March 6, 2026

Ms. Lyddie Austin
Washington Department of Ecology
300 Desmond Drive
Lacey, Washington 98503

Subject: 2025 Annual Progress Report, SWMU-1, Oily Water Sewer, HF Sinclair Puget Sound Refining LLC, Anacortes, Washington

Dear Ms. Austin,

On behalf of HF Sinclair Puget Sound Refining LLC (HFSPSR) Refinery, I am providing this Annual Progress Report, which addresses corrective action at the facility for the Oily Water Sewer (OWS). The corrective action is managed under the Dangerous Waste Permit and Agreed Order No. 16298 at HF Sinclair, RCRA Site ID WAD009276197.

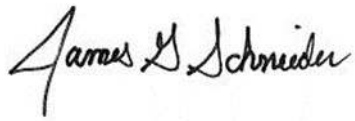
This Annual Progress Report addresses specific concerns expressed by Ecology in the December 30, 2024, compliance inspection report. These concerns include Ecology's request for HFSPSR to:

- Evaluate the surrounding process units discharging to the OWS at the site of each defect to properly evaluate the constituents of concern, as specified in the IRP Section 3.5. Including a review of the documentation of historical use for OWS in that site,
- Initiate groundwater monitoring at AOC-1, and
- Evaluate the fate of benzene vapors or any other volatile organic compounds from the oily water sewer and if this constitutes or results in a release.

HF Sinclair Puget Sound Refining LLC
8505 S Texas Rd, Anacortes, WA 98221
360-293-0800 | HFSinclair.com

Please do not hesitate to contact me should you have any questions regarding this report.

Sincerely,



Jim Schneider, LG
Environmental Specialist

cc: Aaron Vahid, HFSPSR

Attachments: 2025 Annual Progress Report, SWMU-1, Oily Water Sewer

2025 Annual Progress report

SWMU-1 Oily Water Sewer

HF Sinclair Puget Sound Refining LLC

March 2026

Submitted by:

HF Sinclair Puget Sound Refining LLC

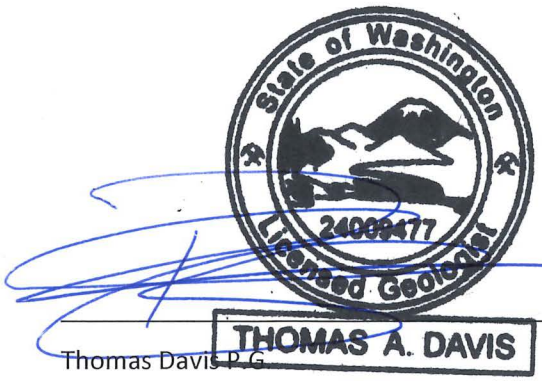
8505 South Texas Road
Anacortes, WA 98221

Submitted to:

Washington State Department of Ecology
Industrial Section
PO Box 47600
Olympia, WA 98504-7600

CERTIFICATION STATEMENT

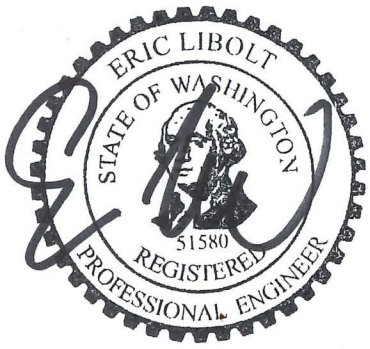
All geologic and hydrogeologic work performed pursuant to this report was conducted under the supervision of and direction of the geologist listed below:



3/5/24

Thomas Davis P.G. Date

All engineering work performed pursuant to this report was conducted under the supervision and direction of the engineer listed below:



3/5/2026

Eric Libolt P.E. Date

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1. INTRODUCTION

This annual progress report has been prepared in accordance with the requirements in Section VII.C. of Agreed Order No. DE 16298 (AO; Ecology, 2021). The AO was entered into by the Washington State Department of Ecology (Ecology) and Shell Oil Products US Puget Sound Refinery, the predecessor to HF Sinclair Puget Sound Refining LLC (HFSPSR). The objective of the AO is to investigate and conduct remedial actions to the HFSPSR Oily Water Sewer (OWS) system, also referred to as Solid Waste Management Unit 1 (SWMU-1).

Per Section VII.A of the AO, an Investigation and Response Plan (IRP) was prepared to provide a framework to investigate the integrity of the OWS and respond to any releases or threatened releases from the OWS that are discovered during the investigation. Ecology approved the IRP by letter and email on June 24, 2022. The AO requires HFSPSR to submit an annual progress report to Ecology by April 1st of each year following the implementation of the IRP.

The IRP outlined four phases of OWS inspections to be completed by December 31, 2031. Per the IRP, there were no sewer inspections required to be completed in 2025. This annual progress report has been prepared per the requirements in the AO and describes the sewer inspection findings, associated site characterization, corrective actions, and sewer repairs. All figures referenced in this report are included in Appendix A. All tables referenced in this report are included in Appendix B.

1.1 GENERAL SITE INFORMATION

HFSPSR is located two miles east of the city of Anacortes on the southern portion of March Point, a north-south-oriented peninsula approximately 1.3 miles wide and 2.6 miles long. HFSPSR owns approximately 828 acres of the southern portion of March Point. The HFSPSR petroleum refining facilities occupy approximately 550 acres in the central portion of the property. The site address is 8505 South Texas Road, Anacortes, Washington 98221. The property location is shown on Figure A-1.

1.2 CONTACT INFORMATION

Contact information for the project consultant and property owner/facility operator are included below.

- Ecology Site Manager: Lyddie Austin
    - Address: P.O. Box 47600 Olympia, WA 98504-7600
    - Phone: (564) 233-8039
    - Email: lyddie.austin@ecy.wa.gov
- Project Consultant: ALL4, LLC.
    - Address: 228 E Champion St #101, Bellingham, WA 98225
    - Contact: Matt Roberts
    - Phone: (360) 685-8334
    - Email: mroberts@all4inc.com
- Property Owner/Facility Operator: HFSPSR
    - Address: 8505 South Texas Road, Anacortes, WA 98221
    - Contact: Jim Schneider
    - Phone: (360) 333-1563
    - Email: Jim.Schneider@HFSinclair.com

2. DEVIATIONS FROM THE INVESTIGATION AND RESPONSE PLAN

In accordance with VII.C.1 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report any deviations from the Investigation and Response Plan.

There were no deviations from the IRP in 2025.

3. OILY WATER SEWER ASSESSMENT

In accordance with VII.C.2 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report the findings of the sewer assessment, including the general condition of the OWS system components, the location and description of any problems identified and their cause, and a description of actions taken or planned to repair or maintain system components based on the results of the testing.

Per the IRP, no OWS system assessments were required in 2025.

As described in the 2023 and 2024 Annual Progress Reports, the 2023 OWS video inspections were completed by Vortex Companies, LLC (Vortex). The video inspections were completed in general accordance with the National Association of Sewer Service Compliance (NASSCO) Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP). The sewer inspection videos were provided to TRC Environmental Corporation to assess sewer defects (e.g., cracking, fractures, offset joints, etc.) using the NASSCO structural rating system. Following the assignment of a NASSCO rating, each defect was assigned an Environmental Evaluation Ranking (EER) based on the potential for a release. HFSPSR reviewed each sewer defect and applied a Prioritization Rating (PR) to each EER of 3 or higher. The PRs are ranked numerically based on order of significance and priority for the facility to investigate (i.e., PR 1). The 2023 Process Sewer Inspections and Repair Recommendations report was prepared by TRC and was provided in the 2024 Annual Progress Report.

The OWS segments inspected in 2023 included:

- the main trunk line from manhole B-3 to manhole B-01 along “B” Street,
- from manhole 5-A to manhole B-02 along 5th Street,
- from manhole D-12 to manhole D-1.1 along “D” Street.

A map showing the sewer segment inspection schedule is provided as Figure A-2. A list of all defects found during these inspections is included in Table B-1 and is shown on Figure A-3. Table B-1 lists the location of the defect, the severity of the defect, the life expectancy of the sewer line where the defect is located, the corrective actions that have been performed, and the date of those actions.

No additional segments of sewer were inspected in 2024 and 2025. In August 2024, a Cured-in-Place Pipe (CIPP) lining was installed in segments B-01 to B-03 of the OWS, and a reinspection of the repair was performed. A photolog of the "B" Street CIPP piping repair is included in Appendix C.

3.1 AREA OF CONCERN-1 ("D" STREET INVESTIGATION)

As described in the 2024 Annual Progress Report, OWS inspections were conducted voluntarily by Shell from 2017 to 2019. Inspection videos were reviewed for quality and completeness and were assessed using the National Association of Sewer Service Companies (NASSCO) rating system.

From the 2017-2019 videos, four defects were identified in the sewer line segments between manhole D-20 and manhole D-21 along "D" Street, equating to a moderate to high potential for process sewer exfiltration. The defects consisted of three EER 3s and one EER 4. The EER 4 was confirmed as a breakout located within manhole D-20. The three EER 3s identified in the 2022 report were corroborated by the 2023 inspection findings (HFSPSR, 2024; Figure A-3).

An initial soil investigation was completed in 2023, as discussed in the 2023 Annual Progress Report SWMU-1 Oily Water Sewer (HFSPSR, 2024). The investigation resulted in a confirmed release, and the D-street location was identified as AOC-1.

Per the December 2024 OWS IRP Annual Progress Report Elements memorandum from Ecology, groundwater conditions in the vicinity of the AOC-1 location were investigated in 2025 and are discussed in Section 4.

3.2 AREA OF CONCERN – 2 ("B" STREET INVESTIGATION)

As described in the 2024 Annual Progress Report, sewer line defects at the AOC-2 location were investigated, and soil and groundwater samples collected during the investigation met MTCA cleanup levels as established under the IRP. AOC-2 is no longer considered an AOC. The site investigation is considered complete, and no further remedial action is required (HFSPSR, 2025).

4. RELEASES

In accordance with VII.C.3 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report information on the nature and extent of releases identified including the characteristics of the release, sampling results, how soil and groundwater quality was evaluated, and information on the extent of soil and groundwater impacts.

4.1 AREA OF CONCERN-1 RELEASE

As discussed in the 2023 Annual Progress Report (HFSPSR, 2024), subsurface conditions at the site of three EER 3 sewer line defects located between manhole D-20 and manhole D-21 along "D" Street were investigated in April 2023, as shown on Figure A-4. Four soil samples were collected, and a release to Site soil was confirmed. The release area was classified as AOC-1 (HFSPSR, 2024). The AOC-1 soil sample locations and results are shown on Figure A-5, soil sample descriptions are provided in Table B-2, and the soil laboratory analytical data are summarized in Tables B-3 through B-7.

A 90-day letter was submitted to Ecology documenting the release at the AOC-1 location on June 19, 2023.

4.1.1 Release Investigation

In 2025, further site investigation of potential impacts to site soil and groundwater related to the AOC-1 release was conducted. A groundwater monitoring well was installed in December 2025 downgradient of the AOC-1 location. Due to critical infrastructure and the inaccessibility for greater investigation at AOC-1, monitoring well W-132 was installed downgradient of AOC-1, by approximately 135 feet. The monitoring well (W-132) is a two-inch diameter, machine-slotted polyvinyl chloride (PVC) monitoring well, installed to a depth of fifteen feet, and is screened from five to fifteen feet below ground surface (bgs). The soil boring log is provided in Appendix D. The well construction diagram is provided in Appendix E, and the AOC-1 area (including the location of W-132) is shown on Figure A-4.

4.1.2 Laboratory Analysis

Soil and groundwater samples were collected from the AOC-1 soil boring location. Per the IRP, the following laboratory methods were used to analyze both the soil and groundwater samples collected during this investigation:

- NWTPH-EPH: Extractable petroleum hydrocarbons
- NWTPH-VPH: Volatile petroleum hydrocarbons
- U.S. EPA Method 8260: Benzene, toluene, ethylbenzene, total xylenes (BTEX)
- U.S. EPA Method 8270 SIM: Naphthalenes and polycyclic aromatic hydrocarbons (PAHs)
- U.S. EPA Method 6020/200.8: Arsenic, cadmium, chromium, lead, nickel, and zinc
- U.S. EPA Method 7196: Chromium (VI)
- U.S. EPA Method 7471: Mercury
- Chromium (III): lab calculated value generated by subtracting the chromium (VI) concentration from the total chromium concentration.

4.1.3 Soil and Groundwater Sample Collection

Two soil samples were collected from the W-132 boring location. The samples were identified by both the AOC number from which they originated, the date of collection, and depth from which they were collected (i.e., AOC1-1-111925 6-7 ft). One sample was collected at a depth that correlates to roughly one foot below the OWS pipe (6-7 ft below ground surface (bgs)), and one was collected at the bottom of the soil boring (14-15 ft bgs).

Following the installation of monitoring well W-132, the well was developed, and one groundwater sample was collected to assess potential groundwater impacts from AOC-1. The groundwater sample was collected using low-flow purging and sampling methods (U.S. EPA, 2017).

The soil and groundwater samples were sent to ALS Laboratory Group in Everett, WA for analysis. ALS is a Washington State-accredited laboratory by Ecology. The soil sample descriptions, depths of collection,

and field screening results are included in Table B-2. The HFSPSR OWS Sampling and Analysis Plan for AOC-1 is provided in Appendix F.

4.1.4 Soil Sample Results

All soil samples collected during the AOC-1 further site investigation were below the MTCA Method C cleanup levels for industrial properties for BTEX, metals, polycyclic aromatic hydrocarbons (PAH), and carcinogenic PAHs (cPAH). These samples were also below the protection of soil direct contact, human health cancer risk, and the hazard index thresholds calculated using the fixed-parameter three-phase partitioning model for the vadose (unsaturated) zone as described in WAC 173-340-747(4). The AOC-1 soil sample locations and laboratory analytical results are shown on Figure A-5 and are summarized in Tables B-3 through B-7. The original soil laboratory analytical data reports are provided in Appendix G, and the MTCA Total Petroleum Hydrocarbons (TPH) Method C worksheets are included in Appendix H.

All soil analytical data collected were submitted to the Ecology Environmental Information Management (EIM) database, a table summarizing the various sampling events, and the dates of submission of EIM files are summarized in Table B-13.

4.1.5 Groundwater Sample Results

The groundwater sample collected during the AOC-1 further site investigation was below the MTCA Method A cleanup levels for industrial properties for BTEX, metals, PAHs, and cPAHs. The AOC-1 groundwater location and laboratory analytical results are shown on Figure A-6 and are summarized in Tables B-8 through B-11. The groundwater chemistry parameters are shown on Table B-12. The original groundwater laboratory analytical data reports are provided in Appendix I.

All groundwater analytical data collected were submitted to the Ecology EIM database. A table summarizing the various sampling events and the dates of submission of EIM files is summarized in Table B-13.

4.1.6 Geology and Hydrogeology

The OWS at AOC-1 is underlain by diamicton. The diamicton (also known as Unit B) is unstratified with a matrix of silt or clay supporting variable amounts of sand and gravel. The estimated range of permeability is 10^{-5} to 10^{-8} cm/sec. The USCS classification is ML or CL, and Unit B is approximately 50 feet thick beneath AOC-1 (HF Sinclair, 2023).

Soil boring B1-02 was reviewed in preparation for the AOC-1 soil investigation conducted in April 2023. The boring was drilled approximately 120 feet east of AOC-1. The boring location is shown on Figure A-4. The borelog for boring B1-02 shows that the diamicton is at least 50 feet thick in that portion of the refinery. The borelog states that water was encountered 24 feet below ground surface during drilling. The B1-02 borelog is included in Appendix J.

4.2 OWS ADDITIONAL CHEMICALS OF CONCERN

Per Ecology request, the site has evaluated the constituents of concern listed in the IRP. The IRP list was developed using the United States Environmental Protection Agency (U.S. EPA) Skinner List. The Skinner List was developed to assist permit writers by providing guidance in evaluating delisting of petroleum refinery wastes (including wastes found in the oily water sewer). The Skinner List is comprised of RCRA Appendix VIII constituents typically found in refinery processes and wastes. The list is frequently used as the basis for RCRA corrective action investigations as well as RCRA delisting petitions. The IRP list focuses on the benzene, toluene, ethylbenzene, and xylene (BTEX) constituents as well as the most common polycyclic aromatic hydrocarbons (PAHs). The metals list includes the common MTCA 5 metals in addition to nickel. The IRP also includes testing requirements for gasoline and diesel range TPH.

5. CORRECTIVE ACTIONS AND INTERIM MEASURES

In accordance with VII.C.4 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report a description of the corrective actions or interim measures taken or planned to remediate soil or groundwater, including the volume and disposition of contaminated soil removed, and measures taken to monitor or remediate groundwater.

In 2025, further investigation of soil and groundwater impacts from the AOC-1 release location was conducted. Site infrastructure prevented a monitoring well from being installed at the release location. A monitoring well was installed as close to the release as possible, approximately 135 feet downgradient and to the east. Two soil samples were collected from the boring location during well installation, and one groundwater sample was collected from the monitoring well. As discussed in Section 4 of this report, all samples met the MTCA cleanup levels as established in the IRP.

No further investigation is required at the AOC-2 location on “B” street, as no release to Site soil or groundwater was observed during the subsurface investigation, as discussed in the 2024 Annual Progress Report.

6. RISK OF CONTAMINATION MIGRATION

In accordance with VII.C.7 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report measures to assess and prevent the risk of migration of contamination until a final remedy is implemented, including the elements of a groundwater monitoring program (number and location of wells, parameters monitored, frequency of monitoring).

Due to the location of critical infrastructure surrounding the AOC-1 release area, additional remedial actions will not be conducted at the AOC-1 release site until access becomes available in the future (e.g., at refinery closure or if other maintenance/demolition activities allow for access). In 2025, a groundwater monitoring well was installed downgradient of AOC-1 to investigate potential contaminant migration from the AOC-1 release site. Soil and groundwater samples were collected during the installation of the monitoring well (W-132). Soil and groundwater were tested for relevant chemicals of concern as documented in Section 3.5 of the IRP. All analytical results from both soil and groundwater from well W-132 were below the applicable MTCA cleanup levels (MTCA Method C for soil and Method A for groundwater) as documented in the IRP (soil results are summarized in Tables B-3 through B-7, and groundwater analytical results are summarized in Tables B-8 through B-11). The AOC-1 area is underlain by the relatively impermeable diamicton, which prevents contamination from migrating vertically at the site.

7. INACCESSIBLE AREAS

In accordance with VII.C.5 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report areas that were determined to be inaccessible and where contaminated soil or groundwater was left in place.

Due to the location of critical infrastructure surrounding the AOC-1 release location, AOC-1 is considered inaccessible for further remedial action until access becomes available in the future (e.g., at refinery closure or if other maintenance/demolition activities allow for access).

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8. RELEASE MITIGATION AND MONITORING

Per the AO Section VII.A(12): "The Investigation and Response Plan shall include: Measures to assess and prevent the risk of migration of soil and groundwater contamination in inaccessible areas."

In 2025, HFSPSR investigated the potential for contaminant migration from the AOC-1 release location. As discussed in Section 5, site infrastructure at the AOC-1 release location prevents both investigative and remedial actions from being conducted. Soil and groundwater conditions were investigated for impacts that may have migrated from the AOC-1 release location through the installation and sampling of a monitoring well W-132) downgradient of the AOC-1 release location. Soil and groundwater samples were collected as part of this investigation, and all samples met the applicable MTCA cleanup levels as established in the IRP. The soil analytical results are summarized in Tables B-3 through B-7, and groundwater analytical results are summarized in Tables B-8 through B-11.

9. HISTORICAL INACCESSIBLE AREA REVIEW

In accordance with VII.C.5 of Agreed Order No. DE 16298 HF Sinclair Puget Sound Refining is required to report areas that were determined to be inaccessible and where contaminated soil or groundwater was left in place.

In 2024, a release to soil was confirmed along "D" Street at the AOC-1 location, as shown on Figure A-4. In 2025, further site characterization of impacts from AOC-1 were conducted by installing a groundwater monitoring well at the closest accessible location downgradient of the release (approximately 135 feet to the east) as shown on Figure A-4. As described in Section 4 of this report, all soil and groundwater samples collected during the site characterization met the MTCA cleanup levels as established in Section 3.4 of the IRP. Due to the location of critical infrastructure, AOC-1 is inaccessible for further remedial action until access becomes available at a future time (e.g., at refinery closure or if other maintenance/demolition activities allow for access).

10. BENZENE AND VOLATILE ORGANIC COMPOUND (VOC) EVALUATION

HFSPSR has evaluated the fate of benzene and VOC exfiltrating from the OWS to determine if these compounds result in impacts to soil and groundwater. There has not been any indication of a release of benzene or other VOC from the OWS, other than what may have been previously reported. As documented in the OWS Annual Progress Reports, HFSPSR has conducted soil and groundwater investigations in response to defects in the buried sewer lines. Samples collected during these investigations have not contained benzene or other VOCs at concentrations above the MTCA cleanup levels established in the IRP. Contaminants detected at AOC-1 above cleanup levels were 1-methylnaphthalene and 2-methylnaphthalene, both of which have boiling points greater than 450^{o}F and therefore are unlikely to exist as vapors in the oily water sewer. If benzene vapors or other VOCs were a potential cause of a release, the investigations at both AOC-1 and the former AOC-2 location would likely have identified these impacts in either soil or groundwater.

11. CONCLUSIONS

The 2022 and 2023 OWS inspections resulted in the identification of AOC-1 along “D” Street and AOC-2 along “B” Street as described in the 2024 Annual Progress Report. Both potential releases were deemed areas of concern and, per the IRP, were further investigated for impacts on site soil and groundwater.

An initial soil investigation, completed in April 2023, confirmed a release to soil at AOC-1. Due to the configuration of critical infrastructure, the AOC-1 area is considered inaccessible until site conditions change in the future. Further site characterization of the AOC-1 release was completed in 2025. Monitoring well W-132 was installed as close to the AOC-1 release site as possible (approximately 135 feet downgradient and to the east). Soil and groundwater samples were collected to characterize site conditions and determine whether contamination had migrated beyond the release location. All soil and groundwater analytical results from the site characterization met the MTCA cleanup levels as established in the IRP. The AOC-1 area is underlain by the relatively impermeable diamicton, which prevents contamination from migrating vertically at the site.

Investigative actions at AOC-2 demonstrated that soil and groundwater in the vicinity of the identified sewer line defects met the MTCA cleanup levels as identified in the IRP, and no further remedial action is required. The locations of AOC-1 and AOC-2 are shown on Figure A-3.

12. REFERENCES

Washington State Department of Ecology (Ecology). October 20, 2021. Agreed Order for Interim Action – Oily Water Sewer (SWMU-1). No. DE 16298.

HF Sinclair Puget Sound Refining LLC. March 31, 2025. 2024 Annual Progress Report SWMU-1 Oily Water Sewer.

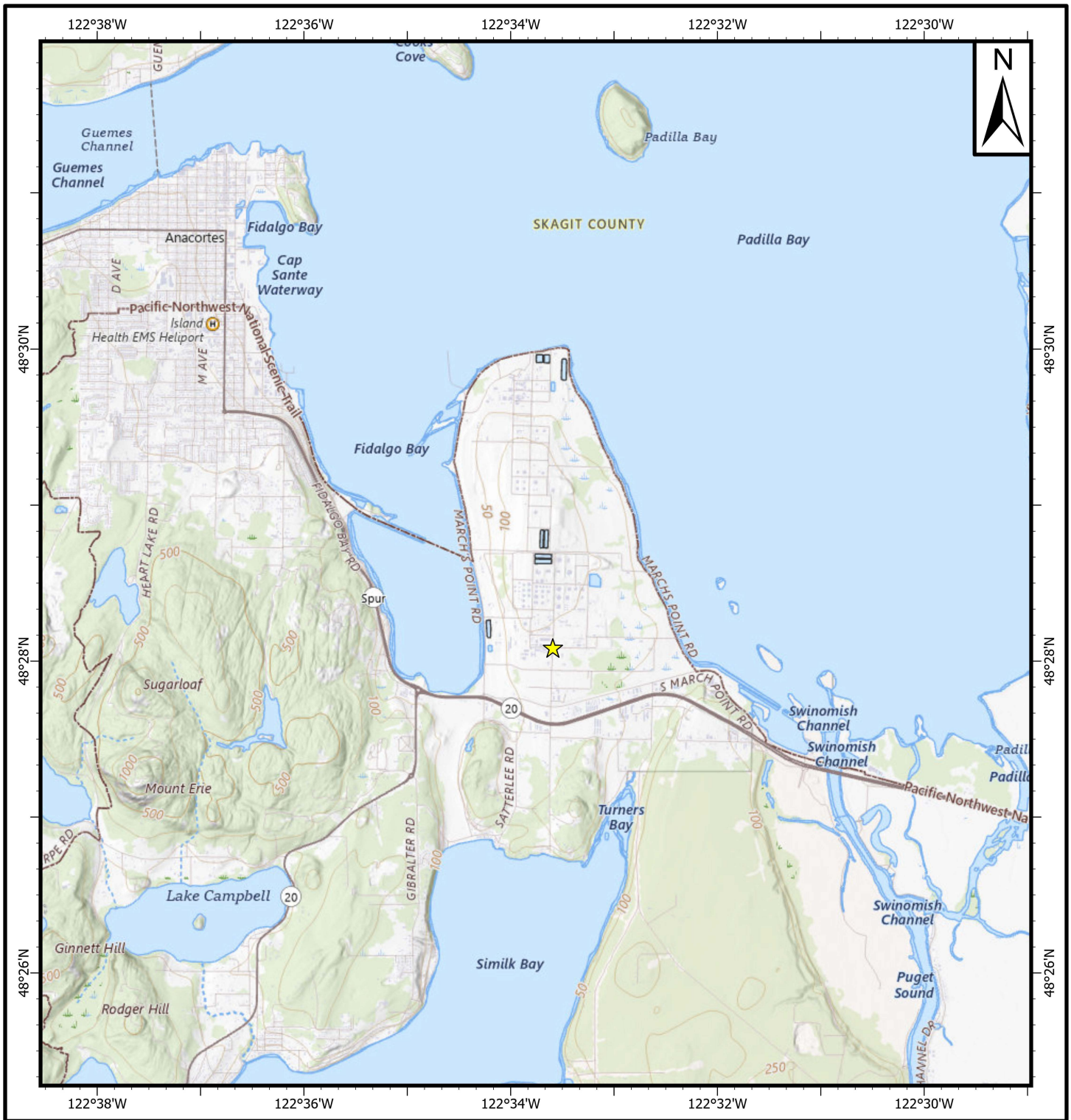
HF Sinclair Puget Sound Refining LLC. March 21, 2024. 2023 Annual Progress Report SWMU-1 Oily Water Sewer.

HF Sinclair Puget Sound Refining LLC. June 26, 2023. Permeability Testing for Tank and Yard Soil.

TRC. March 5, 2024. 2023 Process Sewer Inspections and Repair Recommendations.

U.S. Environmental Protection Agency, Region 1 (U.S EPA). September 19, 2017. Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells.

APPENDIX A -
FIGURES



Scale: 1:100,000

Locator Map



Site Location:
8505 S. Texas Road
Anacortes, WA 98221

Figure A-1
Site Location Map

DATE:
2/1/2026

PROJECT:
004531-0058.00

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HF Sinclair Puget Sound Refining, LLC
Anacortes, WA

Esri basemap imagery courtesy of the USGS National Map and the U.S. Census Bureau.



Oily Sewer Manholes

Oily Water Sewer Major Trunk Lines

Inspection Completed:

2023

Future Inspection Phase:

2026

2028

2031

All data are approximate and should be used for relative location reference only.

0 250 500 1,000 Feet

1 inch = 500 feet

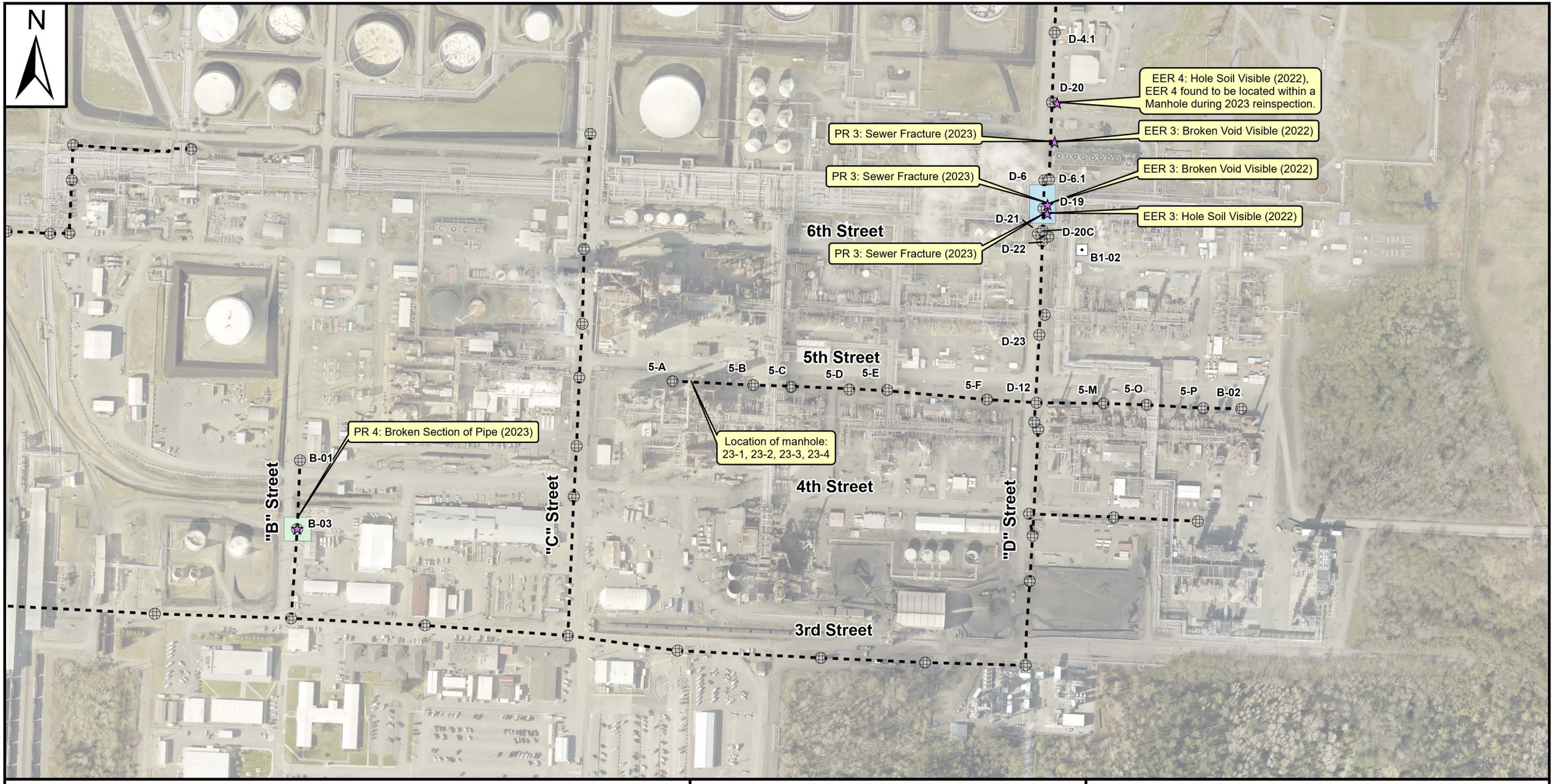
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Figure A-2
Major Trunk Lines
Oily Water Sewer Map

HF Sinclair Puget Sound Refinery
8505 S Texas Road
Anacortes, WA 98221



- Manhole
- PR/EER
- Soil Boring
- OWS Main Trunk Lines
- AOC-1
- AOC-2

All data are approximate and should be used for relative location reference only.

0 150 300 600 Feet

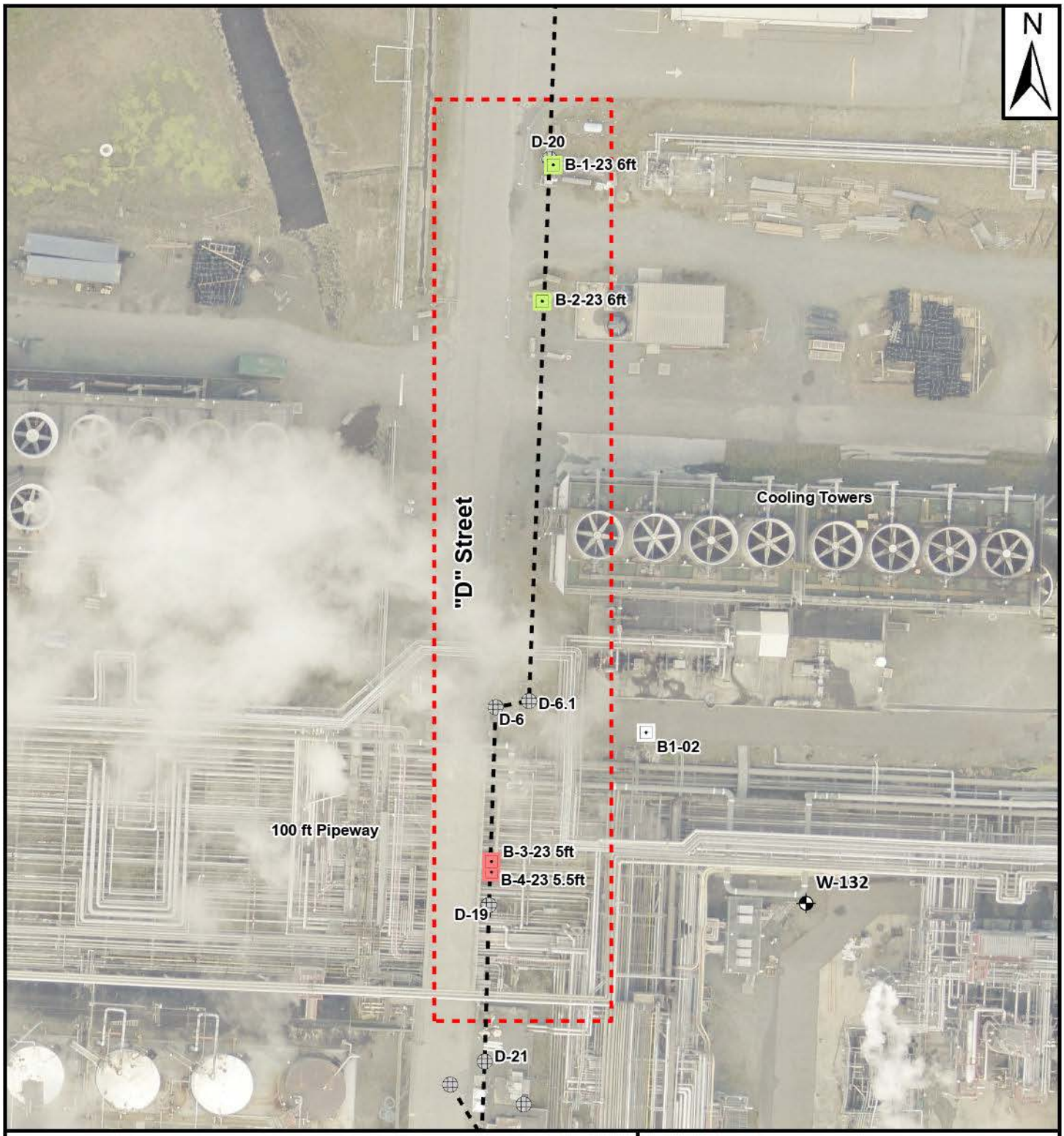
1 inch = 300 feet

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Figure A-3
2024 Areas of Concern and Sewer Defects Location Map

HF Sinclair Puget Sound Refinery
8505 S Texas Road
Anacortes, WA 98221



Soil Boring
Exceeded MTCA A
Met MTCA A
Oily Sewer Manhole
OWS Main Trunk Line
OWS AOC-1
Monitoring Well

All data are approximate and should be used for relative location reference only.

Figure A-4
AOC-1 Soil Sample Location and Results

0 30 60 120 Feet

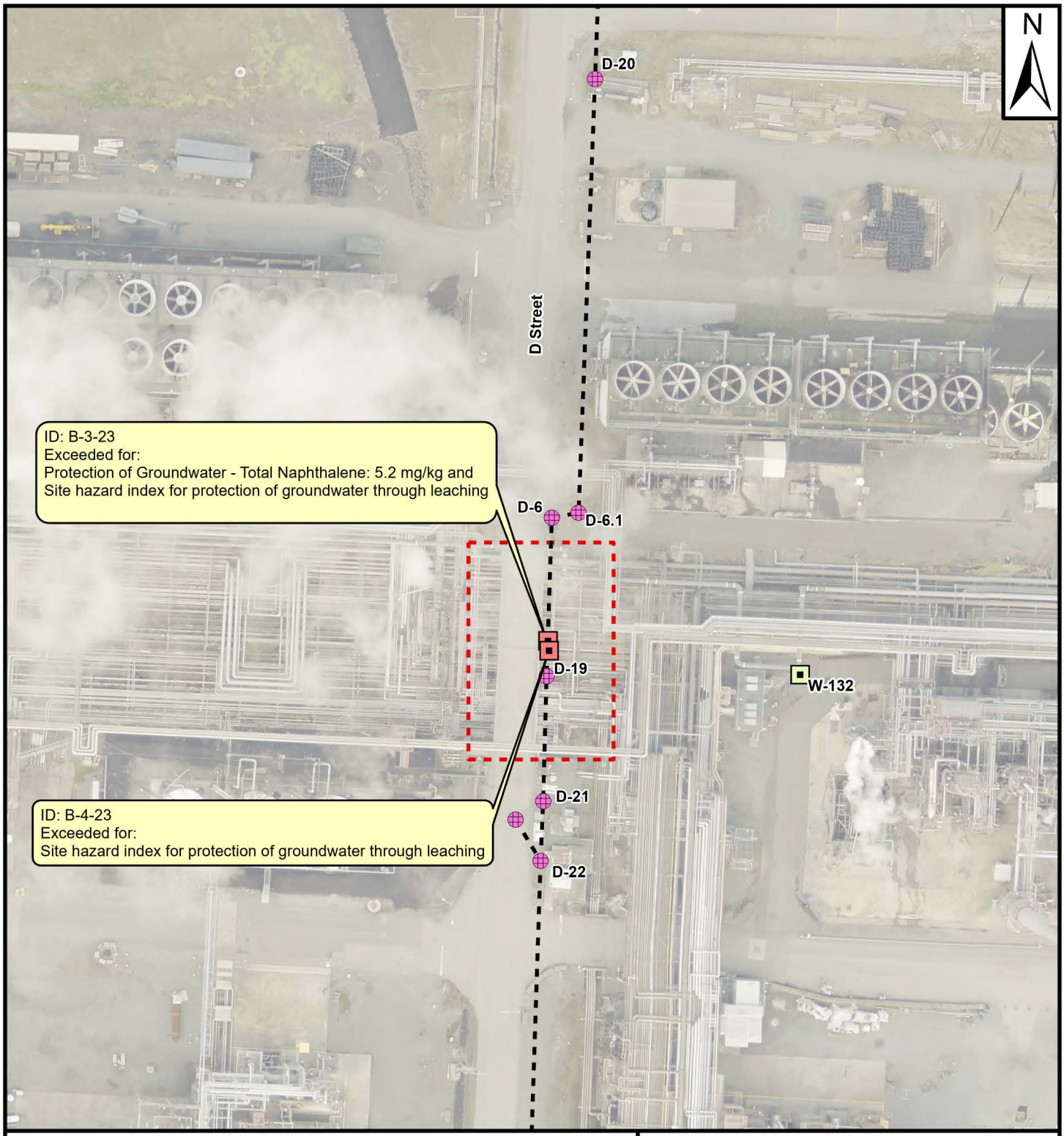
1 inch = 60 feet

DATE: 02/10/2026

PROJECT: 004531-0058.00

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HF Sinclair Puget Sound Refinery
8505 S Texas Road
Anacortes, WA 98221



Met MTCA C

Exceeded MTCA C

OWS Phase I Manhole

OWS Main Trunk Line

AOC

All data are approximate and should be used for relative location reference only.

Figure A-5
Soil Analytical Results

0 37.5 75 150 Feet

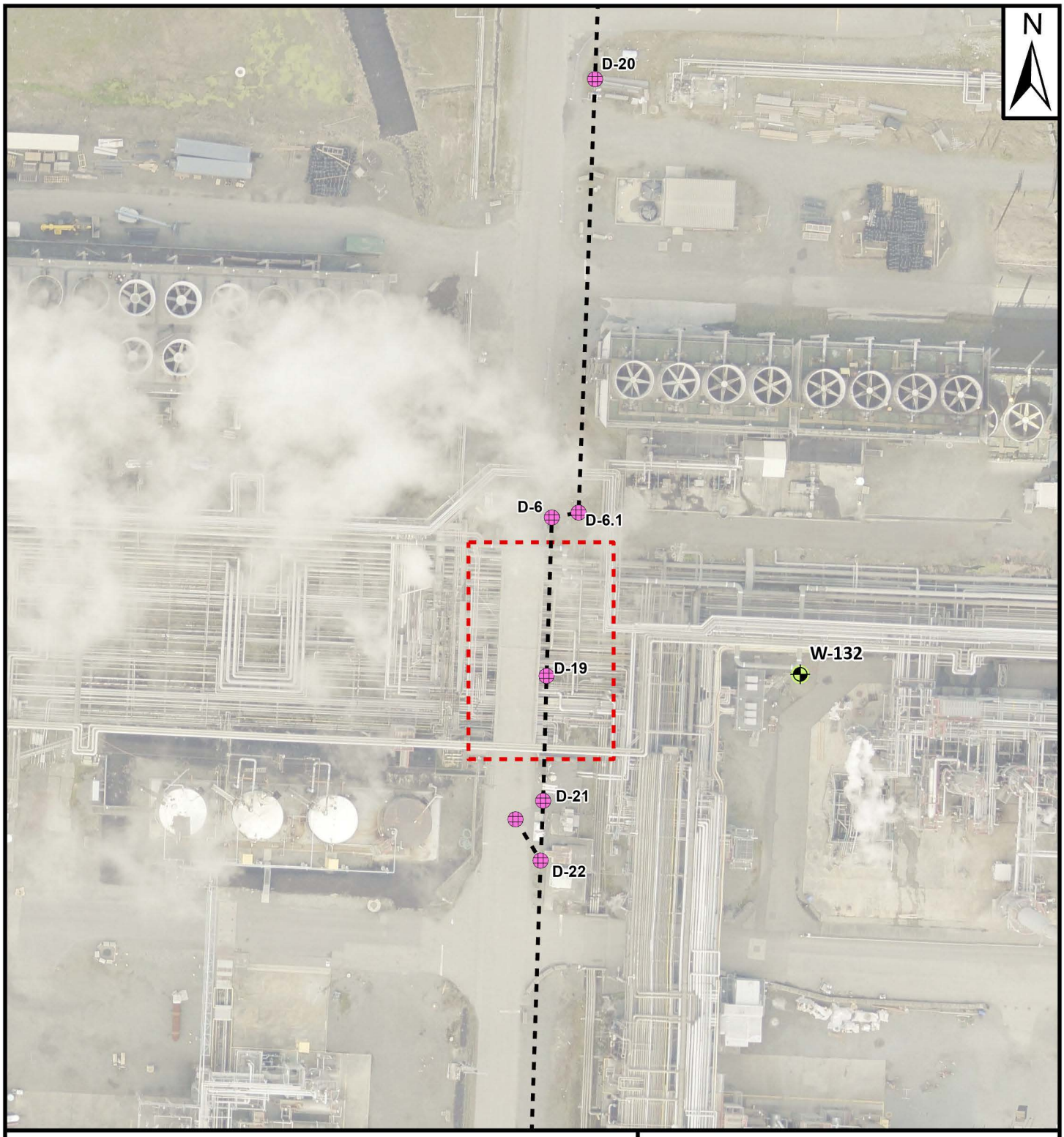
1 inch = 75 feet

DATE: 02/10/2026

PROJECT: 004531-0058.00

ALL4

HF Sinclair Puget Sound Refinery
8505 S Texas Road
Anacortes, WA 98221



Met MTCA A

OWS Phase I Manhole

Oily Water Sewer

AOC

All data are approximate and should be used for relative location reference only.

Figure A-6
Groundwater Analytical Results

0 37.5 75 150 Feet

1 inch = 75 feet

DATE: 02/10/2026

PROJECT: 004531-0058.00

ALL4

HF Sinclair Puget Sound Refinery
8505 S Texas Road
Anacortes, WA 98221

APPENDIX B -
TABLES

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-1	D-1.1:D-2.1	0-253.4	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-1	D-1.1:D-2.1	176	5-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-1	D-1.1:D-2.1	221.5	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-1	D-1.1:D-2.1	221.5	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-1	D-1.1:D-2.1	250.8	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-1	D-1.1:D-2.1	250.8	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-2	D-2.1:D-3.1	0-255.4	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-2	D-2.1:D-3.1	93.3	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-2	D-2.1:D-3.1	105.29	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-2	D-2.1:D-3.1	201.8	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	0-412.3	12-12	1	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	122.7	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	171.1	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	237.5	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	246.1	4-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	261.9	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	268.5	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	292	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	327.9	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	334.6	3-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	337.6	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	337.6	6-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	341	4-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	341	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	343.8	6-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	347.3	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	347.3	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	354.8	5-10	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	359.1	4-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	371	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	379.1	8-10	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	379.3	4-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	388.6	1	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	395.1	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	395.1	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	404.4	3-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-3	D-3.1:D-4.1	406.4	6-11	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	0-82.9	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	7.8	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	49.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	55.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	73.7	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	79.8	12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-4	D-4.1:D.20	79.8	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	0-227.7	12-12	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	9.2	10-3	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	15.5	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	21.5	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	21.5	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	21.5	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	21.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	25.3	12-12	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	27.4	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	27.4	12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	45.3	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-5	D-20:D-6.1	45.3	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	54.7	11	1	Tap Break-In Intruding	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	54.7	10-3	2	Fracture Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	54.7	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	64.4	9	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	64.4	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	69.7	3-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	75.4	12-12	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	80.4	12-2	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	81.7	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	81.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	87.7	3-9	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	93.4	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	99.5	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	103.7	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	105.8	8-4	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	105.8	5-7	3	Fracture Circumferential	Normal degradation of pipe over lifetime	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue montioring condition
2023-5	D-20:D-6.1	107.7	12-12	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	110.1	6-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	111.8	8-4	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	115.9	6-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	117.9	8-10	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	117.9	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	124.1	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	129.8	9	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	129.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	135.8	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	141.9	12-12	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	148.2	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	148.2	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	154.1	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	154.1	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	154.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	160.2	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	160.2	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	166.6	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	166.6	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	172.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	172.3	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	172.3	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	172.3	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	172.3	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	178.2	6-11	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	184.5	8-9	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	190.4	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	190.4	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	196.4	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	196.4	8-10	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	196.4	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	202.4	1-2	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	208.2	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	214.3	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-5	D-20:D-6.1	220.4	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-6	D-6.1:D-6	0-10.5	12-12	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-6	D-6.1:D-6	0.5	8-9	2	Fracture Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-6	D-6.1:D-6	4	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	0-82	12-12	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	4.8	7-8	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	4.8	9-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	13	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	45.5	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-7	D-6:D-19	61.9	12	3	Point Repair Patch	Likely due to trench pipe work	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-7	D-6:D-19	62.3	1-11	2	Crack Circumferential	Normal degradation of pipe over lifetime	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-7	D-6:D-19	66.1-75.1	12-3	3	Point Repair Patch	Likely due to trench pipe work	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-7	D-6:D-19	82	6	3	Fracture Longitudinal	Normal degradation of pipe over lifetime	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue montioring condition
2023-8	D-19:D-20	0-64.3	12-12	1	Surface Damage Surface Spalling	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-8	D-19:D-20	20.2	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-8	D-19:D-20	40.4	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-8	D-19:D-20	59.1	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	0-332	3-9	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	10	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	47.7	9	2	Surface Damage Roughness Increase	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	49.8	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	55-61.3	11-1	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	110.8-127.2	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	129.2-147	1	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	162	12	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	189.2-208.9	9-3	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	237-247	11	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-9	D-22:D-23	309.6	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	0-8	4-8	3	Surface Damage Corrosion	Normal degradation of pipe from operational flows	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue montioring condition
2023-10	D-23:D-24	8-17	4-8	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	17	4-8	3	Surface Damage Corrosion	Normal degradation of pipe from operational flows	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-10	D-23:D-24	19-75	4-8	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	75-88	4-8	3	Surface Damage Corrosion	Normal degradation of pipe from operational flows	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-10	D-23:D-24	88-120	4-8	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	117-125.4	9-1	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	120-150	4-8	3	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Continue monitoring condition
2023-10	D-23:D-24	135	11-1	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	146-158	10-2	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	150-176.1	4-8	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	165-171.4	10-2	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	176.2-217.3	12-12	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-10	D-23:D-24	187.6	11	1	Surface Damage Spalling	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	0-253.1	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	10.2	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	16.7	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	46.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	52	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	64.7	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	64.7	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	70.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	77.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	78.8	5-6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	96.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-23	D-1.1:D-2.1	102.4	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	113.1	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	121.8	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	134.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	134.7	5-6	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	136.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	136.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	137.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	150.7	5-8	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	55.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	166.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	179	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	185	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	216	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	227.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	245.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	25.6	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-23	D-1.1:D-2.1	250.1	10-4	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	0-253.3	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	2.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	8.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	15.7	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	16.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	16.9	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	36.8-42.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	49	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	54.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	61	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	73	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	73.8	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	79	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	87.9	6-8	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	91.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	127.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	134	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	139.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	145.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	151.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	157.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	163.7	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	169.7	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	175.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	175.6	6-7	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	188	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	199.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	224	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	225.5	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	229.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-24	D-2.1:D-3.1	237.5	5-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	0-412	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	6.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	85.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	158.3	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	170.4	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	176.3	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-25	D-3.1:D-4.1	245.7	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	249.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	255.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	261.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	267.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	279.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	303.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	323.8	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	323.8	4-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	327.8	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	329.7	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	331.3	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	334.1	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	336.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	339.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	340.4	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	343.5	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	346.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	352.1	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	353.4	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	355.4	5-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	358	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	358	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	364.2	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	370.2	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	378.2	2-10	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	380.7	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	382.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	383.7	5-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	385.5	5-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	394.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	398	5-7	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	398.8	4-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	401.9	4-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	403.8	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	406.5	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	406.5	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-25	D-3.1:D-4.1	410.6	10-2	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	0-82.3	12-12	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	11.9	6	2	Fracture Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	11.9	3-5	1	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	24.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	44.5	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	48.5	6	2	Fracture Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	52.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	56.7	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-26	D-6:D-19	60.7	12	3	Point Repair Patch	Likely due to trench pipe work	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-26	D-6:D-19	64-73.4	12-1	3	Point Repair Patch Defective	Likely due to trench pipe work	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-26	D-6:D-19	64.9	6	2	Crack Longitudinal	Likely due to trench pipe work	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-26	D-6:D-19	81.2	6	3	Fracture Longitudinal	Normal degradation of pipe over lifetime	**AOC-1 Investigation: Site characterization, soil sampling, and groundwater investigation**	April-2023, November-2025	Continue monitoring condition
2023-27	D-21:D-22	0-14.9	12-12	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-32	D-21:D-22	0-21.5	12-12	2	Surface Damage Corrosion	Normal degradation of pipe from operational flows	No Remedial Action Taken	-	Condition remains satisfactory
2023-33	D-20C:D-22	0-16.2	12-12	1	Surface Damage Surface Spalling	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-ST-1	D-1.1	4	3	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-1	D-1.1	8.4	5	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-1	D-1.1	11.7	5	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-1	D-1.1	12	8	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-1	D-1.1	12	7-9	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-2	D-2.1	3	3	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-2	D-2.1	4	12-5	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-2	D-2.1	6.2	6	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-2	D-2.1	12	2	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	1.8	12-12	1	Fracture Circumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	3	2-3	2	Fracture Circumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	3.5	5	2	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	6.7	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	8	4-5	2	Crack Circumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-3	D-3.1	11	11-03	2	Crack CIrcumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	0-1.1	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	2	9-10	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	3	6	2	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	3.5-5.2	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	5.5	2-3	1	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	5.5	11	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-4	D-4.1	6	9	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-5	D-20	1	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-5	D-20	2-4.4	9-2	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	1	1	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	1	3	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	1.3	2	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	1.7	12	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	2-3	4-7	2	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-6	D-6.1	2.5	9-10	2	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-7	D-6	0-9.5	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-7	D-6	1-2	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-7	D-6	2.5	6-9	1	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-8	D-23	1	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-8	D-23	1.5	9	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-8	D-23	2	5-7	2	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-8	D-23	4	8	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-14	D-21	0.3	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-14	D-21	1.3	4	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-14	D-21	4.7	3	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-14	D-21	7.6	12-12	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-25	D-19	0-8.2	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-25	D-19	2.5-4.1	6	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-25	D-19	2.9	11	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-26	D-20C	0-10	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-26	D-20C	8.7-13	12	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-27	D-22	0-16.3	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-27	D-22	8.6-13	6	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-27	D-22	13	12-2	2	Crack Circumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-28	D-12	0-2	12-12	2	Surface Damage Reinforcement Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-28	D-12	2-7.5	12-12	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-28	D-12	8	12-2	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
B-Street Inspections 2023									
2023-11	B-1:B-3	5.9	6-11	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	7	12-1	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-11	B-1:B-3	7.1	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	9.8	NA	2	Joint Offset Medium	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	10	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	14.2	12-12	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	18.2	1-3	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	18.2	5-6	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	22.2	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	24.5	2-6	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	26.5	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	27.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	30.4	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	34.4	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	34.4	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	34.4	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	34.4	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	38.4	6-7	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	38.4	7-10	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	38.4	2-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	42.2	6-11	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	42.2	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	46.3	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	50.4	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	54	12-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	54.4	12-12	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	58.5	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	58.5	2-6	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	58.5	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	62.8	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	62.8	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	62.8	1-6	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	66.4	11-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	66.4	6-8	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	70.3	NA	1	Joint Offset Medium	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	70.5	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	70.5	7-9	2	Fracture Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	70.5	3-5	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	74.3	12-12	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	78	12-8	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	82.4	2-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	82.4	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	86.3	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	86.3	9	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	90.7	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	94.6	12-12	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	98.7	5-1	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	102.5	6-1	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	102.7	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	106.7	5	2	Fracture Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	107.2-110.9	12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	111	12-9	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	114.7	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	118.5	12-9	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	122.8	5-6	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	122.8	7-11	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	122.8	NA	1	Joint Offset Medium	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-11	B-1:B-3	126.6	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	130.8	12-12	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	134	1-6	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	134.7	6, 9	2	Crack Hinge 2	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	135.5	7-10	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	138.8	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	138.8	12-2	2	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	138.8	7-12	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	142.7	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	146.7	7-9	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	146.7	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	151	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	154.7	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	158.8	4-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	158.8	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	158.8	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	162.7	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	162.7	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	162.7	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	166.8	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	166.8	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	170.8	3-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	170.8	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	174.8	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	174.8	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	178.8	3-4	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	178.8	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	178.8	6-9	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	182.9	12-9	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	190.8	3-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	190.8	6-10	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	195	1-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	198.8	6-7	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	198.8	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	198.8	NA	2	Joint Offset Medium	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	B-1:B-3	203	10-5	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-11	**B-1:B-3**	**206.8**	**5-8**	**4**	**Broken**	Normal degradation of pipe over lifetime	**Liner installed; AOC-2 Investigation: Soil Sampling, Monitoring Wells Installed**	Liner: August-2024 Investigation: December-2024	-
2023-11	B-1:B-3	206.8	NA	2	Joint Offset Medium	Normal degradation of pipe over lifetime	**Liner installed; AOC-2 Investigation: Soil Sampling, Monitoring Wells Installed**	Liner: August-2024 Investigation: December-2024	-
2023-31	B-1:B-3	2	11-1	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	2	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	5.7	6-10	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	9.3	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	13.6	12-12	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	17.6	5-6	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	17.6	10-1	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	17.6	6-7	2	Fracture Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	21.5-26	12-12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	29.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	29.2	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	33.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	33.5	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	33.5-36.8	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	37.4	2-5	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	37.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-

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HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-31	B-1:B-3	37.4	7-8	1	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	37.4	8-10	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	41.7	5-11	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	45.3	12-12	2	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	49.5	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	53.4	12-12	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	57.4	3-7	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	57.4	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	57.4	10-11	2	Fracture Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	61.7	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	61.7	3-5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	61.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	61.7	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	65.5	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	65.5	2-3	2	Fracture Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	65.5	2-5	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	69.6	5-6	2	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	69.6	7-9	2	Fracture Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	69.6	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	69.6	3-4	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	73.5	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	77.8	12-5	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	77.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	81.6	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	81.6	2-5	2	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	85.8	1	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	85.8	9	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	85.8	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	89.6	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	93.4	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	98	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	98	7-11	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	101.7	6-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	106.2	5-7	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	109.8	12-12	3	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	113.8	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	118	12-6	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	118	6-8	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	121.8	NA	1	Joint Offset Medium	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	121.8	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	126	12-12	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	130.4	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	133.8	2-6	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	133.8	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	133.8	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	134.4	7-10	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	137.8	4-9	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	142	12-12	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	145.9	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	145.9	6-9	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	149.7	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	149.7	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	153.9	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	157.7	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	157.7	4-5	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-31	B-1:B-3	157.7	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	161.9	12-5	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	161.9	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	161.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	166	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	166	7-9	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	166	3-5	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	170	2-5	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	170	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	173.8	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	177.9	6-9	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	177.9	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	181.9	1-6	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	181.9	7-8	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	186	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	190.1	6-10	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	190.1	4-5	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	194	2-5	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	198.1	6-7	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	198.1	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	202	11-4	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	202	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	August-2024	-
2023-31	B-1:B-3	206	NA	2	Joint Offset Medium	Normal degradation of pipe over lifetime	**Liner Installed; AOC-2 Investigation: Soil Sampling, Monitoring Wells Installed**	Liner: August-2024 Investigation: December-2024	-
2023-31	**B-1:B-3**	**206**	**5-8**	**4**	**Broken**	Normal degradation of pipe over lifetime	**Liner Installed; AOC-2 Investigation: Soil Sampling, Monitoring Wells Installed**	Liner: August-2024 Investigation: December-2024	-
2023-31	B-1:B-3	206	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	**Liner Installed; AOC-2 Investigation: Soil Sampling, Monitoring Wells Installed**	Liner: August-2024 Investigation: December-2024	-
2023-ST-23	B-1	0.6-2.5	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-23	B-1	2.6	12-12	2	Surface Damage Reinforcement Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-23	B-1	3.8	3-4	2	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-23	B-1	5	5-10	2	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-23	B-1	7.5	3	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	0.5-3.7	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	4.8	12	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	4.9	6	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	10.5	6	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	10.5	12-3	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
2023-ST-24	B-3	13	3	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken; No liner installed (in manhole)	-	Condition remains satisfactory
5th Street Inspections 2023									
2023-12	B-02:5-P	0-55.7	12-12	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	25.7	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	41.5	8-9	2	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	44-47.1	5-10	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	48.2	3-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	49.3	7-9	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-12	B-02:5-P	53.5	12-12	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	0-82	12-12	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	5	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	5	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	9.5	5-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	10.2	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	14.5	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	18.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	18.3	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	21.5	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-13	5-B:5-C	25.9	12	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	35.3	6-7	2	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	35.4	10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	41.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	41.8	12-1	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	45.2	4	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	48.4	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	48.4	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	52.6	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	52.6	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	52.6	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	60.7	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	60.7	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	64.9	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	68.7	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	72.8	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-13	5-B:5-C	80.9	5-8	3	Fracture Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Continue monitoring condition
2023-14	5-C:5-D	0-265.3	12-12	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	2	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	2	6	1	Deposits Settled Gravel	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	2	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	39.5	6-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	40.9	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	41.9	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	44.9	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	52.7	11	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	52.7	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	52.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	55.1	6-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	56.8	4-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	65	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	65	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	69.2	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	73.1	10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	77.3	5-6	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	77.3	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	81.3	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	85.5	4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	89.5	3-4	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	97.4	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	97.4	4-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	101.7	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	101.7	4-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	105.7	3-4	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	113.7	5-7	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	122.1	5-7	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	126	7-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	130.1	5-7	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	134.2	1-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	138.3	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	146.4	2	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	146.4	8-9	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	150.5	50-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	158.5	5-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	162.4	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-14	5-C:5-D	166.7	8-1	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	166.7	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	166.7	9-10	2	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	170.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	174.6	3-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	178.8	7-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	182.9	4-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	187	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	187	3-4	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	191	7-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	191	3-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	195.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	195.2	3-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	195.2	5-9	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	203	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	207	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	215.3	5-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	219.4	1-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	223.5	6-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	223.5	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	227.4	6-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	231.4	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	239.5	7-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	243.5	12-12	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	247.8	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	251.8	6-8	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	251.8	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	251.8	10-11	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	255.6	7-10'	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	259.8	6-10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-14	5-C:5-D	264.1	NA	3	Joint Offset	Inconsistent loading and settling adjacent to manhole	No Remedial Action Taken	-	Continue monitoring condition
2023-15	5-D:5-E	0-89.5	9-4	2	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	3.2	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	3.2	3-4	1	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	3.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	7.3	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	7.3	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	7.3	5-6	1	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	11.2	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	11.2	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	15.6	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	15.6	2	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	15.6	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	19.4	6-7	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	23.6	12-12	2	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	23.6	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	23.6	10-11	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	26.2	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	26.2	2-3	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	38.4	8	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	43.2	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	48.2	4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	51.3	3-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	55.9	1	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	59.5	6-9	2	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-15	5-D:5-E	62.3	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	97.3	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	71.8	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	71.8	4-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	71.8	3	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	79.5	2-4	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-15	5-D:5-E	87.9	10	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	0-55.2	12-12	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	3.4	5-7	2	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	4.8	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	11.1	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	12.3	6-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	15.3	5-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	20.1	3-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	21.5	5-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	22.8	8-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	29.3	5-6	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	37.6	2-6	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	41.2	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	43-47.3	5-7	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	48.7	12-12	2	Surface Damage Aggregate Missing	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	49.3	6-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-16	B-02:5-P	53.2	8-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	0-133.2	12-12	1	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	3.9	9	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	3.9	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	3.9	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	7.9	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	7.9	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	11.8	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	11.8	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	15.5	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	21.1	6-7	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	24.4	3	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	28.1	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	40.2	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	44.3	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	44.3	11	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	48.3	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	56.4	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	56.4	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	56.4	7-8	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	60.6	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	60.6	2-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	60.6	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	60.6	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	64.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	64.7	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	68.7	12-1	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	72.6	8-9	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	72.6	12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	72.6	2	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	73	3-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	76.7	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	76.7	6-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-17	23-4:5-B	80.7	4-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	80.7	1-2	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	84.2	7-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	84.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	84.9	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	88.5	7	1	Surface Damage Aggregate Missing	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	88.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	88.5	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	89.6	6-10	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	92.8	3-5	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	92.8	9-10	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	101	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	101.1	3-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	105	4	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	109	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	113.1	6	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	113.1	8-9	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	117	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	117	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	120.4	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	121.5	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	127.4	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-17	23-4:5-B	129	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	3	10-11	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	15.1	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	23.1	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	31	6-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	35.5	4-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-18	23-1:5-A	35.5	7-8	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	5.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	7.5	7-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	8	8-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	9.5	9	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	9.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	12.2	6-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	14.9	7-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	14.9	11	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	17.7	6-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	19.9	7-11	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	19.9	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	22.7	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-19	23-1:23-2	22.7	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	0-52.6	10-2	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	3.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	3.1	7-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	3.9	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	5	6-8	1	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	5	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	6.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	6.8	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	7.9	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	7.9	1-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	8.4	10-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	8.5	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	9.8	5-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-20	23-2:23-3	10.3	6-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	11.6	2-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	14.2	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	17.6	7-4	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	21.7	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	22	7-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	25.1	6-10	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	33.9	12-5	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	33.9	4	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	37	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	39	3-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-20	23-2:23-3	44.4	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	0-26.1	12-12	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	4.9	5-6	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	7.4	6-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	11.1	6-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	14.6	6-9	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	14.6	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	16	6-8	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	18.2	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-21	23-3:23-4	23.7	10-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-22	5-F:D-12	0	6	1	Surface Damage Aggregate Visible	Degradation due to elevated levels of H2S	Liner Installed	January-2024	-
2023-22	5-F:D-12	0-55.8	9-3	2	Surface Damage Aggregate Projecting	Degradation due to elevated levels of H2S	Liner Installed	January-2024	-
2023-22	5-F:D-12	2	8-9	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	2	1-3	2	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	9	2-3	3	Surface Damage Reinforcement Visible	Degradation due to elevated levels of H2S	Liner Installed	January-2024	-
2023-22	5-F:D-12	12.4	7-8	2	Fracture Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	15.5	6-7	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	21.4	7-8	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	24.3	6-7	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	24.3	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	25.5	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	27.3	8-9	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	27.3	4	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	31.5	5-6	2	Fracture Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	31.5	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	36.5	3-9	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	40.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	40.4	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	40.5	1	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	44.3	3-5	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	44.3	8-9	2	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	48.9	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	48.9	12	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	52.3	11-12	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	52.3	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	55.8	7-8	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	55.8	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	55.8	2	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	55.8-134.5	9-3	3	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	59.8	12-12	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	64.2	3-5	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	68	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	75.9	4-5	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	91.9	5-8	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-22	5-F:D-12	96.8	4-6	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	105	10-12	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	113.2	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	113.2	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	116.9	7-8	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	116.9	5-6	2	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-22	5-F:D-12	128.6	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	0-136.9	8-4	1	Surface Damage Aggregate Visible	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	5.6	8-9	2	Surface Damage Aggregate Missing	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	23	8-10	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	28	3-4	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	34.8	9-11	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	38.9	8	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	40.8	8-10	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	53.5	8-10	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	59.7	7-10	1	Crack Multiple	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	63.8	7-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	63.8	10	2	Surface Damage Aggregate Missing	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	66.5	10	2	Surface Damage Aggregate Missing	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	69.3	9-3	3	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	72.2	NA	1	Joint Separated Medium	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	79	6-9	1	Intruding Sealing Material Grout	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	111.8	9-10	3	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	117	3-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	124.1	3-6	1	Crack Spiral	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-36	5-F:D-12	134.1	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-28	5-E:5-F	2-61.3	10-2	3	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Continue monitoring condition
2023-28	5-E:5-F	5.9	6-7	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	5.9	3-6	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	9.8	4-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	17.9	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	35.5	8	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	38.3	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	38.3	9-3	2	Crack Longitudinal Hinge, 2	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	42.5	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	42.5	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	54.6	5-6	1	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	58.9	4	3	Fracture Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Continue montioring condition
2023-28	5-E:5-F	61.4-234	8-4	3	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Continue montioring condition
2023-28	5-E:5-F	67.3	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	79.3	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	87.3	4-5	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	91.8	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	95.5	10-11	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	99.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	132.5	1	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	139.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	144.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	157.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	161	11-12	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	165.4	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	168.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	168.9	4-5	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	172.8	4-5	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	177.1	12	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-28	5-E:5-F	184.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	195.5	3-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	213.6	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	213.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	225.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	234.1-268	10-2	2	Surface Damage Reinforcement Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	245.3	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	257.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	257.5	11	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-28	5-E:5-F	263.7	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	0-207.7	12-12	1	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	2.3	5-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	3.1	5-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	4.3	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	5.3	4-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	6	4-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	6.9	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	7.5	5-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	9.1	3-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	11.3	5-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	12.8	4-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	17.6	4-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	20.2	4-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	24.2	5-7	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	27.5	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	30.6	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	31.1	5-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	34.9	4-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	36.1	5-8	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	38.5	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	41.5	6-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	42.4	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	43.9	6-8	2	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	45.1	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	47.1	6-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	49.6	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	51.1	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	52.1	6-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	54.2	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	54.6	5-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	58.4	4-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	60	4-6	1	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	61.8	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	61.8	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	62.5	5-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	66.4	3-7	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	69.4	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	6934	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	75.6	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	77.2	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	79	5-7	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	87.3	3-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	100.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	107.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	119.7	4-6	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-29	5-P:5-O	123.2	10	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	126.8	4-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	131.6	5-6	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	133.7	6-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	134.4	2	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	138.3	12-12	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	139.1	5-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	143	4-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	145.9	3	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	145.9	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	146.7-150	4-8	2	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	153.6-158.8	4-9	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	161.2	5-7	2	Crack Spiral	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	165.9	6-8	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	174	3-9	1	Crack Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	176.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	176.7	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	180.8	5-8	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	184	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	184	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-29	5-P:5-O	206	7-5	2	Fracture Circumferential	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	0-82	12-12	1	Surface Aggregate Visible	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	12.8	9-10	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	20.7	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	21.4	4-7	1	Crack Multiple	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	27.1	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	36	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	51.5	5	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	51.5	7	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	73.8	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-30	5-O:5-M	80.5	6	1	Crack Longitudinal	Normal degradation of pipe over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-34	5-M:D-12	52.6-106	12-12	2	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-35	5-M:D-12	0-103.4	12-12	2	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-37	5-M:D-12	0-164.1	12-12	2	Surface Damage Roughness Increased	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-37	5-M:D-12	17	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-37	5-M:D-12	17	5	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-37	5-M:D-12	22.5	7	2	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-37	5-M:D-12	27-31	4	1	Crack Longitudinal	Normal degradation of pipe over lifetime	Liner Installed	January-2024	-
2023-ST-9	23-1	0.5	9-10	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-9	23-1	1	5-9	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-9	23-1	3.8	6	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-9	23-1	3.8	7	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-10	23-2	4	4	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-10	23-2	6	9	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-10	23-2	6	1-4	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-10	23-2	7	12	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-11	23-3	1.5-4	2-6	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-11	23-3	4	11	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-11	23-3	5	6	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-11	23-3	6.5	7	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-12	23-4	0.2	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-12	23-4	5.5	9	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-12	23-4	6	11-12	1	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-12	23-4	7	9-10	1	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-12	23-4	7.3	9-10	1	Crack Circumferential	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-1
Complete Sewer Line Defects
HF Sinclair Puget Sound Refining, LLC

Segment ID	Manhole ID (start: finish)	Distance (feet)	Orientation on Pipe (clock)	Environmental Rating (1-4)	Description of Defect/ NASSCO Rating	Cause of Defect	Corrective Action	Date of Action	Life Expectancy
D-Street Inspections 2023									
2023-ST-13	5-C	0-9.8	12-12	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-13	5-C	4.5	12	1	Crack Multiple	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-13	5-C	4.5	1	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	1-2.6	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	4.5-7	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	4.9-6.5	6	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	5.7	9	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	6.3	11	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-15	5-B	8-10.8	12-12	2	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-16	5-D	1	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-16	5-D	2.5-6	12-6	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-17	5-E	1.3-3.8	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-17	5-E	3.8-6.5	12-12	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-17	5-E	4.8	1	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-17	5-E	5	6	2	Surface Damage Reinforcement Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-18	5-F	0.7	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-18	5-F	2.3-8.5	12	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-19	5-M	1-7.5	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-19	5-M	7.6	12-12	2	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-20	5-O	0.5	12-12	1	Surface Damage Aggregate Visible	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-20	5-O	0.6-6.2	12-12	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-20	5-O	2.6	6	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-20	5-O	5.5	2-4	1	Crack Spiral	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-21	5-P	2.8	6-7	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-21	5-P	3	12	1	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-21	5-P	4.8	12	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-21	5-P	5.2	2	1	Crack Longitudinal	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-22	B-02	5.5	6	1	Surface Damage Roughness Increased	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-22	B-02	6.5	12	1	Surface Damage Surface Spalling	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-22	B-02	7.2	3	1	Surface Damage Surface Spalling	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory
2023-ST-22	B-02	9	11	2	Surface Damage Aggregate Missing	Normal degradation of manhole over lifetime	No Remedial Action Taken	-	Condition remains satisfactory

Table B-2
SWMU-1 Soil Sample Descriptions
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Date	Soil Sample Description	PID (ppm)	Sheen Test[(a)]
AOC-1				
B-1-23 6 ft	4/10/2023	Gravelly silty sand, brown	0.6	SS
B-2-23 6 ft	4/10/2023	Medium to fine silty sand, brown to black	1.1	SS
B-3-23 5 ft	4/13/2023	Silty sand with gravel, brown, firm	1087	VHS
B-4-23 5.5 ft	4/13/2023	Medium to fine sand, brown, firm	860	VHS
AOC1-1-111925 6-7ft	11/19/2025	Silty sand with clay and gravel, brown, firm, wet	12	NS
AOC1-1-111925 14-15ft	11/19/2025	Silty clay with minor gravel, gray with brown mottling, hard, moist	9	NS
AOC-2				
B-1-14 ft-120224	12/2/2024	Silty sand with clay, gray, firm, moist	0.6	MS
B-1-16 ft-120224	12/2/2024	Silty clay with gravel, gray, firm, moist	0.1	SS
B-1-20 ft-120224	12/2/2024	Silty clay with gravel, gray, firm, moist	0.2	NS
B-2-14 ft-120224	12/2/2024	Silty sand with gravel, brown, soft, wet	0.1	NS
B-2-16 ft-120224	12/2/2024	Silty sand with gravel, brown, soft, moist	0.1	NS

[(a)] NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen; VHS = Very Heavy Sheen

Table B-3
SWMU-1 Soil Method C and Protection of Groundwater Quality MTCATPH Workbook Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Measured TPH Soil Concentration[a][b] (mg/kg)	Method C (For Industrial Land Use) Soil Direct Contact Pathway: Exposure via Combined Incidental Ingestion and Dermal Contact			Soil Protection of Potable Groundwater Quality: Leaching Pathway
		TPH Cleanup Level[c] (mg/kg)	Noncancer Hazard Index (Must not exceed 1)	Cancer Hazard Index (Must not exceed $1x10^{-5}$)	Modeled Protective TPH Soil Concentration[d] (mg/kg)
AOC-1					
B-1-23 6 ft (4/10/2023)	51.01	24,000	2.1×10^{-3}	5.1×10^{-9}	170
B-2-23 6 ft (4/10/2023)	**1,576.01**	33,000	4.8×10^{-2}	1.3×10^{-7}	170
B-3-23 5 ft (4/13/2023)	100.72	18,000	5.6×10^{-3}	6.7×10^{-8}	170
B-4-23 5.5 ft (4/13/2023)	159.01	23,000	7.0×10^{-3}	3.9×10^{-8}	170
AOC1-1-111925 6-7ft (11/19/2025)	96.67	24,000	4.0×10^{-3}	3.4×10^{-9}	600
AOC1-1-111925 14-15ft (11/19/2025)	109.25	25,000	4.4×10^{-3}	3.2×10^{-9}	1,200
AOC-2					
B-1-14 ft-120224 (12/2/24)	83.13	40,000	2.1×10^{-3}	5.1×10^{-9}	830
B-1-16 ft-120224 (12/2/24)	51.13	24,000	2.1×10^{-3}	5.1×10^{-9}	300
B-1-20 ft-120224 (12/2/24)	51.13	24,000	2.1×10^{-3}	5.1×10^{-9}	300
B-2-14 ft-120224 (12/2/24)	51.13	24,000	2.1×10^{-3}	5.1×10^{-9}	300
B-2-16 ft-120224 (12/2/24)	51.13	24,000	2.1×10^{-3}	5.1×10^{-9}	300

[a] The measured total petroleum hydrocarbon (TPH) soil concentration is automatically calculated based on inserted soil analytical data into the MTCATPH Version 12.0 Workbook for Calculating Cleanup Levels for Petroleum Mixtures.

[b] The measured TPH sample concentration fails compliance if it exceeds the modeled TPH soil concentration that is protective of the target TPH groundwater concentration.

[c] The overall TPH cleanup levels are automatically calculated based on a noncancer Hazard Index (HI) of 1 via the MTCATPH Version 12.0 Workbook for Calculating Cleanup Levels for Petroleum Mixtures.

[d] The modeled TPH soil concentration is protective of the Method A TPH potable groundwater cleanup level from WAC 173-340-890 Table 720-1 (the target TPH groundwater concentration).

BOLD & shaded indicates that the concentration in the sample exceeds the most stringent cleanup level.

Table B-4
SWMU-1 Soil Petroleum Analytical Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Analyte	Method	Units	MTCA Method C Direct Contact Cleanup Level[a]:	Protection of Ground Water (Vadose)[b]:	AOC-1						AOC-2				
					B-1-23 6 ft	B-2-23 6 ft	B-3-23 5 ft	B-4-23 5.5 ft	AOC1-1-111925 6-7ft	AOC1-1-111925 14-15ft	B-1-14 ft-120224	B-1-16 ft-120224	B-1-20-120224	B-2-14 ft-120224	B-2-16 ft-120224
					4/10/2023	4/10/2023	4/13/2023	4/13/2023	11/19/2025	11/19/2025	12/2/2024	12/2/2024	12/2/2024	12/2/2024	12/2/2024
Aliphatic EC > 5-6	NWVPH	mg/kg	-	-	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)
Aliphatic EC >6-8	NWVPH	mg/kg	-	-	ND(<5.0)	ND(<5.0)	10	11.00	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)
Aliphatic EC >8-10	NWVPH	mg/kg	-	-	ND(<5.0)	ND(<5.0)	9.4	14	ND(<5.0)	ND(<5.0)	ND(<24)	ND(<5.0)	ND(<5.0)	ND(5.0)	ND(<5.0)
Aliphatic EC >10-12	NWEPH	mg/kg	-	-	ND(<12)	ND(<5.0)	ND(<12)	16	ND(<5.0)	ND(<5.0)	ND(<12)	ND(<12)	ND(<13)	ND(<12)	ND(<11)
Aliphatic EC >12-16	NWEPH	mg/kg	-	-	ND(<12)	56	14	23	ND(<11.1)	ND(<13.2)	ND(<12)	ND(<12)	ND(<13)	ND(<12)	ND(<11)
Aliphatic EC >16-21	NWEPH	mg/kg	-	-	ND(<12)	190	ND(<12)	15	ND(<11.1)	ND(<13.2)	ND(<12)	ND(<12)	ND(<13)	ND(<12)	ND(<11)
Aliphatic EC >21-34	NWEPH	mg/kg	-	-	ND(<12)	210	ND(<12)	ND(<13)	ND(<11.1)	ND(<13.2)	38	ND(<12)	ND(<13)	ND(<12)	ND(<11)
Aromatic EC >8-10	NWVPH	mg/kg	-	-	ND(<5.0)	ND(<5.0)	12	15	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)	ND(<5.0)
Aromatic EC >10-12	NWEPH	mg/kg	-	-	ND(<12)	ND(<10)	ND(<12)	ND(<13)	ND(<5.0)	ND(<5.0)	ND(<12)	ND(<12)	ND(<13)	ND(<0.012)	ND(<11)
Aromatic EC >12-16	NWEPH	mg/kg	-	-	ND(<12)	ND(<10)	ND(<12)	ND(<13)	ND(<11.1)	ND(<13.2)	ND(<12)	ND(<12)	ND(<13)	ND(<0.012)	ND(<11)
Aromatic EC >16-21	NWEPH	mg/kg	-	-	ND(<12)	100	ND(<12)	ND(<13)	ND(<11.1)	ND(<13.2)	ND(<12)	ND(<12)	ND(<13)	ND(<0.012)	ND(<11)
Aromatic EC >21-34	NWEPH	mg/kg	-	-	ND(<12)	1000	ND(<12)	ND(<13)	ND(<11.1)	ND(<13.2)	ND(<12)	ND(<12)	ND(<13)	ND(<0.012)	ND(<11)
Benzene	EPA-8260	mg/kg	2,400	0.03[c]	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)	ND(<0.005)
Toluene	EPA-8260	mg/kg	280,000	4.5	ND(<0.01)	ND(<0.01)	0.014	ND(<0.01)	ND(<0.01)	ND(<0.01)	(ND<0.01)	(ND<0.01)	(ND<0.01)	(ND<0.01)	(ND<0.01)
Ethylbenzene	EPA-8260	mg/kg	350,000	5.9	ND(<0.01)	(ND<0.01)	0.018	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)
Xylenes	EPA-8260	mg/kg	700,000	14	ND(<0.02)	ND(<0.02)	0.066	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
Hexane	EPA-8260	mg/kg	210,000	72	ND(<0.01)	ND(<0.01)	0.35	0.018	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)	ND(<0.01)

[a] Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic value was applied.

[b] Protection of groundwater values obtained from CLARC tables unless otherwise noted, as discussed in WAC 173-340-720.

[c] MTCA A cleanup level for industrial properties was chosen because it is an ARAR. MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

ND indicates analyte was not detected at level above reporting limit (shown in parentheses)

Table B-5
SWMU-1 Soil Sample Metal Analytical Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	EPA-6020 Arsenic	EPA-6020 Cadmium	EPA-7196 Chromium (VI)	CrVI - Total Cr Chromium(III)	EPA-6020 Lead	EPA-6020 Nickel	EPA-7471 Mercury	EPA-6020 Zinc
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MTCA Method C Direct Contact Cleanup Level[a]:	88	3500	260	5,300,000	1000[c]	70,000	2.0[c]	1,100,000
Protection of Ground Water (Vadose)[b]:	20[c]	0.69	19[c]	480,000	3,000	130	2.1	-
AOC-1								
B-1-23 6 ft (4/10/2023)	2.6	0.11	ND(<5)	26	6.8	38	0.025	41
B-2-23 6 ft (4/10/2023)	3.2	0.12	ND(<5)	40	6.7	52	0.044	49
B-3-23 5 ft (4/13/2023)	4	ND(<0.1)	ND(<5)	37	4.0	64	0.026	52
B-4-23 5.5 ft (4/13/2023)	2.8	ND(<0.1)	ND(<5)	33	3.0	61	0.038	41
AOC1-1-111925 6-7ft (11/19/2025)	6.1	0.21	ND(<5)	50	7.7	71	0.061	94
AOC1-1-111925 14-15ft (11/19/2025)	8.6	0.14	ND(<5)	47	6.4	51	0.047	87
AOC-2								
B-1-14 ft-120224 (12/2/24)	3.2	0.11	ND(<5)	38	3.7	52	0.032	52
B-1-16 ft-120224 (12/2/24)	6.2	0.16	ND(<5)	44	5.2	52	0.041	71
B-1-20 ft-120224 (12/2/24)	5.3	0.47	ND(<5)	52	5.6	120	0.049	77
B-2-14 ft-120224 (12/2/24)	2.7	ND(<0.1)	ND(<5)	34	2.2	66	0.083	35
B-2-16 ft-120224 (12/2/24)	2.5	ND(<0.1)	ND(<5)	30	2.1	67	ND(<0.02)	32

[a] Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic value was applied.

[b] Protection of groundwater values obtained from CLARC tables unless otherwise noted.

[c] MTCA A cleanup level for industrial properties was chosen because it is an Applicable or Relevant and Appropriate Requirement (ARAR). MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

ND indicates analyte was Not Detected at level above reporting limit (shown in parentheses)

Table B-6
SWMU-1 Soil Sample cPAH Analytical Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	EPA-8270 Benzo[A]Anthracene	EPA-8270 Benzo[A]Pyrene	EPA-8270 Benzo[B]Fluoranthene	EPA-8270 Benzo[K]fluoranthene	EPA-8270 Chrysene	EPA-8270 Dibenz[A,H]Anthracene	EPA-8270 Indeno[1,2,3-Cd]Pyrene	Total cPAH Equivalent (TEQ)[d]	Total TMEQ
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
MTCA Method C Direct Contact Cleanup Level[a]:	--	130	--	--	--	--	--	130	3.9
Protection of Groundwater (Vadose)[b]:	0.72[c]	4	2.46[c]	2.46[c]	0.8[c]	3.57[c]	6.94[c]	--	--
Toxicity Equivalency Factor (TEF):	0.1	1	0.1	0.1	0.01	0.1	0.1	--	--
Relative Mobility Factor (RMF_n):	2.71	1	0.79	0.79	2.43	0.54	0.28	--	--
AOC-1									
B-1-23 6 ft (4/10/2023)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015
B-2-23 6 ft (4/10/2023)	0.076	0.35	0.17	ND(<0.02)	0.11	0.12	0.1	0.399	0.397
B-3-23 5 ft (4/13/2023)	ND(<0.1)	ND(<0.1)	ND(<0.1)	ND(<0.1)	0.11	ND(<0.1)	ND(<0.1)	0.016	0.078
B-4-23 5.5 ft (4/13/2023)	0.096	0.07	0.067	ND(<0.02)	0.17	ND(<0.02)	ND(<0.02)	0.091	0.107
AOC1-1-111925 6-7ft (11/19/2025)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	0.005	0.005
AOC1-1-111925 14-15ft (11/19/2025)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	0.005	0.005
AOC-2									
B-1-14 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015
B-1-16 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015
B-1-20 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015
B-2-14 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015
B-2-16 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.015	0.015

(a) Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic value was applied.

(b) Protection of groundwater values obtained from CLARC tables unless otherwise noted.

(c) Values calculated from WAC 173-340-747, Equation 747-1. cPAHs were calculated using the MTCA Method A groundwater cleanup level for benzo[a]pyrene.

(d) cPAH level calculated using Toxicity equivalency methodology provided in WAC 173-340-708(8)

ND indicates analyte was not detected at level above reporting limit (shown in parentheses)

For ND values, the TEF was multiplied by one half the reporting limit

TEF - Toxicity Equivalency Factor (WAC 173-340-900 table 708.2)

TEQ - Toxicity Equivalency to benzo(a)pyrene, calculated by taking the sum of each result multiped by its appropriate TEF

TMEQ - Toxic Mobility Equivalent Concentration, calculated by multiplying result by appropriate TEF and RMF

RMF_n - Relative Mobility Factor (Evaluating the Human Health Toxicity of Carcinogenic PAHs (cPAHs) Using Toxicity Equivalency Factors (TEFs) - Implementation Memorandum 10)

Table B-7
SWMU-1 Soil Sample PAH Analytical Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	EPA-8270 Acenaphthene	EPA-8270 Acenaphthylene	EPA-8270 Anthracene	EPA-8270 Benzo[G,H,I]Perylene	EPA-8270 Fluoranthene	EPA-8270 Fluorene	EPA-8270 Total Naphthalene[c]	EPA-8270 Phenanthrene	EPA-8270 Pyrene
	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
MTCA Method C Direct Contact Cleanup Level[a]:	210,000	-	1,100,000	-	140,000	140,000	70,000	-	110,000
Protection of Groundwater (Vadose)[b]:	49	-	1,100	-	630	51	5[d]	-	330
AOC-1									
B-1-23 6 ft (4/10/2023)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
B-2-23 6 ft (4/10/2023)	0.027	0.03	0.091	0.51	0.068	ND(<0.02)	ND(<0.02)	ND(<0.02)	0.047
B-3-23 5 ft (4/13/2023)	0.53	0.12	ND(<0.1)	ND(<0.1)	ND(<0.1)	0.65	**5.2**	3.00	0.4
B-4-23 5.5 ft (4/13/2023)	0.18	0.04	ND(<0.02)	0.03	0.11	0.17	0.84	0.86	0.32
ACO1-1-111925 6-7ft (11/19/2025)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)	ND(<0.0065)
AOC-1-111925 14-15ft (11/19/2025)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)	ND(<0.0061)
AOC-2									
B-1-14 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
B-1-16 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
B-1-20 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
B-2-14 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)
B-2-16 ft-120224 (12/2/24)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)	ND(<0.02)

[a] Method C cleanup levels obtained from CLARC tables calculated from WAC 173-370-745, Equation 745-2 (carcinogens) based on soil direct contact. If no carcinogenic value was listed then the non-carcinogenic vale was applied.

[b] Protection of groundwater values obtained from CLARC tables unless otherwise noted.

[c] Sum of naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.

[d] MTCA A cleanup level for industrial properties was chosen because it is an ARAR. MTCA A cleanup levels are already adjusted for leaching and natural background concentrations.

BOLD & shaded - indicates that the concentration in the sample exceeds the most stringent cleanup level.

ND indicates analyte was Not Detected at level above reporting limit (shown in parentheses)

Table B-8
SWMU-1 B Street: Groundwater Petroleum Analytical Data Table
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Analyte	Method	Units	MTCA Method A Cleanup Level	W-130		W-131	Field Equipment Blank	W-130		W-131	Field Equipment Blank	W-132		Field Equipment Blank
				12/13/2024	12/13/2024 (dup.)	12/13/2024	12/13/2024	1/22/2025	1/22/2025 (dup.)	1/22/2025	1/22/2025	12/4/2025	12/4/2025 (dup.)	12/4/2025
Aliphatic EC 5-6	NWVPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)
Aliphatic EC >6-8	NWVPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)
Aliphatic EC >8-10	NWVPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)
Aliphatic EC >10-12	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aliphatic EC >12-16	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aliphatic EC >16-21	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aliphatic EC >21-34	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aromatic EC >8-10	NWVPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)
Aromatic EC >10-12	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aromatic EC >12-16	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aromatic EC >16-21	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Aromatic EC >21-34	NWEPH	ug/L	No Level	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<50)	ND(<39.7)	ND(<39.4)	ND(<39.9)
Benzene	EPA-8260	ug/L	5[(a)]	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)
Toluene	EPA-8260	ug/L	1,000[(a)]	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)
Ethylbenzene	EPA-8260	ug/L	700[(a)]	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)	ND(<2.0)
Xylenes	EPA-8260	ug/L	1,000	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)	ND(<4.0)
Hexane	EPA-8260	ug/L	-	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)	ND(<6.8)

ND indicates analyte was Not Detected at level above reporting limit. Reporting limit is given in parentheses.

[(a)] Indicates Washington Maximum Contaminant Level (MCL).

Table B-9
SWMU-1 B Street: Groundwater Sample Metal Analytical Results
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Well ID	Date	EPA-200.8 Arsenic (Dissolved) µg/L	EPA-200.8 Cadmium (Dissolved) µg/L	EPA-7196 Chromium VI (Dissolved) µg/L	Calc-Cr3 Chromium III (Dissolved) µg/L	EPA-200.8 Chromium (Dissolved) µg/L	EPA-200.8 Lead (Dissolved) µg/L	EPA-200.8 Nickel (Dissolved) µg/L	EPA-245.1 Mercury (Dissolved) µg/L	EPA-200.8 Zinc (Dissolved) µg/L
MTCA Method A Cleanup Levels:		5	5	-	-	50	15	-	2	-
EPA Drinking Water MCL[a]:		10	-	-	-	-	-	-	-	-
W-130	12/13/2024	2.4	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	4.4
	12/13/2024 (dup.)	2.3	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	1/22/2025	2.2	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	1/22/2025 (dup.)	2.2	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
W-131	12/13/2024	**5.1**	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	1/22/2025	4.0	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
W-132-120425	12/4/2025	ND(<1.0)	ND(<1.0)	NA[b]	NA[b]	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	12/4/2025 (dup.)	ND(<1.0)	ND(<1.0)	NA[b]	NA[b]	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	12/12/2025	NS	NS	ND(<10)	ND(<2.0)	NS	NS	NS	NS	NS
	12/12/2025 (dup.)	NS	NS	ND(<10)	ND(<2.0)	NS	NS	NS	NS	NS
Field Equipment Blank	12/13/2024 (FEB)	ND(<1.0)	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	1/22/2025 (FEB)	ND(<1.0)	ND(<1.0)	ND(<10)	ND(<2.0)	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	12/4/2025 (FEB)	ND(<1.0)	ND(<1.0)	NS	NS	ND(<2.0)	ND(<1.0)	ND(<2.0)	ND(<0.20)	ND(<2.5)
	12/12/2025 (FEB)	NS	NS	ND(<10)	ND(<2.0)	NS	NS	NS	NS	NS

[a] EPA's current arsenic drinking water maximum contaminant level (MCL) was chosen as the cleanup level because it is an ARAR. EPA's MCL protects consumers from the effects of long-term, chronic exposure to arsenic.

[b] Lab error due to 24 hour hold time. Groundwater sample recollected for chromium VI.

BOLD & shaded - indicates that the concentration in the sample exceeds the most stringent cleanup level.

ND - indicates analyte was not detected at level above reporting limit (shown in parentheses)

Table 10

SWMU-1 B Street: Groundwater Sample cPAH Analytical Results

HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Date	EPA - 8270 Benzo[A]Anthracene	EPA - 8270 Benzo[A]Pyrene	EPA - 8270 Benzo[B]Fluoranthene	EPA - 8270 Benzo[K]fluoranthene	EPA - 8270 Chrysene	EPA - 8270 Dibenz[A,H]Anthracene	EPA - 8270 Indeno[1,2,3-Cd]Pyrene	Total cPAH Equivalent (TEQ)[a]
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Toxicity Equivalency Factor (TEF):		0.1	1	0.1	0.1	0.01	0.1	0.1	--
MTCA Method A Cleanup Level:		--	0.1[b]	--	--	--	--	--	0.1[b]
W-130	12/13/2024	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
	12/13/2024 (dup.)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
	1/22/2025	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
	1/22/2025 (dup.)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
W-131	12/13/2024	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
	1/22/2025	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
W-132	12/4/2025	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	0.023
	12/4/2025 (dup.)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	0.023
Field Equipment Blank	12/13/2024 (FEB)	0.095	0.085	0.09	0.091	0.097	0.077	0.086	0.130
	1/22/2025 (FEB)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.015
	12/4/2025 (FEB)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	0.023

[a] cPAH level calculated using Toxicity equivalency methodology provided in WAC 173-340-708(8) use. If no carcinogenic value was listed then the non-carcinogenic value was applied.

[b] Method A cleanup level of Benzo(a)pyrene

ND - indicates analyte was not detected at level above reporting limit (shown in parentheses)

For ND values, the TEF was multiplied by one half the reporting limit

TEF - Toxicity Equivalency Factor (WAC 173-340-900 table 708.2)

TEQ - Toxicity Equivalency to benzo(a)pyrene, calculated by taking the sum of each result multiped by its appropriate TEF

Table B-11

SWMU-1 B Street: Groundwater Sample PAH Analytical Results

HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Sample ID	Date	EPA-8270 Acenaphthene	EPA-8270 Acenaphthylene	EPA-8270 Anthracene	EPA-8270 Benzo[G,H,I]Perylene	EPA-8270 Fluoranthene	EPA-8270 Fluorene	EPA-8270 Naphthalenes[b]	EPA-8270 Phenanthrene	EPA-8270 Pyrene
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MTCA Method A Cleanup Level[a]:		-	-	-	-	-	-	160	-	-
MTCA Method B Cleanup Level[a]:		480	-	2400	-	640	320	160	-	240
W-130	12/13/2024	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
	12/13/2024 (dup.)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
	1/22/2025	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
	1/22/2025 (dup.)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
W-131	12/13/2024	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
	1/22/2025	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	0.196	ND(<0.020)	ND(<0.020)
W-132	12/4/2025	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)
	12/4/2025 (dup.)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)
Field Equipment Blank	12/13/2024 (FEB)	0.11	0.088	0.097	0.098	0.11	0.09	0.233	0.1	0.099
	1/22/2025 (FEB)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)	ND(<0.020)
	12/4/2025 (FEB)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)	ND(<0.030)

[a] Method A and B cleanup levels obtained from CLARC tables calculated from WAC 173-340-720, Equation 720-1 and 720-2 (carcinogens), respectively, based on drinking water beneficial use. If no carcinogenic value was listed then the non-carcinogenic value was applied.

[b] Sum of naphthalene, 1-methylnaphthalene and 2-methylnaphthalene.

ND - indicates analyte was not detected at level above reporting limit (shown in parentheses)

Table B-12
SWMU-1 B Street: Groundwater Chemistry Parameters
HFS OWS AOC Investigation
HF Sinclair Puget Sound Refining LLC - Anacortes, WA

Well ID	Date	DTW	GW Elevation [(a)]	Temp	EC	TDS	Salinity	DO	pH	ORP	Turbidity
		(ft)	(ft)	(^{o}C)	(mS/cm)	(g/L)	(ppt)	(mg/L)		(mV)	(NTU)
W-130	12/13/2024	11.85	-	23.6	0.2735	0.1779	0.13	5.71	7.69	40.7	2.28
	1/22/2025	11.81	-	24.8	0.2933	0.1935	0.14	5.51	7.25	76.1	1.35
W-131	12/13/2024	11.81	-	17.2	0.2832	0.1845	0.14	0.34	6.88	77.5	5.85
	1/22/2025	11.75	-	15.4	0.2601	0.1703	0.13	1.03	7.37	74	1.38
W-132	12/4/2025	4.08	-	12.9	0.3607	0.2344	0.17	3.35	7.32	-60.1	31.2

[(a)] Wells are not surveyed, GW elevation cannot be compared to the mean sea level.

Table B-13
Oil Water Sewer - EIM Submission Information
HF Sinclair Puget Sound Refinery - Anacortes, WA

Study	Sampling Location	Sampling Dates	Receipt Date of Validated Data	Validation Performed	Date submitted to Ecology's EIM system			Associated EIM Study ID Number
					EIM Location File	EIM Result File	EIM Well Water-Level File	
AOC-1	B-1-23 6 ft	4/10/2023	4/27/2023	EPA2B	6/14/2023	6/15/2023	--	CSID2865OWS
AOC-1	B-2-23 6 ft	4/10/2023	4/27/2023	EPA2B	6/14/2023	6/15/2023	--	CSID2865OWS
AOC-1	B-3-23 5 ft	4/13/2023	4/28/2023	EPA2B	6/14/2023	6/15/2023	--	CSID2865OWS
AOC-1	B-4-23 5.5 ft	4/13/2023	4/28/2023	EPA2B	6/14/2023	6/15/2023	--	CSID2865OWS
AOC-2	MW-130	12/13/2024	12/31/2024	EPA2B	1/7/2025	1/7/2025	1/7/2025	CSID2865OWS
AOC-2	MW-131	12/13/2024	12/31/2024	EPA2B	1/7/2025	1/7/2025	1/7/2025	CSID2865OWS
AOC-2	MW-130	1/22/2025	2/11/2025	EPA2B	1/7/2025	2/20/2025	2/20/2025	CSID2865OWS
AOC-2	MW-131	1/22/2025	2/11/2025	EPA2B	1/7/2025	2/20/2025	2/20/2025	CSID2865OWS
AOC-2	B-1-14 ft-120224	12/2/2024	12/20/2024	EPA2B	1/7/2025	1/7/2025	--	CSID2865OWS
AOC-2	B-1-16 ft-120224	12/2/2024	12/20/2024	EPA2B	1/7/2025	1/7/2025	--	CSID2865OWS
AOC-2	B-1-20 ft-120224	12/2/2024	12/20/2024	EPA2B	1/7/2025	1/7/2025	--	CSID2865OWS
AOC-2	B-2-14 ft-120224	12/2/2024	12/20/2024	EPA2B	1/7/2025	1/7/2025	--	CSID2865OWS
AOC-2	B-2-16 ft-120224	12/2/2024	12/20/2024	EPA2B	1/7/2025	1/7/2025	--	CSID2865OWS
AOC-1 Subsurface Investigation	AOC1-1-111925 6-7 ft	11/19/2025	12/17/2025	EPA2B	1/6/2026	1/6/2026	--	CSID2865OWS
AOC-1 Subsurface Investigation	AOC1-1-111925 15-15 ft	11/19/2025	12/17/2025	EPA2B	1/6/2026	1/6/2026	--	CSID2865OWS
AOC-1 Subsurface Investigation	MW-132	12/4/2025	12/29/2025	EPA2B	1/6/2026	1/6/2026	1/6/2026	CSID2865OWS
AOC-1 Subsurface Investigation	MW-132	12/12/2025	12/29/2025	EPA2B	1/6/2026	1/6/2026	1/6/2026	CSID2865OWS

APPENDIX C -
AOC-2 OILY WATER SEWER "B" STREET SEWER LINE REINSPECTION



Photo 1. B Street sewer with no liner at 21 feet traveling south from Manhole B-1 to B-3.



Photo 2. B Street sewer with new liner at 21 feet traveling south from Manhole B-1 to B-3.



Photo 3. B Street sewer reinspection at the south end of segment B-1 to B-3, where the PR 4 break location was located, post CIPP liner installation.

APPENDIX D -
AOC1-1 SOIL BORING LOG

GeoProbe Soil Boring Log

Project: HFS OWS AOC-1
Client: HFSPSR
Boring Number: AOC1-1
Location: East of D street in SRU-4
Date Completed: 11/19/2025

Sheet: 1 of 1
Drilled by: T. Watson - Cascade
Logged by: M.Roberts - ALL4
First Encountered Water: 2ft
Total Depth: ~15 ft

Depth	Description	Screening Depth	PID (ppm)	Sheen	Sample
Surface	Gravel/Crushed Rock				
1.00 ft	Quarry spall/large cobbles				
2.00 ft to 7.00 ft	Silty sand with clay and gravel, brown, firm, wet.	2'	3.4	NS	
	- water content decreased with depth indicating perched water conditions.	3'	4.7	NS	
		4'	5.8	NS	
		5'	6.7	NS	
		6'	12.4	NS	
					6-7 ft
7.00 to 15.00 ft	Silty clay with minor gravel, gray with brown/orange mottling, hard, moist.	7'	9.4	NS	
		8'	6.1	NS	
		10'	2.3	NS	
		11'	2.9	NS	
		12'	8.3	NS	
		13'	9.7	NS	
		14'	8.8	NS	
					14-15 ft
		15'	6.7	NS	

Soil Sample Collection Depth

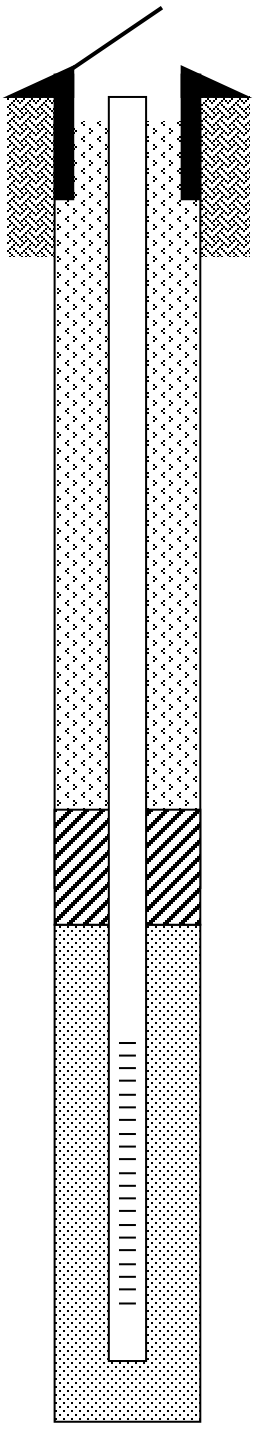
ALL4 LLC

www.all4inc.com

NS = No Sheen; VSS = Very Slight Sheen; SS = Slight Sheen; MS = Moderate Sheen; HS = Heavy Sheen

APPENDIX E -
W-132 (AOC-1 111925) WELL LOG

Well Design Specifications



Not to Scale

Depths in Feet Below Ground Surface

~1.5

3

5

15

15.5

15.5

Elevations (feet): Top of Casing:
Mean Sea Level (MSL) Ground Elevation:

Coordinates:

Coordinate System:

Type of Casing: PVC

Casing Diameter: 2"

Screen Slot: 0.01"

Screen Style: Machine slot

Sand Pack: Gillibrand 12/20

Bentonite Seal: 3/8" chip

Grout Type: N/A **Weight:** N/A

Bore Hole Diameter: 8"

Drill Rig: Geoprobe 7822 DT

Drilled by: Cascade Drilling - Tim Watson

Logged by: ALL4 - Matt Roberts

Completion Date: 11/19/2025

Date of Measurement	D-T-W (ft. bgs)	Water Level (ft. MSL)	Field pH	Field EC (mS/cm)
12/4/2025	4.08			

Comments:

Project: HFSPSR OWS B-Street

Location: East of D-street @ So. end of 100ft pipeway

ALL4 LLC
228 East Champion Street #101
Bellingham, WA 98225
(360) 752-9571

W-132 (AOC-1 111925)

Ecology Well ID:
BQK-335

APPENDIX F -
SAMPLING AND ANALYSIS PLAN SWMU 1 - OILY WATER SEWER AOC-1

SAMPLING AND ANALYSIS PLAN

SWMU 1 – OILY WATER SEWER

AREA OF CONCERN – 1

GROUNDWATER INVESTIGATION

HF SINCLAIR PUGET SOUND REFINING LLC

SUBMITTED BY:

ALL4 LLC
228 East Champion Street
Bellingham, WA 98225

SUBMITTED TO:

HF Sinclair PSR LLC
8505 South Texas Road
Anacortes, WA 98221

Section Name **Page Number**

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Appendix A - Figures

1. INTRODUCTION

Agreed Order No DE 16298 (AO) dated November 1, 2021, was entered into by the Washington State Department of Ecology (Ecology) and Equilon Enterprises LLC d/b/a Shell Oil Products concerning the Puget Sound Refinery, now known as HF Sinclair Puget Sound Refining LLC (HFSPSR). HFSPSR is situated two miles east of the city of Anacortes on the southern portion of March Point. The site address is 8505 South Texas Road, Anacortes, Washington 98221. (Figure A-1).

The objective of the AO is to investigate the integrity of the HFSPSR oily water sewer (OWS) system, also referred to as Solid Waste Management Unit 1 (SWMU-1). The OWS was constructed in accordance with the specifications in place in 1953 and consists of underground piping, drain hubs, manholes, hatches, and other access points. The OWS conveys process wastewater to the facility's effluent plant.

An Investigation and Response Plan (IRP) dated June 15, 2022, was prepared in accordance with the requirements in the AO. The IRP provides a framework to investigate the integrity of the OWS and respond to any potential releases of contamination to soil and/or groundwater. The IRP outlined four Phases of major OWS trunk line inspections to be completed by December 31, 2031.

Site characterization began in April 2023 along on D-Street from manhole D6.1 to D-21 to investigate sewer defects identified during voluntary video inspections completed by Shell from 2017-2019 and additional inspections performed in 2023 as discussed in the 2023 Annual Progress Report SWMU-1 Oily Water Sewer (WES, 2023). Four soil samples were collected along D-street to investigate the sewer defects. Analytical results from this investigation showed that soil sample B-3-23 5ft contained concentrations of Naphthalenes that exceeded the MTCA protection of groundwater, this sample also exceeded the protection of groundwater cancer risk threshold and hazard index threshold. Soil sample B-4-23 5.5 ft exceeded the protection of groundwater hazard index threshold. Due to these exceedances, the investigation area was named Area of Concern-1 (AOC-1). The AOC-1 location is shown on Figure A-2.

2. SAMPLING AND ANALYSIS PLAN

The soil and groundwater conditions at AOC-1 will be further investigated per the IRP. Soil samples will be collected from a soil boring that will be located downgradient from the B-3-23 sampling location at AOC-1. This sampling and analysis plan (SAP) describes sample collection, handling, and analysis procedures per Table 6.4 of the Washington State Department of Ecology's Guidance for Remediation of Petroleum Sites (Guidance), referenced in Section 3.3 of the IRP.

2.1 PROJECT SCHEDULE

The soil sampling will occur in the Spring of 2025.

2.2 SOIL BORING AND SOIL SAMPLING PROCEDURES

The following sections describe the soil boring and soil sampling procedures to be applied in the field.

2.2.1 Proposed Soil Boring Location

One borehole will be drilled, and two or more soil samples will be collected in the vicinity of AOC-1. The soil boring location is shown on Figure A-2. This soil boring location was chosen due to the inaccessible nature of the original sampling location, as critical site infrastructure prevents the installation of a monitoring well at a location closer to the original soil boring.

2.2.2 Preliminary Activities

Prior to the onset of field activities, all required permit(s) will be obtained from HFSPSR operations. The borehole locations will be marked with white paint and HFSPSR will provide an underground utility map for locations where work will be conducted at least 48 hours prior to the start of work. The boring location will be cleared to a depth of at least 5 feet (ft.) by hydro-excavation prior to initiating drilling.

2.2.3 Soil Boring and Soil Sampling Procedures

A licensed driller will drill the boring and collect soil samples using a Hollow Stem Auger drill rig. The soil will be described according to the Unified Soil Classification System and the description will be recorded on the boring log. The specific soil sample collection depths will be documented on the boring log. The soil boring will be drilled to a depth of 15 ft. below ground surface (bgs).

A groundwater monitoring well will be installed in the soil boring as discussed in section 2.2.7.

2.2.4 Field Screening Procedures

Soil from the sampling interval will be placed in a plastic re-sealable bag, and the tip of a photo-ionization detector (PID) will be inserted into the plastic bag to measure organic vapor concentrations in the headspace. The PID measurement will be recorded on the boring log and in the field notebook. The organic vapor headspace analyses will be conducted using a MiniRAE Model 3000 PID equipped with a 10.6 eV lamp (or equivalent). The PID will be calibrated daily in accordance with manufacturer's specifications using an isobutylene standard. The calibration gas and concentration will be recorded in the field notebook.

Sheen tests will be conducted using a portion of the soil core and distilled water. Sheen tests will be recorded as either NS – no sheen, SS – slight sheen, MS – moderate sheen, or HS – heavy sheen.

2.2.5 Soil Sample Collection

Soil boring depth intervals which yield field screening indications of petroleum impacts will be collected for laboratory analysis. If field screening does not indicate the presence of petroleum impacts, soil samples will be collected one foot below the depth of the sewer pipe (approximately six ft. bgs) and at the bottom of the soil boring (15 ft. bgs). Invert sewer pipe elevations are estimated from facility engineering drawing 35-AS-46.

If field screening indicates petroleum impacts at 15 feet bgs the soil boring will be advanced at five-foot intervals. The goal of the soil sampling exercise is to determine the total depth of petroleum impacts (if any are encountered) by collecting a clean soil sample at the bottom of the soil boring.

Soil samples will be collected as discrete samples, preserved in sample containers provided by the lab, and stored on ice in a cooler immediately after collection. If required, samples will be stored overnight in a refrigerator, at a secure location. Samples will be transferred to the laboratory following strict chain-of-custody procedures.

2.2.6 Soil Sample Analysis

Soil analyses for contaminants of concern will be performed by ALS Environmental in Everett, Washington. ALS Environmental is a Washington State Department of Ecology accredited laboratory. Soil samples will be submitted to the lab under chain-of-custody and analyzed for the following contaminants of concern per the IRP:

- NWTPH-EPH: Extractable Petroleum Hydrocarbons (EPH)
- NWTPH-VPH: Volatile Petroleum Hydrocarbons (VPH)
- EPA Method 8260: Benzene, toluene, ethylbenzene, and total xylenes (BTEX), ethylene dibromide (EDB), ethylene dichloride (EDC)
- EPA Method 8270 SIM: Polycyclic Aromatic Hydrocarbons (PAHs)
- EPA Method 6020 & 7471: Arsenic, cadmium, chromium, chromium III, chromium VI, lead, nickel, mercury, and zinc

2.2.7 Groundwater Monitoring Well Installation

Due to the soil exceedances observed during the 2023 investigation, a groundwater monitoring well will be installed downgradient of soil boring B-3-23. The monitoring well will be installed with a screened interval that starts above the sewer pipe (5 ft. bgs) and extends to a depth below the sewer pipe where contamination is no longer observed (15 ft. bgs). The final monitoring well installation parameters will be based on information gathered in the field.

The monitoring well will be constructed with machine-slotted, 2-inch diameter PVC pipe. Monitoring well construction will be in accordance with Washington State Resource Protection Well standards according to WAC 173-160. The groundwater monitoring well construction will be documented in a well construction diagram. The information recorded will consist of the well depth, the length and depth of the well screen, the type of materials used in well construction, the Ecology well tag number, and the name of the licensed driller who installed the well. The well will be installed with a flush mount well monument so as not to impede vehicle traffic patterns at the site.

2.2.8 Groundwater Sample Collection

Following the installation of the monitoring well, the monitoring well will be developed, and a groundwater sample will be collected. Groundwater samples will be collected utilizing low stress (low flow) purging and sampling procedures (EPA, 2017). Groundwater samples will be collected in sample containers provided by the lab and stored on ice in a cooler immediately after collection. If required, samples will be stored overnight in a refrigerator, at a secure location. Samples will be transferred to the laboratory following strict chain-of-custody procedures.

2.2.9 Groundwater Sample Analysis

Following the installation of the monitoring well, the monitoring well will be developed, and a groundwater sample will be collected. Soil analyses for contaminants of concern will be performed by ALS Environmental in Everett, Washington. ALS Environmental is a Washington State Department of Ecology accredited laboratory. Groundwater samples will be analyzed for the following contaminants of concern per the IRP:

- NWTPH-EPH: EPH
- NWTPH-VPH: VPH
- EPA Method 8260: BTEX, EDB, EDC
- EPA Method 8270 SIM: PAHs
- EPA Method 200.8 & 7471: Arsenic, cadmium, chromium, chromium III, chromium VI, lead, nickel, mercury, and zinc

Groundwater analyses for contaminants of concern will be performed by ALS Environmental in Everett, Washington. ALS Environmental is a Washington State Department of Ecology accredited laboratory.

2.2.10 Decontamination Procedures

Decontamination will be conducted using Alconox detergent followed by a distilled water rinse.

2.3 WASTE MATERIALS HANDLING PROCEDURES

Soil cuttings generated from hydro-excavation and drilling will be stored on-site in a drum or roll-off box. The soil will be removed from the site and transported under manifest to a client- and regulatory-approved facility for recycling or disposal. Groundwater and wash water generated during well installation, groundwater sampling activities, and during decontamination of sampling or drilling equipment will be containerized and disposed of at the refinery wash pad.

2.4 QUALITY ASSURANCE/QUALITY CONTROL

All soil characterization, sampling, and screening will be conducted by competent and trained personnel. Samples will be collected using decontaminated stainless-steel sampling implements and placed into laboratory-provided sample containers. The PID will be calibrated daily in accordance with manufacturer's specifications using an isobutylene standard.

Duplicate soil and groundwater samples will be collected and analyzed during this investigation. Each sample will have an adhesive plastic or waterproof label affixed to the container. Sample labels will include the project name, unique sample identification, and the sample date and time. Each cooler transported to the lab will include a trip blank and temperature blank provided by the lab. Samples will be stored on ice in a cooler and transported to the lab following proper shipping and chain-of-custody protocols. The analytical data will be reviewed to ensure it meets the laboratory-provided QA/QC such as surrogate recoveries for each sample, method blank results, duplicate analyses, matrix spike or method blank analyses.

2.5 HEALTH AND SAFETY

ALL4 personnel will adhere to both the HFSPSR safe-work practices as well as company safety policies. All work will be properly permitted, and workers will be trained in hazard identification and mitigation.

2.6 REPORTING

Following the completion of the site investigation, a report will be prepared documenting the investigation results. The report will include a summary of all work performed at the site including a soil sample location map, soil borelogs, soil data summary tables, the groundwater monitoring well construction diagram, (if a well is installed), groundwater data summary tables (if a groundwater sample is collected), and a cross-section. The information will be included in the 2025 annual progress report due April 1, 2026.

If a release to soil is confirmed at a concentration that exceeds the MTCA Method C levels (developed in accordance with WAC 173-340-745) or a release to groundwater that exceeds the MTCA Method A cleanup levels (Table 740-1 in WAC 173-340-720) the release will be reported to Ecology within 90 days of discovery.

Soil and groundwater sample results will be uploaded to the State Environmental Information Management System (EIM) within 60 days after receiving the validated data.

3. REFERENCES

US Environmental Protection Agency Region 1 (EPA). September 19, 2017. Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples From Monitoring Wells EQASOP - GW4.

HollyFrontier Puget Sound Refinery. March 21, 2023. 2023 Annual Progress Report, SWMU-1 Oil Water Sewer.

HollyFrontier Puget Sound Refinery. June 15, 2022. Investigation and Response Plan SWMU 1 – Oily Water Sewer.

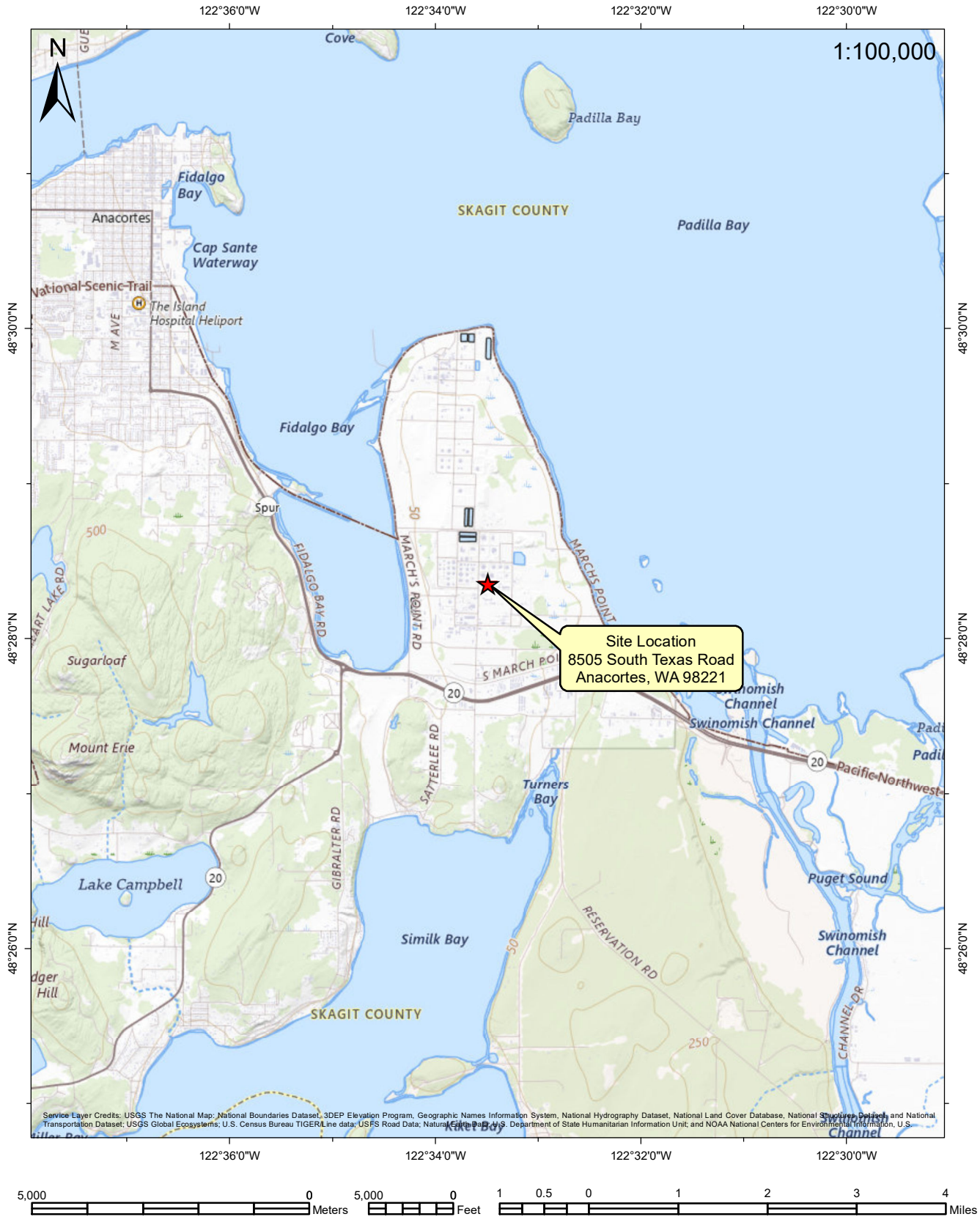
Washington State Department of Ecology (Ecology). November 1, 2021. Agreed Order for Interim Action – Oily Water Sewer (SWMU-1). No. DE 16298.

Washington State Department of Ecology (Ecology). June 2016. Guidance for Remediation of Petroleum Contaminated Sites. Publication No. 10-09-057.

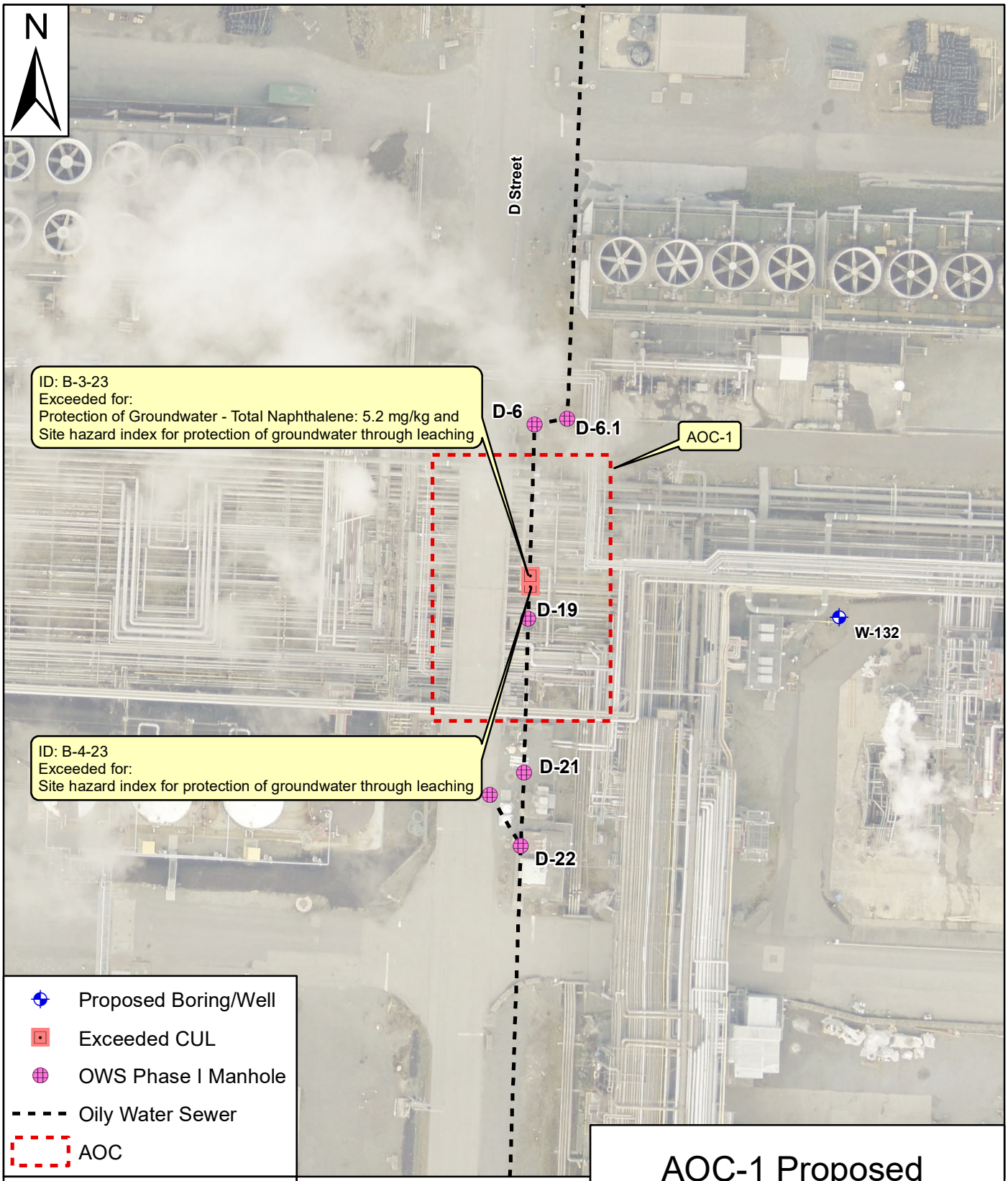
Washington State Department of Ecology (Ecology). 2024. Model Toxics Control Act Cleanup Regulation Chapter 173-340 WAC. Publication No. 94-06.

Washington State Department of Ecology (Ecology). December 2008. Minimum Standards for Construction and Maintenance of Wells WAC 173-160-400.

APPENDIX A -
FIGURES



Prepared for:	Prepared by:	Site Location Map	
HF Sinclair	ALL4	Oily Water Sewer 5/9/2024	Figure A-1



All data are approximate and should be used for relative location reference only.

AOC-1 Proposed Monitoring Well Location

Prepared for: HF Sinclair

Prepared by: ALL4

8505 South Texas Road
Anacortes, WA 98221

OWS AOC-1 Investigation 2025

1/14/2025

Figure A-2

APPENDIX G -
SOIL LABORATORY ANALYTICAL DATA REPORT

#100 8620 Holly Drive
Everett, WA 98208, USA
T: +1 425 356 2600
F: +1 425 356 2626

December 17, 2025

Matt Roberts
ALL4 LLC
228 E. Champion St
Suite 101
Bellingham, WA 98225

Work Order: **EV25110105**

Laboratory Results for: **HFS OWS AOC1 / 004531-0035.00**

Dear Matt Roberts,

ALS Environmental received 2 sample(s) on Nov 20, 2025 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

//DM//

Generated By: DORINDA.MCCORMICK
Dorinda McCormick

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Work Order: EV25110105

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
EV25110105-01	AOC1-1-111925 6-7 ft	Soil		19-Nov-2025 10:30	20-Nov-2025 14:40	☐
EV25110105-02	AOC1-1-111925 15-15 ft	Soil		19-Nov-2025 11:20	20-Nov-2025 14:40	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC **CASE NARRATIVE**
Project: HFS OWS AOC1 / 004531-0035.00
Work Order: EV25110105

GCMS Volatile Organics by Method EPA-8260

Batch ID: 236203

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method Calc-Cr3

Batch ID: R528007

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method EPA-7471

Batch ID: R527068

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method EPA-6020

Batch ID: 235923

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Subcontracted by Method MISC

Batch ID: R527506,R527818

- Analysis of these samples for Extractable Petroleum Hydrocarbons was subcontracted to Alliance Technical Group, Seattle, WA. Volatile Petroleum Hydrocarbons was subcontracted to OnSite Environmental, Redmond, WA. Polycyclic Aromatic Hydrocarbons subcontracted to ALS Environmental- Kelso, Washington. Please see attached for subcontracted analysis.

Wet Chemistry by Method EPA-7196

Batch ID: R527142

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: AOC1-1-111925 6-7 ft
Collection Date: 19-Nov-2025 10:30

ANALYTICAL REPORT
WorkOrder:EV25110105
Lab ID:EV25110105-01
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILE ORGANICS BY EPA-8260D		**Method:EPA-8260**		Prep:SW5035 / 21-Nov-2025		Analyst: DLC
Ethylbenzene	ND		10	UG/KG	1	21-Nov-2025 17:10
m,p-Xylene	ND		20	UG/KG	1	21-Nov-2025 17:10
o-Xylene	ND		10	UG/KG	1	21-Nov-2025 17:10
Toluene	ND		10	UG/KG	1	21-Nov-2025 17:10
1,2-Dibromoethane	ND		5.0	UG/KG	1	21-Nov-2025 17:10
1,2-Dichloroethane	ND		10	UG/KG	1	21-Nov-2025 17:10
Benzene	ND		5.0	UG/KG	1	21-Nov-2025 17:10
Hexane	ND		10	UG/KG	1	21-Nov-2025 17:10
Methyl T-Butyl Ether	ND		10	UG/KG	1	21-Nov-2025 17:10
Surr: Toluene-d8	*97.6*		*69.4-126*	*%REC*	*1*	*21-Nov-2025 17:10*
CHROMIUM (III) BY CALCULATION		**Method:Calc-Cr3**				Analyst: RAL
Chromium (III)	**50**		**0.50**	**mg/Kg**	1	24-Nov-2025 12:42
ICP/MS METALS ANALYSIS BY EPA-6020		**Method:EPA-6020**		Prep:EPA 3050 / 21-Nov-2025		Analyst: RAL
Arsenic	**6.1**		**0.20**	**MG/KG**	1	24-Nov-2025 12:42
Cadmium	**0.21**		**0.10**	**MG/KG**	1	24-Nov-2025 12:42
Chromium	**50**		**0.10**	**MG/KG**	1	24-Nov-2025 12:42
Lead	**7.7**		**0.10**	**MG/KG**	1	24-Nov-2025 12:42
Nickel	**71**		**0.10**	**MG/KG**	1	24-Nov-2025 12:42
Zinc	**94**		**0.50**	**MG/KG**	1	24-Nov-2025 12:42
CV MERCURY ANALYSIS BY EPA-7471		**Method:EPA-7471**		Prep:EPA 3050		Analyst: RAL
Mercury	**0.061**		**0.020**	**MG/KG**	1	24-Nov-2025 13:56
HEXCHROME BY EPA-7196		**Method:EPA-7196**				Analyst: EBS
Chromium (VI)	ND		5.0	MG/KG	1	24-Nov-2025 16:21
ENVIRONMENTAL ANALYSIS		**Method:MISC**				Analyst: OSE
Miscellaneous Analysis	See Attached			MG/KG	1	24-Nov-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	24-Nov-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45
Miscellaneous Analysis	See Attached			MG/KG	1	05-Dec-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: AOC1-1-111925 15-15 ft
Collection Date: 19-Nov-2025 11:20

ANALYTICAL REPORT
WorkOrder:EV25110105
Lab ID:EV25110105-02
Matrix:Soil

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILE ORGANICS BY EPA-8260D		**Method:EPA-8260**		Prep:SW5035 / 21-Nov-2025		Analyst: DLC
Ethylbenzene	ND		10	UG/KG	1	21-Nov-2025 17:41
m,p-Xylene	ND		20	UG/KG	1	21-Nov-2025 17:41
o-Xylene	ND		10	UG/KG	1	21-Nov-2025 17:41
Toluene	ND		10	UG/KG	1	21-Nov-2025 17:41
1,2-Dibromoethane	ND		5.0	UG/KG	1	21-Nov-2025 17:41
1,2-Dichloroethane	ND		10	UG/KG	1	21-Nov-2025 17:41
Benzene	ND		5.0	UG/KG	1	21-Nov-2025 17:41
Hexane	ND		10	UG/KG	1	21-Nov-2025 17:41
Methyl T-Butyl Ether	ND		10	UG/KG	1	21-Nov-2025 17:41
Surr: Toluene-d8	*97.4*		*69.4-126*	*%REC*	*1*	*21-Nov-2025 17:41*
CHROMIUM (III) BY CALCULATION		**Method:Calc-Cr3**				Analyst: RAL
Chromium (III)	**47**		**0.50**	**mg/Kg**	1	24-Nov-2025 12:59
ICP/MS METALS ANALYSIS BY EPA-6020		**Method:EPA-6020**		Prep:EPA 3050 / 21-Nov-2025		Analyst: RAL
Arsenic	**8.6**		**0.20**	**MG/KG**	1	24-Nov-2025 12:59
Cadmium	**0.14**		**0.10**	**MG/KG**	1	24-Nov-2025 12:59
Chromium	**47**		**0.10**	**MG/KG**	1	24-Nov-2025 12:59
Lead	**6.4**		**0.10**	**MG/KG**	1	24-Nov-2025 12:59
Nickel	**51**		**0.10**	**MG/KG**	1	24-Nov-2025 12:59
Zinc	**87**		**0.50**	**MG/KG**	1	24-Nov-2025 12:59
CV MERCURY ANALYSIS BY EPA-7471		**Method:EPA-7471**		Prep:EPA 3050		Analyst: RAL
Mercury	**0.047**		**0.020**	**MG/KG**	1	24-Nov-2025 13:56
HEXCHROME BY EPA-7196		**Method:EPA-7196**				Analyst: EBS
Chromium (VI)	ND		5.0	MG/KG	1	24-Nov-2025 16:21
ENVIRONMENTAL ANALYSIS		**Method:MISC**				Analyst: OSE
Miscellaneous Analysis	See Attached			MG/KG	1	24-Nov-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	24-Nov-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45
Miscellaneous Analysis	See Attached			MG/KG	1	05-Dec-2025 12:00
Miscellaneous Analysis	See Attached			MG/KG	1	16-Dec-2025 18:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 235923 (0)	**Test Name :** ICP/MS METALS ANALYSIS BY EPA-6020				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30		21 Nov 2025 10:00	24 Nov 2025 12:42	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20		21 Nov 2025 10:00	24 Nov 2025 12:59	1
Batch ID: 236203 (0)	**Test Name :** VOLATILE ORGANICS BY EPA-8260D				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30		21 Nov 2025 08:00	21 Nov 2025 17:10	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20		21 Nov 2025 08:00	21 Nov 2025 17:41	1
Batch ID: R527068 (0)	**Test Name :** CV MERCURY ANALYSIS BY EPA-7471				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			24 Nov 2025 13:56	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			24 Nov 2025 13:56	1
Batch ID: R527142 (0)	**Test Name :** HEXCHROME BY EPA-7196				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			24 Nov 2025 16:21	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			24 Nov 2025 16:21	1
Batch ID: R527506 (0)	**Test Name :** ENVIRONMENTAL ANALYSIS				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			24 Nov 2025 12:00	1
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			24 Nov 2025 12:00	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			24 Nov 2025 12:00	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			24 Nov 2025 12:00	1
Batch ID: R528007 (0)	**Test Name :** CHROMIUM (III) BY CALCULATION				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			24 Nov 2025 12:42	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			24 Nov 2025 12:59	1
Batch ID: R528107 (0)	**Test Name :** ENVIRONMENTAL ANALYSIS				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			05 Dec 2025 12:00	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			05 Dec 2025 12:00	1
Batch ID: R528465 (0)	**Test Name :** ENVIRONMENTAL ANALYSIS				**Matrix:** Soil	
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			16 Dec 2025 18:45	1
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			16 Dec 2025 18:45	1
EV25110105-01	AOC1-1-111925 6-7 ft	19 Nov 2025 10:30			16 Dec 2025 18:45	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			16 Dec 2025 18:45	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			16 Dec 2025 18:45	1
EV25110105-02	AOC1-1-111925 15-15 ft	19 Nov 2025 11:20			16 Dec 2025 18:45	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: 236203 (0) **Instrument: VOC_145** **Method: VOLATILE ORGANICS BY EPA-8260D**

MBLK Sample ID: **MB-112125S2** Units: **UG/KG** Analysis Date: **21-Nov-2025 11:20**
Client ID: Run ID: **VOC_145_527460** SeqNo: **9170604** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl T-Butyl Ether	ND	10								
1,2-Dichloroethane	ND	10								
Benzene	ND	5.0								
Toluene	ND	10								
1,2-Dibromoethane	ND	5.0								
Ethylbenzene	ND	10								
m,p-Xylene	ND	20								
o-Xylene	ND	10								
Hexane	ND	10								
Surr: Toluene-d8	*20.33*	*0*	*20*	*0*	*102*	*69.4 - 126*				

LCS Sample ID: **BS-112125S2** Units: **UG/KG** Analysis Date: **21-Nov-2025 09:45**
Client ID: Run ID: **VOC_145_527460** SeqNo: **9170580** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl T-Butyl Ether	10.19	10	10	0	102	50 - 150				
1,2-Dichloroethane	10.19	10	10	0	102	50 - 150				
Benzene	10.43	5.0	10	0	104	75 - 138				
Toluene	10.69	10	10	0	107	71.6 - 122.1				
1,2-Dibromoethane	10.89	5.0	10	0	109	50 - 150				
Ethylbenzene	10.62	10	10	0	106	50 - 150				
m,p-Xylene	21.07	20	20	0	105	50 - 150				
o-Xylene	10.47	10	10	0	105	50 - 150				
Hexane	23.69	10	20	0	118	50 - 150				
Surr: Toluene-d8	*20.02*	*0*	*20*	*0*	*100*	*69.4 - 126*				

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: 236203 (0) **Instrument: VOC_145** **Method: VOLATILE ORGANICS BY EPA-8260D**

LCSD Sample ID: **BSD-112125S2** Units: **UG/KG** Analysis Date: **21-Nov-2025 10:16**
Client ID: Run ID: **VOC_145_527460** SeqNo: **9170581** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Methyl T-Butyl Ether	10.32	10	10	0	103	50 - 150	10.19	1.24	25	
1,2-Dichloroethane	10.19	10	10	0	102	50 - 150	10.19	0.0853	25	
Benzene	10.3	5.0	10	0	103	75 - 138	10.43	1.3	21	
Toluene	10.6	10	10	0	106	71.6 - 122.1	10.69	0.847	21	
1,2-Dibromoethane	10.76	5.0	10	0	108	50 - 150	10.89	1.19	25	
Ethylbenzene	10.47	10	10	0	105	50 - 150	10.62	1.42	25	
m,p-Xylene	20.83	20	20	0	104	50 - 150	21.07	1.14	25	
o-Xylene	10.29	10	10	0	103	50 - 150	10.47	1.7	25	
Hexane	22.84	10	20	0	114	50 - 150	23.69	3.63	25	
Surr: Toluene-d8	*19.5*	*0*	*20*	*0*	*97.5*	*69.4 - 126*	*20.02*	*2.6*	*25*	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: R527142 (0) **Instrument: UV_102** **Method: HEXCHROME BY EPA-7196**

MBLK Sample ID: **MBLK-R527142** Units: **MG/KG** Analysis Date: **24-Nov-2025 16:21**
Client ID: Run ID: **UV_102_527142** SeqNo: **9163308** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	ND	5.0								

LCS Sample ID: **LCS-R527142** Units: **MG/KG** Analysis Date: **24-Nov-2025 16:21**
Client ID: Run ID: **UV_102_527142** SeqNo: **9163307** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	103	5.0	100	0	103	91 - 114				

LCSD Sample ID: **LCSD-R527142** Units: **MG/KG** Analysis Date: **24-Nov-2025 16:21**
Client ID: Run ID: **UV_102_527142** SeqNo: **9163306** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	103	5.0	100	0	103	91 - 114	103	0	7.8	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: 235923 (0) **Instrument: ICPMS_130** **Method: ICP/MS METALS ANALYSIS BY EPA-6020**

MBLK Sample ID: **MB-112125S** Units: **MG/KG** Analysis Date: **24-Nov-2025 12:33**
Client ID: Run ID: **ICPMS_130_527065** SeqNo: **9163769** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	0.50								
Cadmium	ND	0.50								
Chromium	ND	0.50								
Lead	ND	0.50								
Nickel	ND	0.50								
Zinc	ND	1.0								

LCS Sample ID: **BS-112125S** Units: **MG/KG** Analysis Date: **24-Nov-2025 12:37**
Client ID: Run ID: **ICPMS_130_527065** SeqNo: **9163776** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	25.5	0.50	25	0	102	80 - 120				
Cadmium	26.56	0.50	25	0	106	80 - 120				
Chromium	25.01	0.50	25	0	100	80 - 120				
Lead	25.56	0.50	25	0	102	80 - 120				
Nickel	25.53	0.50	25	0	102	80 - 120				
Zinc	26.69	1.0	25	0	107	80 - 119				

LCSD Sample ID: **BSD-112125S** Units: **MG/KG** Analysis Date: **24-Nov-2025 12:40**
Client ID: Run ID: **ICPMS_130_527065** SeqNo: **9163777** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	25.02	0.50	25	0	100	80 - 120	25.5	1.88	8.91	
Cadmium	26.29	0.50	25	0	105	80 - 120	26.56	1.04	9.2	
Chromium	24.65	0.50	25	0	98.6	80 - 120	25.01	1.43	9.6	
Lead	25.2	0.50	25	0	101	80 - 120	25.56	1.45	9.36	
Nickel	25.25	0.50	25	0	101	80 - 120	25.53	1.11	8.71	
Zinc	26.45	1.0	25	0	106	80 - 119	26.69	0.93	8.13	

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: 235923 (0) **Instrument: ICPMS_130** **Method: ICP/MS METALS ANALYSIS BY EPA-6020**

MS Sample ID: **EV25110108-04MS** Units: **MG/KG** Analysis Date: **26-Nov-2025 14:38**
Client ID: Run ID: **ICPMS_130_527065** SeqNo: **9176964** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	36.42	0.50	12.95	21.35	116	50 - 150				
Cadmium	14.63	0.50	12.95	0.5762	109	50 - 150				
Chromium	74.25	0.50	12.95	57.67	128	50 - 150				
Lead	44.53	0.50	12.95	29.32	117	50 - 150				
Nickel	71.45	0.50	12.95	53.76	137	50 - 150				
Zinc	141.6	1.0	12.95	123.5	140	50 - 150				

MSD Sample ID: **EV25110108-04MSD** Units: **MG/KG** Analysis Date: **26-Nov-2025 14:41**
Client ID: Run ID: **ICPMS_130_527065** SeqNo: **9176965** PrepDate: **21-Nov-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	34.14	0.50	12.95	21.35	98.7	50 - 150	36.42	6.47	8.91	
Cadmium	13.62	0.50	12.95	0.5762	101	50 - 150	14.63	7.15	9.2	
Chromium	70.32	0.50	12.95	57.67	97.7	50 - 150	74.25	5.43	9.6	
Lead	41.62	0.50	12.95	29.32	95.0	50 - 150	44.53	6.76	9.36	
Nickel	67.48	0.50	12.95	53.76	106	50 - 150	71.45	5.71	8.71	
Zinc	134.3	1.0	12.95	123.5	82.8	50 - 150	141.6	5.33	8.13	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25110105

QC BATCH REPORT

Batch ID: R527068 (0) **Instrument:** CVHG_95 **Method:** CV MERCURY ANALYSIS BY EPA-7471

MBLK Sample ID: **MBLK-R527068** Units: **MG/KG** Analysis Date: **24-Nov-2025 13:56**
Client ID: Run ID: **CVHG_95_527068** SeqNo: **9161628** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.020								

LCS Sample ID: **LCS-R527068** Units: **MG/KG** Analysis Date: **24-Nov-2025 13:56**
Client ID: Run ID: **CVHG_95_527068** SeqNo: **9161627** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	104	0.020	100	0	104	81.8 - 117				

LCSD Sample ID: **LCSD-R527068** Units: **MG/KG** Analysis Date: **24-Nov-2025 13:56**
Client ID: Run ID: **CVHG_95_527068** SeqNo: **9161626** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	105	0.020	100	0	105	81.8 - 117	104	0.957	8.84	

MS Sample ID: **EV25110108-04MS** Units: **MG/KG** Analysis Date: **26-Nov-2025 13:38**
Client ID: Run ID: **CVHG_95_527068** SeqNo: **9171052** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	103.1	0.020	100	0.082	103	81.8 - 117				

MSD Sample ID: **EV25110108-04MSD** Units: **MG/KG** Analysis Date: **26-Nov-2025 13:38**
Client ID: Run ID: **CVHG_95_527068** SeqNo: **9171051** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	95.08	0.020	100	0.082	95.0	81.8 - 117	103.1	8.07	8.84	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: **EV25110105**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

RIGHT SOLUTIONS | RIGHT PARTNER

Data Qualifiers

*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

RIGHT SOLUTIONS | RIGHT PARTNER

Sample Receipt Checklist

Work Order ID: EV25110105 **Date/Time Received:** **20-Nov-2025 14:40**

Client Name: ALL05-BELLINGHAM **Received by:** **Alison Freese**

Completed By: */S/ Alison Freese* (eSignature) 20-Nov-2025 14:25 (Date/Time) **Reviewed by:** (eSignature) (Date/Time)

Matrices: Carrier name: **Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):	3.4	190	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes: Missing pre-weigh on one MEOH VOA for sample #1.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

RIGHT SOLUTIONS | RIGHT PARTNER

Chain of Custody

ADDRESS 8620 Holly Drive Everett, WA 98208
PHONE 1 425 356 2600

Part of the ALS Group A Campbell Brothers Limited Company

Work Order No.: ALS Environmental EV25110105

Project Manager:	Matt Roberts		**Bill to:**	Accounts Payable	
Client Name:	ALL4 LLC		**Company:**	ALL4 LLC	
Address:	228 E. Champion St., #101		**Address:**	PO Box 299	
City, State ZIP:	Bellingham, WA 98225		**City, State ZIP:**	Kimberton, PA 19442-0299	
Email:	mroberts@all4inc.com	**Phone:** 3606858334	**Email:**	ap_ar@all4inc.com	**po#** 004531-0035.00
Project Name:	HFS OWS AOC1				
Project Number:	004531-0035.00				
P.O. Number:	004531-0035.00				
Sampler's Name:					

SAMPLE RECEIPT

Temperature (°C):	3.4	Temp Blank Present	N	
Received Intact:	Yes	No	N/A	Wet Ice / Blue Ice
Cooler Custody Seals:	Yes	No	N/A	Total Containers:
Sample Custody Seals:	Yes	No	N/A	17

REQUESTED ANALYSIS

TAT

- [x] Routine - 10 day
- [ ] Same Day ***
- [ ] Next Day ***
- [ ] 3 Day
- [ ] 5 Day

Surcharges. Please call for availability

Due Date:

Comments

Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	NWTPH-EPH	NWTPH-VPH	BTEX, MTBE by EPA 8260	EDB, EDC by EPA 8260	EPA 200.8 & 7471; Arsenic, cadmium, chromium, chromium III, chromium VI, lead, nickel, mercury, and zinc	PAHs by EPA 8270 SIM	Hexane
AOC1-1-111925 6-7 ft	Soil	11/19/2025	1030	1	8	x	x	x	x	x	x	x
AOC1-1-111925 15-15 ft	Soil	11/19/2025	1120	2	8	x	x	x	x	x	x	x

Dissolved	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr
Total	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr

Additional Methods Available Upon Request

RELINQUISHED BY			RECEIVED BY		
Print Name	Signature	Date/Time	Print Name	Signature	Date/Time
Matt Roberts		11/20/25	AFREESE		11/20/25 @ 1240

Revised : 11/20/2025

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SAMPLE RECEIVING CHECKLIST

Client: ALL4
Project: HFS OWS AOC1

ALS Job #: E25110105
Login Date: 11-20-2025
Login Time: 1240
Login By: AF

Type of Shipping Container: ☒ Cooler ☐ Box ☐ Other: _____

Shipped Via: ☐ FedEx Ground ☐ FedEx Express ☐ UPS ☐ External Courier ☒ ALS Courier ☐ Hand Delivered

	Yes	No	N/A
Were custody seals on the outside of the shipping container? How Many? ____ Where? _____ Date: _____ Name: _____	☐	☐	☒
Was CoC filled out properly? (in ink, signed, dated, etc.)	☒	☐	☐
Did all bottles have labels?	☒	☐	☐
Did all bottle labels and tags agree with CoC?	☒	☐	☐
Were samples received within hold time?	☒	☐	☐
Did all bottles arrive in good condition?	☒	☐	☐
Was sufficient amount of sample sent for tests requested?	☒	☐	☐
Was correct preservation added to samples?	☒	☐	☐
Subcontract test containers added to subcontract bin?	☐	☐	☐
Wetchem test containers marked with applicable tests?	☐	☐	☒
Short hold time test containers delivered to analysts?	☐	☐	☒
VOA vials checked for bubbles? Bubbles in sample number(s): _____	☐	☐	☒
11:20 2350 5035A kits received? Low kits: 2 High kits: 2	☒	☐	☐
AP 5035A kits returned? Low kits: _____ High kits: _____	☐	☐	☐

Temperature upon receipt: 3.4 °C On ice? ☒ Y ☐ N Thermometer ID: 189

Other discrepancies: ADDITIONAL 40Z JAR RECEIVED FOR SAMPLE #1.

Was client contacted? _____ Who was called? _____ By whom? _____ Date: _____
Outcome of call:

NO PRE-WEIGHT ON ONE MEOH VOA FOR SAMPLE #1

ALS Environmental – Everett
8620 Holly Dr. STE 100
Everett, WA 98012
(425) 356 - 2600

RIGHT SOLUTIONS | RIGHT PARTNER

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

ALS Everett
Dorinda McCormick
8620 Holly Drive, Ste 100
Everett, WA 98208

RE: EV25110105,
Work Order Number: 2512094

December 17, 2025

Attention Dorinda McCormick:

Alliance Technical Group, LLC - Seattle received 2 sample(s) on 12/3/2025 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH
Sample Moisture (Percent Moisture)

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Lyann Rivera
Project Manager

CLIENT: ALS Everett
Project: EV25110105
Work Order: 2512094

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2512094-001	AOC1-1-111925 6-7A	11/19/2025 10:30 AM	12/03/2025 3:30 PM
2512094-002	AOC1-1-111925 15-15A	11/19/2025 11:20 AM	12/03/2025 3:30 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

RIGHT SOLUTIONS | RIGHT PARTNER

CLIENT: ALS Everett
Project: EV25110105

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:

* - 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: **2512094**
Date Reported: **12/17/2025**

Client: ALS Everett
Collection Date: 11/19/2025 10:30:00 AM
Project: EV25110105
Lab ID: 2512094-001
Matrix: Soil
Client Sample ID: **AOC1-1-111925 6-7A**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 50227		Analyst: ZD
Aliphatic Hydrocarbon (C8-C10)	ND	22.2		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aliphatic Hydrocarbon (C10-C12)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aliphatic Hydrocarbon (C12-C16)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aliphatic Hydrocarbon (C16-C21)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aliphatic Hydrocarbon (C21-C34)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aromatic Hydrocarbon (C8-C10)	ND	22.2		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aromatic Hydrocarbon (C10-C12)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aromatic Hydrocarbon (C12-C16)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aromatic Hydrocarbon (C16-C21)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Aromatic Hydrocarbon (C21-C34)	ND	11.1		mg/Kg-dry	1	12/16/2025 6:54:25 PM
Surr: 1-Chlorooctadecane	52.9	60 - 140	S	%Rec	1	12/16/2025 6:54:25 PM
Surr: o-Terphenyl	53.5	60 - 140	S	%Rec	1	12/16/2025 6:54:25 PM

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample Moisture (Percent Moisture)				Batch ID: R10514		Analyst: MT
Percent Moisture	16.8	0.500		wt%	1	12/4/2025 9:17:37 AM

RIGHT SOLUTIONS | RIGHT PARTNER

Analytical Report

Work Order: **2512094**
Date Reported: **12/17/2025**

Client: ALS Everett
Collection Date: 11/19/2025 11:20:00 AM
Project: EV25110105
Lab ID: 2512094-002
Matrix: Soil
Client Sample ID: **AOC1-1-111925 15-15A**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 50227		Analyst: ZD
Aliphatic Hydrocarbon (C8-C10)	ND	26.4		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aliphatic Hydrocarbon (C10-C12)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aliphatic Hydrocarbon (C12-C16)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aliphatic Hydrocarbon (C16-C21)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aliphatic Hydrocarbon (C21-C34)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aromatic Hydrocarbon (C8-C10)	ND	26.4		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aromatic Hydrocarbon (C10-C12)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aromatic Hydrocarbon (C12-C16)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aromatic Hydrocarbon (C16-C21)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Aromatic Hydrocarbon (C21-C34)	ND	13.2		mg/Kg-dry	1	12/16/2025 7:37:37 PM
Surr: 1-Chlorooctadecane	46.7	60 - 140	S	%Rec	1	12/16/2025 7:37:37 PM
Surr: o-Terphenyl	53.5	60 - 140	S	%Rec	1	12/16/2025 7:37:37 PM

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Sample Moisture (Percent Moisture)				Batch ID: R10514		Analyst: MT
Percent Moisture	26.3	0.500		wt%	1	12/4/2025 9:17:37 AM

RIGHT SOLUTIONS | RIGHT PARTNER

Work Order: 2512094
CLIENT: ALS Everett
Project: EV25110105

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-50227**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105488**
Client ID: **MBLKS**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200381**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	20.0									
Aliphatic Hydrocarbon (C10-C12)	ND	10.0									
Aliphatic Hydrocarbon (C12-C16)	ND	10.0									
Aliphatic Hydrocarbon (C16-C21)	ND	10.0									
Aliphatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: 1-Chlorooctadecane	26.1		40.00		65.3	60	140				

Sample ID: **MB-50227**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105489**
Client ID: **MBLKS**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200440**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	20.0									
Aromatic Hydrocarbon (C10-C12)	ND	10.0									
Aromatic Hydrocarbon (C12-C16)	ND	10.0									
Aromatic Hydrocarbon (C16-C21)	ND	10.0									
Aromatic Hydrocarbon (C21-C34)	ND	10.0									
Surr: o-Terphenyl	28.3		40.00		70.7	60	140				

Sample ID: **LCS-50227**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105488**
Client ID: **LCSS**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200382**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	27.8	20.0	100.0	0	27.8	16	53.8				
Aliphatic Hydrocarbon (C10-C12)	21.0	10.0	50.00	0	42.0	13.5	94.3				
Aliphatic Hydrocarbon (C12-C16)	34.8	10.0	50.00	0	69.7	37.1	93				
Aliphatic Hydrocarbon (C16-C21)	39.5	10.0	50.00	0	79.0	35.7	106				
Aliphatic Hydrocarbon (C21-C34)	24.5	10.0	50.00	0	49.1	4.2	147				
Surr: 1-Chlorooctadecane	30.6		40.00		76.6	60	140				

RIGHT SOLUTIONS | RIGHT PARTNER

Work Order: 2512094
CLIENT: ALS Everett
Project: EV25110105

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCS-50227**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105489**
Client ID: **LCSS**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200441**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	27.6	20.0	100.0	0	27.6	5.18	90.3				
Aromatic Hydrocarbon (C10-C12)	19.5	10.0	50.00	0	39.0	16.7	131				
Aromatic Hydrocarbon (C12-C16)	24.4	10.0	50.00	0	48.8	38.4	130				
Aromatic Hydrocarbon (C16-C21)	34.0	10.0	50.00	0	68.1	49.1	127				
Aromatic Hydrocarbon (C21-C34)	27.2	10.0	50.00	0	54.4	35.1	126				
Surr: o-Terphenyl	27.8		40.00		69.4	60	140				

Sample ID: **LCSD-50227**	SampType: **LCSD**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105488**
Client ID: **LCSS02**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200383**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	28.8	20.0	100.0	0	28.8	16	53.8	27.78	3.52	20	
Aliphatic Hydrocarbon (C10-C12)	21.4	10.0	50.00	0	42.7	13.5	94.3	20.99	1.75	20	
Aliphatic Hydrocarbon (C12-C16)	32.2	10.0	50.00	0	64.5	37.1	93	34.84	7.74	20	
Aliphatic Hydrocarbon (C16-C21)	36.9	10.0	50.00	0	73.7	35.7	106	39.50	6.89	20	
Aliphatic Hydrocarbon (C21-C34)	32.0	10.0	50.00	0	64.1	4.2	147	24.53	26.6	20	
Surr: 1-Chlorooctadecane	27.8		40.00		69.4	60	140		0		

Sample ID: **LCSD-50227**	SampType: **LCSD**	Units: **mg/Kg**	Prep Date: **12/3/2025**	RunNo: **105489**
Client ID: **LCSS02**	Batch ID: **50227**		Analysis Date: **12/16/2025**	SeqNo: **2200442**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	28.0	20.0	100.0	0	28.0	5.18	90.3	27.61	1.28	20	
Aromatic Hydrocarbon (C10-C12)	20.4	10.0	50.00	0	40.9	16.7	131	19.48	4.85	20	
Aromatic Hydrocarbon (C12-C16)	25.4	10.0	50.00	0	50.8	38.4	130	24.40	4.05	20	
Aromatic Hydrocarbon (C16-C21)	35.9	10.0	50.00	0	71.8	49.1	127	34.04	5.25	20	
Aromatic Hydrocarbon (C21-C34)	28.9	10.0	50.00	0	57.8	35.1	126	27.18	6.21	20	
Surr: o-Terphenyl	27.3		40.00		68.2	60	140		0		

RIGHT SOLUTIONS | RIGHT PARTNER

Work Order: 2512094
CLIENT: ALS Everett
Project: EV25110105

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **2512094-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105488**
Client ID: **AOC1-1-111925 6-7A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200384**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	22.3						0		25	
Aliphatic Hydrocarbon (C10-C12)	ND	11.1						0		25	
Aliphatic Hydrocarbon (C12-C16)	ND	11.1						0		25	
Aliphatic Hydrocarbon (C16-C21)	ND	11.1						0		25	
Aliphatic Hydrocarbon (C21-C34)	ND	11.1						0		25	
Surr: 1-Chlorooctadecane	22.4		44.52		50.2	60	140		0		S

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2512094-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105489**
Client ID: **AOC1-1-111925 6-7A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200444**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	22.3						0		25	
Aromatic Hydrocarbon (C10-C12)	ND	11.1						0		25	
Aromatic Hydrocarbon (C12-C16)	ND	11.1						0		25	
Aromatic Hydrocarbon (C16-C21)	ND	11.1						0		25	
Aromatic Hydrocarbon (C21-C34)	ND	11.1						0		25	
Surr: o-Terphenyl	25.3		44.52		56.9	60	140		0		S

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2512094-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105488**
Client ID: **AOC1-1-111925 15-15A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200385**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	27.4	26.2	131.2	0	20.9	5.05	63				
Aliphatic Hydrocarbon (C10-C12)	20.0	13.1	65.62	0	30.4	12.2	95				
Aliphatic Hydrocarbon (C12-C16)	32.1	13.1	65.62	0	48.9	17.8	108				
Aliphatic Hydrocarbon (C16-C21)	36.5	13.1	65.62	0	55.6	14.7	116				
Aliphatic Hydrocarbon (C21-C34)	43.3	13.1	65.62	0	66.0	9.76	118				
Surr: 1-Chlorooctadecane	28.8		52.50		54.8	60	140				S

RIGHT SOLUTIONS | RIGHT PARTNER

Work Order: 2512094
CLIENT: ALS Everett
Project: EV25110105

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **2512094-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105488**
Client ID: **AOC1-1-111925 15-15A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200385**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2512094-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105489**
Client ID: **AOC1-1-111925 15-15A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200446**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	26.2	131.2	0	19.9	8.33	78.2				
Aromatic Hydrocarbon (C10-C12)	19.9	13.1	65.62	0	30.3	25.1	107				
Aromatic Hydrocarbon (C12-C16)	24.8	13.1	65.62	0	37.8	6.61	138				
Aromatic Hydrocarbon (C16-C21)	33.3	13.1	65.62	0	50.7	5.34	135				
Aromatic Hydrocarbon (C21-C34)	24.3	13.1	65.62	0	37.0	12.3	130				
Surr: o-Terphenyl	26.6		52.50		50.7	60	140				S

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

Sample ID: **2512094-002AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105488**
Client ID: **AOC1-1-111925 15-15A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200386**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	26.5	132.3	0	18.3	5.05	63	27.39	12.1	30	
Aliphatic Hydrocarbon (C10-C12)	19.2	13.2	66.13	0	29.0	12.2	95	19.96	4.07	30	
Aliphatic Hydrocarbon (C12-C16)	29.2	13.2	66.13	0	44.2	17.8	108	32.07	9.20	30	
Aliphatic Hydrocarbon (C16-C21)	33.5	13.2	66.13	0	50.7	14.7	116	36.46	8.36	30	
Aliphatic Hydrocarbon (C21-C34)	47.5	13.2	66.13	0	71.8	9.76	118	43.28	9.31	30	
Surr: 1-Chlorooctadecane	25.0		52.91		47.2	60	140		0		S

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

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Work Order: 2512094
CLIENT: ALS Everett
Project: EV25110105

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **2512094-002AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **12/3/2025** RunNo: **105489**
Client ID: **AOC1-1-111925 15-15A** Batch ID: **50227** Analysis Date: **12/16/2025** SeqNo: **2200447**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	35.2	26.5	132.3	0	26.6	8.33	78.2	26.11	29.7	30	
Aromatic Hydrocarbon (C10-C12)	25.1	13.2	66.13	0	38.0	25.1	107	19.88	23.4	30	
Aromatic Hydrocarbon (C12-C16)	28.9	13.2	66.13	0	43.8	6.61	138	24.83	15.3	30	
Aromatic Hydrocarbon (C16-C21)	37.0	13.2	66.13	0	55.9	5.34	135	33.30	10.5	30	
Aromatic Hydrocarbon (C21-C34)	28.9	13.2	66.13	0	43.7	12.3	130	24.29	17.4	30	
Surr: o-Terphenyl	27.3		52.91		51.5	60	140		0		S

NOTES:
S - Outlying surrogate recovery observed. A duplicate analysis was performed with similar results indicating a possible matrix effect.

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Sample Log-In Check List

Client Name:	**ALSE**	Work Order Number:	**2512094**
Logged by:	**Morgan Wilson**	Date Received:	**12/3/2025 3:30:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp ºC
Sample	0.0

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

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ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only)

2512094

Date _____ Page _____ Of _____

PROJECT ID: EV25110105
REPORT TO COMPANY: ALS Environmental
PROJECT MANAGER: Dorinda McCormick
ADDRESS: 8620 Holly Drive, Suite 100
Everett, WA 98208
PHONE: (425)356-2600 P.O. #: 32-EV25110105
E-MAIL: Dorinda.McCormick@alsglobal.com
INVOICE TO COMPANY:
ATTENTION:
ADDRESS: ALSUSA AccountsPayable@alsglobal.com

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐	BTEX 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 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	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 ☐	OTHER (Specify)	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. ADC1-1-111925 6-7A	11/19	10:30	Soil																											EPH		
2. ADC1-1-111925 5-5A	11/19	11:20	Soil																											X		
3.																																
4.																																
5.																																
6.																																
7.																																
8.																																
9.																																
10.																																

SPECIAL INSTRUCTIONS please send EDD & report to USAEnviro.Everett@alsglobal.com

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Dorinda McCormick ALS 12/3/25 02:30
Received By: Jack Hawthorne 12/3/25 1530
2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis
10 (Standard) | 5 | 3 | 2 | 1 | SAME DAY

Fuels & Hydrocarbon Analysis
5 (Standard) | 3 | 1 | SAME DAY

OTHER:
Specify: _____

*Turnaround request less than standard may incur Rush Charges

Page 30 of 65
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December 08, 2025 Service Request No:K2512026

Dorinda McCormick
ALS Environmental - US
8620 Holly Drive, Suite 100
Everett, WA 98208

Laboratory Results for: EV25110105

Dear Dorinda,

Enclosed are the results of the sample(s) submitted to our laboratory December 03, 2025
For your reference, these analyses have been assigned our service request number **K2512026.**

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

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

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Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Client: ALS Environmental - US
Project: EV25110105
Sample Matrix: Soil

Service Request: K2512026
Date Received: 12/03/2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Two soil samples were received for analysis at ALS Environmental on 12/03/2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270E, 12/05/2025: The field samples were received past holding time. The analysis was performed as soon as possible after receipt by the laboratory. The data was flagged to indicate the holding time violation.

Approved by _____ Date 12/08/2025

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SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: AOC1-1-111925 6-7ft	Lab ID: K2512026-001					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	76.0				Percent	160.3 Modified

CLIENT ID: AOC-1-111925 15-15ft	Lab ID: K2512026-002					
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total	79.2				Percent	160.3 Modified

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Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Client: ALS Environmental - US **Service Request:**K2512026
Project: EV25110105

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2512026-001	AOC1-1-111925 6-7ft	11/19/2025	1030
K2512026-002	AOC-1-111925 15-15ft	11/19/2025	1120

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12/5/2026

8620 Holly Drive
Suite 100
Everett, WA 98208
T: +1 425 356 2600
F: +1 425 356 2626
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Washington** **COC ID:** **29978**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626

Phone: +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Everett
Contact:	Dorinda McCormick
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Email:	dorinda.mccormick@alsglobal.com
Alternate Contact:	Deana Simonian
Email:	deana.simonian@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Everett
Contact:	Accounts Payable
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Reference:	EV25110105
TSR:	Everett-House Accounts

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**EV25110105-01**	**AOC1-1-111925 6-7 ft**	**Soil**	**19 Nov 2025 10:30**
	PAHs by 8270 SIM			12 Dec 2025
2.	**EV25110105-02**	**AOC1-1-111925 15-15 ft**	**Soil**	**19 Nov 2025 11:20**
	PAHs by 8270 SIM			12 Dec 2025

Comments: Please Email results and EDD to: USAEnviro.Everett@ALSGlobal.com
Please include EDD. CSV basic with QC.
PO: 32-EV25110105
Client is All4.

QC Level: STD (Standard)

Relinquished By: M Kelley, ALS Date/Time: 12/2/2025 1030 5.9°C

Received By: Diane Pine Date/Time: 12/2/25 1430

Cooler ID(s): Temperature(s):

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Cooler Receipt and Preservation Form

PM LR

Client AHS Everett Service Request K25 12026

Received: 12/2/25 Opened: 12/2/25 By: NP Unloaded: 12/2/25 By: NP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	4.5	IR20					
	4.5	↓					

4. Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
   If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
   If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
8. Were samples received in good condition (unbroken) NA Y N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
10. Did all sample labels and tags agree with custody papers? NA Y N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
14. Was C12/Res negative? NA Y N
15. Were samples received within method specified time limit? If not, notate the error below and notify the PM. NA Y N
16. Were 100mL sterile microbiology bottles filled exactly to the 100mL mark? NA Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

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Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
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.
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 over the calibration range.
J	The result is an estimated value between the MDL and the MRL.
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	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/EnvironmentalLaboratoryAccreditation/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	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.

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	Modified
MCL	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	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105/		

Sample Name:	AOC1-1-111925 6-7ft	**Date Collected:**	11/19/25
Lab Code:	K2512026-001	**Date Received:**	12/3/25
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		TRICKMAN
8270E	JCHRISTENSEN	EBRUNO

Sample Name:	AOC-1-111925 15-15ft	**Date Collected:**	11/19/25
Lab Code:	K2512026-002	**Date Received:**	12/3/25
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
160.3 Modified		TRICKMAN
8270E	JCHRISTENSEN	EBRUNO

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Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Semivolatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Collected:**	11/19/25 10:30
Sample Matrix:	Soil	**Date Received:**	12/03/25 14:30
Sample Name:	AOC1-1-111925 6-7ft	**Units:**	ug/Kg
Lab Code:	K2512026-001	**Basis:**	Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3546

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
2-Methylnaphthalene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Acenaphthene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Acenaphthylene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Anthracene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Benz(a)anthracene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Benzo(a)pyrene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Benzo(b)fluoranthene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Benzo(g,h,i)perylene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Benzo(k)fluoranthene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Chrysene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Dibenz(a,h)anthracene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Fluoranthene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Fluorene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Indeno(1,2,3-cd)pyrene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Naphthalene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Phenanthrene	ND U	6.5	1	12/05/25 17:05	12/5/25	*
Pyrene	ND U	6.5	1	12/05/25 17:05	12/5/25	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	59	28 - 112	12/05/25 17:05	
Fluorene-d10	37	34 - 106	12/05/25 17:05	
p-Terphenyl-d14	44	32 - 122	12/05/25 17:05	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Collected:**	11/19/25 11:20
Sample Matrix:	Soil	**Date Received:**	12/03/25 14:30
Sample Name:	AOC-1-111925 15-15ft	**Units:**	ug/Kg
Lab Code:	K2512026-002	**Basis:**	Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3546

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
2-Methylnaphthalene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Acenaphthene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Acenaphthylene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Anthracene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Benz(a)anthracene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Benzo(a)pyrene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Benzo(b)fluoranthene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Benzo(g,h,i)perylene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Benzo(k)fluoranthene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Chrysene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Dibenz(a,h)anthracene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Fluoranthene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Fluorene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Indeno(1,2,3-cd)pyrene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Naphthalene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Phenanthrene	ND U	6.1	1	12/05/25 17:32	12/5/25	*
Pyrene	ND U	6.1	1	12/05/25 17:32	12/5/25	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	88	28 - 112	12/05/25 17:32	
Fluorene-d10	77	34 - 106	12/05/25 17:32	
p-Terphenyl-d14	76	32 - 122	12/05/25 17:32	

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Collected:**	11/19/25 10:30
Sample Matrix:	Soil	**Date Received:**	12/03/25 14:30
Sample Name:	AOC1-1-111925 6-7ft	**Basis:**	As Received
Lab Code:	K2512026-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**76.0**	Percent	-	1	12/04/25 10:41	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Collected:**	11/19/25 11:20
Sample Matrix:	Soil	**Date Received:**	12/03/25 14:30
Sample Name:	AOC-1-111925 15-15ft	**Basis:**	As Received
Lab Code:	K2512026-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total	160.3 Modified	**79.2**	Percent	-	1	12/04/25 10:41	

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QC Summary Forms

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Semivolatile Organic Compounds by GC/MS

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Client: ALS Environmental - US **Service Request:** K2512026
Project: EV25110105
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Extraction Method: EPA 3546

Sample Name	Lab Code	Fluoranthene-d10 28 - 112	Fluorene-d10 34 - 106	p-Terphenyl-d14 32 - 122
AOC1-1-111925 6-7ft	K2512026-001	59	37	44
AOC-1-111925 15-15ft	K2512026-002	88	77	76
Lab Control Sample	KQ2521306-03	95	77	79
Method Blank	KQ2521306-04	101	92	85

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KQ2521306-04	**Basis:**	Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3546

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	4.8	1	12/05/25 14:20	12/5/25	
2-Methylnaphthalene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Acenaphthene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Acenaphthylene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Anthracene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Benz(a)anthracene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Benzo(a)pyrene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Benzo(b)fluoranthene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Benzo(g,h,i)perylene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Benzo(k)fluoranthene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Chrysene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Dibenz(a,h)anthracene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Fluoranthene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Fluorene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Indeno(1,2,3-cd)pyrene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Naphthalene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Phenanthrene	ND U	4.8	1	12/05/25 14:20	12/5/25	
Pyrene	ND U	4.8	1	12/05/25 14:20	12/5/25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	101	28 - 112	12/05/25 14:20	
Fluorene-d10	92	34 - 106	12/05/25 14:20	
p-Terphenyl-d14	85	32 - 122	12/05/25 14:20	

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project:	EV25110105	**Date Analyzed:**	12/05/25
Sample Matrix:	Soil	**Date Extracted:**	12/05/25

Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method:	8270E	**Units:**	ug/Kg
Prep Method:	EPA 3546	**Basis:**	Dry
		Analysis Lot:	903405

Lab Control Sample
KQ2521306-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1-Methylnaphthalene	370	500	74	43-90
2-Methylnaphthalene	378	500	76	43-92
Acenaphthene	384	500	77	44-95
Acenaphthylene	402	500	80	44-93
Anthracene	440	500	88	46-100
Benz(a)anthracene	499	500	100	52-105
Benzo(a)pyrene	459	500	92	52-111
Benzo(b)fluoranthene	451	500	90	52-114
Benzo(g,h,i)perylene	350	500	70	45-107
Benzo(k)fluoranthene	394	500	79	52-112
Chrysene	440	500	88	51-110
Dibenz(a,h)anthracene	380	500	76	44-110
Fluoranthene	478	500	96	49-102
Fluorene	396	500	79	45-98
Indeno(1,2,3-cd)pyrene	443	500	89	44-117
Naphthalene	364	500	73	42-88
Phenanthrene	400	500	80	41-99
Pyrene	415	500	83	48-104

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QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2512026
Project	EV25110105	**Date Collected:**	11/19/25
Sample Matrix:	Soil	**Date Received:**	12/03/25
		Date Analyzed:	12/04/25

Replicate Sample Summary
Inorganic Parameters

Sample Name:	AOC-1-111925 15-15ft	**Units:**	Percent
Lab Code:	K2512026-002	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K2512026-002DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	79.2	80.0	79.6	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 2, 2025

Dorinda McCormick
ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208

Re: Analytical Data for Project EV25110105
Laboratory Reference No. 2511-249

Dear Dorinda:

Enclosed are the analytical results and associated quality control data for samples submitted on November 21, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

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Date of Report: December 2, 2025
Samples Submitted: November 21, 2025
Laboratory Reference: 2511-249
Project: EV25110105

Case Narrative

Samples were collected on November 19, 2025 and received by the laboratory on November 21, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Volatile Petroleum Hydrocarbons Analysis

The surrogate percent recovery is outside control limits on the high end for sample AOC1-1-111925 6-7 ft. Because the sample is non-detect, no further action will be taken.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

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Date of Report: December 2, 2025
Samples Submitted: November 21, 2025
Laboratory Reference: 2511-249
Project: EV25110105

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AOC1-1-111925 6-7 ft**					
Laboratory ID:	11-249-01					
Aliphatic C5-C6	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C6-C8	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aliphatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Aromatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C12-C13	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aromatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Methyl t-butyl ether	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Benzene	**ND**	0.020	EPA 8021B	11-24-25	11-24-25	
Toluene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Ethylbenzene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
m,p-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
o-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*131*	*63-127*				Q

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Date of Report: December 2, 2025
Samples Submitted: November 21, 2025
Laboratory Reference: 2511-249
Project: EV25110105

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**AOC1-1-111925-14-15 ft**					
Laboratory ID:	11-249-02					
Aliphatic C5-C6	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C6-C8	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aliphatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Aromatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C12-C13	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aromatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Methyl t-butyl ether	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Benzene	**ND**	0.020	EPA 8021B	11-24-25	11-24-25	
Toluene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Ethylbenzene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
m,p-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
o-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*124*	*63-127*				

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Date of Report: December 2, 2025
Samples Submitted: November 21, 2025
Laboratory Reference: 2511-249
Project: EV25110105

VOLATILE PETROLEUM HYDROCARBONS
QUALITY CONTROL

Matrix: Soil
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1124S1					
Aliphatic C5-C6	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C6-C8	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aliphatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aliphatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Aromatic C8-C10	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C10-C12	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Aromatic C12-C13	**ND**	5.0	NWTPH-VPH	11-24-25	11-24-25	
Total Aromatic	**NA**		NWTPH-VPH	11-24-25	11-24-25	
Methyl t-butyl ether	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Benzene	**ND**	0.020	EPA 8021B	11-24-25	11-24-25	
Toluene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Ethylbenzene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
m,p-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
o-Xylene	**ND**	0.050	EPA 8021B	11-24-25	11-24-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*93*	*63-127*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1124S1									
Benzene	0.945	0.977	1.00	1.00	95	98	71-115	3	10	
Toluene	0.980	1.01	1.00	1.00	98	101	75-114	3	10	
Ethylbenzene	0.989	1.03	1.00	1.00	99	103	77-115	4	10	
m,p-Xylene	0.996	1.04	1.00	1.00	100	104	78-115	4	11	
o-Xylene	1.01	1.06	1.00	1.00	101	106	78-114	5	10	
Surrogate:										
Fluorobenzene					*94*	*93*	*63-127*			

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Date of Report: December 2, 2025
Samples Submitted: November 21, 2025
Laboratory Reference: 2511-249
Project: EV25110105

% MOISTURE

Client ID	Lab ID	% Moisture	Date Analyzed
AOC1-1-111925 6-7 ft	11-249-01	**22**	12-1-25
AOC1-1-111925-14-15 ft	11-249-02	**21**	12-1-25

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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11-249

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Subcontract Chain of Custody

SAMPLING STATE: **Washington** **COC ID:** **29926**

SUBCONTRACT TO:

OnSite Environmental Inc
14648 NE 95th St
Redmond , WA 98052

Phone: +1 425 883 3881

CUSTOMER INFORMATION:

Company:	ALS Everett
Contact:	Dorinda McCormick
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Email:	dorinda.mccormick@alsglobal.com
Alternate Contact:	Deana Simonian
Email:	deana.simonian@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Everett
Contact:	Accounts Payable
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Reference:	EV25110105
TSR:	Everett-House Accounts

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE	% Moisture
	ANALYSIS REQUESTED			DUE DATE	
1.	**EV25110105-01**	**AOC1-1-111925 6-7 ft**	**Soil**	**19 Nov 2025 10:30**	X
	VPH			04 Dec 2025	
2.	**EV25110105-02**	**AOC1-1-111925 ~~15~~ 14 08 -15 ft**	**Soil**	**19 Nov 2025 11:20**	X
	VPH			04 Dec 2025	

Comments: Please Email results and EDD to: USAEnviro.Everett@ALSGlobal.com
Please include EDD.
PO: 32-EV25110105
Client is All4

QC Level: STD (Standard)

Relinquished By: AFREESE Date/Time: 11/21/2025@1540

Received By: [signature] Date/Time: 11/21/25 1540

Cooler ID(s): _____ Temperature(s): _____

APPENDIX H -
SOIL MTCA TPH METHOD C WORKSHEETS

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry

1. Enter Site Information

Date: 11/19/25
Site Name: HF Sinclair
Sample Name: AOC1-1-111925 6-7ft

Enter Site Data in Non-shaded (white) Cells

2. Enter Soil Concentration Measured

Clear Soil Data

Chemical or Petroleum Fraction	Measured Soil Conc mg/kg	Composition Ratio %
AL_EC >5-6	4.99	5.2%
AL_EC >6-8	5	5.2%
AL_EC >8-10	5	5.2%
AL_EC >10-12	5	5.2%
AL_EC >12-16	11.1	11.5%
AL_EC >16-21	11.1	11.5%
AL_EC >21-34	11.1	11.5%
AR_EC >8-10	4.98	5.2%
AR_EC >10-12	4.99	5.2%
AR_EC >12-16	11.087	11.5%
AR_EC >16-21	11.1	11.5%
AR_EC >21-34	11.1	11.5%
Benzene	0.005	0.0%
Toluene	0.01	0.0%
Ethylbenzene	0.01	0.0%
Total Xylenes	0.02	0.0%
Naphthalene	0.0065	0.0%
1-Methyl Naphthalene	0.0065	0.0%
2-Methyl Naphthalene	0.0065	0.0%
n-Hexane	0.01	0.0%
MTBE	0	0.0%
Ethylene Dibromide (EDB)	0	0.0%
1,2 Dichloroethane (EDC)	0	0.0%
Benzo(a)anthracene	0.0065	0.0%
Benzo(b)fluoranthene	0.0065	0.0%
Benzo(k)fluoranthene	0.0065	0.0%
Benzo(a)pyrene	0.0065	0.0%
Chrysene	0.0065	0.0%
Dibenz(a,h)anthracene	0.0065	0.0%
Indeno(1,2,3-cd)pyrene	0.0065	0.0%
	96.667	**100%**

REMARK:
Enter site specific information here.....

3. Enter Site-Specific Hydrogeological Data (MTCA defaults are provided for unsaturated soil)

Reset Hydro Defaults

Total soil porosity (n):	0.43	Unitless
Volumetric water content (θ_w):	0.3	Unitless
Volumetric air content (θ_a):	0.13	Unitless (calculated) $\longrightarrow \theta_a = n - \theta_w$
Soil bulk density (ρ_b):	1.5	kg/L
Fraction Organic Carbon (f_{oc}):	0.001	Unitless
Dilution Factor (DF):	20	Unitless

4. Enter Target TPH Groundwater Concentation (µg/L)

Enter value here: 500 µg/L (*see worksheet B2_Groundwater Meth B*)

Reset Target TPH GW Conc Information

Basis: Method A Potable Groundwater

Remark: Petroleum fractionated data (EPH/VPH) and individual compounds tested in groundwater generated a Method B potable drinking water cleanup level of 340 µg/L (see Worksheet B2.1A). This level is below the most restrictive default Method A value of 500 µg/L. As a result, the Method A default potable groundwater cleanup level of 500 µg/L is selected as the target groundwater concentration to develop a TPH concentration in soil that is protective of potable groundwater.

A4 Soil Cleanup Levels: Summary of Results. Refer to WAC 173-340-720, 740, 745, 747

Date: 11/19/25
Site Name: HF Sinclair
Sample Name: AOC1-1-111925 6-7ft
Measured Soil TPH Concentration, mg/kg: 96.67

Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective TPH Conc (mg/kg)	With Measured Soil Conc	
			HI or Risk	Pass or Fail
Soil Direct Contact Protection of Soil Incidental Ingestion and Dermal Contact: Human Health	**Method B: Unrestricted Land Use**			
	TPH Soil Cleanup Level (@ HI =1)	1,300	7.2E-02	Pass
	Cancer Risk (1)		7.0E-08	Pass
	Method C: Industrial Land Use			
	TPH Soil Cleanup Level (@ HI = 1)	24,000	4.0E-03	Pass
	Cancer Risk (1)		3.4E-09	Pass
Soil Leaching Protection of Groundwater Quality	**Soil Concentration Protective of Target TPH Groundwater Concentration**			
	Protective TPH Soil Concentration, mg/kg =	600	---	Pass
	Target TPH Groundwater Concentration (µg/L) 500 Method A Potable Groundwater			
Remark:	*Petroleum fractionated data (EPH/VPH) and individual compounds tested in groundwater generated a Method B potable drinking water cleanup level of 340 µg/L (see Worksheet B2.1A). This level is below the most restrictive default Method A value of 500 µg/L. As a result, the Method A default potable groundwater cleanup level of 500 µg/L is selected as the target groundwater concentration to develop a TPH concentration in soil that is protective of potable groundwater.*			

Notes:

(1) Known or suspected carcinogenic chemicals that contribute to unacceptable cancer risk within the petroleum mixture are evaluated separately and must meet compliance with soil cleanup standards both on an individual basis and and when accounting for cumulative risk from multiple chemicals and pathways at the site. *See Worksheets: A2.1B and A3.1B (Soil Direct Contact); B2.1B (Potable Water Ingestion).*

Terrestrial Ecological Pathway: Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (*see* WAC 173-340-7490 through ~7494).

A1 Soil Cleanup Levels: Worksheet for Soil Data Entry

1. Enter Site Information

Date: 11/19/25
Site Name: HF Sinclair OWS
Sample Name: AOC1-1-111925 14-15ft

Enter Site Data in Non-shaded (white) Cells

2. Enter Soil Concentration Measured

Clear Soil Data

Chemical or Petroleum Fraction	Measured Soil Conc mg/kg	Composition Ratio %
AL_EC >5-6	4.99	4.6%
AL_EC >6-8	5	4.6%
AL_EC >8-10	5	4.6%
AL_EC >10-12	5	4.6%
AL_EC >12-16	13.2	12.1%
AL_EC >16-21	13.2	12.1%
AL_EC >21-34	13.2	12.1%
AR_EC >8-10	4.97	4.5%
AR_EC >10-12	4.99	4.6%
AR_EC >12-16	13.19	12.1%
AR_EC >16-21	13.2	12.1%
AR_EC >21-34	13.2	12.1%
Benzene	0.005	0.0%
Toluene	0.01	0.0%
Ethylbenzene	0.01	0.0%
Total Xylenes	0.02	0.0%
Naphthalene	0.0061	0.0%
1-Methyl Naphthalene	0.0061	0.0%
2-Methyl Naphthalene	0.0061	0.0%
n-Hexane	0.01	0.0%
MTBE	0	0.0%
Ethylene Dibromide (EDB)	0	0.0%
1,2 Dichloroethane (EDC)	0	0.0%
Benzo(a)anthracene	0.0061	0.0%
Benzo(b)fluoranthene	0.0061	0.0%
Benzo(k)fluoranthene	0.0061	0.0%
Benzo(a)pyrene	0.0061	0.0%
Chrysene	0.0061	0.0%
Dibenz(a,h)anthracene	0.0061	0.0%
Indeno(1,2,3-cd)pyrene	0.0061	0.0%
	109.256	**100%**

REMARK:
Enter site specific information here.....

3. Enter Site-Specific Hydrogeological Data (MTCA defaults are provided for unsaturated soil)

Reset Hydro Defaults

Total soil porosity (n):	0.43	Unitless
Volumetric water content (θ_w):	0.3	Unitless
Volumetric air content (θ_a):	0.13	Unitless (calculated) $\longrightarrow \theta_a = n - \theta_w$
Soil bulk density (ρ_b):	1.5	kg/L
Fraction Organic Carbon (f_{oc}):	0.001	Unitless
Dilution Factor (DF):	20	Unitless

4. Enter Target TPH Groundwater Concentation (µg/L)

Enter value here: 500 µg/L (*see worksheet B2_Groundwater Meth B*)

Reset Target TPH GW Conc Information

Basis: Method A Potable Groundwater

Remark: Petroleum fractionated data (EPH/VPH) and individual compounds tested in groundwater generated a Method B potable drinking water cleanup level of 340 µg/L (see Worksheet B2.1A). This level is below the most restrictive default Method A value of 500 µg/L. As a result, the Method A default potable groundwater cleanup level of 500 µg/L is selected as the target groundwater concentration to develop a TPH concentration in soil that is protective of potable groundwater.

A4 Soil Cleanup Levels: Summary of Results. Refer to WAC 173-340-720, 740, 745, 747

Date: 11/19/25
Site Name: HF Sinclair OWS
Sample Name: AOC1-1-111925 14-15ft
Measured Soil TPH Concentration, mg/kg: 109.26

Summary of Calculation Results

Exposure Pathway	Method/Goal	Protective TPH Conc (mg/kg)	With Measured Soil Conc	
			HI or Risk	Pass or Fail
Soil Direct Contact Protection of Soil Incidental Ingestion and Dermal Contact: Human Health	**Method B: Unrestricted Land Use**			
	TPH Soil Cleanup Level (@ HI =1)	1,400	7.7E-02	Pass
	Cancer Risk (1)		6.6E-08	Pass
	Method C: Industrial Land Use			
	TPH Soil Cleanup Level (@ HI = 1)	25,000	4.4E-03	Pass
	Cancer Risk (1)		3.2E-09	Pass
Soil Leaching Protection of Groundwater Quality	**Soil Concentration Protective of Target TPH Groundwater Concentration**			
	Protective TPH Soil Concentration, mg/kg =	1,200	---	Pass
	Target TPH Groundwater Concentration (µg/L)			
	500 Method A Potable Groundwater			
Remark:	*Petroleum fractionated data (EPH/VPH) and individual compounds tested in groundwater generated a Method B potable drinking water cleanup level of 340 µg/L (see Worksheet B2.1A). This level is below the most restrictive default Method A value of 500 µg/L. As a result, the Method A default potable groundwater cleanup level of 500 µg/L is selected as the target groundwater concentration to develop a TPH concentration in soil that is protective of potable groundwater.*			

Notes:

(1) Known or suspected carcinogenic chemicals that contribute to unacceptable cancer risk within the petroleum mixture are evaluated separately and must meet compliance with soil cleanup standards both on an individual basis and and when accounting for cumulative risk from multiple chemicals and pathways at the site. *See Worksheets: A2.1B and A3.1B (Soil Direct Contact); B2.1B (Potable Water Ingestion).*

Terrestrial Ecological Pathway: Check to determine if a simplified or site-specific Terrestrial Ecological Evaluation may be required (*see* WAC 173-340-7490 through ~7494).

APPENDIX I -
GROUNDWATER LABORATORY ANALYTICAL DATA REPORT

#100 8620 Holly Drive
Everett, WA 98208, USA
T: +1 425 356 2600
F: +1 425 356 2626

December 29, 2025

Matt Roberts
ALL4 LLC
228 E. Champion St
Suite 101
Bellingham, WA 98225

Work Order: **EV25120039**

Laboratory Results for: **HFS OWS AOC1 / 004531-0035.00**

Dear Matt Roberts,

ALS Environmental received 6 sample(s) on Dec 05, 2025 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

//DM//

Generated By: DORINDA.MCCORMICK
Dorinda McCormick

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Work Order: EV25120039

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
EV25120039-01	MW-132-120425	Water		04-Dec-2025 11:15	05-Dec-2025 11:57	☐
EV25120039-02	ALL4-DUP-1	Water		04-Dec-2025 12:00	05-Dec-2025 11:57	☐
EV25120039-03	ALL4-FEB-1	Water		04-Dec-2025 10:20	05-Dec-2025 11:57	☐
EV25120039-04	MW-132-121225 Resample	Water		12-Dec-2025 10:35	12-Dec-2025 13:30	☐
EV25120039-05	ALL4-DUP-1 Resample	Water		12-Dec-2025 10:00	12-Dec-2025 13:30	☐
EV25120039-06	ALL4-FEB-1 Resample	Water		12-Dec-2025 10:10	12-Dec-2025 13:30	☐

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC **CASE NARRATIVE**
Project: HFS OWS AOC1 / 004531-0035.00
Work Order: EV25120039

GCMS Volatile Organics by Method EPA-8260

Batch ID: 236553

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method Calc-Cr3

Batch ID: R528235

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method EPA-7470

Batch ID: R528223

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Metals by Method EPA-6020

Batch ID: 236460

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Subcontracted by Method MISC

Batch ID: R528180,R528598

- Polycyclic Aromatic Hydrocarbons subcontracted to ALS Environmental- Kelso,Washington. Volatile Petroleum Hydrocarbons subcontracted to OnSite Environmental. Extractable Petroleum Hydrocarbons subcontracted to Alliance Technical Group. Please see attached for subcontracted data.

Wet Chemistry by Method EPA-7196

Batch ID: R528229

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: MW-132-120425
Collection Date: 04-Dec-2025 11:15

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILE ORGANICS BY EPA-8260D		**Method:EPA-8260**		Prep:SW5030 / 08-Dec-2025		Analyst: DLC
1,2-Dibromoethane	ND		0.010	UG/L	1	08-Dec-2025 19:45
1,2-Dichloroethane	ND		2.0	UG/L	1	08-Dec-2025 19:45
Benzene	ND		2.0	UG/L	1	08-Dec-2025 19:45
Ethylbenzene	ND		2.0	UG/L	1	08-Dec-2025 19:45
Hexane	ND		6.8	UG/L	1	08-Dec-2025 19:45
m,p-Xylene	ND		4.0	UG/L	1	08-Dec-2025 19:45
o-Xylene	ND		2.0	UG/L	1	08-Dec-2025 19:45
Toluene	ND		2.0	UG/L	1	08-Dec-2025 19:45
Surr: Toluene-d8	*99.3*		*80-120*	*%REC*	*1*	*08-Dec-2025 19:45*
ICP/MS METALS ANALYSIS BY EPA-200.8 (DISSOLVED)		**Method:EPA-6020 (dissolved)**		Prep:EPA 3010 / 08-Dec-2025		Analyst: EBS
Arsenic	ND		1.0	UG/L	1	09-Dec-2025 15:13
Cadmium	ND		1.0	UG/L	1	09-Dec-2025 15:13
Chromium	ND		2.0	UG/L	1	09-Dec-2025 15:13
Lead	ND		1.0	UG/L	1	09-Dec-2025 15:13
Nickel	ND		2.0	UG/L	1	09-Dec-2025 15:13
Zinc	ND		2.5	UG/L	1	09-Dec-2025 15:13
CV MERCURY ANALYSIS BY EPA-245.1 (DISSOLVED)		**Method:EPA-7470 (dissolved)**		Prep:EPA 3010		Analyst: RAL
Mercury	ND		0.20	UG/L	1	12-Dec-2025 14:05
ENVIRONMENTAL ANALYSIS		**Method:MISC**				Analyst: CAS
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 15:45
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 12:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: ALL4-DUP-1
Collection Date: 04-Dec-2025 12:00

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILE ORGANICS BY EPA-8260D		**Method:EPA-8260**		Prep:SW5030 / 08-Dec-2025		Analyst: DLC
1,2-Dibromoethane	ND		0.010	UG/L	1	08-Dec-2025 20:18
1,2-Dichloroethane	ND		2.0	UG/L	1	08-Dec-2025 20:18
Benzene	ND		2.0	UG/L	1	08-Dec-2025 20:18
Ethylbenzene	ND		2.0	UG/L	1	08-Dec-2025 20:18
Hexane	ND		6.8	UG/L	1	08-Dec-2025 20:18
m,p-Xylene	ND		4.0	UG/L	1	08-Dec-2025 20:18
o-Xylene	ND		2.0	UG/L	1	08-Dec-2025 20:18
Toluene	ND		2.0	UG/L	1	08-Dec-2025 20:18
Surr: Toluene-d8	*96.9*		*80-120*	*%REC*	*1*	*08-Dec-2025 20:18*
ICP/MS METALS ANALYSIS BY EPA-200.8 (DISSOLVED)		**Method:EPA-6020 (dissolved)**		Prep:EPA 3010 / 08-Dec-2025		Analyst: EBS
Arsenic	ND		1.0	UG/L	1	09-Dec-2025 15:15
Cadmium	ND		1.0	UG/L	1	09-Dec-2025 15:15
Chromium	ND		2.0	UG/L	1	09-Dec-2025 15:15
Lead	ND		1.0	UG/L	1	09-Dec-2025 15:15
Nickel	ND		2.0	UG/L	1	09-Dec-2025 15:15
Zinc	ND		2.5	UG/L	1	09-Dec-2025 15:15
CV MERCURY ANALYSIS BY EPA-245.1 (DISSOLVED)		**Method:EPA-7470 (dissolved)**		Prep:EPA 3010		Analyst: RAL
Mercury	ND		0.20	UG/L	1	12-Dec-2025 14:05
ENVIRONMENTAL ANALYSIS		**Method:MISC**				Analyst: CAS
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 15:45
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 12:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: ALL4-FEB-1
Collection Date: 04-Dec-2025 10:20

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILE ORGANICS BY EPA-8260D		**Method:EPA-8260**		Prep:SW5030 / 08-Dec-2025		Analyst: DLC
1,2-Dibromoethane	ND		0.010	UG/L	1	08-Dec-2025 20:51
1,2-Dichloroethane	ND		2.0	UG/L	1	08-Dec-2025 20:51
Benzene	ND		2.0	UG/L	1	08-Dec-2025 20:51
Ethylbenzene	ND		2.0	UG/L	1	08-Dec-2025 20:51
Hexane	ND		6.8	UG/L	1	08-Dec-2025 20:51
m,p-Xylene	ND		4.0	UG/L	1	08-Dec-2025 20:51
o-Xylene	ND		2.0	UG/L	1	08-Dec-2025 20:51
Toluene	ND		2.0	UG/L	1	08-Dec-2025 20:51
Surr: Toluene-d8	*95.8*		*80-120*	*%REC*	*1*	*08-Dec-2025 20:51*
ICP/MS METALS ANALYSIS BY EPA-200.8 (DISSOLVED)		**Method:EPA-6020 (dissolved)**		Prep:EPA 3010 / 08-Dec-2025		Analyst: EBS
Arsenic	ND		1.0	UG/L	1	09-Dec-2025 15:17
Cadmium	ND		1.0	UG/L	1	09-Dec-2025 15:17
Chromium	ND		2.0	UG/L	1	09-Dec-2025 15:17
Lead	ND		1.0	UG/L	1	09-Dec-2025 15:17
Nickel	ND		2.0	UG/L	1	09-Dec-2025 15:17
Zinc	ND		2.5	UG/L	1	09-Dec-2025 15:17
CV MERCURY ANALYSIS BY EPA-245.1 (DISSOLVED)		**Method:EPA-7470 (dissolved)**		Prep:EPA 3010		Analyst: RAL
Mercury	ND		0.20	UG/L	1	12-Dec-2025 14:05
ENVIRONMENTAL ANALYSIS		**Method:MISC**				Analyst: CAS
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 15:45
Miscellaneous Analysis	See Attached			UG/L	1	11-Dec-2025 12:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: MW-132-121225 Resample
Collection Date: 12-Dec-2025 10:35

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
CHROMIUM (III) BY CALCULATION	**Method:Calc-Cr3 (dissolved)**					Analyst: RAL
Chromium (III)	ND		2.0	UG/L	1	12-Dec-2025 15:00
HEXCHROME BY EPA-7196 (DISSOLVED)	**Method:EPA-7196 (dissolved)**					Analyst: EBS
Chromium (VI)	ND		10	UG/L	1	12-Dec-2025 14:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: ALL4-DUP-1 Resample
Collection Date: 12-Dec-2025 10:00

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
CHROMIUM (III) BY CALCULATION	**Method:Calc-Cr3 (dissolved)**					Analyst: RAL
Chromium (III)	ND		2.0	UG/L	1	12-Dec-2025 15:00
HEXCHROME BY EPA-7196 (DISSOLVED)	**Method:EPA-7196 (dissolved)**					Analyst: EBS
Chromium (VI)	ND		10	UG/L	1	12-Dec-2025 14:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
Sample ID: ALL4-FEB-1 Resample
Collection Date: 12-Dec-2025 10:10

ANALYTICAL REPORT
WorkOrder:EV25120039
Lab ID:EV25120039-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
CHROMIUM (III) BY CALCULATION	**Method:Calc-Cr3 (dissolved)**					Analyst: RAL
Chromium (III)	ND		2.0	UG/L	1	12-Dec-2025 15:00
HEXCHROME BY EPA-7196 (DISSOLVED)	**Method:EPA-7196 (dissolved)**					Analyst: EBS
Chromium (VI)	ND		10	UG/L	1	12-Dec-2025 14:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 236460 (0)	**Test Name :** ICP/MS METALS ANALYSIS BY EPA-200.8 (DISSOLVED)				**Matrix:** Water	
EV25120039-01	MW-132-120425	04 Dec 2025 11:15		08 Dec 2025 10:00	09 Dec 2025 15:13	1
EV25120039-02	ALL4-DUP-1	04 Dec 2025 12:00		08 Dec 2025 10:00	09 Dec 2025 15:15	1
EV25120039-03	ALL4-FEB-1	04 Dec 2025 10:20		08 Dec 2025 10:00	09 Dec 2025 15:17	1
Batch ID: 236553 (0)	**Test Name :** VOLATILE ORGANICS BY EPA-8260D				**Matrix:** Water	
EV25120039-01	MW-132-120425	04 Dec 2025 11:15		08 Dec 2025 08:00	08 Dec 2025 19:45	1
EV25120039-02	ALL4-DUP-1	04 Dec 2025 12:00		08 Dec 2025 08:00	08 Dec 2025 20:18	1
EV25120039-03	ALL4-FEB-1	04 Dec 2025 10:20		08 Dec 2025 08:00	08 Dec 2025 20:51	1
Batch ID: R528180 (0)	**Test Name :** ENVIRONMENTAL ANALYSIS				**Matrix:** Water	
EV25120039-01	MW-132-120425	04 Dec 2025 11:15			11 Dec 2025 15:45	1
EV25120039-02	ALL4-DUP-1	04 Dec 2025 12:00			11 Dec 2025 15:45	1
EV25120039-03	ALL4-FEB-1	04 Dec 2025 10:20			11 Dec 2025 15:45	1
Batch ID: R528223 (0)	**Test Name :** CV MERCURY ANALYSIS BY EPA-245.1 (DISSOLVED)				**Matrix:** Water	
EV25120039-01	MW-132-120425	04 Dec 2025 11:15			12 Dec 2025 14:05	1
EV25120039-02	ALL4-DUP-1	04 Dec 2025 12:00			12 Dec 2025 14:05	1
EV25120039-03	ALL4-FEB-1	04 Dec 2025 10:20			12 Dec 2025 14:05	1
Batch ID: R528229 (0)	**Test Name :** HEXCHROME BY EPA-7196 (DISSOLVED)				**Matrix:** Water	
EV25120039-04	MW-132-121225 Resample	12 Dec 2025 10:35			12 Dec 2025 14:47	1
EV25120039-05	ALL4-DUP-1 Resample	12 Dec 2025 10:00			12 Dec 2025 14:47	1
EV25120039-06	ALL4-FEB-1 Resample	12 Dec 2025 10:10			12 Dec 2025 14:47	1
Batch ID: R528235 (0)	**Test Name :** CHROMIUM (III) BY CALCULATION				**Matrix:** Water	
EV25120039-04	MW-132-121225 Resample	12 Dec 2025 10:35			12 Dec 2025 15:00	1
EV25120039-05	ALL4-DUP-1 Resample	12 Dec 2025 10:00			12 Dec 2025 15:00	1
EV25120039-06	ALL4-FEB-1 Resample	12 Dec 2025 10:10			12 Dec 2025 15:00	1
Batch ID: R528598 (0)	**Test Name :** ENVIRONMENTAL ANALYSIS				**Matrix:** Water	
EV25120039-01	MW-132-120425	04 Dec 2025 11:15			11 Dec 2025 12:00	1
EV25120039-02	ALL4-DUP-1	04 Dec 2025 12:00			11 Dec 2025 12:00	1
EV25120039-03	ALL4-FEB-1	04 Dec 2025 10:20			11 Dec 2025 12:00	1

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

QC BATCH REPORT

Batch ID: 236553 (0) **Instrument: VOC_123** **Method: VOLATILE ORGANICS BY EPA-8260D**

MBLK Sample ID: **MB-120825W** Units: **UG/L** Analysis Date: **08-Dec-2025 12:37**
Client ID: Run ID: **VOC_123_528059** SeqNo: **9185008** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	ND	2.0								
Benzene	ND	2.0								
Toluene	ND	2.0								
1,2-Dibromoethane	ND	0.010								
Ethylbenzene	ND	2.0								
m,p-Xylene	ND	4.0								
o-Xylene	ND	2.0								
Hexane	ND	10								
Surr: Toluene-d8	*4.902*	*0*	*5*	*0*	*98.0*	*80 - 120*				

LCS Sample ID: **BS-120825W** Units: **UG/L** Analysis Date: **08-Dec-2025 11:06**
Client ID: Run ID: **VOC_123_528059** SeqNo: **9185006** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	10.11	2.0	10	0	101	50 - 150				
Benzene	10.12	2.0	10	0	101	74.7 - 143				
Toluene	9.845	2.0	10	0	98.4	71.7 - 139				
1,2-Dibromoethane	9.595	0.010	10	0	96.0	50 - 150				
Ethylbenzene	9.887	2.0	10	0	98.9	50 - 150				
m,p-Xylene	19.31	4.0	20	0	96.6	50 - 150				
o-Xylene	9.743	2.0	10	0	97.4	50 - 150				
Hexane	24.12	10	20	0	121	50 - 150				
Surr: Toluene-d8	*4.843*	*0*	*5*	*0*	*96.9*	*80 - 120*				

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

QC BATCH REPORT

Batch ID: 236553 (0) **Instrument: VOC_123** **Method: VOLATILE ORGANICS BY EPA-8260D**

LCSD Sample ID: **BSD-120825W** Units: **UG/L** Analysis Date: **08-Dec-2025 11:39**
Client ID: Run ID: **VOC_123_528059** SeqNo: **9185007** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	10.17	2.0	10	0	102	50 - 150	10.11	0.638	25	
Benzene	9.986	2.0	10	0	99.9	74.7 - 143	10.12	1.29	20.5	
Toluene	9.717	2.0	10	0	97.2	71.7 - 139	9.845	1.3	20.5	
1,2-Dibromoethane	9.442	0.010	10	0	94.4	50 - 150	9.595	1.61	25	
Ethylbenzene	9.565	2.0	10	0	95.7	50 - 150	9.887	3.31	25	
m,p-Xylene	18.72	4.0	20	0	93.6	50 - 150	19.31	3.11	25	
o-Xylene	9.457	2.0	10	0	94.6	50 - 150	9.743	2.98	25	
Hexane	23.53	10	20	0	118	50 - 150	24.12	2.48	25	
Surr: Toluene-d8	*4.785*	*0*	*5*	*0*	*95.7*	*80 - 120*	*4.843*	*1.21*	*25*	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

QC BATCH REPORT

Batch ID: R528229 (0) **Instrument:** UV_102 **Method:** HEXCHROME BY EPA-7196 (DISSOLVED) (DISSOLVED)

MBLK Sample ID: **MBLK-R528229** Units: **UG/L** Analysis Date: **12-Dec-2025 14:47**
Client ID: Run ID: **UV_102_528229** SeqNo: **9189340** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	ND	10								

LCS Sample ID: **LCS-R528229** Units: **UG/L** Analysis Date: **12-Dec-2025 14:47**
Client ID: Run ID: **UV_102_528229** SeqNo: **9189339** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	94	10	100	0	94.0	91 - 114				

LCSD Sample ID: **LCSD-R528229** Units: **UG/L** Analysis Date: **12-Dec-2025 14:47**
Client ID: Run ID: **UV_102_528229** SeqNo: **9189338** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium (VI)	94	10	100	0	94.0	91 - 114	94	0	7.8	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

QC BATCH REPORT

Batch ID: 236460 (0) **Instrument: ICPMS_130** **Method: ICP/MS METALS ANALYSIS BY EPA-200.8 (DISSOLVED) (DISSOLVED)**

MBLK Sample ID: **MB-120825W** Units: **UG/L** Analysis Date: **09-Dec-2025 16:39**
Client ID: Run ID: **ICPMS_130_527998** SeqNo: **9183280** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	ND	1.0								
Cadmium	ND	1.0								
Chromium	ND	2.0								
Lead	ND	1.0								
Nickel	ND	2.0								
Zinc	ND	2.5								

LCS Sample ID: **BS-120825W** Units: **UG/L** Analysis Date: **09-Dec-2025 14:44**
Client ID: Run ID: **ICPMS_130_527998** SeqNo: **9183268** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	121.5	1.0	125	0	97.2	89.1 - 110				
Cadmium	133	1.0	125	0	106	89.4 - 110				
Chromium	125.1	2.0	125	0	100	86.2 - 107				
Lead	120.9	1.0	125	0	96.7	87.5 - 107				
Nickel	120.9	2.0	125	0	96.8	85.4 - 109				
Zinc	127.5	2.5	125	0	102	88.2 - 111				

LCSD Sample ID: **BSD-120825W** Units: **UG/L** Analysis Date: **09-Dec-2025 14:47**
Client ID: Run ID: **ICPMS_130_527998** SeqNo: **9183269** PrepDate: **08-Dec-2025** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	123.6	1.0	125	0	98.9	89.1 - 110	121.5	1.72	10	
Cadmium	135.6	1.0	125	0	108	89.4 - 110	133	1.93	2.7	
Chromium	129.4	2.0	125	0	104	86.2 - 107	125.1	3.38	5	
Lead	121.2	1.0	125	0	96.9	87.5 - 107	120.9	0.264	2.43	
Nickel	124.2	2.0	125	0	99.4	85.4 - 109	120.9	2.7	3.2	
Zinc	129.6	2.5	125	0	104	88.2 - 111	127.5	1.63	3.89	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: EV25120039

QC BATCH REPORT

Batch ID: R528223 (0) **Instrument:** CVHG_95 **Method:** CV MERCURY ANALYSIS BY EPA-245.1 (DISSOLVED) (DISSOLVED)

MBLK Sample ID: **MBLK-R528223** Units: **UG/L** Analysis Date: **12-Dec-2025 14:05**
Client ID: Run ID: **CVHG_95_528223** SeqNo: **9189290** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	ND	0.20								

LCS Sample ID: **LCS-R528223** Units: **UG/L** Analysis Date: **12-Dec-2025 14:05**
Client ID: Run ID: **CVHG_95_528223** SeqNo: **9189289** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	104	0.20	100	0	104	80.6 - 118				

LCSD Sample ID: **LCSD-R528223** Units: **UG/L** Analysis Date: **12-Dec-2025 14:05**
Client ID: Run ID: **CVHG_95_528223** SeqNo: **9189288** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	103	0.20	100	0	103	80.6 - 118	104	0.966	7.94	

The following samples were analyzed in this batch:

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALL4 LLC
Project: HFS OWS AOC1 / 004531-0035.00
WorkOrder: **EV25120039**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

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Data Qualifiers

*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

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Chain of Custody

ADDRESS 8620 Holly Drive Everett, WA 98208
PHONE 1 425 356 2600

Part of the ALS Group A Campbell Brothers Limited Company

Work Order No.: ALS Environmental — EV25120039

Project Manager:	Matt Roberts		**Bill to:**	Accounts Payable	
Client Name:	ALL4 LLC		**Company:**	ALL4 LLC	
Address:	228 E. Champion St., #101		**Address:**	PO Box 299	
City, State ZIP:	Bellingham, WA 98225		**City, State ZIP:**	Kimberton, PA 19442-0299	
Email:	mroberts@all4inc.com **Phone:** 360-752-9571		**Email:**	ap_ar@all4inc.com **po#**	004531-0035.00
Project Name:	HFS OWS AOC1				
Project Number:	004531-0035.00				
P.O. Number:	004531-0035.00				
Sampler's Name:	V.Spring				

SAMPLE RECEIPT

Temperature (°C):		Temp Blank Present		
Received Intact:	Yes	No	N/A	Wet Ice / Blue Ice
Cooler Custody Seals:	Yes	No	N/A	Total Containers:
Sample Custody Seals:	Yes	No	N/A	

REQUESTED ANALYSIS

TAT
- [x] Routine - 10 day
- [ ] Same Day ***
- [ ] Next Day ***
- [ ] 3 Day
- [ ] 5 Day

Surcharges. Please call for availability

Due Date:

Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers	EPH	VPH	BTEX, EDB, EDC by EPA 8260	PAHs by EPA 8270 SIM	EPA 200.8 & 7471; Arsenic, cadmium, chromium, chromium III, chromium VI, lead, nickel, mercury, and zinc	Hexana	Comments
MW-132-120425	Water	12/4/2025	11:15		12	x	x	x	x	x	x	All metal
ALL4-DUP-1	Water	12/4/2025	12:00		12	x	x	x	x	x	x	samples were
ALL4-FEB-1	Water	12/4/2025	10:20		12	x	x	x	x	x	x	field filtered

Dissolved	Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr
Total	

Additional Methods Available Upon Request

RELINQUISHED BY			RECEIVED BY		
Print Name	Signature	Date/Time	Print Name	Signature	Date/Time
Kelsi Granger		12-5-25 11:57AM	Dorinda McCormick		12-5-25 11:57

Revised: 12/5/2025

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ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SAMPLE RECEIVING CHECKLIST

Client: ALL4 LLC
Project: HFS OWS AOC1

ALS Job #: EV2512039
Login Date: 12-5-25
Login Time: 11:57
Login By: OHM

Type of Shipping Container: ☐ Cooler ☐ Box ☐ Other: _____

Shipped Via: ☐ FedEx Ground ☐ FedEx Express ☐ UPS ☐ External Courier ☐ ALS Courier ☒ Hand Delivered

	Yes	No	N/A
Were custody seals on the outside of the shipping container?	☐	☒	☐
How Many? ____ Where? _____ Date: _____ Name: _____			
Was CoC filled out properly? (in ink, signed, dated, etc.)	☒	☐	☐
Did all bottles have labels?	☒	☐	☐
Did all bottle labels and tags agree with CoC?	☒	☐	☐
Were samples received within hold time?	☒	☐	☐
Did all bottles arrive in good condition?	☒	☐	☐
Was sufficient amount of sample sent for tests requested?	☒	☐	☐
Was correct preservation added to samples?	☒	☐	☐
Subcontract test containers added to subcontract bin?	☒	☐	☐
Wetchem test containers marked with applicable tests?	☒	☐	☐
Short hold time test containers delivered to analysts?	☐	☐	☒
VOA vials checked for bubbles?	☒	☐	☐
Bubbles in sample number(s): _____			
5035A kits received?	☐	☒	☐
Low kits: _____ High kits: _____			
5035A kits returned?	☐	☒	☐

Low kits: _____ High kits: _____

Temperature upon receipt: 5.9 °C

On ice? ☒ Y ☐ N

Thermometer ID: 190

Other discrepancies:

Was client contacted? _____ Who was called? _____ By whom? _____ Date: _____
Outcome of call:

ALS Environmental – Everett
8620 Holly Dr. STE 100
Everett, WA 98012
(425) 356 - 2600

RIGHT SOLUTIONS | RIGHT PARTNER

December 12, 2025 Service Request No:K2512235

Dorinda McCormick
ALS Environmental - US
8620 Holly Drive, Suite 100
Everett, WA 98208

Laboratory Results for: EV25120039

Dear Dorinda,

Enclosed are the results of the sample(s) submitted to our laboratory December 08, 2025
For your reference, these analyses have been assigned our service request number **K2512235.**

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

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Client: ALS Environmental - US
Project: EV25120039
Sample Matrix: Water

Service Request: K2512235
Date Received: 12/08/2025

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 12/08/2025. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by  Date 12/12/2025

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Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

Client: ALS Environmental - US **Service Request:**K2512235
Project: EV25120039

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2512235-001	MW-132-120425	12/4/2025	1115
K2512235-002	ALL4-DUP-1	12/4/2025	1200
K2512235-003	ALL4-FEB-1	12/4/2025	1020

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KELSO

172512235

8620 Holly Drive
Suite 100
Everett, WA 98208
T: +1 425 356 2600
F: +1 425 356 2626
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Washington** **COC ID:** **30020**

SUBCONTRACT TO:

ALS Environmental Kelso
1317 S. 13th Avenue
Kelso, WA 98626 **Phone:** +1 360 501 3312

CUSTOMER INFORMATION:

Company:	ALS Everett
Contact:	Dorinda McCormick
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Email:	dorinda.mccormick@alsglobal.com
Alternate Contact:	Deana Simonian
Email:	deana.simonian@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Everett
Contact:	Accounts Payable
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Reference:	EV25120039
TSR:	Everett-House Accounts

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**EV25120039-01**	**MW-132-120425**	**Water**	**04 Dec 2025 11:15**
	18 PAHs 8270E PAH SIM			19 Dec 2025
2.	**EV25120039-02**	**ALL4-DUP-1**	**Water**	**04 Dec 2025 12:00**
	18 PAHs 8270E PAH SIM			19 Dec 2025
3.	**EV25120039-03**	**ALL4-FEB-1**	**Water**	**04 Dec 2025 10:20**
	18 PAHs 8270E PAH SIM			19 Dec 2025

Comments: Please Email results and EDD to: USAEnviro.Everett@ALSGlobal.com
Please include EDD. CSV basic with QC.
PO: 32-EV25120039
Client is All4.
Use report list 27680 for 18 PAHs 8270E PAH SIM

QC Level: STD (Standard)

Relinquished By: Dorinda McCormick Date/Time: 12/08/25 10:00

Received By: Date/Time: 12/8/25 1536

Cooler ID(s): Temperature(s): outgoing temp: 5.9

received Diana Pino 12/8/25
ALS 1540

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pdp

Cooler Receipt and Preservation Form

PM LR

Client ABS MS Everett Service Request K25 12235

Received: 12/8/25 Opened: 12/8/25 By: pdp Unloaded: 12/8/25 By: pdp

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y (N) If yes, how many and where? _____

If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	4.6	IR06					
	5.6	"					
	3.5	"					
	0.9	"					

4. Was a Temperature Blank present in cooler? NA Y (N) If yes, notate the temperature in the appropriate column below:

If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":

5. Were samples received within the method specified temperature ranges? NA (Y) N

If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. (NA) Y N

If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*

6. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
7. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
8. Were samples received in good condition (unbroken) NA (Y) N
9. Were all sample labels complete (ie, analysis, preservation, etc.)? NA (Y) N
10. Did all sample labels and tags agree with custody papers? NA (Y) N
11. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
12. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
13. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
14. Was C12/Res negative? (NA) Y N
15. Were samples received within method specified time limit? If not, notate the error below and notify the PM. (NA) Y N
16. Were 100mL sterile microbiology bottles filled exactly to the 100mL mark? (NA) Y N Underfilled Overfilled

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

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Miscellaneous Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable.
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.
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 over the calibration range.
J	The result is an estimated value between the MDL and the MRL.
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	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/EnvironmentalLaboratoryAccreditation/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	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.

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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	Modified
MCL	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	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

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Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039/		

Sample Name:	MW-132-120425	**Date Collected:**	12/4/25
Lab Code:	K2512235-001	**Date Received:**	12/8/25
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8270E	DTORRES	EBRUNO

Sample Name:	ALL4-DUP-1	**Date Collected:**	12/4/25
Lab Code:	K2512235-002	**Date Received:**	12/8/25
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8270E	DTORRES	EBRUNO

Sample Name:	ALL4-FEB-1	**Date Collected:**	12/4/25
Lab Code:	K2512235-003	**Date Received:**	12/8/25
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8270E	DTORRES	EBRUNO

Sample Results

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Semivolatile Organic Compounds by GC/MS

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039	**Date Collected:**	12/04/25 11:15
Sample Matrix:	Water	**Date Received:**	12/08/25 15:40
Sample Name:	MW-132-120425	**Units:**	ug/L
Lab Code:	K2512235-001	**Basis:**	NA

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3511

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	0.030	1	12/11/25 15:45	12/10/25	
2-Methylnaphthalene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Acenaphthene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Acenaphthylene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Anthracene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Benz(a)anthracene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Benzo(a)pyrene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Benzo(b)fluoranthene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Benzo(g,h,i)perylene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Benzo(k)fluoranthene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Chrysene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Dibenz(a,h)anthracene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Fluoranthene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Fluorene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Indeno(1,2,3-cd)pyrene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Naphthalene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Phenanthrene	ND U	0.030	1	12/11/25 15:45	12/10/25	
Pyrene	ND U	0.030	1	12/11/25 15:45	12/10/25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	97	42 - 133	12/11/25 15:45	
Fluorene-d10	92	42 - 131	12/11/25 15:45	
p-Terphenyl-d14	63	32 - 129	12/11/25 15:45	

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039	**Date Collected:**	12/04/25 12:00
Sample Matrix:	Water	**Date Received:**	12/08/25 15:40
Sample Name:	ALL4-DUP-1	**Units:**	ug/L
Lab Code:	K2512235-002	**Basis:**	NA

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3511

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	0.030	1	12/11/25 16:13	12/10/25	
2-Methylnaphthalene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Acenaphthene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Acenaphthylene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Anthracene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Benz(a)anthracene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Benzo(a)pyrene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Benzo(b)fluoranthene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Benzo(g,h,i)perylene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Benzo(k)fluoranthene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Chrysene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Dibenz(a,h)anthracene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Fluoranthene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Fluorene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Indeno(1,2,3-cd)pyrene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Naphthalene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Phenanthrene	ND U	0.030	1	12/11/25 16:13	12/10/25	
Pyrene	ND U	0.030	1	12/11/25 16:13	12/10/25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	73	42 - 133	12/11/25 16:13	
Fluorene-d10	68	42 - 131	12/11/25 16:13	
p-Terphenyl-d14	48	32 - 129	12/11/25 16:13	

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039	**Date Collected:**	12/04/25 10:20
Sample Matrix:	Water	**Date Received:**	12/08/25 15:40
Sample Name:	ALL4-FEB-1	**Units:**	ug/L
Lab Code:	K2512235-003	**Basis:**	NA

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3511

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	0.030	1	12/11/25 16:40	12/10/25	
2-Methylnaphthalene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Acenaphthene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Acenaphthylene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Anthracene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Benz(a)anthracene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Benzo(a)pyrene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Benzo(b)fluoranthene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Benzo(g,h,i)perylene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Benzo(k)fluoranthene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Chrysene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Dibenz(a,h)anthracene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Fluoranthene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Fluorene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Indeno(1,2,3-cd)pyrene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Naphthalene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Phenanthrene	ND U	0.030	1	12/11/25 16:40	12/10/25	
Pyrene	ND U	0.030	1	12/11/25 16:40	12/10/25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	103	42 - 133	12/11/25 16:40	
Fluorene-d10	97	42 - 131	12/11/25 16:40	
p-Terphenyl-d14	75	32 - 129	12/11/25 16:40	

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QC Summary Forms

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Client: ALS Environmental - US **Service Request:** K2512235
Project: EV25120039
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Extraction Method: EPA 3511

Sample Name	Lab Code	Fluoranthene-d10 42 - 133	Fluorene-d10 42 - 131	p-Terphenyl-d14 32 - 129
MW-132-120425	K2512235-001	97	92	63
ALL4-DUP-1	K2512235-002	73	68	48
ALL4-FEB-1	K2512235-003	103	97	75
Method Blank	KQ2521655-01	94	90	68
Lab Control Sample	KQ2521655-02	103	91	77
Duplicate Lab Control Sample	KQ2521655-03	101	91	79

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Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ2521655-01	**Basis:**	NA

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270E
Prep Method: EPA 3511

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	0.020	1	12/11/25 11:16	12/10/25	
2-Methylnaphthalene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Acenaphthene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Acenaphthylene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Anthracene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Benz(a)anthracene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Benzo(a)pyrene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Benzo(b)fluoranthene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Benzo(g,h,i)perylene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Benzo(k)fluoranthene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Chrysene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Dibenz(a,h)anthracene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Fluoranthene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Fluorene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Indeno(1,2,3-cd)pyrene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Naphthalene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Phenanthrene	ND U	0.020	1	12/11/25 11:16	12/10/25	
Pyrene	ND U	0.020	1	12/11/25 11:16	12/10/25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	94	42 - 133	12/11/25 11:16	
Fluorene-d10	90	42 - 131	12/11/25 11:16	
p-Terphenyl-d14	68	32 - 129	12/11/25 11:16	

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Client:	ALS Environmental - US	**Service Request:**	K2512235
Project:	EV25120039	**Date Analyzed:**	12/11/25
Sample Matrix:	Water	**Date Extracted:**	12/10/25

Duplicate Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method:	8270E	**Units:**	ug/L
Prep Method:	EPA 3511	**Basis:**	NA
		Analysis Lot:	904074

	Lab Control Sample KQ2521655-02			Duplicate Lab Control Sample KQ2521655-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1-Methylnaphthalene	2.65	2.78	95	2.67	2.78	96	47-119	1	30
2-Methylnaphthalene	2.59	2.78	93	2.61	2.78	94	48-120	<1	30
Acenaphthene	2.49	2.78	90	2.66	2.78	96	63-121	7	30
Acenaphthylene	2.60	2.78	94	2.78	2.78	100	58-124	7	30
Anthracene	2.71	2.78	98	2.91	2.78	105	68-127	7	30
Benz(a)anthracene	3.08	2.78	111	3.27	2.78	118	74-124	6	30
Benzo(a)pyrene	2.80	2.78	101	3.04	2.78	109	75-131	8	30
Benzo(b)fluoranthene	2.62	2.78	94	3.03	2.78	109	73-136	15	30
Benzo(g,h,i)perylene	2.03	2.78	73	2.35	2.78	84	63-127	14	30
Benzo(k)fluoranthene	2.49	2.78	89	2.65	2.78	95	74-134	6	30
Chrysene	2.71	2.78	98	2.93	2.78	105	74-132	8	30
Dibenz(a,h)anthracene	2.18	2.78	79	2.56	2.78	92	59-135	16	30
Fluoranthene	2.63	2.78	95	2.80	2.78	101	70-127	6	30
Fluorene	2.45	2.78	88	2.65	2.78	95	68-121	8	30
Indeno(1,2,3-cd)pyrene	2.52	2.78	91	2.90	2.78	104	63-136	14	30
Naphthalene	2.33	2.78	84	2.46	2.78	88	52-115	5	30
Phenanthrene	2.49	2.78	90	2.70	2.78	97	64-126	8	30
Pyrene	2.72	2.78	98	2.91	2.78	105	72-127	7	30

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OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

December 15, 2025

Dorinda McCormick
ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208

Re: Analytical Data for Project EV25120039
Laboratory Reference No. 2512-121

Dear Dorinda:

Enclosed are the analytical results and associated quality control data for samples submitted on December 10, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,



David Baumeister
Project Manager

Enclosures

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Date of Report: December 15, 2025
Samples Submitted: December 10, 2025
Laboratory Reference: 2512-121
Project: EV25120039

Case Narrative

Samples were collected on December 4, 2025 and received by the laboratory on December 10, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

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Date of Report: December 15, 2025
Samples Submitted: December 10, 2025
Laboratory Reference: 2512-121
Project: EV25120039

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**MW-132-120425**					
Laboratory ID:	12-121-01					
Aliphatic C5-C6	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C6-C8	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aliphatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Aromatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C12-C13	**62**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aromatic	**62**		NWTPH-VPH	12-11-25	12-11-25	
Methyl t-butyl ether	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Benzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Toluene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Ethylbenzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
o-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*70*	*62-122*				

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Date of Report: December 15, 2025
Samples Submitted: December 10, 2025
Laboratory Reference: 2512-121
Project: EV25120039

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**ALL4 -DUP-1**					
Laboratory ID:	12-121-02					
Aliphatic C5-C6	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C6-C8	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aliphatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Aromatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C12-C13	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aromatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Methyl t-butyl ether	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Benzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Toluene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Ethylbenzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
o-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*67*	*62-122*				

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Date of Report: December 15, 2025
Samples Submitted: December 10, 2025
Laboratory Reference: 2512-121
Project: EV25120039

VOLATILE PETROLEUM HYDROCARBONS

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**ALL4-FEB-1**					
Laboratory ID:	12-121-03					
Aliphatic C5-C6	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C6-C8	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aliphatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Aromatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C12-C13	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aromatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Methyl t-butyl ether	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Benzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Toluene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Ethylbenzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
o-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*66*	*62-122*				

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Date of Report: December 15, 2025
Samples Submitted: December 10, 2025
Laboratory Reference: 2512-121
Project: EV25120039

VOLATILE PETROLEUM HYDROCARBONS
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB1211W1					
Aliphatic C5-C6	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C6-C8	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aliphatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aliphatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Aromatic C8-C10	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C10-C12	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Aromatic C12-C13	**ND**	50	NWTPH-VPH	12-11-25	12-11-25	
Total Aromatic	**NA**		NWTPH-VPH	12-11-25	12-11-25	
Methyl t-butyl ether	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Benzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Toluene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Ethylbenzene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
m,p-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
o-Xylene	**ND**	1.0	EPA 8021B	12-11-25	12-11-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*63*	*62-122*				

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB1211W1									
Benzene	49.7	51.3	50.0	50.0	99	103	80-120	3	11	
Toluene	49.3	51.3	50.0	50.0	99	103	80-116	4	11	
Ethylbenzene	49.6	51.1	50.0	50.0	99	102	81-117	3	11	
m,p-Xylene	49.5	51.1	50.0	50.0	99	102	81-116	3	11	
o-Xylene	51.1	52.8	50.0	50.0	102	106	81-116	3	12	
Surrogate:										
Fluorobenzene					*67*	*68*	*62-122*			

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OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

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12-121

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Subcontract Chain of Custody

SAMPLING STATE: **Washington** **COC ID:** **30021**

SUBCONTRACT TO:

OnSite Environmental Inc
14648 NE 95th St
Redmond , WA 98052

Phone: +1 425 883 3881

CUSTOMER INFORMATION:

Company:	ALS Everett
Contact:	Dorinda McCormick
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Email:	dorinda.mccormick@alsglobal.com
Alternate Contact:	Deana Simonian
Email:	deana.simonian@alsglobal.com

INVOICE INFORMATION:

Company:	ALS Everett
Contact:	Accounts Payable
Address:	8620 Holly DriveSuite 100
Phone:	+1 425 356 2600
Reference:	EV25120039
TSR:	Everett-House Accounts

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**EV25120039-01**	**MW-132-120425**	**Water**	**04 Dec 2025 11:15**
	VPH			19 Dec 2025
2.	**EV25120039-02**	**ALL4-DUP-1**	**Water**	**04 Dec 2025 12:00**
	VPH			19 Dec 2025
3.	**EV25120039-03**	**ALL4-FEB-1**	**Water**	**04 Dec 2025 10:20**
	VPH			19 Dec 2025

Comments: Please Email results and EDD to: USAEnviro.Everett@ALSGlobal.com
Please include EDD. CSV basic with QC.
PO: 32-EV25120039
Client is All4.

QC Level: STD (Standard)

Relinquished By: AFREESE Date/Time: 12/10/2025 @1245

Received By: Date/Time: 12/10/25 1245

Cooler ID(s): Temperature(s):

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3600 Fremont Ave N
Seattle, WA 98103
T: (206) 352-3790
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ALS Everett
Dorinda McCormick
8620 Holly Drive, Ste 100
Everett, WA 98208

RE: EV25120039,
Work Order Number: 2512221

December 29, 2025

Attention Dorinda McCormick:

Alliance Technical Group, LLC - Seattle received 3 sample(s) on 12/8/2025 for the analyses presented in the following report.

Extractable Petroleum Hydrocarbons by NWEPH

All analyses were performed according to our accredited Quality Assurance program. Please contact the laboratory if you should have any questions about the results.

Alliance Technical Group is committed to accuracy, speed, and customer service. Thank you for choosing Alliance Technical Group's Seattle laboratory team for your analytical needs. We appreciate this opportunity to serve you!

Sincerely,

Brianna Barnes
Project Manager

DoD-ELAP Accreditation #79636 by PJLA, ISO/IEC 17025:2017 and QSM 5.4 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

Date: *12/29/2025*

CLIENT: ALS Everett
Project: EV25120039
Work Order: 2512221

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2512221-001	MW-132-120425	12/04/2025 11:15 AM	12/08/2025 2:37 PM
2512221-002	ALL4-DUP-1	12/04/2025 12:00 PM	12/08/2025 2:37 PM
2512221-003	ALL4-FEB-1	12/04/2025 10:20 AM	12/08/2025 2:37 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

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Case Narrative

WO#: **2512221**
Date: **12/29/2025**

CLIENT: ALS Everett
Project: EV25120039

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:

* - 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: **2512221**

Date Reported: **12/29/2025**

Client: ALS Everett

Collection Date: 12/4/2025 11:15:00 AM

Project: EV25120039

Lab ID: 2512221-001

Matrix: Water

Client Sample ID: MW-132-120425

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 50316		Analyst: ZD
Aliphatic Hydrocarbon (C8-C10)	ND	79.3		µg/L	1	12/24/2025 12:47:08 AM
Aliphatic Hydrocarbon (C10-C12)	ND	39.7		µg/L	1	12/24/2025 12:47:08 AM
Aliphatic Hydrocarbon (C12-C16)	ND	39.7		µg/L	1	12/24/2025 12:47:08 AM
Aliphatic Hydrocarbon (C16-C21)	ND	39.7		µg/L	1	12/24/2025 12:47:08 AM
Aliphatic Hydrocarbon (C21-C34)	ND	39.7		µg/L	1	12/24/2025 12:47:08 AM
Aromatic Hydrocarbon (C8-C10)	ND	79.3		µg/L	1	12/23/2025 9:55:53 PM
Aromatic Hydrocarbon (C10-C12)	ND	39.7		µg/L	1	12/23/2025 9:55:53 PM
Aromatic Hydrocarbon (C12-C16)	ND	39.7		µg/L	1	12/23/2025 9:55:53 PM
Aromatic Hydrocarbon (C16-C21)	ND	39.7		µg/L	1	12/23/2025 9:55:53 PM
Aromatic Hydrocarbon (C21-C34)	ND	39.7	*	µg/L	1	12/23/2025 9:55:53 PM
Surr: 1-Chlorooctadecane	53.5	60 - 140	S	%Rec	1	12/24/2025 12:47:08 AM
Surr: o-Terphenyl	69.7	60 - 140		%Rec	1	12/23/2025 9:55:53 PM

NOTES:

S - Outlying surrogate recovery observed.

* - Associated LCS is below acceptance criteria. Result may be low-biased.

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Analytical Report

Work Order: **2512221**

Date Reported: **12/29/2025**

Client: ALS Everett
Collection Date: 12/4/2025 12:00:00 PM
Project: EV25120039
Lab ID: 2512221-002
Matrix: Water
Client Sample ID: **ALL4-DUP-1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 50316		Analyst: ZD
Aliphatic Hydrocarbon (C8-C10)	ND	78.8		µg/L	1	12/24/2025 1:08:28 AM
Aliphatic Hydrocarbon (C10-C12)	ND	39.4		µg/L	1	12/24/2025 1:08:28 AM
Aliphatic Hydrocarbon (C12-C16)	ND	39.4		µg/L	1	12/24/2025 1:08:28 AM
Aliphatic Hydrocarbon (C16-C21)	ND	39.4		µg/L	1	12/24/2025 1:08:28 AM
Aliphatic Hydrocarbon (C21-C34)	ND	39.4		µg/L	1	12/24/2025 1:08:28 AM
Aromatic Hydrocarbon (C8-C10)	ND	78.8		µg/L	1	12/23/2025 10:17:24 PM
Aromatic Hydrocarbon (C10-C12)	ND	39.4		µg/L	1	12/23/2025 10:17:24 PM
Aromatic Hydrocarbon (C12-C16)	ND	39.4		µg/L	1	12/23/2025 10:17:24 PM
Aromatic Hydrocarbon (C16-C21)	ND	39.4		µg/L	1	12/23/2025 10:17:24 PM
Aromatic Hydrocarbon (C21-C34)	ND	39.4	*	µg/L	1	12/23/2025 10:17:24 PM
Surr: 1-Chlorooctadecane	55.6	60 - 140	S	%Rec	1	12/24/2025 1:08:28 AM
Surr: o-Terphenyl	59.1	60 - 140	S	%Rec	1	12/23/2025 10:17:24 PM

NOTES:
S - Outlying surrogate recovery observed.
* - Associated LCS is below acceptance criteria. Result may be low-biased.

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Analytical Report

Work Order: **2512221**

Date Reported: **12/29/2025**

Client: ALS Everett
Collection Date: 12/4/2025 10:20:00 AM
Project: EV25120039
Lab ID: 2512221-003
Matrix: Water
Client Sample ID: **ALL4-FEB-1**

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Extractable Petroleum Hydrocarbons by NWEPH				Batch ID: 50316		Analyst: ZD
Aliphatic Hydrocarbon (C8-C10)	ND	79.9		µg/L	1	12/24/2025 1:29:56 AM
Aliphatic Hydrocarbon (C10-C12)	ND	39.9		µg/L	1	12/24/2025 1:29:56 AM
Aliphatic Hydrocarbon (C12-C16)	ND	39.9		µg/L	1	12/24/2025 1:29:56 AM
Aliphatic Hydrocarbon (C16-C21)	ND	39.9		µg/L	1	12/24/2025 1:29:56 AM
Aliphatic Hydrocarbon (C21-C34)	ND	39.9		µg/L	1	12/24/2025 1:29:56 AM
Aromatic Hydrocarbon (C8-C10)	ND	79.9		µg/L	1	12/23/2025 10:38:43 PM
Aromatic Hydrocarbon (C10-C12)	ND	39.9		µg/L	1	12/23/2025 10:38:43 PM
Aromatic Hydrocarbon (C12-C16)	ND	39.9		µg/L	1	12/23/2025 10:38:43 PM
Aromatic Hydrocarbon (C16-C21)	ND	39.9		µg/L	1	12/23/2025 10:38:43 PM
Aromatic Hydrocarbon (C21-C34)	ND	39.9	*	µg/L	1	12/23/2025 10:38:43 PM
Surr: 1-Chlorooctadecane	63.6	60 - 140		%Rec	1	12/24/2025 1:29:56 AM
Surr: o-Terphenyl	67.5	60 - 140		%Rec	1	12/23/2025 10:38:43 PM

NOTES:
* - Associated LCS is below acceptance criteria. Result may be low-biased.

Work Order: 2512221
CLIENT: ALS Everett
Project: EV25120039

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **MB-50316**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105682**
Client ID: **MBLKW**	Batch ID: **50316**		Analysis Date: **12/23/2025**	SeqNo: **2204188**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Aromatic Hydrocarbon (C12-C16)	ND	40.0		0	0						
Aromatic Hydrocarbon (C16-C21)	ND	40.0		0	0						
Aromatic Hydrocarbon (C21-C34)	ND	40.0		0	0						
Surr: o-Terphenyl	318		500.0		63.6	60	140				

Sample ID: **LCS-50316**	SampType: **LCS**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105682**
Client ID: **LCSW**	Batch ID: **50316**		Analysis Date: **12/23/2025**	SeqNo: **2204189**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	242	80.0	1,250	0	19.3	6.48	78.2				
Aromatic Hydrocarbon (C10-C12)	202	40.0	625.0	0	32.2	28.7	115				
Aromatic Hydrocarbon (C12-C16)	279	40.0	625.0	0	44.6	23.2	130				
Aromatic Hydrocarbon (C16-C21)	452	40.0	625.0	0	72.2	51.2	130				
Aromatic Hydrocarbon (C21-C34)	320	40.0	625.0	0	51.2	44.5	120				
Surr: o-Terphenyl	372		500.0		74.3	60	140				

Sample ID: **LCSD-50316**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105682**
Client ID: **LCSW02**	Batch ID: **50316**		Analysis Date: **12/23/2025**	SeqNo: **2204190**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	293	80.0	1,250	0	23.5	6.48	78.2	241.5	19.4	20	
Aromatic Hydrocarbon (C10-C12)	211	40.0	625.0	0	33.7	28.7	115	201.5	4.40	20	
Aromatic Hydrocarbon (C12-C16)	229	40.0	625.0	0	36.6	23.2	130	278.9	19.8	20	
Aromatic Hydrocarbon (C16-C21)	343	40.0	625.0	0	54.9	51.2	130	451.5	27.2	20	R
Aromatic Hydrocarbon (C21-C34)	222	40.0	625.0	0	35.4	44.5	120	319.7	36.3	20	RS
Surr: o-Terphenyl	293		500.0		58.6	60	140		0		S

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Work Order: 2512221
CLIENT: ALS Everett
Project: EV25120039

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCSD-50316**	SampType: **LCSD**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105682**
Client ID: **LCSW02**	Batch ID: **50316**		Analysis Date: **12/23/2025**	SeqNo: **2204190**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
S - Outlying spike recovery observed (low bias). Samples will be qualified with a *.
R - High RPD observed, spike recovery is within range.
S - Outlying surrogate recovery observed.

Sample ID: **MB-50316**	SampType: **MBLK**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105681**
Client ID: **MBLKW**	Batch ID: **50316**		Analysis Date: **12/23/2025**	SeqNo: **2204170**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	40.0		0	0						
Aliphatic Hydrocarbon (C12-C16)	ND	40.0		0	0						
Aliphatic Hydrocarbon (C16-C21)	ND	40.0		0	0						
Aliphatic Hydrocarbon (C21-C34)	ND	40.0		0	0						
Surr: 1-Chlorooctadecane	259		500.0		51.9	60	140				S

NOTES:
S - Outlying surrogate recovery observed.

Sample ID: **LCS-50316**	SampType: **LCS**	Units: **µg/L**	Prep Date: **12/10/2025**	RunNo: **105681**
Client ID: **LCSW**	Batch ID: **50316**		Analysis Date: **12/24/2025**	SeqNo: **2204171**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	182	80.0	1,250	0	14.6	5	77.8				
Aliphatic Hydrocarbon (C10-C12)	219	40.0	625.0	0	35.0	15.7	84.5				
Aliphatic Hydrocarbon (C12-C16)	337	40.0	625.0	0	54.0	36.5	91.7				
Aliphatic Hydrocarbon (C16-C21)	387	40.0	625.0	0	62.0	32.6	111				
Aliphatic Hydrocarbon (C21-C34)	244	40.0	625.0	0	39.0	5.72	135				
Surr: 1-Chlorooctadecane	310		500.0		62.0	60	140				

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Work Order: 2512221
CLIENT: ALS Everett
Project: EV25120039

QC SUMMARY REPORT

Extractable Petroleum Hydrocarbons by NWEPH

Sample ID: **LCSD-50316** SampType: **LCSD** Units: **µg/L** Prep Date: **12/10/2025** RunNo: **105681**
Client ID: **LCSW02** Batch ID: **50316** Analysis Date: **12/24/2025** SeqNo: **2204172**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	211	80.0	1,250	0	16.9	5	77.8	182.0	14.8	20	
Aliphatic Hydrocarbon (C10-C12)	203	40.0	625.0	0	32.4	15.7	84.5	218.9	7.76	20	
Aliphatic Hydrocarbon (C12-C16)	297	40.0	625.0	0	47.5	36.5	91.7	337.4	12.7	20	
Aliphatic Hydrocarbon (C16-C21)	337	40.0	625.0	0	53.9	32.6	111	387.4	14.0	20	
Aliphatic Hydrocarbon (C21-C34)	302	40.0	625.0	0	48.4	5.72	135	243.7	21.5	20	R
Surr: 1-Chlorooctadecane	265		500.0		52.9	60	140		0		S

NOTES:
R - High RPD observed, spike recovery is within range.
S - Outlying surrogate recovery observed.

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Sample Log-In Check List

Client Name:	**ALSE**	Work Order Number:	**2512221**
Logged by:	**Morgan Laughlin**	Date Received:	**12/8/2025 2:37:00 PM**

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Custody Seals present on shipping container/cooler? (Refer to comments for Custody Seals not intact)	Yes ☐	No ☐	Not Present ☑
4.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5.	Were all items received at a temperature of >2°C to 6°C *	Yes ☑	No ☐	NA ☐
6.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
7.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8.	Are samples properly preserved?	Yes ☑	No ☐	
9.	Was preservative added to bottles?	Yes ☑	No ☐	NA ☐ HCL
10.	Is there headspace in the VOA vials?	Yes ☐	No ☐	NA ☑
11.	Did all samples containers arrive in good condition(unbroken)?	Yes ☑	No ☐	
12.	Does paperwork match bottle labels?	Yes ☑	No ☐	
13.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14.	Is it clear what analyses were requested?	Yes ☑	No ☐	
15.	Were all hold times (except field parameters, pH e.g.) able to be met?	Yes ☑	No ☐	

Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

Item Information

Item #	Temp °C
Sample	1.5

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

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ALS Environmental
8620 Holly Drive, Suite 100
Everett, WA 98208
Phone (425) 356-2600
Fax (425) 356-2626
http://www.alsglobal.com

Chain Of Custody/ Laboratory Analysis Request

ALS Job# (Laboratory Use Only): 2512221

★ Alliance ★

Date _____ Page _____ Of _____

PROJECT ID: EV25120039
REPORT TO COMPANY: ALS Environmental
PROJECT MANAGER: Dorinda McCormick
ADDRESS: 8620 Holly Drive, Suite 100
Everett, WA 98208
PHONE: (425)356-2600 P.O. #: 32-EV25120039
E-MAIL: Dorinda.McCormick@ALSGlobal.com
INVOICE TO COMPANY:
ATTENTION: Accounts Payable
ADDRESS: ALSUSA_AccountsPayable@ALSGlobal.com

SAMPLE I.D.	DATE	TIME	TYPE	LAB#	NWTPH-HCID	NWTPH-DX	NWTPH-GX	BTEX by EPA 8021 ☐ BTEX 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 (soil)	Semivolatile Organic Compounds by EPA 8270	Polycyclic Aromatic Hydrocarbons (PAH) by EPA 8270 SIM	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 ☐	OTHER (Specify) EPH	NUMBER OF CONTAINERS	RECEIVED IN GOOD CONDITION?
1. MW-132-120425	12/4	11:15	water																	X		
2. ALL4-DUP-1	12/4	12:00	water																	X		
3. ALL4-FEB-1	12/4	10:20	water																	X		
4.																						
5.																						
6.																						
7.																						
8.																						
9.																						
10.																						

SPECIAL INSTRUCTIONS Please email results and EDD to Dorinda+USAEnviro.Everett@ALSGlobal.com

SIGNATURES (Name, Company, Date, Time):

1. Relinquished By: Dorinda McCormick 12/08/25 11:00
Received By: ATG 12/8/25 1437
2. Relinquished By: _____
Received By: _____

TURNAROUND REQUESTED in Business Days*

Organic, Metals & Inorganic Analysis
☒ Standard 5 3 2 1 SAME DAY

Fuels & Hydrocarbon Analysis
5 Standard 3 1 SAME DAY

OTHER:
Specify: Please include EDD

*Turnaround request less than standard may incur Rush Charges

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APPENDIX J -
SOIL BORELOG B1-02

Project: Shell Oil Products Puget Sound Refinery
Project Location: Anacortes, Washington
Project Number: 53-03000548.00

Log of Boring B1-02

Sheet 2 of 2

Elevation feet	Depth, feet	SAMPLES Type	Number	Blows/ 6in.	Recovery, %	Graphic Log	USCS	MATERIAL DESCRIPTION	Fines Content (% <#200 Sieve)	Dry Unit Weight, pcf	Moisture Content, %	REMARKS AND OTHER TESTS
	30										32	
			7	3 2 3 N=5	5							
	35										26	PP = 2000 PSF
			8	2 2 3 N=5	100							
	40									100.0	26	PP = 1500 PSF
			9	4 2 3 N=5	100							
	45										19	PP = 2500 PSF
			10	2 5 6 N=11	100			Grades to slightly sandy, slightly silty CLAY with trace fine subrounded to subangular gravel.				
	50		11	N=50/3"	100			Fractured rock in shoe. End hole at 50.25 feet below the ground surface (bgs). Water encountered during drilling at a depth of approximately 24 feet bgs.			12	Hit rock at 50 feet below ground surface (bgs), likely pushing rock ahead of auger.
	55											
	60											
	65											

GEO_SE-J K:\163\GAL\SHELLR-1\SHELL.GPJ URSSEA3.GLB URSSEA3.GDT 6/4/02 Seattle, WA, 98121

URS

Figure A-1.2