Interim Cleanup Action Report, Draft Cleanup Action Plan

Tanner Electric Cooperative – Middle Fork Storage Yard, LUST Remediation

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Prepared for

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terraphase engineering

Contents

Tables

Figures

Appendices

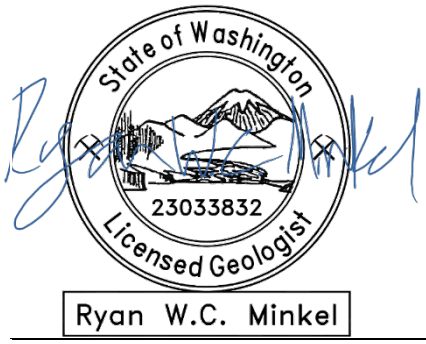
Acronyms and Abbreviations

bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Cleanup Action Plan
CLARC	Cleanup Levels and Risk Calculations
COC	Contaminant of Concern
cPAH	Carcinogenic Polycyclic Aromatic Hydrocarbon
CSID	Cleanup Site Identification
CUL	Cleanup Level
Ecology	Washington State Department of Ecology
EDB	Dibromoethane, 1-2
EDC	Dichloroethane, 1-2
EIM	Electronic Information Management
EPA	Environmental Protection Agency
FSID	Facility Site Identification
LUST	Leaking Underground Storage Tank
mg/kg	Milligrams per Kilogram
MSL	Mean Sea Level
MTBE	Methyl Tert-Butyl Ether
MTCA	Model Toxics Control Act
NFA	No Further Action
ORC	Oxygen Release Compound
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PID	Photoionization Detector
PPM	Parts per Million
Qa	Quaternary alluvium
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RL	Laboratory Reporting Limit
TCLP	Toxicity Characteristic Leaching Procedure
TEE	Terrestrial Ecological Evaluation
TOC	Top of Casing
TPH	Total Petroleum Hydrocarbon
TTEC	Total Toxic Equivalent Concentration
µg/L	Micrograms per Liter
USGS	United States Geological Survey
UST	Underground Storage Tank

VCP	Voluntary Cleanup Program
VOC	Volatile Organic Compound
WAC	Washington Administrative Code

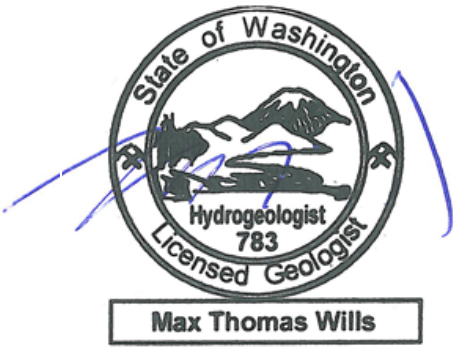
Signatures

All geologic information, conclusions, and recommendations in this document have been prepared under the responsible charge of Licensed Washington Professional Geologists and Hydrogeologists.



Ryan Minkel, LG
Project Geologist

June 16, 2025
Date



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Date

1 Introduction

1.1 General

This interim cleanup action report describes the efforts completed to date to remediate soils impacted by a release of petroleum (suspected waste oil) from two underground storage tanks (USTs) and other historical underground structures discovered at Tanner Electric Cooperative's Middle Fork storage yard in North Bend, Washington. This report also includes a draft Cleanup Action Plan (Section 3) to address residual soil contamination that could not be excavated because of existing infrastructure and to further characterize the seasonality of groundwater at the site.

The remediation efforts documented in this report were performed as an independent remedial action as described in Chapter 173-340-515 WAC of the Washington State Model Toxics Control Act (MTCA). The discovery of this release was reported to the Washington State Department of Ecology (Ecology) via email on February 3, 2025, to fulfill Tanner Electric's reporting responsibility under Chapter 173-340-300 WAC (Appendix A). This report is being submitted to Ecology on behalf of Tanner Electric, along with an application to enter the impacted portion of the property (herein referred to as the site) into Ecology's Voluntary Cleanup Program (VCP); Tanner Electric is ultimately planning to obtain regulatory closure of the site through the VCP.

1.2 Property Location and Description

Tanner Electric's Middle Fork storage yard is located at 44711 SE North Bend Way in North Bend, Washington. The property is identified by the King County Assessor as tax parcel 1423089032. A copy of the King County Assessor's property report is provided in Appendix A. The property covers an area of approximately 3.42 acres and is located in Section 14 of Township 23 North, Range 08 East (Willamette Merdian). A vicinity map is presented as Figure 1. An aerial of the storage yard property is presented as Figure 2.

The storage yard property is largely undeveloped and covered by a gravel parking area. It is completely enclosed by a security fence and is currently being used to store various electrical equipment. Tanner Electric is in the process of developing the western portion of the property as an electrical substation, and this portion of the property is occupied by several large foundations (concrete slabs) to support the future substation electrical equipment. This portion of the property is also underlain with a grounding-grid network and other various underground utilities associated with the substation.

1.2.1 Topography and Surface Water

The storage yard property lies within the flood plain between the Middle and South Forks of the Snoqualmie River. The topography is relatively flat and occurs at an elevation of approximately 525 feet above mean sea level (MSL). There are no surface water bodies on the property. The closest surface water body is the Middle Fork of the Snoqualmie River, which is located approximately 500 feet to the north at its closest point. The South Fork of the Snoqualmie River is located approximately 1,500 feet

south of the property, and both the Middle and South Forks flow generally west-northwest and conjoin at a point approximately 4 miles northwest of the storage yard property.

1.2.2 Geology and Hydrogeology

Tabor and others (USGS 2000) map the surface geology of the storage yard property and surrounding area as Quaternary alluvium (Qa) associated with the nearby Snoqualmie River. Alluvial deposits generally consist of sand- through cobble-size material with a silt- to sand-size matrix. During drilling activities (Section 2.2.3), materials consistent with alluvium were encountered to a depth of approximately 40 feet. Between 40 and 60 feet, the materials encountered were notably finer-grained (fine to medium sand with trace amounts of gravel) and more consistent with glacial outwash. The soil borings were terminated at a depth of 60 feet below ground surface (bgs).

Groundwater in monitoring wells installed at the property (Section 2.2.3.3) were measured in February 2025 at depths of approximately 34 feet bgs. Given the permeability of the alluvium and other materials below the property, and its proximity to the Snoqualmie River, it is likely that groundwater below the property is in hydraulic continuity with the river and fluctuates seasonally with changes in river stage. As part of a pilot infiltration study for the construction of the new substation, Tanner Electric measured water levels in an old 6-inch supply well at the property (recently decommissioned; Figure 2) monthly for a period of just under one year (January 25, 2017 to January 9, 2018). During this period, water levels in the well fluctuated from a low of 37 feet bgs in November 2017 to a high of 23 feet bgs in April 2017. We presume that the current seasonal fluctuation of the groundwater is similar to the fluctuation observed in the 2017-2018 study.

2 Cleanup Actions

2.1 Previous Releases on the Property

There are currently two listings for the Middle Fork storage yard on Ecology's online Cleanup Sites List[1], which are both identified by Ecology's Facility Site ID (FSID) No. 14722754. Neither of these cleanup sites are associated with the subject UST release described in this report. The locations of these other cleanup sites, Ecology Cleanup Site ID (CSID) Nos. 8053 and 16947, are shown on Figure 2. Copies of Ecology's Cleanup Site Details report for both sites are provided in Appendix A.

The older of the two listings (CSID 8053) is assigned the cleanup site name "MC Anderson Trucking", which is one of several previous owners of the storage yard property. The MC Anderson Trucking listing is associated with the removal of two USTs in 1990; one containing diesel fuel and one containing waste oil, along with the remedial excavation of approximately 90 cubic yards of petroleum-impacted soil (UST ID No. 10533 and LUST No. 2137). Ecology issued a "no further action" (NFA) determination for this release in 2012.

[1] https://ecology.wa.gov/spills-cleanup/contamination-cleanup/cleanup-sites

The second, more recent listing (CSID 16947) is assigned the cleanup site name "Tanner Electric Cooperative Middle Fork Storage Yard". This later listing is associated with a 2023 release of dielectric fluid (mineral oil) resulting from vandalism of a transformer that was being stored at the site. Impacted soils associated with this release were remediated through excavation and/or in situ treatment with an oxygen release compound (ORC). Potential groundwater impacts associated with this release are currently being investigated under the auspices of Ecology's VCP. The transformer site is assigned VCP Project No. NW3400 and a copy of Ecology's VCP acceptance letter is provided in Appendix A. To date, Terraphase Engineering (Terraphase) has completed two of four planned groundwater monitoring events at this site, and analyses conducted for these monitoring events have not identified any groundwater impacts above the MTCA Method A cleanup level (CUL) for mineral oil (500 ug/L). We anticipate similar results for the remaining two monitoring events, and the eventual issuance of an NFA determination by Ecology for this specific release/site.

2.2 Current UST Release and Remediation

2.2.1 Overview

In January 2025, construction workers doing excavation work for the new substation unearthed an abandoned UST, which is designated as UST No. 1 (Section 2.2.2 and Figure 3). Terraphase was notified, and upon investigating, found that there was significant petroleum contamination in the soils surrounding the UST. UST No. 1 was subsequently decommissioned and removed from the site. Terraphase then directed a drilling investigation to delineate and characterize soil impacts around the tank (Section 2.2.3). The drilling investigation included the installation of five monitoring wells (MW-5 through MW-9), which were each drilled to depths of 60 feet. Laboratory analyses of soil samples collected during drilling indicated significant soil impacts in each of the borings. However, laboratory analyses of groundwater samples collected from the completed wells did not show any significant impacts.

Following the completion of the drilling investigation, remedial excavation was conducted to remove as much of the impacted soil as feasible (Section 2.2.4). During remedial excavation, a second UST (UST No. 2; Section 2.2.5 and Figure 3) was discovered in the area adjacent to UST No. 1. UST No. 2 was similarly decommissioned and removed from the site. During remedial excavation, a long concrete structure was also unearthed that appeared to be an historical track rail/maintenance pit, likely related to the former use of the site as a railroad maintenance yard (Section 2.2.6 and Figure 3). This underground structure was dismantled and removed from the site along with associated impacted soils. Upon reaching the practical limits of the remedial excavation, residual soil contamination that could not be accessed was treated in situ, and the excavation was subsequently backfilled (Section 2.2.9).

2.2.2 UST No. 1

On January 23, 2025, construction workers discovered an abandoned UST while excavating utility vaults for the new substation. This UST is designated in this report as UST No. 1. The complete underground storage tank site assessment report is provided in Appendix B. The approximate location where UST No. 1 was discovered is shown on Figure 3. Tanner Electric contacted Terraphase and Russell Post

Environmental Consulting on the same day as the discovery and a certified site assessor from Terraphase was on site later in the afternoon to conduct an initial site inspection. The initial inspection found that the tank was older, steel-wall construction, and measured 4 feet in diameter by 12 feet long (which equates to a capacity of approximately 1,100 gallons). The initial inspection did not reveal any obvious breaches in the tank or significant corrosion. It was estimated that the tank contained 200 to 300 gallons of an unknown petroleum-like product.

On January 24, 2025, a Terraphase hydrogeologist was on site, together with Russell Post and representatives from Tanner Electric and GrayMar Environmental Services, Inc. (GrayMar) to further evaluate possible soil impacts in the area around UST No. 1 and to start the decommissioning process. GrayMar transferred the contents of the UST (approximately 200 gallons) into four 55-gallon drums. GrayMar then pressure washed the tank, containing the rinse water in two additional 55-gallon drums. The drums of product and rinse water were stored within secondary containment on site pending analytical profiling (Section 2.2.2.1) and final disposal (Section 2.2.2.2). After the tank was cleaned, GrayMar transported it to their yard in Auburn, Washington, where it was cut down into smaller pieces for recycling.

Before removing the tank from the site, a second inspection of its condition was conducted, and again did not find any significant corrosion or breaches. There were no product lines attached to the UST, but several small “remnant” pieces of piping were found in the UST excavation. The longest of these was approximately 3 feet, and none of the piping appeared to extend laterally away from the tank. There was an approximately 4-inch diameter hole cut in the top of the UST and an oily-film was noted on the exterior of the tank. Inspection of the soils in the UST excavation also found signs of extensive petroleum contamination. It is speculated that UST No. 1 may have been used “ad hoc” by previous site owners to store waste oil or other excess petroleum products, and spilled product had accumulated over years of misuse in the surrounding soils.

2.2.2.1 UST No. 1 – Laboratory Analyses

A sample of the product from UST No. 1 (designated on the laboratory chain of custody as “Product”), together with soil samples from the margins of the UST excavation, were collected and submitted to Libby Environmental, Inc. (Libby) for various chemical analyses. The locations of the sidewall samples from the UST excavation (designated as S-1 through S-4) and the base sample (designated as S-5) are shown on Figure 3. Copies of the complete laboratory reports are provided in Appendix C. A summary of analytical results for all soil samples analyzed for this project is provided in Tables C-1 through C-3 in Appendix C.

In accordance with MTCA, Chapter 173-340-900 WAC, Table 830-1 (Required Testing for Petroleum Releases), because the product in UST No. 1 was an unknown oil and suspected of being waste oil, the product sample (“Product”) was analyzed for the full list of volatile organic compounds (VOCs) via EPA Test Method 8260, including: benzene, toluene, ethylbenzene, and xylenes (BETX); dibromoethane, 1-2 (EDB), dichloroethane, 1-2 (EDC), methyl tert-butyl ether (MTBE), and other chlorinated halogens; polycyclic aromatic hydrocarbons (PAHs) and naphthalenes via EPA Test Method 8270; polychlorinated biphenyls (PCBs) via EPA Test Method 8082; total lead via EPA Test Method 6020B; and gasoline-through oil-range total petroleum hydrocarbons (TPH) via Ecology Test Methods NWTPH-Gx and

NWTPH-Dx. Additional testing for the purpose of disposal profiling was conducted for total chromium and total silver via EPA Test Method 6020B; ignitability (flashpoint) via EPA Test Method 1010/ASTM D93; and Toxicity Characteristic Leaching Procedure (TCLP) for benzene via EPA Test Methods 8260 and 1311. The results of these analyses, together with input from Ecology, were used for determining appropriate testing throughout the remainer of the remediation process.

Laboratory analyses of the product sample from UST No. 1 (see Libby L25A063, Appendix C) did not indicate the presence of any chlorinated VOCs (i.e. tetrachloroethylene or associate degradation products), PCBs, chromium, or silver above applicable laboratory reporting limits (RL). As such, these analytes were not regularly included in subsequent remediation analyses except in special cases to verify their presence or absence with additional discoveries and/or for additional disposal profiling. Laboratory analyses did indicate that the product from UST No. 1 was comprised largely of oil with lesser amounts of diesel- and gasoline-range TPH. Analyses also indicated the presence of BTEX, carcinogenic and non-carcinogenic PAHs (including naphthalenes), and lead. As such, these are considered the primary contaminants of concern (COCs) for this project; the standard analyses utilized throughout all subsequent remediation efforts included gasoline- through oil-range TPH, BTEX, fuel additives (EDB, EDC, MTBE), carcinogenic and non-carcinogenic PAHs (including naphthalenes), and total lead.

As shown in Table C-1 (Appendix C) and as summarized below in Table 1, laboratory analyses of the soil samples collected from the initial margins of the excavation around UST No. 1 indicated the presence of diesel and oil at concentrations above applicable MTCA Method A CULs in samples S-1, S-4, and S-5. As shown on Table C-2 and summarized below in Table 1, analyses also indicated the presence of 1- and 2-methalnapthalene at concentrations above the MTCA "Protective of Groundwater" CULs in samples S-4 and S-5. All other results were either below applicable CULs or laboratory RLs.

Table 1: Soil Analytical Result Detections – Initial UST No. 1 Excavation

Sample ID	Location	Depth *(feet)*	Result (mg/kg)				
			Gas	**Diesel**	**Oil**	**2-Methylnapthalene**	**1-Methylnapthalene**
S-1	Sidewall	3	<7.0	<56	3,000	<0.023	<0.023
S-2	Sidewall	3	<6.6	<55	<280	<0.022	<0.022
S-3	Sidewall	3	<7.4	150	<290	<0.023	<0.023
S-4	Sidewall	3	10	4,100	4,400	13	9.2
S-5	Base	5	<7.2	3,700	5,300	1.8	<0.023
MTCA	Method A		30[1]	2,000[2]	2,000[2]	-	-
	Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

2.2.2.2 UST No. 1 – Product Disposal

On February 12, 2025, GrayMar transported the product and rinse water recovered from UST No. 1 to Chemical Waste Management of the NW, Inc.'s (Waste Management) facility in Arlington, Oregon. A copy of the disposal manifest is provided in Appendix D. As shown on the manifest, 2,400 pounds of product and related rinse water contained in 6 drums was received by the facility.

2.2.3 Drilling Investigation

Following the initial investigation of UST No. 1 (Section 2.2.2), a drilling investigation was completed to delineate the extent of contamination associated with the UST release. Between February 3 and February 6, 2025, Terraphase was onsite to oversee the installation of five monitoring wells in the area of the UST release (MW-5 through MW-9). As part of our on-going investigation of the nearby transformer release (CSID 16947; Section 2.1), Terraphase was on site during the same timeframe to install monitoring wells for that project (MW-1 through MW-4). Monitoring wells MW-1 through MW-4 were used for this project to better assess groundwater flow direction/gradient at the property as a whole, but not necessarily to investigate impacts related to the UST release (laboratory analyses of soil and groundwater samples collected from MW-1 through MW-4 were limited to mineral oil only as related to that particular release).

All of the monitoring wells were drilled by Anderson Environmental Contracting, LLC (Anderson) using sonic-drilling techniques. All wells were drilled to depths of 60 feet and completed with 30 feet of screen placed between 25 and 55 feet bgs. All wells were completed using standard 2-inch PVC monitoring well construction with either flush-mount or above ground well monuments as appropriate. The locations of the monitoring wells for both sites are shown on Figures 2 and 4. Figure 3 shows the well locations specifically for the UST release and relative to the location of UST No. 1. As shown on Figure 3, monitoring wells MW-5 through MW-8 were positioned around the suspected periphery of the UST release and MW-9 was placed directly in the area of UST No. 1. The logs for MW-1 through MW-4 are provided as Figures E-1 through E-4 in Appendix E. The logs for MW-5 through MW-9 are presented as Figures 5 through 9.

2.2.3.1 Evaluation of Soil Impacts

During the drilling of monitoring wells MW-5 through MW-9, the soils encountered in each of the borings were field screened for signs of impact using visual and olfactory indicators, as well as a hand-held photoionization detector (PID). Field screening results are shown on each of the well logs (Figures 5 through 9) as well as Table C-1 in Appendix C. Field screening indicated staining and a strong petroleum odor in all of the borings in the area of UST No. 1. Field screening at MW-9, which is again located nearest to UST No. 1 (the suspected release source), showed the most significant degree of impact. PID readings, as compared to the visual and olfactory indications of impact, were relatively low (generally less than 50 ppm), which is usually an indicator of oil-range TPH contamination versus gasoline contamination, and/or contamination that is degraded (aged).

2.2.3.2 Drilling Investigation – Soil Laboratory Results

During drilling, our on-site geologist collected soil samples at regular intervals from each of the borings for laboratory analyses. Samples were generally collected at 10-foot intervals in MW-5 through MW-8 and 5-foot intervals in MW-9. Additional intermediate samples were also collected if field screening indicated the presence of more significant contamination at a specific depth. All soil samples were submitted to Alliance Technical Group, LLC (Alliance) for analysis of the previously identified COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs [including naphthalenes], and total lead; see Section 2.2.2.1). Soil samples collected below the water table (below 40 feet) were submitted to the laboratory, but analyses of these deeper samples were "put on a hold" pending the results of shallower samples. Analyses did not indicate the presence of any COCs above the applicable laboratory RLs for any of the soil samples collected at 40 feet, so the analysis of the deeper samples was not warranted. The complete laboratory reports are presented in Appendix C and summarized in Tables C-1 through C-3 in Appendix C.

As shown in Table C-1 (Appendix C) and as summarized below in Tables 2 through 6, laboratory analyses of the soil samples collected from the borings for MW-5 through MW-9 indicated the presence of gasoline- through oil-range TPH at concentrations above applicable MTCA Method A CULs at various depths in each of the borings. As also shown on Table C-2 (Appendix C) and Tables 2 through 6, analyses indicated the presence of 1- and 2-methalnaphthalene at concentrations above the MTCA "Protective of Groundwater" soil CULs at various depths in each of the borings. All other soil analytical results for the drilling investigation were either below applicable CULs or laboratory RLs.

Table 2: Soil Analytical Result Detections – MW-5

Sample ID	Depth *(feet)*	Result (mg/kg)				
		Gas	**Diesel**	**Oil**	**2-Methylnapthalene**	**1-Methylnapthalene**
MW5-5	5	109	1,700	14,000	4.67	3.46
MW5-10	10	<4.08	<52.2	3,260	<0.0212	<0.0212
MW5-20	20	16.0	413	5,590	<0.0202	0.0288
MW5-30	30	<3.34	<52.9	<106	<0.0209	<0.0209
MW5-40	40	<4.44	<55.0	<110	<0.0215	<0.0215
MTCA Method A		30[1]	2,000[2]	2,000[2]	-	-
Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 3: Soil Analytical Result Detections – MW-6

Sample ID	Depth (feet)	Result (mg/kg)				
		Gas	Diesel	Oil	2-Methylnapthalene	1-Methylnapthalene
MW6-10	10	<4.42	<49.7	<99.3	<0.0203	<0.0203
MW6-20	20	99.1	1,060	3,720	<0.0208	<0.0208
MW6-30	30	<3.50	<53.0	<106	<0.0207	<0.0207
MW6-32	32	49.1	517	2,000	0.0484	0.0329
MW6-40	40	<3.50	<49.8	<99.6	<0.0202	<0.0202
MTCA Method A		30[1]	2,000[2]	2,000[2]	-	-
Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 4: Soil Analytical Result Detections – MW-7

Sample ID	Depth (feet)	Result (mg/kg)				
		Gas	Diesel	Oil	2-Methylnapthalene	1-Methylnapthalene
MW7-10	10	<3.76	65.0	<97.8	<0.0209	<0.0209
MW7-20	20	84.1	383	1,540	<0.0227	<0.0227
MW7-23	23	330	975	250	<0.0210	<0.0210
MW7-30	30	<3.27	<52.8	<106	<0.0221	<0.0221
MW7-40	40	<3.54	<55.3	<111	<0.0217	<0.0217
MTCA Method A		30[1]	2,000[2]	2,000[2]	-	-
Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 5: Soil Analytical Result Detections – MW-8

Sample ID	Depth (feet)	Result (mg/kg)				
		Gas	Diesel	Oil	2-Methylnapthalene	1-Methylnapthalene
MW8-10	10	<3.95	<49.8	<99.7	<0.0197	<0.0197
MW8-20	20	<3.81	<53.2	<106	<0.0204	<0.0204
MW8-21	21	189	1,230	3,600	0.135	0.427
MW8-30	30	<3.56	<51.4	<103	<0.0202	<0.0202
MW8-40	40	<4.39	<55.7	<111	<0.0226	<0.0226
MTCA Method A		30[1]	2,000[2]	2,000[2]	-	-
Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 6: Soil Analytical Result Detections – MW-9

Sample ID	Depth (feet)	Result (mg/kg)				
		Gas	Diesel	Oil	2-Methylnapthalene	1-Methylnapthalene
MW9-5	5	184	4,270	5,840	1.11	1.44
MW9-8	8	185	1,180	2,660	2.50	2.07
MW9-10	10	<3.78	<49.5	645	<0.0202	<0.0202
MW9-15	15	4.55	75.1	726	<0.0202	<0.0202
MW9-20	20	78.2	549	850	0.0391	0.0343
MW9-24	24	151	291	922	<0.0214	0.0221
MW9-30	30	<4.09	<50.7	<101	<0.0213	<0.0213
MW9-35	35	<3.45	<51.8	<104	<0.0202	<0.0202
MW9-36	36	24.9	<51.1	<102	<0.0198	<0.0198
MW9-40	40	<3.69	<54.7	<109	<0.0212	<0.0212
MTCA Method A		30[1]	2,000[2]	2,000[2]	-	-
Protective of GW		-	-	-	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Additional metals analyses were conducted for the purpose of disposal characterization. In addition to lead, this included total metal analyses of arsenic, barium, cadmium, chromium, mercury, selenium, and silver (RCRA-8 metals) via EPA Test Method 6020B. These additional metals analyses are summarized in Table C-3 in Appendix C. The complete laboratory reports for these additional analyses are also provided in Appendix C (see Alliance Laboratory Reports 2502068 and 2502116).

As shown in Table C-3, with the exception of total chromium, analyses did not indicate the presence of RCRA-8 metals at concentrations above the applicable MTCA Method A CUL in any of the samples. Analyses also did not indicate the presence of total chromium above the MTCA Method A CUL of 2,000 mg/kg, but some of the reported concentrations were above 19 mg/kg, which is the Method A CUL for chromium VI (hexavalent chromium). As such, additional analyses of select samples (samples from each boring with the highest concentration of total chromium) were conducted specifically for hexavalent chromium. As shown on Table C-3 (Appendix C), analyses did not indicate the presence of hexavalent chromium above the laboratory RL for any of these soil samples. This indicates that hexavalent chromium is not a typical component of total chromium for this site. These additional metal analyses also indicate that, aside from lead, RCRA-8 metals are not COCs for this site.

2.2.3.3 Groundwater Evaluation

Following the construction of the nine monitoring wells (MW-1 through MW-4 for the nearby transformer site and MW-5 through MW-9 for the subject UST release), each was developed with a submersible pump to remove any loose materials from the surrounding formation to ensure proper groundwater flow into each well. The wells were then surveyed to establish the top-of-casing (TOC) elevations. Figures E-1 through E-4 (Appendix E) and Figures 5 through 9 show the surveyed TOC elevation for each of the monitoring wells. All water level measurements presented in this report are referenced to the surveyed TOC to reflect true water level elevations.

On February 10, 2025, water levels were measured in each of the nine monitoring wells. Table 7 presents the measured depth to water (below TOC) and the corresponding water level elevation. The determined water level elevations were then used to construct a water level contour (potentiometric surface) map for the shallowest groundwater (water table) below the site. Figure 4 presents the resulting potentiometric map for the February 2025 monitoring event. As shown on Figure 4, shallowest groundwater below the site flows northeast, following the same general trend as the Middle Fork of the Snoqualmie River.

Table 7: February 10, 2025 Groundwater Measurements

Monitoring Well	TOC Elevation (feet)	Depth to Water $_{TOC}$ (feet)	Groundwater Elevation (feet)
MW-1	526.95	32.64	494.31
MW-2	529.77	35.09	494.68
MW-3	529.19	34.66	494.53
MW-4	529.21	35.01	494.20

Table 7: February 10, 2025 Groundwater Measurements

MW-5	526.66	33.40	493.26
MW-6	526.59	33.38	493.21
MW-7	526.81	33.83	492.98
MW-8	526.79	33.76	493.03
MW-9	526.56	33.44	493.12

On February 12, 2025, groundwater samples were collected from the five monitoring wells in the area of the UST release (MW-5 through MW-9). Prior to sample collection, each of the five monitoring wells were purged, and various field parameters including pH, temperature, conductivity, total dissolved solids, dissolved oxygen, and oxidation-reduction potential (ORP) were monitored during the purging process. Groundwater samples were obtained after the measured field parameters reached stabilization or a minimum of three well volumes had been purged. The field-parameter data were recorded on individual field-data sheets, which are presented in Appendix F. Our review of this data does not reveal any significant inconsistencies that might affect the quality or reliability of the groundwater samples obtained.

All of the groundwater samples were submitted to Alliance for analysis of the previously identified COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs [including naphthalenes], and total lead; see Section 2.2.2.1). The complete laboratory report for the groundwater investigation phase of this project is presented in Appendix C and summarized in Tables C-4 and C-5 in Appendix C. As shown on Table C-4, laboratory analyses indicated the presence of diesel-range TPH in the groundwater sample obtained from MW-6 at a concentration of 116 ug/L, and total lead in the sample from MW-7 at a concentration of 0.353 ug/L. However, the laboratory report indicates that the diesel-range TPH detection was not consistent with a petroleum standard. Based on discussions with the analytical laboratory, the detection is not consistent with fuel or mineral oil and was likely caused by naturally occurring compounds. Regardless, both of these detections are below the respective MTCA Method A groundwater CULs of 500 ug/L (diesel) and 15 ug/L (total lead). All other analytical results were below applicable laboratory RLs. These analytical results indicate that groundwater, as a media, is not impacted.

2.2.4 Remedial Excavation

Following the completion of the drilling investigation, site cleanup proceeded with remedial excavation to remove as much of the impacted soil as feasible to reduce the source contamination. Remedial excavation was conducted by Fury Site Works, Inc. (Fury) with oversight and general direction from Terraphase.

The overall approach was to begin excavating in the area of UST No. 1, expanding downward and outward to the practical excavation limits. Depth-wise, the practical excavation limit was considered the depth of the contamination or 15 feet (the “direct contact” point of compliance), whichever was reached first without undermining existing infrastructure. Similarly, the lateral practical excavation limit

was considered the extent of the impacted soil or as close to existing infrastructure as possible without undermining or otherwise causing structural damage. In preparation for remedial excavation, monitoring wells MW-5 and MW-9, which were expected to be within the area to be excavated, were decommissioned in accordance with Chapter 173-160-381 WAC.

During remedial excavation, a second UST was discovered near UST No. 1. The location of this UST, which is designated in this report as UST No. 2, is shown on Figure 3. Details pertaining to the decommissioning of UST No. 2 are provided below in Section 2.2.5. During remedial excavation, a long concrete structure was also unearthed that appeared to be an historical track-rail maintenance pit, likely related to the former use of the site as a railroad maintenance yard. The location of this structure, which is referred to in this report as the track pan, is shown on Figure 3. Details pertaining to the investigation and decommissioning of the track pan are provided below in Section 2.2.6.

During remedial excavation, soils were field screened for signs of impact using visual and olfactory indicators and a hand-held PID. In general, this “drove” the direction of the remedial excavation (see field screening results on Table C-1 in Appendix C). However, soil confirmation and performance samples were collected and analyzed throughout the excavation process. Performance samples were generally collected in areas with known soil impacts and analyzed as part of the overall process of characterizing the soil contamination. Confirmation samples were generally collected from the final margins of the excavation to document soil conditions and whether or not residual contamination was being left in place. If the analysis of a confirmation sample exceeded the applicable CUL of one or more of the established COCs, and if additional excavation could be conducted without damaging existing infrastructure, that particular confirmation sample was reclassified as a performance sample and the remedial excavation was subsequently expanded and resampled.

Figure 10 shows the extent of the final remedial excavation and the locations where each of the performance and confirmation samples were collected (Note; for clarity, soil sample locations associated with the discovery of the two USTs are shown on Figure 3 and not on Figure 10). All soil samples collected during the remedial excavation were submitted to Alliance for analysis of the previously identified COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs [including naphthalenes], and total lead; see Section 2.2.2.1). The complete laboratory reports for the remedial excavation phase of this project are presented in Appendix C and summarized in Tables C-1 through C-3 in Appendix C.

2.2.5 UST No. 2

On March 31, 2025, while conducting remedial excavation, UST No. 2 was unearthed just to the west of UST No. 1 (Figure 3). The complete underground storage tank site assessment report is provided in Appendix B. The initial inspection found that the UST appeared older than UST No. 1, was of steel-wall construction, and measured 5 feet in diameter by 10 feet long (which equates to a capacity of just under 1,500 gallons). The initial inspection did not reveal any obvious breaches in the tank or significant corrosion beyond surface rust, but much of the tank was still buried. UST No. 2 was also observed to be completely filled with an unknown liquid, which was later determined to be mostly contaminated water.

On April 4, 2025, a Terraphase geologist (Site Assessor) was on site, together with representatives from Tanner Electric and GrayMar to further evaluate soil impacts in the area around UST No. 2 and to start the decommissioning process. GrayMar transferred the contents of the UST (approximately 1,500 gallons of contaminated water) into five 350-gallon totes along with a 15-gallon "half drum" of sludge from the bottom of the tank. GrayMar then pressure washed the tank, containing the rinse water in one of the partially filled totes. The totes containing the contaminated water from the tank and the rinse water, together with the drum of sludge, were stored within secondary containment on site pending analytical profiling (Section 2.2.5.1) and final disposal (Section 2.2.5.2). After UST No. 2 was cleaned, GrayMar transported it to their yard in Auburn, Washington, where it was cut down into smaller pieces for recycling.

Further inspection of the tank after it was removed from the ground revealed that the base of the UST was severely corroded. We observed one large hole, approximately ¼-inch-diameter, located near the southeast corner of the tank. There were no product lines attached to the tank and no additional product lines were found in the surrounding excavation. Inspection of the soils in the excavation found signs of extensive petroleum contamination. The purpose of the tank is unknown, but it is speculated that, like UST No. 1, it may have been used by previous site owners to store waste oil or other excess petroleum products for business operations.

2.2.5.1 UST No. 2 – Laboratory Analyses

A sample of the liquid contents from UST No. 2 (designated on the laboratory chain of custody as "Product #2"), together with soil samples from the margins of the UST excavation, were collected and submitted to Alliance for various chemical analyses. The locations of the sidewall samples from the UST excavation (designated as UST2-SW-N, UST2-SW-E, UST2-SW-S, and UST2-SW-W) and the base sample (designated as UST2-B) are shown on Figure 3. Copies of the complete laboratory reports are provided in Appendix C. A summary of analytical results for all soil samples analyzed for this project are provided on Tables C-1 through C-3 in Appendix C.

As with the analysis of the product from UST No. 1 (Section 2.2.2.1), because the liquid contents in UST No. 2 was unknown, the sample ("Product #2") was analyzed for the full list of VOCs including BETX, EDB, EDC, MTBE, and other chlorinated halogens; PAHs, including naphthalenes; PCBs; total lead; and gasoline- through oil-range TPH in accordance with Chapter 173-340-900 WAC, Table 830-1. Additional testing for the purpose of disposal profiling was also conducted for total chromium and total silver; and ignitability (flashpoint).

Laboratory analyses of the product sample from UST No. 2 (see Alliance 2503639, Appendix C) did not indicate the presence of any chlorinated VOCs, chromium, or silver above applicable RLs, so these analytes were not included in subsequent remediation analyses. The PCB analyses did have a detection of 1.18 ug/l for aroclor 1242. However, this detection was flagged by the laboratory to indicate that this same aroclor was also detected in the associated method blank. As such, this detection was considered a laboratory error (which was confirmed in a follow-up telephone conversation with the laboratory). As a matter of precaution though, the soil samples collected from the UST No. 2 excavation were also analyzed for PCBs. Analyses did not detect PCBs above the laboratory RL for any of the soil samples (see Alliance 2504157), so PCBs were not considered a COC and not included in subsequent remediation

analyses. Laboratory analyses indicate that the product from UST No. 2 was comprised largely of diesel with a lesser amount of gasoline and no oil. Analyses also indicated the presence of BTEX, carcinogenic and non-carcinogenic PAHs (including naphthalenes), and lead. As such, these remained the primary COCs for this project, and the standard analyses utilized for subsequent remediation efforts remained as gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs (including naphthalenes), and total lead.

As shown in Table C-1 (Appendix C) and as summarized below in Table 8, laboratory analyses of the soil samples collected from the initial margins of the excavation around UST No. 2 indicated the presence of gasoline and diesel at concentrations above the applicable MTCA Method A CULs in samples UST2-B, UST2-SW-N, and UST2-SW-S, and the diesel concentration above the CUL in sample UST2-SW-E. As also shown on Table C-2 and summarized below in Table 9, analyses indicated the presence of naphthalene above the MTCA Method A CUL in sample UST2-SW-S, and 1- and 2-methalnapthalene at concentrations above the MTCA "Protective of Groundwater" CULs in samples UST2-B and UST2-SW-S. All other results were either below applicable CULs or laboratory RLs.

Table 8: Soil Analytical Result Detections (TPH) – UST No. 2 Excavation

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Gas	Diesel	Oil
UST2-B	Base	7	302	3,240	<97.2
UST2-SW-N	Sidewall	5	726	5,410	<98.5
UST2-SW-W	Sidewall	5	<4.82	<54.5	411
UST-SW-E	Sidewall	5	22.7	3,650	2,000
UST-SW-S	Sidewall	5	308	9,270	1,470
MTCA Method A			30[1]	2,000[2]	2,000[2]

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 9: Soil Analytical Result Detections (Naphthalenes) – UST No. 2 Excavation

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
UST2-B	Base	7	2.72	13.7	7.78
UST2-SW-N	Sidewall	5	<0.0207	<0.0207	<0.0207
UST2-SW-W	Sidewall	5	<0.0216	<0.0216	<0.0216
UST-SW-E	Sidewall	5	<0.0221	<0.0221	<0.0221
UST-SW-S	Sidewall	5	9.06	46.3	22.7
MTCA	Method A		5	-	-
	Protective of GW		4.5	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*

2.2.5.2 UST No. 2 – Product Disposal

On May 15, 2025, GrayMar transported the contaminated water, the rinse water, and the sludge recovered from UST No. 2 to Oil Re-Refining Company, Inc.'s (ORRCO) facility in Portland, Oregon. A copy of the disposal manifest is provided in Appendix D. As shown on the manifest, 1,650 gallons of contaminated water and related rinse water contained in the 5 totes, and the one drum of sludge were received by the facility.

2.2.6 Track-Rail Maintenance Pit Structure (Track Pan)

On April 2, 2025, remedial excavation unearthed the concrete structure referred to in this report as the track pan on the northern side of the excavation. As shown on Figure 3, this structure was located beneath the concrete slab of the former railroad maintenance shop and covered an area approximately 5.5-feet wide by 50-feet long.

The track pan was located after the discovery of a thick black oil-like substance in the soil near the southeastern corner of the concrete slab. This substance was tracked back to the base of the track pan on the eastern side of the slab. Upon exposing the eastern end of the structure, it was found to have vertical walls that extended to a depth of approximately 5 feet below the top of the existing slab and have an internal width of about 4 feet. A viscous black oil-like substance was observed to be oozing from the soils at the exposed eastern end of the structure. The track pan was observed to have been backfilled with apparent clean soil and covered with approximately 12 inches of concrete (two approximate 6-inch-thick concrete slabs).

Upon further excavation and dismantling, the track pan was observed to contain 1- to 2-feet of clean fill sitting on top of 2- to 3- feet of impacted soil, debris, and apparent free product. The soil within the track pan was observed to be stained dark gray to black and contain pockets of viscous black oil-like substances and woody debris. Fury removed the existing overlying slabs and excavated the underlying

soils to expose the entire subsurface structure. Once exposed, it was discovered that the track pan did not have a concrete bottom, rather it was just "open" to the soils below. Impacted soil and apparent free product within the track pan were in direct contact with the underlying soil.

Eventually, Fury removed the entire structure and excavated the impacted soils as part of the larger remedial excavation effort. The concrete from the track pan structures walls, which had significant oil staining, was broken down into smaller pieces by Fury and removed from the site with the other contaminated soils. The concrete from the overlying slab, which did not have any visible signs of staining or impact, was crushed on site by Fury and used as backfill (Section 2.2.10).

2.2.6.1 Track Pan – Laboratory Analyses

As with the two USTs, the track pan was considered as an additional potential source of contamination, and as such, several samples of the most obviously impacted soils from within the track pan structure were collected and submitted for unknown oil analyses per Chapter 173-340-900 WAC, Table 830-1. The locations of the soil samples used to characterize potential contaminants from the track pan, which are designated as TPS-1 through TPS-3, are shown on Figure 10. Analyses included the full list of VOCs including BETX, EDB, EDC, MTBE, and other chlorinated halogens; PAHs, including naphthalenes; PCBs; total lead; and gasoline- through oil-range TPH. In addition to lead, for purposes of disposal, additional analyses were also conducted for the other seven RCRA-8 metals (arsenic, barium, cadmium, chromium, mercury, selenium, and silver). Copies of the complete laboratory reports are provided in Appendix C (see Alliance 2504298). A summary of analytical results for soil samples associated with the track pan area are provided on Tables C-1 through C-3 in Appendix C.

Analyses of the track pan samples (TPS-1 through TPS-3) did not indicate the presence of any chlorinated VOCs or PCBs above laboratory RLs. As shown on Table C-3 (Appendix C), with the exception of total lead and total chromium, analyses also did not indicate the presence of RCRA-8 metals above applicable CULs or laboratory RLs.

Laboratory analyses indicated lead concentrations of 1,010 and 1,160 mg/kg respectively in samples TPS-1 and TPS-2, which are above the MTCA Method A CUL for lead of 250 mg/kg. The reported lead concentration for sample TPS-3 was 156 mg/kg, which is elevated relative to other lead concentrations at the site, but still below the Method A CUL.

As also shown in Table C-3, analyses did not indicate the presence of total chromium at concentrations above the MTCA Method A CUL of 2,000 mg/kg for any of the track pan samples. However, reported concentrations for samples TPS-2 and TPS-3 were above 19 mg/kg, the Method A CUL for chromium VI (hexavalent chromium). As such, additional analyses of these samples were conducted specifically for hexavalent chromium. As shown on Table C-3 (Appendix C), analyses did not indicate the presence of hexavalent chromium above the laboratory RL in either of these samples. This again indicates that hexavalent chromium is not a typical component of total chromium at this site.

As shown in Table C-1 (Appendix C) and as summarized below in Table 10, laboratory analyses of the soil samples collected from the track pan area indicated the presence of gasoline- through oil-range TPH at concentrations above the applicable MTCA Method A CULs in all three of the samples. As also shown on Table C-2 and summarized below in Table 11, analyses indicated the presence of naphthalene above the

MTCA Method A CUL in samples TPS-1 and TPS-2, 2-methalnaphthalene at concentrations above the MTCA "Protective of Groundwater" CUL in samples TPS-1 and TPS-2, and 1-methalnaphthalene above the "Protective of Groundwater" CUL in all three of the samples. All other results were either below applicable CULs or laboratory RLs.

Table 10: Soil Analytical Result Detections (TPH) – Track Pan Area

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Gas	Diesel	Oil
TPS-1	Western Base	3	165	6,820	44,600
TPS-2	Central Base	3	66.4	16,400	110,000
TPS-3	Eastern Base	3	65.6	7,770	45,800
SS39	Western End	4	<5.23	<51.9	<104
SS40	Below Track Pan	5	<4.70	<51.6	790
SS41	Below Track Pan	5	185	4,480	34,400
SS43	Below Track Pan	5	13.2	<51.2	933
MTCA Method A			30[1]	2,000[2]	2,000[2]

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 11: Soil Analytical Result Detections (Naphthalenes) – Track Pan Area

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
TPS-1	Western Base	3	4.65	32.9	29.6
TPS-2	Central Base	3	4.86	38.9	29.6
TPS-3	Eastern Base	3	0.180	1.19	4.74
SS39	Western End	4	<0.0202	<0.0202	<0.0202
SS40	Below Track Pan	5	<0.0200	<0.0200	<0.0200
SS41	Below Track Pan	5	<0.0213	8.63	6.98
SS43	Below Track Pan	5	<0.0212	<0.0212	0.0338
MTCA	Method A		5	-	-
	Protective of GW		4.5	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*

After the track pan was removed, four additional performance samples were collected from the area below the structure to evaluate potential soil impacts. These samples are shown on Figure 10 as soil samples SS39, SS40, SS41, and SS43. Based on the results of the initial track pan samples (TPS-1 through TPS-3), the additional four performance samples were submitted to Alliance for analysis of the standard COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs [including naphthalenes], and total lead). As shown in Table 10 and Table C-1 in Appendix C, laboratory analyses indicated the presence of gasoline- through oil-range TPH at concentrations above the applicable MTCA Method A CULs in soil sample SS41. Analyses also found 1- and 2-methalnaphthalene at concentrations above the MTCA "Protective of Groundwater" CUL in this same sample (Table 11). All other results were either below applicable CULs or laboratory RLs. As discussed below in Section 2.2.8, additional remedial excavation was conducted in the area of the track pan to remove soil impacted by the track pan release and UST releases.

2.2.7 Buried Rubish Area

During remedial excavation, an area containing rubbish (oil filters, automobile parts, pipes, broken tools, etc.) and oily soil were unearthed at the eastern end of excavation (Figure 10). This area was considered an additional potential source of contamination, and as such, a soil sample that appeared to be highly contaminated (SS19) was collected and submitted to Alliance for unknown oil analyses per Chapter 173-340-900 WAC, Table 830-1. Analyses included the full list of VOCs including BETX, EDB, EDC, MTBE, and other chlorinated halogens; PAHs, including naphthalenes; PCBs; total lead; and gasoline- through oil-range TPH. Analyses of sample SS19 did not indicate the presence of any chlorinated VOCs or PCBs above laboratory RLs (see Alliance 2504082 in Appendix C), so subsequent sampling continued using the standard list of COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, PAHs, and total lead).

As remedial excavation continued in this area, three additional performance samples were collected (SS22, SS23, SS24) at various depths to evaluate potential soil impacts and submitted to Alliance for analyses of the standard COCs. The location of these additional performance samples area shown on Figure 10. A summary of analytical results for performance samples associated with the rubbish area is provided below on Table 12 and on Tables C-1 through C-3 in Appendix C.

As shown in Table C-1 (Appendix C) and as summarized below in Table 12, laboratory analyses of the two shallowest performance samples (SS19 and SS23) indicated the presence of gasoline- through oil-range TPH at concentrations above the applicable MTCA Method A CULs. As also shown on Table C-2 and summarized below in Table 12, analyses indicated the presence of benzo(a)pyrene above the MTCA Method A CUL in the shallowest soil sample (SS19). The total toxic equivalent concentration (TTEC) for benzo(a)pyrene (Chapter 173-340-708(8) WAC) also exceeded the Method A CUL. All other results were either below applicable CULs or laboratory RLs. These results indicate that soil impacts associated with the buried rubbish were removed. As discussed below in Section 2.2.8, a final confirmation sample collected from the base of the remedial excavation in this area (SS25), also substantiated that impacts in this area had been adequately remediated.

Table 12: Soil Analytical Result Detections – Buried Rubish Area

Sample ID	Depth (feet)	Result (mg/kg)				
		Gas	Diesel	Oil	Benzo(a)pyrene	TTEC
SS19	4	309	7,410	9,110	4.90	0.499
SS23	5	92.4	696	6,600	All cPAHs < RL	N/A
SS24	10	<3.68	<52.1	<104	All cPAHs < RL	N/A
SS22	14	<4.13	<49.6	152	All cPAHs < RL	N/A
MTCA Method A		30[1]	2,000[2]	2,000[2]	0.1	0.1

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*
Red Bolded values *indicate the concentration exceeds applicable CULs*
1: Gasoline CUL with benzene present
2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

2.2.8 Final Remedial Excavation

As discussed above in Section 2.2.4, remedial excavation was initiated in the area of UST No. 1 and then expanded downward and outward to the practical excavation limits. Depth-wise, the practical excavation limit was the depth of the contamination or 15 feet (the "direct contact" point of compliance), which ever was reached first without undermining existing infrastructure. Given the nature of the materials being excavated (loose alluvium), deeper excavation was not practical because of stability and caving concerns. The lateral practical excavation limit was the extent of the impacted soil or as close to existing infrastructure as possible without undermining or otherwise causing structural damage. Again, given the loose nature of the soils at the site, there was a risk of undermining the existing infrastructure if the excavation proceeded too close.

Even with these constraints, it was still possible to remove a large portion of the source contamination by remedial excavation. However, some residual soil contamination was left in place due to its depth and/or proximity to infrastructure. The remaining soil contamination is largely gasoline- through oil-range TPH with minor amounts of naphthalenes and cPAHs. Figures 10 and 11 show the final limits of the remedial excavation and the collection locations for all of the confirmation samples. Figure 11 specifically shows the location of confirmation samples with TPH detections. Confirmation samples with TPH detections are also presented in Table C-1 in Appendix C (highlighted in the table), and confirmation samples with TPH concentrations above the MTCA Method A CUL are summarized below in Table 13. Corresponding naphthalene concentrations are also presented in Table C-2 in Appendix A and summarized below in Table 14.

In addition to the TPH exceedances listed below in Tables 13 and 14, one additional confirmation sample (SS15) had a detection of 0.0902 mg/kg for 1-methylnaphthalene, which exceeds the MTCA protective of groundwater CUL, and a calculated TTEC for benzo(a)pyrene of 0.102 mg/kg, which exceeds the MTCA Method A CUL for the TTEC of benzo(a)pyrene. As shown in Table C-1 in Appendix C and below in Table 13, this sample had a low detection of oil-range TPH (193 mg/kg). Also, the calculated TTEC is just above

the Method A CUL of 0.1 mg/kg likely because of the calculation method that requires adding half of the RL value for undetected cPAHs. No other CUL exceedances occurred in any of the other soil confirmation samples.

Table 13: Soil Confirmation Samples with MTCA Exceedances for TPH

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Gas	Diesel	Oil
SS4	Base	15	25.7	709	4,580
SS15	Base	15	<3.92	<53.4	193
SS31	Base	15	216	1,550	<103
SS34	Sidewall	14	210	2,670	648
SS38	Base	15	237	2,380	1,590
MTCA Method A			30[1]	2,000[2]	2,000[2]

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*

Red Bolded values *indicate the concentration exceeds applicable CULs*

1: Gasoline CUL with benzene present

2: The combined CUL for diesel and oil TPH in soil is 2,000 mg/kg

Table 14: Soil Confirmation Samples with MTCA Exceedances for Naphthalenes

Sample ID	Location	Depth *(feet)*	Result (mg/kg)		
			Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene
SS4	Base	15	<0.0207	<0.0207	0.0246
SS15	Base	15	0.0392	0.0984	0.0902
SS31	Base	15	<0.0212	0.968	0.938
SS34	Sidewall	14	<0.0210	<0.0210	<0.0210
SS38	Base	15	<0.0218	0.168	0.350
MTCA	Method A		5	-	-
	Protective of GW		4.5	1.7	0.047

Black Bolded values *indicate the concentration exceeds applicable laboratory RLs*

Red Bolded values *indicate the concentration exceeds applicable CULs*

2.2.9 In Situ Treatment of Residual Soil Impacts

Prior to backfilling the remedial excavation, 2,800 lbs. of an oxygen release compound (Regenesis ORC-Advanced®) was applied to the open excavation. The intent of the ORC application was to treat residual contamination through enhancement of bioremediation. This was augmented with the placement of 6,160 lbs. of an oxidizing reagent (Regenesis RegenOx®), which is intended to chemically oxidize the petroleum contamination in situ. The chemical reagents were applied by Fury per the manufacturers

recommendations. This involved mixing the reagents with water separately in a tanker truck and applying them to the base and lower sidewalls of the excavation. The chemicals were then further mixed and incorporated into the soils with the use of a track hoe. Following placement of the ORC, Fury backfilled the excavation to grade with a mixture of clean imported pit-run and crushed concrete sourced from the slab that was removed from the track pan area (Section 2.2.6). Oil-stained concrete was not used as backfill.

2.2.10 Soil Disposal

Fury had the impacted soils and other materials transported from the site to Republic Services' regional landfill in Rosevelt, Washington via the Regional Intermodal Disposal transfer station in Seattle, Washington. This included the spoils from the drilling investigation (Section 2.2.3), the broken-down concrete from the track pan (Section 2.2.6), and the soils from the remedial excavation (Section 2.2.8). Disposal records indicate that a total of 2,136.64 tons of impacted soils were removed from the site and delivered to the landfill. Copies of the disposal records are included in Appendix D.

2.2.11 Sample Collection Procedures, Laboratory Qualifications, and Analytical QA/QC

All soil samples for this project were collected directly into pre-cleaned, laboratory-supplied containers appropriate for the particular analysis to be performed. Samples were placed in a cooler containing Blue Ice® and maintained at temperatures below 4° Celsius pending delivery to the receiving laboratory. All soil samples were delivered to the laboratory under appropriate chain-of-custody procedures and analyzed within prescribed holding times.

The two primary laboratories utilized for this project were Libby Environmental, Inc. (Libby) and Alliance Technical Group, LLC (Alliance; formerly Fremont Analytical, Inc.). Some analyses were subcontracted by Libby to Alliance and Friedman & Bruya, Inc. All of the laboratories utilized for this project are accredited in the State of Washington for the particular analyses performed.

Each of the laboratories conducted required QA/QC analyses and provided the results of these analyses with each of their laboratory reports. Our review of these QA/QC analyses did not reveal any discrepancies that would affect our final interpretations, conclusions, and/or use of these data. The complete laboratory reports, including the required QA/QC analyses from each of the laboratories, are included in Appendix C. Our review of the QA/QC data identified the following:

- Aroclor 1242, a PCB, was detected within the product sample for UST No. 2 (Sample #2); however, this PCB compound was also detected in the laboratory method blank. However, based on additional PCB analyses of adjacent soils that did not indicate PCBs above the laboratory RL, and through additional discussion with the analytical laboratory, we do not suspect the product sample contained PCBs.
- The groundwater sample collected from MW-6 (Sample MW6-20250212) was noted as having a chromatographic pattern not consistent with a petroleum standard. Based on discussions with the analytical lab, the detection is not consistent with fuel or mineral oil and was likely caused by naturally occurring compounds.

- We reviewed all samples containing data qualifiers. Data qualifiers (D) primarily consisted of required sample dilutions. Select soil samples collected as part of our subsurface investigation contained additional analyses that were run out of hold time (qualifier H) as part of disposal characterizations. These out-of-hold analyses do not affect our final interpretation of the data. Select soil samples are flagged with data qualifier S, indicating the laboratory surrogate recovery was outside of accepted limits and biased high, however, the laboratory report notes the flagged samples are non-detect for their analytes and meet QC requirements. Select soil samples are flagged with an asterisk (*) indicating the laboratory control sample was outside of acceptance criteria, resulting in a potential high bias result.

Additionally, Terraphase conducted routine field QA/QC analyses, which consisted of collecting and analyzing duplicate (split) samples. Our review of these analyses also did not reveal any discrepancies that would affect our final interpretations, conclusions, and/or use of these data.

2.2.12 Summary of Remedial Actions

In January 2025, construction workers unearthed an abandoned UST (UST No. 1) at Tanner Electric's Middle Fork storage yard in North Bend, Washington (site). UST No. 1 was decommissioned but the initial investigation found that there was significant contamination in the soils surrounding the tank. Laboratory analyses of the tank contents and the impacted soils indicated that the contamination was primarily a mix of gasoline- through oil-range TPH.

Terraphase then directed a drilling investigation to delineate and characterize soil impacts around UST No. 1, and to evaluate whether or not groundwater at the site was impacted. Laboratory analyses of soil samples collected from five borings (MW-5 through MW-9) indicated that there was significant soil contamination at distance from UST No. 1 and again was primarily a mix of gasoline- through oil-range TPH. Laboratory analyses of groundwater samples collected from monitoring wells installed in the borings did not indicate that groundwater below the site was impacted.

Remedial excavation was subsequently conducted to remove as much of the impacted soil as feasible. In total, 2,136.64 tons of impacted soils were removed from the site and transported to an appropriate disposal facility. Because of the depth of contamination and existing infrastructure at the site, not all of the contaminated soil was accessible for excavation and had to be left in place. Residual petroleum contamination was treated in situ using an oxygen release compound (ORC) to enhance bioremediation and an oxidizing reagent to chemically oxidize the remaining petroleum contamination.

During remedial excavation, a second UST (UST No. 2) was discovered, along with a historical concrete track-rail maintenance pit (track pan). Additional analyses were conducted to characterize potential contamination associated with UST No. 2 and the track pan, which indicated again that the primary contamination was a mix of gasoline- through oil-range TPH. UST No. 2 was decommissioned, and the track pan structure was broken down and removed from the site.

3 Draft Cleanup Action Plan

This interim Cleanup Action Report and Draft Cleanup Action Plan are being submitted to Ecology, together with an application to enter the site into Ecology's VCP. The current property owner, Tanner Electric Cooperative, is seeking to obtain regulatory closure for the site through the auspices of the VCP and the eventual issuance of an NFA determination. This draft Cleanup Action Plan (CAP) has been prepared to address further cleanup action that appears to be needed to complete site characterization and address residual soil contamination that could not be removed during remedial excavation.

3.1.1 Site Characterization

The site investigation and cleanup actions documented in this report show that a release of petroleum from several possible sources (i.e. two USTs and an historical railroad maintenance pit/track pan) has largely been remediated through excavation. Laboratory analyses of multiple soil samples indicates that the contamination consisted of a mixture of gasoline- through oil-range TPH, with lesser or undetectable amounts of other typical fuel additives/components (BTEX, EDC, EDB, MTBE, and naphthalenes). This indicates that the contamination can generally be classified as waste oil, and the low percentage of additives present, as compared to the TPH, suggest that it is fairly well degraded.

As stated in Section 2.2.8, residual soil contamination that could not be removed through excavation is largely gasoline- through oil-range TPH with minor amounts of naphthalenes and one exceedance for cPAH TTEC; see sample SS15 in Table C-2 in Appendix C. As shown on Figures 10 and 11, soil contamination has been delineated to the degree possible, and the few areas of petroleum contamination that could not be excavated are constrained at depth on the southwestern portion of the excavation (below the former USTs). As documented in Section 2.2.9, residual soil contamination was also treated fairly aggressively in situ, and we would expect these "pockets" of contamination to degrade over a relatively short period of time.

As documented in Section 2.2.3.3, groundwater samples collected from five monitoring wells (MW-5 through MW-9) installed in the area of the release (see Figures 3 and 4) were submitted for analyses of the determined COCs (gasoline- through oil-range TPH, BTEX, EDB, EDC, MTBE, carcinogenic and non-carcinogenic PAHs [including naphthalenes], and total lead). Analyses indicated minor concentrations of diesel-range hydrocarbons in MW-6 (116 ug/L), which is noted by the analytical lab as not being consistent with a petroleum standard and not consistent with a fuel or mineral oil, and lead in MW-7 (0.353 ug/L), both of which are below the respective Method A groundwater CULs of 500 ug/L (diesel-range hydrocarbons) and 15 ug/L (total lead). All other analytical results were below applicable laboratory RLs. These results indicate that groundwater is not impacted. However, this only represents a single monitoring event, and additional monitoring may be needed to evaluate seasonal fluctuations and potential groundwater impacts during other times of the year.

3.1.2 Proposed Cleanup Actions

Soil contamination at the site is fully characterized and delineated, so no additional cleanup action is required to evaluate the soils. As there is residual soil contamination still present, regulatory closure will

need to be obtained with institutional controls (i.e. an NFA with a restrictive covenant). Given that the site contamination is constrained to petroleum, we also propose that the site be closed using one of Ecology's established Model Remedies. At this time, even with additional groundwater monitoring, we do not expect groundwater at the site to be impacted. As such, the model remedies described by Ecology Publication No. 15-09-043 (Model Remedies for Sites with Petroleum Contaminated Soils) will likely be applicable, and Model Remedy 3 in that publication appears to be the best suited for the site.

To fully evaluate potential impacts to the groundwater at the site, we propose reestablishing (redrilling) the two decommissioned monitoring wells (MW-5 and MW-9; see Section 2.2.4 and Figures 3 and 10) and conducting additional groundwater monitoring. Groundwater monitoring should be conducted for four consecutive quarters. During each quarterly event, water levels will be measured in each of the site wells and at least one of the four monitoring wells associated with the adjacent transformer site (CSID 16947; see Section 2.1 and Figures 2 and 4) in order to determine the groundwater flow direction. Groundwater samples will be collected during each monitoring event from the five on-site monitoring wells (MW-5 through MW-9) and submitted for analysis of gasoline through oil-range TPH and fuel-related VOCs (BETX, EDB, EDC, MTBE, and naphthalenes); with the removal of the sources (USTs and track pan) and most of the source contamination from the soil, the current investigation has established that the PAHs and lead are no longer relevant COCs. If, after four quarters of monitoring, no groundwater impacts are observed, it will be appropriate to move forward with closure of the site using Model Remedy 3 (for soils) as suggested above.

3.1.3 Terrestrial Ecological Evaluation (TEE)

Ecology's Terrestrial Ecological Evaluation (TEE) form (ECY 090-300) was used to evaluate the need to conduct a TEE for the site. This evaluation determined that the site qualifies (or will qualify) for an exclusion from further evaluation based on the following criteria:

- Point of Compliance: WAC 173-340-7491(1)(a) – All soil contamination is, or will be, at least 6 feet below the surface and institutional controls will be used to manage remaining contamination.
- Barriers to Exposure: WAC 173-340-7491(1)(b) – All contaminated soil is or will be covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Once the site is accepted into the VCP, a TEE form will be completed and submitted to Ecology.

3.1.4 Electronic Information Management (EIM) Submittal

For VCP projects, Ecology requires that all analytical data be submitted via their Electronic Information Management (EIM) portal prior to issuance of any closure determination. We have tabulated and formatted all of the EIM data for this project, and these data are being uploaded to the EIM portal along with our VCP application submittal. As additional work is completed for this project under the VCP, all new data will also be uploaded to the EIM system as it is acquired.

4 Limitations

This document was prepared solely for Tanner Electric Cooperative in accordance with professional standards at the time the services were performed and in accordance with the contract between Tanner Electric and Terraphase Engineering dated August 1, 2023. The statements and conclusions provided in this report are based on generally accepted geologic and environmental practices. Some information referenced in this report was provided by outside sources, which are presumed to be fully accurate. Unless specifically stated in this report, no warranty, expressed or implied, is made.

5 References

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