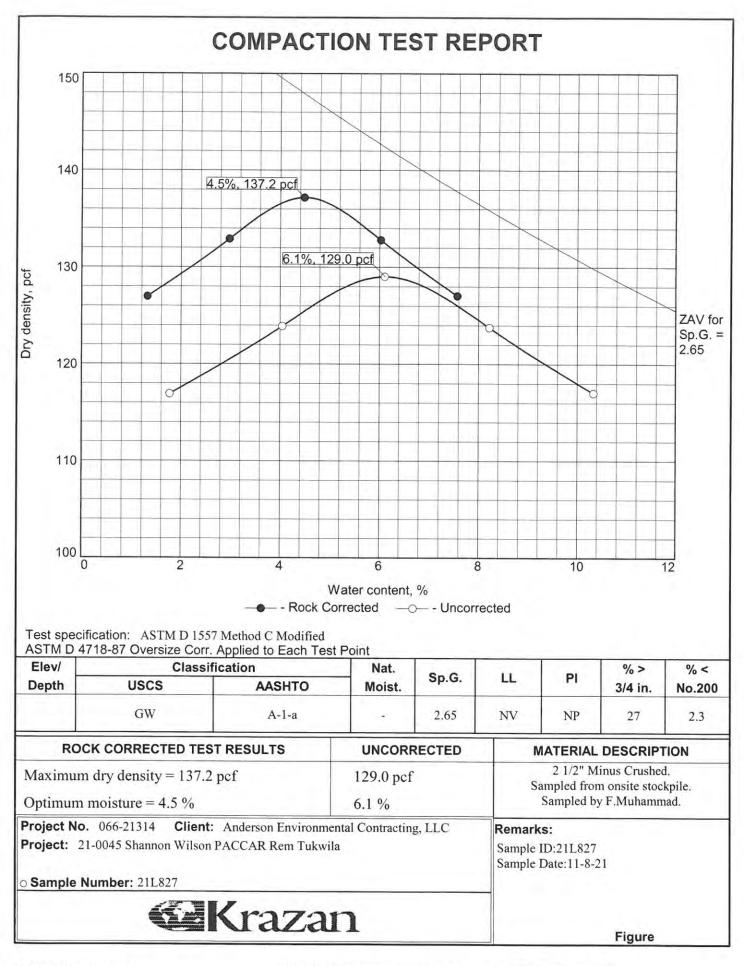
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#### Compaction Report

### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500





Checked By: M.Thomas



Report NO .: 066213141192021JK

Set Count:	CONTRACTOR: S & W / AEC Environmental				
	PERMIT #: Not Available				
PACCAR REM TUK	INSPECTOR: Joe Karahuta				
Way	JURISDICTION: Tukwila				
	WEATHER: Cloudy	TEMP: 50° F			
	PACCAR REM TUK	PERMIT #: Not Available PACCAR REM TUK INSPECTOR: Joe Karahuta Way JURISDICTION: Tukwila			

Krazan and Associates, Inc. Representative Joe Karahuta arrived onsite per the request of Craig with AEC to perform soils compaction testing.

AEC brought CSBC from Washington Rock Quarry to place as backfill in Pit #2. A compaction test was conducted on the first lift of backfill in Pit #2 using a Troxler nuclear density gauge. This lift met the minimum compaction requirement of 92 percent.

The KA representative then observed the placement of and conducted density tests on the 5 lifts of backfill placed on half of Area 3, as well as the top lift of the backfill placed over the other half of area 3 on 11.8.2021. the backfill material was the pit run material. All of the backfill placed in Area 3 on this date met the minimum compaction requirement of 90 percent. Please see Compaction Report #06621314SCR1192021JK for results.

Reviewed By:	JRN	ASTM Test #:	Asset Number(s):	

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

JAN MOR/ Joe Karahuta

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PR		621314 annon Wilson PACCAR Rem Tuk 01 E Marginal Way S	gineering	CON IN JURI	PERM SPEC SDIC		Karahuta of Tukwila	on / Anderson		rironmen	
	<b>▲</b> A:	UCLEAR DENSOMETER STM D6938 LOCATION MAP		DCONE 1 D1556	0000	Paved Area Building Pad Utility :		3			
		ATION ATTACHED SEPARATELY	Curve 1 2	2-	Pi	Unified Soils fication or Des t Run 21L7 linus Crush	scription 79	Maximu Density 137 137	Rice	Optimum Moisture 6.6% 3.6%	
TEST	ELEVATION	LOCATION	CURV		DE & PTH	DENSITY	MOISTURE				
1	1st Lift	Pit #2	2		3"	(PCF) 127.6	10.3%	COMPACTION 93.0%	-	92%	
2	1st Lift	Pit #3	1		3"			92.8%		90%	
3	2nd Lift	Pit #3	1		3"	124.0	10.0%	90.4%		90%	
4	3rd Lift	Pit #3	1		3"	125.9	10.2%	91.8%	_	90%	
5	4th Lift	Pit #3	1		3"	124.1	9.7%	90.5%		90%	
6	5th Lift	Pit #3	1		3"	124.3	10.5%	90.7%		90%	
7	5th Lift	Pit #3 (placed 11-8-2021 other half)	1	1	3"	130.0	9.3%	94.8%	1	90%	
8					2		1	1.1.1.1.2.1.1			
9						1			1		
DAI		E STANDARD DENSITY COUNT:	19386 537 1618		may test: and limit not the	be loosened be s were perform indicate relative s of the compa- guarantee earth	y future constructed at the approximation of the approximation at the approximation at the acted areas were an work or paving of the approximation of the ap	possibility that the so tion or rainfall even mate locations an those locations. Ho determined by ot construction, nor do form to the approve	nts. The d eleva prizontal hers. O pes our	compaction tions shown and verticat ur firm doe work relieve	

Technician:

Jen roz/ Joe Karahuta

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Effective 12/15/2020

#### Compaction Report

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Report NO .: 0662131411102021JK

Set Count:	CONTRACTOR: Shannon a	nd Wilson
	PERMIT #:	
	INSPECTOR: Joe Karahuta	
ay	JURISDICTION: Tukwila	
	WEATHER: Sunny	TEMP: 49
	ACCAR REM TUK	PERMIT #: ACCAR REM TUK INSPECTOR: Joe Karahuta JURISDICTION: Tukwila

Krazan and Associates, Inc. Representative Joe Karahuta arrived onsite per the request of Craig with AEC to perform Soils Compaction Tests.

AEC placed backfill consisting of 2<sup>1</sup>/<sub>2</sub>-inch minus crushed rock in Pit #2. At the time of this testing, a proctor test was being conducted. Therefore, a maximum dry density of 139.1 pcf was used for this material for informational purposes only. The contractor was aware that whether a lift passed or failed compaction would be based on the final proctor values once the laboratory test was complete. Despite this, the contractor continued placement of additional lifts. The laboratory proctor curve was completed, and this report has been updated to reflect the maximum dry density of the material as 137.2 pcf at an optimum moisture content of 4.5 percent. Please see Compaction Report #06621314SCR11102021JK for the density test results. None of the backfill lifts placed today in Area 2 met the minimum required compaction of 95 percent.

Reviewed By:	Spen	ASTM Test #:	Asset Number(s):

To the best of my knowledge, the above WAS NOT performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

JEN FOR/ Joe Karahuta

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PF		621314 annon Wilson PACCAR Rem Tuk 01 E Marginal Way S	ngineering	-	CONTRAC PERM	TOR: S & IIT #: Not TOR: Joe TION: City	Karahuta of Tukwila				
		UCLEAR DENSOMETER STM D6938		IDCON			HER				
			AST	M D15	0 0 0 0 0	Paved Area Building Pao Utility :	as:	ŧ3			
		ATION ATTACHED SEPARATELY	Curve 1 2		Pit	Unified Soils ication or Des Run 21L7 Minus cru	scription		Maximum Density / /PCF 137. 137.	Rice	Optimum Moisture 6.6% 4.5%
TEST	ELEVATION	LOCATION	CUR	VE	MODE & DEPTH	DENSITY (PCF)	MOISTURE		DAGTION		QUIRED
1	1st Lift	Pit #2	2		8"	127.6	10.3%		PACTION		
2	2nd Lift	Pit #2	2			3.0%	93.0%		95% 95%		
3	3rd Lift	Pit #2	2		8"	119.0	3.1%	-	6.7%		
4	4th Lift	Pit #2	2		8"	124.9	3.4%	-	1.0%		95%
5	5th Lift	Pit #2	2		8"	124.5	3.2%	-	0.7%		95%
6									20. E.I		
7				_		1		-			
8				-				-			
3		EQUIPMENT NO.:	10296	_	Thic	tosting doop no	t produde the se	1.00	41-4-41		
DAI	LY AVERAGE S	STANDARD DENSITY COUNT:	19386 537 1618		may tests and limits not g the c spec	be loosened by were performe indicate relative of the compa- uarantee earth ontractor's resp ifications.	ot preclude the po y future construct ed at the approxi- compaction at the cted areas were work or paving co ponsibility to confe	ion or ra mate loo hose loo determ onstruct orm to t	ainfall events cations and cations. Hori ined by othe tion, nor doe he approved	s. The elevati izontal ers. Ou es our v d projec	compaction ions shown, and vertical or firm does work relieve
	the best of my k MARKS :	nowledge, the above WAS NOT performed in	accordance	e with	the approved p	olans, specifi	cations and reg	ulatory	requireme	ents.	

Technician:

HPAN FOR/ Joe Karahusta

Effective 12/15/2020

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Compaction Report

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Construction Testing and Inspection

Report NO.: 06621314DFR11232021AT

PERMIT #: D20-0241				
DIGDEGEOD I I T I				
INSPECTOR: Anders Tvedt				
JURISDICTION: Tukwila				
WEATHER: Overcast	TEMP: 45° F			
	JURISDICTION: Tukwila			

The Krazan representative arrived onsite to perform soil compaction on Pit #4 backfill material. The representative met with the contractor to discuss the scope of the work. The special inspection is as followed:

#### Soil Compaction: Pit Run Backfill

The Native material was excavated 5-feet below grade prior to the arrival of the representative. The Pit #4 backfill material used is Pit Run from Washington Rock Quarries. The pit run was placed in lifts of 8-inches with an excavator and then compacted with a large single vibrating drum roller. A nuclear moisture-density gauge was used to perform the soil compaction testing. Compaction testing was performed on each lift placed. The Pit Run Backfill material passed the 90% relative compaction per onsite specifications. See soil compaction report 06621314SCR112321AT-1 for compaction results.

	Reviewed By:	10	ASTM Test #:	Asset Number(s):	
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To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

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PR	ATION: 880	21314 annon Wilson PACCAR REM Tu 1 E Marginal Way	pection	CONTF PE INSF JURISI	RACTOR ERMIT # PECTOR DICTION	EPOI	-0241 ers Tvedt villa	_066	21314SCR1			
k	(A P.M.: WB	T JCLEAR DENSOMETER			HER: OV	rercast		_	TE	MP:	45	
		STM D6938	ASTM D	1556	O Pav O Buil O Util ⊙ Oth	ding Pac ity :	is :	kfill				
			Curve 1 Pit	c Run-21L	lassificatio	ed Soils n or Des			Maximum Density / F (PCF) 137.2	Rice	Optimum Moisture 6.6%	
				MOD	E& DE	NSITY		-		RE	QUIRED	
TEST	ELEVATION	LOCATION	CURVE	DEP		PCF)	MOISTURE	CON	PACTION		PACTION	
1	~52" BG	Pit #4	1	PR		30.5	6.8%	-	95% 96%		90%	
2	~44"BG ~38"BG	Pit #4	1		PR 8         131.7         6.7%           PR 8         127.3         7.3%		7.3%	1	93%		90% 90%	
4	~32"BG	Pit #4	1	PR		33.0	6.6%		97%		90%	
DAI F	LY AVERAGE S	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: E knowledge, the above WAS performed		5734 1819 687	may be lo tests were and indica limits of th not guaran the contra specificati plans, spe	osened b e perform ate relativ he compa- ntee earth ctor's res- ons.	ot preclude the po of future construc- ed at the approx e compaction at i acted areas were hwork or paving o ponsibility to con- ns and regulato	tion or imate 1 those 1 deterr constru form to	rainfall event ocations and ocations. Hor nined by oth ction, nor doe the approved	ts. The eleval izontal ers. O es our	compaction tions shown, and vertical ur firm does work relieve	
Sun	arintandant/	Representative:			Techni	cian.						

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 7-8				1					

Andrs T-

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Effective 12/15/2020

#### Compaction Report

### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Field Report NO.: 06621314DFR11242021AT

DATE: 11/24/2021	Set Count:	CONTRACTOR: Sierra	
PROJECT #: 06621314		PERMIT #: D20-0241	
PROJECT: Shannon Willson P	ACCAR REM Tukw	INSPECTOR: Anders Tvedt	
LOCATION: 8801 E Marginal	Way	JURISDICTION: Tukwila	
KA P.M.: WBT		WEATHER: Overcast	TEMP: 45° F

The Krazan representative arrived onsite to perform soil compaction on Pit #4 backfill material. The representative met with the contractor to discuss the scope of the work. The special inspection is as followed:

#### Soil Compaction: Pit Run Backfill

Approximately 16" of the pit run backfill was placed for Pit #4 berm on the west end of the site. Pit #4 backfill material used is Pit Run from Washington Rock Quarries. The pit run was placed in lifts of 8-inches with an excavator and then compacted with a large single vibrating drum roller. A nuclear moisture-density gauge was used to perform the soil compaction testing. Compaction testing was performed on each lift placed. The Pit Run Backfill material passed the 90% relative compaction per onsite specifications. See soil compaction report 06621314SCR112421AT-1 for compaction results.

Reviewed By:	p	ASTM Test #:	Asset Number(s):	
		a second contraction of the second		

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

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PR		21314 Innon Wilson PACCAR REM Tul 1 E Marginal Way	ntal Engineering pection	CON IN JURI	PERM SPEC SDICT	TOR: Sieri IT #: D20 TOR: And TON: Tuky : Overcasi	-0241 ers Tvedt willa	00021	1314SCR1	MP:	45
		UCLEAR DENSOMETER STM D6938 LOCATION MAP		DCONE M D1556	0000	Paved Area Building Pac Utility :		kfill			
			Curve 1	Pit Run-2		Unified Soils ication or De			Maximum Density / F (PCF) 137.1	Rice	Optimum Moisture 6.6%
TEST	ELEVATION	LOCATION	CUR	1.0.0	DE & PTH	DENSITY (PCF)	MOISTURE		PACTION		
1	~16" BG	Pit #4	1		R 8	126.8	8.0%		2%		90%
2	~8" BG	Pit #4	1	P	R8	124.8	7.7%	g	91%	0	90%
3	~grade	Pit #4	1	P	R 8	125.4	7.4%	g	91%		90%
				_							
DAI F	LY AVERAGE S Reviewed By:	EQUIPMENT NO.: E STANDARD DENSITY COUNT: STANDARD MOISTURE COUNT: Mowledge, the above WAS performed		35734 1829 683	may tests and limit not the spec	be loosened to s were perform indicate relative s of the comp guarantee eart contractor's reso cifications.	not preclude the properties of the properties of the approximation at the approximation at the approximation at the acted areas were shown or paving of sponsibility to compose and requilate	tion or ra imate loc those loc determi constructi form to th	ainfall events cations and cations. Hori ined by othe ion, nor doe he approved	s. The elevat zontal ers. Or es our	compaction ions shown and vertica ur firm does work relieve

Technician:

Anders T.

### Offices Serving the Western United States

Effective 12 15 2020

#### Compaction Report

## Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR8292022KC

Set Count:	t: CONTRACTOR: Anderson Environmental Contracting, I					
	PERMIT #:					
lson PACCAR	INSPECTOR: Kelby Carambot					
/ay S, Tukwila WA	JURISDICTION: City of Tukwila					
KA P.M.: WBT		TEMP: 75° F				
	Set Count: Ilson PACCAR Vay S, Tukwila WA	PERMIT #: Ilson PACCAR INSPECTOR: Kelby Carambot				

Krazan & Associates, Inc. (KA) field representative arrived on site as requested for soil compaction testing. The project was the backfill of an excavated region in Area 4, at the SW corner of the site. Upon arrival onsite, the KA representative went over the approved project plans and specifications for the project with the contractor.

A nuclear moisture-density gauge was used to evaluate the compaction of an 8" loose lift of material visually classified as brown well-graded sand with silt and gravel imported from Washington Rock Quarries. Initially the material did not pass its minimum compaction requirements due to low moisture. The contractor obtained more water while the KA representative left the site for another inspection. Upon arrival back on site around 12:00 p.m., the contractor had added water to the initial lift of material, and after 5-6 down-and-back passes of the smooth drum vibratory roller, the material had been compacted into a tight, dense mass near optimum moisture. The material then passed its minimum compaction requirement of 95%.

Please see soil compaction report #06621314SCR8292022KC for additional details and soil compaction test results.

	Art			
Reviewed By:	AL	ASTM Test #:	Asset Number(s):	

To the best of my knowledge, the above WAS performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Th.

Technician:

Kelby Carambot

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

DATE: 8/29/ PROJECT #: 0662 PROJECT: 21-0	21314 045 Shannon Wilson PACCAR I E Marginal Way S, Tukwila WA	al Engineering ction	CON IN JURI	PERMI SPECT	REPOI	ACTION RT NO.: erson Enviro y Carambot of Tukwila	nmen			ng, LLC
	CLEAR DENSOMETER TM D6938 LOCATION MAP		CONE D1556	0000	OTH Paved Area Building Pac Utility : Other :	as :				
		Curve 22L573 \$	SW-SM		Unified Soils ication or Des			Maximum Density / F (PCF) 133.	Rice	Optimum Moisture 8.8%
TEST ELEVATION 1 Lift 1	LOCATION Area 4 - E portion of Site	CURV 22L5	E DI	DDE & EPTH R & 4"	DENSITY (PCF) 127.1	MOISTURE 8.0%	-	PACTION 95%	CON	QUIRED MPACTION 95%
	EQUIPMENT NO.: STANDARD DENSITY COUNT: TANDARD MOISTURE COUNT:	21386 1531 622		may test: and limit not the	y be loosened to s were perform indicate relative ts of the comp guarantee eart	not preclude the p by future construc- ned at the approx- ve compaction at acted areas were thwork or paving sponsibility to cor	ction or r simate lo those lo e determ construct	cations and cations and cations. Hor nined by oth ction, nor do	ts. The eleva izonta ers. C es our	e compaction ations shown al and vertica Dur firm doe r work relieve

REMARKS :

Superintendent/Representative:

Technician:

## Offices Serving the Western United States

Effective 12/15/2020

#### Compaction Report

## Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Report NO.: 06621314DFR8302022KC

DATE: 8/30/2022	Set Count:	CONTRACTOR: Anderson Environmental Contracting, LLC		
PROJECT #: 06621314		PERMIT #: Not On Site		
PROJECT: 21-0045 Shannon Wilson PACCAR		INSPECTOR: Kelby Carambot		
LOCATION: 8801 E Marginal	Way S, Tukwila WA	JURISDICTION: City of Tukwila		
KA P.M.: WBT		WEATHER: Sunny TEMP: 81° F		

Krazan & Associates, Inc. (KA) field representative arrived on site as requested for soil compaction testing. The project was the backfill of an excavated region in Area 4, at the SW corner of the site. Upon arrival onsite, the KA representative went over the approved project plans and specifications for the project with the contractor and the Shannon & Wilson representative on site.

A nuclear moisture-density gauge was used to evaluate the compaction of an 8" loose lift of material visually classified as brown well-graded sand with silt and gravel imported from Washington Rock Quarries. This lift was placed on the lift placed and compacted yesterday, 8/29/2022.

Initially the material did not pass its minimum compaction requirements. The contractor added more water to the material, and re-rolled the area with a smooth drum vibratory roller. After the material approached a near-optimum moisture state, the KA representative used the nuclear moisture-density gauge to test the material after each successive down-and-back pass of the roller. After each pass with the roller, the material's compaction didn't change much, with the highest compaction percentage reached being 94% of the proctor for the sample. The lift of brown well-graded sand with silt and gravel appeared to be compacted in a tight, dense mass, based off its response to the vibratory roller, as well as the relatively unvarying compaction. The Shannon & Wilson representative on site discussed this result with his office.

The contractor placed a third lift of material on the lift placed earlier, over the eastern portion of the excavated region; on the SE part of the site a test passed its minimum compaction of 95%, while on the NE part of the site, the test failed its compaction potentially due to low moisture (5.2%). The contractor is aware of this test result, and indicated more water should be added to this material and re-compacted. The western portion of the second lift placed was exposed when the KA representative left the site.

Please see soil compaction report #06621314SCR8302022KC for additional details and soil compaction test results.

Reviewed By:	ASTM Test #:	Asset Number(s):	

To the best of my knowledge, the above WAS NOT performed in accordance with the approved plans, specifications and regulatory requirements.

Superintendent/Representative:

Technician:

Kelby Carambot

#### Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

PR		21314 0045 Shannon Wilson PACCAR 11 E Marginal Way S, Tukwila W			PERM	1IT #: TOR: Kelt TION: City	y Carambot		eMP:	
		JCLEAR DENSOMETER STM D6938 LOCATION MAP		SANDCOM ASTM D1		Paved Are Building Pa Utility :				
				Curve 22L573 SW-		Unified Soils fication or De		Maximu Density (PC 133	/ Rice F)	Optimum Moisture 8.8%
					MODE &	DENSITY	1.000		RE	EQUIRED
TEST	ELEVATION	LOCATION		CURVE	DEPTH	(PCF)	MOISTURE	COMPACTION	_	MPACTION
1	Lift 2	Area 4 - E Side		22L573	PR & 4"	123.8	8.0%	93%	_	95%
2	Lift 2	Area 4 - E Side		22L573	PR & 4"	123.6	8.2%	93%		95%
3	Lift 2 Lift 3	Area 4 - SE Side Area 4 - SE Side		22L573 22L573	PR & 4" PR & 6"	124.9	7.8% 8.3%	94%		95%
5	Lift 3	Area 4 - NE Side		22L573	PR & 6"	128.4 124.4	5.2%	96% 93%	_	95% 95%
-		EQUIPMENT NO.:	21	386	Thi	s testing does r	ot preclude the po	ossibility that the s	oil or ha	t mix aspha
D	AILY AVERAGE	STANDARD DENSITY COUNT:		544	ma	y be loosened I	by future construct	tion or rainfall eve	nts. The	e compactio
DAI		TANDARD MOISTURE COUNT:	e	519	and limi not the	indicate relativ ts of the comp guarantee eart	e compaction at l acted areas were hwork or paving o	imate locations an those locations. He determined by of construction, nor d form to the approv	orizontal thers. O oes our	l and vertica Our firm doe work reliev

Technician:

COMPACTION

## Offices Serving the Western United States

Effective 12/15/2020

#### Compaction Report

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500



Construction Testing and Inspection

Report NO.: 06621314DFR912022KC

Kelby Carambot

KA P.M.: WBT	WEATHER: Sunny TEMP: 65° F		
LOCATION: 8801 E Marginal Way S, Tukwila W.	A JURISDICTION: City of Tukwil	la	
PROJECT: 21-0045 Shannon Wilson PACCAR	INSPECTOR: Kelby Carambot		
PROJECT #: 06621314	PERMIT #: Not On Site		
DATE: 9/1/2022 Set Count:	CONTRACTOR: Anderson Env	ironmental Contracting, LLC	

Krazan & Associates, Inc. (KA) field representative arrived on site as requested for soil compaction testing. The project was the backfill of an excavated region in Area 4. Upon arrival on site, the KA representative went over the approved project plans and specifications for the project with the contractor and the Shannon & Wilson representative.

A nuclear moisture-density gauge was used to evaluate the compaction of multiple 8" loose lifts of material visually classified as brown well-graded sand with silt and gravel imported from Washington Rock Quarries. Tests 1 and 2 were on Lift 3 placed in the main region of Area 4, and passed their minimum compaction requirement of 95%. The remaining areas tested today were in a trench region on the NW side of Area 4. Initial tests on Lift 1 and Lift 2 placed in the trench area indicated a low compaction with near-optimum moisture (Tests 3 & 5). After these initial tests, the contractor rolled over the material with multiple down & back passes of a smooth drum vibratory roller. After this effort, the material was re-tested (Tests 4 & 6) and subsequent passes with the roller did not increase their compaction results. The material was visibly packed into a tight, dense state.

On Lift 3 of the Trench Area, the material did not pass its minimum compaction results immediately. After Test 7, the KA representative left the site and arrived again later at 12:00. The contractor had compacted the material into a tight, dense mass in a near-optimum moisture state, with a maximum compaction of 94%. Based off the response of the material to more compaction, the material's firm and unyielding state, and its near-optimum moisture state, the Shannon & Wilson representative on site accepted the results of soil compaction tests as being adequate for the site.

Please see soil compaction report #06621314SCR912022KC- for additional details and soil compaction test results.

To the best of my l and regulatory requ	knowledge, the uirements.	above WAS NOT performed in ac	cordance with the approved plans, specifications
Superintendent/Re	presentative:	Techn	ician:

# Offices Serving the Western United States

Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500

	S	Geotechnical Engineering • Environmenta Construction Testing and Inspec	Engineering	Inc	<u></u>		ACTION RT NO.:	06621314SCR	090122-KC
PR LOC		2022 21314 0045 Shannon Wilson PACCAR 1 E Marginal Way S, Tukwila WA			PERM	IT #: Not TOR: Kelb TON: City	On Site by Carambot		MP: 65
		JCLEAR DENSOMETER STM D6938 LOCATION MAP		IDCOM M D15	52.74L	Paved Are Building Pa Utility :		a	
			Curve 22L573	SW-	Classifi	Unified Soils ication or De		Maximum Density / I (PCF) 133.	Rice Moisture
TEST	ELEVATION	LOCATION	CUR		MODE & DEPTH	DENSITY (PCF)	MOISTURE	COMPACTION	REQUIRED COMPACTION
1	Lift 3	Area 4 - NW Side	22L5		PR & 6"	128.5	7.2%	97%	95%
2	Lift 3	Area 4 - W Side	22L5		PR & 6"	127.2	7.8%	96%	95%
3	Lift 1	Area 4 - NW Side Trench Area	22L5	_	PR & 6"	120.8	10.5%	91%	95%
4	Lift 1 Lift 2	Area 4 - NW Side Trench Area Area 4 - NW Side Trench Area	22L5		PR & 6" PR & 6"	123.3 120.5	9.8% 9.1%	93% 91%	95% 95%
6	Lift 2	Area 4 - NW Side Trench Area	221	-	PR & 4"	120.3	8.2%	95%	95%
7	Lift 3	Area 4 - NW Side Trench Area	2215		PR & 4"	123.0	7.0%	92%	95%
8	Lift 3	Area 4 - NW Side Trench Area	22L5		PR & 6"	124.7	7.5%	94%	95%
9	Lift 3	Area 4 - NW Side Trench Area	22L5		PR & 4"	125.2	7.7%	94%	95%
10	Lift 3	Area 4 - NW Side Trench Area	22L8	573	PR & 4"	125.0	7.9%	94%	95%
	-								



Geotechnical Engineering • Environmental Engineering Construction Testing and Inspection

DATE: 9/1/2022

D/11 L.	OTTLOLL
PROJECT #:	06621314
PROJECT:	21-0045 Shannon Wilson PACCAR
LOCATION:	8801 E Marginal Way S, Tukwila WA

KA P.M.: WBT

#### COMPACTION REPORT NO .: 06621314SCR090122-KC

CONTRACTOR:	Anderson Environment	al Contracting	g, LLC	
PERMIT #:	Not On Site			
	Kelby Carambot			
JURISDICTION:	City of Tukwila			
WEATHER: Sun		TEMP:	65	
and the second sec				_

EQUIPMENT NO .:	21386
DAILY AVERAGE STANDARD DENSITY COUNT:	1534
DAILY AVERAGE STANDARD MOISTURE COUNT:	619
Reviewed By:	

This testing does not preclude the possibility that the soil or hot mix asphalt may be loosened by future construction or rainfall events. The compaction tests were performed at the approximate locations and elevations shown, and indicate relative compaction at those locations. Horizontal and vertical limits of the compacted areas were determined by others. Our firm does not guarantee earthwork or paving construction, nor does our work relieve the contractor's responsibility to conform to the approved project plans and specifications.

To the best of my knowledge, the above WAS NOT performed in accordance with the approved plans, specifications and regulatory requirements. REMARKS :

Superintendent/Representative:

Compaction Report

Technician:

K. Carambot

**Offices Serving the Western United States** 

Effective 12/15/2020

#### Lynnwood (425) 485-5519 • Poulsbo (360) 598-2126 • Tacoma (253) 939-2500