



## Remediation Management Services Company

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July 26, 2023

Washington Department of Ecology  
Southwest Regional Office  
Attn: Mr. Tim Mullin  
300 Desmond Drive SE  
Lacey, WA 98503

Dear Mr. Mullin:

Please find the enclosed Semi-Annual Status Report - First Half of 2023, that documents the results at Olympic Pipe Line Company LLC, Tacoma Junction located at 2660 Frank Albert Road East, Fife, Washington.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Wade Melton', written over a light blue rectangular background.

**Wade Melton**  
Operations Project Manager  
Remediation Management Services Company  
An affiliate of Atlantic Richfield Company

cc: File, Antea Group



# Semi-Annual Status Report First Half of 2023

OPLC Tacoma Junction  
2660 Frank Albert Road East, Fife, Washington

Antea<sup>®</sup>Group

Understanding today.  
Improving tomorrow.

## PREPARED FOR

Remediation Management Services Company  
An affiliate of Atlantic Richfield Company  
4 Centerpointe Drive, Suite 200  
La Palma, CA 90623  
and  
BP Pipelines and Logistics  
Olympic District  
600 SW 39th Street, Suite 275  
Renton, WA 98057

## PREPARED BY

Antea Group - Seattle, WA  
July 26, 2023  
Project OPLC – Tacoma Junction 2023

[us.anteagroup.com](https://us.anteagroup.com)

## Contents

|     |                                                  |   |
|-----|--------------------------------------------------|---|
| 1.0 | Site History .....                               | 1 |
| 2.0 | Work Performed During the Reporting Period ..... | 1 |
| 3.0 | Project Status .....                             | 2 |
| 4.0 | Data Review and Recommendations .....            | 2 |
| 5.0 | Remarks .....                                    | 3 |
| 6.0 | Contact Information.....                         | 3 |

## Tables

|                                       |
|---------------------------------------|
| Table 1 - Groundwater Gauging Data    |
| Table 2 - Groundwater Analytical Data |

## Figures

|                                                                                  |
|----------------------------------------------------------------------------------|
| Figure 1 - Site Location Map                                                     |
| Figure 2 - Site Map                                                              |
| Figure 3 - Groundwater Elevation Contour Map – January 24, 2023                  |
| Figure 4 - Groundwater Elevation Contour Map – April 12, 2023                    |
| Figure 5 - Groundwater Analytical Data Map – January 24, 2023 and April 12, 2023 |

## Appendix

|                                                                        |
|------------------------------------------------------------------------|
| Appendix A - Analytical Lab Reports and Chain-of-Custody Documentation |
|------------------------------------------------------------------------|

# Semi-Annual Status Report

*First Half of 2023*

*OPLC Tacoma Junction*

*2660 Frank Albert Road East, Fife, Washington*

|                                     |                                                    |
|-------------------------------------|----------------------------------------------------|
| <b>Reporting Period</b>             | January – June 2023                                |
| <b>Agency Contact</b>               | Tim Mullin, Toxics Cleanup Program +1 360 407 6265 |
| <b>Ecology Facility Site ID No.</b> | 24529                                              |
| <b>RM Contact</b>                   | Wade Melton, +1 360 594 7978                       |
| <b>Olympic Contact</b>              | Paula Skryja, +1 425 469 4043                      |
| <b>Antea®Group Contact</b>          | Megan Richard, +1 206 854 0399                     |

## 1.0 SITE HISTORY

- This site is an active OPLC (Olympic Pipeline Company) facility that has been operating since 1965. A Site Location Map and Site Map are presented as Figures 1 and 2, respectively.
- In August 2015, OPLC personnel directed an excavation associated with a facility upgrade project. While excavating, OPLC personnel noted petroleum odors and soil staining. Soil and water samples indicated concentrations of petroleum hydrocarbons in excess of the Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels. Upon completing the planned excavation, over-excavating was performed to remove contaminated soil to the maximum extent without comprising onsite structures. A total of 302.49 tons of petroleum impacted soil was removed from the Site for disposal. A total of 1,200 gallons of water was removed from the excavation and transported off-site for disposal. Additional information regarding soil excavation and sampling activities can be found in Antea Group's October 12, 2015 *Site Discovery and Independent Remedial Action Report*.
- The Site was listed on *Ecology's Confirmed and Suspected Contaminated Sites List* on October 15, 2015.
- In June 2016, monitoring wells MW-1 through MW-5 were installed at the Site. Due to the presence of quarry spalls down to groundwater, only one soil sample was collected during well installation. Groundwater analytical results indicated the presence of total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as diesel (TPH-D), and benzene in MW- 2 in excess of Ecology's MTCA Method A Cleanup Levels at concentrations of 2,300 µg/L, 810 µg/L, and 100 µg/L, respectively. Additional information can be found in Antea Group's November 17, 2016 *Subsurface Investigation Report*.

## 2.0 WORK PERFORMED DURING THE REPORTING PERIOD

- Quarterly groundwater monitoring and sampling events were conducted on January 24, 2023 and April 12, 2023. Groundwater samples were collected from monitoring wells MW-1 through MW-5.
- This semi-annual groundwater monitoring report was prepared.

### 3.0 PROJECT STATUS

- Quarterly groundwater sample collection from MW-1 through MW-5.
- Semi-annual reporting.

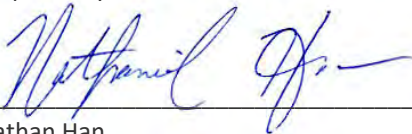
### 4.0 DATA REVIEW AND RECOMMENDATIONS

- Groundwater analytical data from the first and second quarter sampling events did not indicate concentrations of petroleum hydrocarbons in excess of MTCA Method A Cleanup Levels in monitoring wells MW-1, MW-3, and MW-4. MW-2 contained concentrations of benzene, TPH-G, and TPH-D in excess of MTCA Method A Cleanup Levels in the first and second quarter sampling events. MW-5 contained concentrations of benzene in excess of MTCA Method A Cleanup Levels in the first quarter sampling event.
- Groundwater gauging data and analytical data are presented in Tables 1 and 2, respectively. The first and second quarter Groundwater Elevation Contour Maps are presented in Figures 3 and 4, respectively. The Groundwater Analytical Data Map is presented in Figure 5. The groundwater laboratory analytical reports are included as Appendix A.
- Antea Group is scheduled to conduct the next quarterly groundwater sampling and monitoring event in July 2023.

## 5.0 REMARKS

The recommendations contained in this report represent Antea USA, Inc.'s professional opinions based upon the currently available information and are arrived at in accordance with currently accepted professional standards. This report is based upon a specific scope of work requested by the client. The contract between Antea USA, Inc. and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Antea USA, Inc.'s client and anyone else specifically identified in writing by Antea USA, Inc. as a user of this report. Antea USA, Inc. will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Antea USA, Inc. makes no express or implied warranty as to the contents of this report.

Prepared by:

  
\_\_\_\_\_  
Nathan Han  
Project Professional

Date: July 26, 2023

Reviewed by:

  
\_\_\_\_\_  
Megan Richard, LG  
Senior Project Manager

Date: July 26, 2023

cc: Mr. Tim Mullin, Department of Ecology Southwest Regional Office (Hardcopy, Electronic Copy)  
Ms. Paula Skryja, OPLC, Renton, WA (Electronic Copy)  
Mr. Wade Melton, Remediation Management Services Company (Electronic Copy - RMO Upload)  
File, Antea Group File, Antea Group

## 6.0 CONTACT INFORMATION

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## Tables

Table 1 - Groundwater Gauging Data

Table 2 - Groundwater Analytical Data

Table 1  
Groundwater Gauging Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| Well I.D. | Date       | GROUNDWATER ELEVATION DATA |                        |                  |                      |                             |            |
|-----------|------------|----------------------------|------------------------|------------------|----------------------|-----------------------------|------------|
|           |            | TOC Elevation (ft)         | Water Level Depth (ft) | LNAPL Depth (ft) | LNAPL Thickness (ft) | Water Level Elevation* (ft) | Qualifiers |
| MW-1      | 6/29/2016  | 100.00                     | 1.82                   | NP               | --                   | 98.18                       | --         |
| MW-1      | 9/8/2016   | 100.00                     | 1.95                   | NP               | --                   | 98.05                       | --         |
| MW-1      | 12/1/2016  | 100.00                     | 0.76                   | NP               | --                   | 99.24                       | --         |
| MW-1      | 2/22/2017  | 100.00                     | 0.90                   | NP               | --                   | 99.10                       | --         |
| MW-1      | 5/10/2017  | 100.00                     | 1.52                   | NP               | --                   | 98.48                       | --         |
| MW-1      | 8/16/2017  | 100.00                     | 2.04                   | NP               | --                   | 97.96                       | --         |
| MW-1      | 10/31/2017 | 100.00                     | 1.22                   | NP               | --                   | 98.78                       | --         |
| MW-1      | 2/13/2018  | 100.00                     | 1.05                   | NP               | --                   | 98.95                       | --         |
| MW-1      | 5/2/2018   | 100.00                     | 1.36                   | NP               | --                   | 98.64                       | --         |
| MW-1      | 8/8/2018   | 100.00                     | 2.15                   | NP               | --                   | 97.85                       | --         |
| MW-1      | 10/23/2018 | 100.00                     | 1.87                   | NP               | --                   | 98.13                       | --         |
| MW-1      | 1/30/2019  | 100.00                     | 0.96                   | NP               | --                   | 99.04                       | --         |
| MW-1      | 4/24/2019  | 100.00                     | 1.50                   | NP               | --                   | 98.50                       | --         |
| MW-1      | 8/1/2019   | 100.00                     | 1.90                   | NP               | --                   | 98.10                       | --         |
| MW-1      | 10/30/2019 | 100.00                     | 1.09                   | NP               | --                   | 98.91                       | --         |
| MW-1      | 2/6/2020   | 100.00                     | 0.70                   | NP               | --                   | 99.30                       | --         |
| MW-1      | 6/24/2020  | 100.00                     | 1.41                   | NP               | --                   | 98.59                       | --         |
| MW-1      | 9/23/2020  | 100.00                     | 1.69                   | NP               | --                   | 98.31                       | --         |
| MW-1      | 11/11/2020 | 100.00                     | 1.12                   | NP               | --                   | 98.88                       | --         |
| MW-1      | 2/10/2021  | 100.00                     | 1.10                   | NP               | --                   | 98.90                       | --         |
| MW-1      | 5/6/2021   | 100.00                     | 1.50                   | NP               | --                   | 98.50                       | --         |
| MW-1      | 8/4/2021   | 100.00                     | 1.79                   | NP               | --                   | 98.21                       | --         |
| MW-1      | 11/17/2021 | --                         | --                     | --               | --                   | --                          | DL         |
| MW-1      | 1/26/2022  | 100.00                     | 0.75                   | NP               | --                   | 99.25                       | --         |
| MW-1      | 4/27/2022  | 100.00                     | 0.96                   | NP               | --                   | 99.04                       | --         |
| MW-1      | 7/20/2022  | 100.00                     | 1.28                   | NP               | --                   | 98.72                       | --         |
| MW-1      | 10/18/2022 | 100.00                     | 1.68                   | NP               | --                   | 98.32                       | --         |
| MW-1      | 1/24/2023  | 100.00                     | 0.50                   | NP               | --                   | 99.50                       | DL         |
| MW-1      | 4/12/2023  | 100.00                     | 0.69                   | NP               | --                   | 99.31                       | --         |
|           |            |                            |                        |                  |                      |                             |            |
| MW-2      | 6/29/2016  | 99.59                      | 2.49                   | NP               | --                   | 97.10                       | --         |
| MW-2      | 9/8/2016   | 99.59                      | 3.44                   | 3.42             | 0.02                 | 96.17                       | --         |
| MW-2      | 12/1/2016  | 99.59                      | 1.73                   | NP               | --                   | 97.86                       | --         |
| MW-2      | 2/22/2017  | 99.59                      | 1.13                   | NP               | --                   | 98.46                       | --         |
| MW-2      | 5/10/2017  | 99.59                      | 1.39                   | NP               | --                   | 98.20                       | --         |
| MW-2      | 8/16/2017  | 99.59                      | 2.85                   | 2.82             | 0.03                 | 96.76                       | --         |
| MW-2      | 10/31/2017 | 99.59                      | 1.79                   | 1.70             | 0.09                 | 97.87                       | --         |
| MW-2      | 2/13/2018  | 99.59                      | 1.63                   | NP               | --                   | 97.96                       | --         |
| MW-2      | 5/2/2018   | 99.59                      | 1.83                   | NP               | --                   | 97.76                       | --         |
| MW-2      | 8/8/2018   | 99.59                      | 3.35                   | NP               | --                   | 96.24                       | --         |
| MW-2      | 10/23/2018 | 99.59                      | 2.96                   | 2.95             | 0.01                 | 96.64                       | --         |
| MW-2      | 1/30/2019  | 99.59                      | 2.20                   | NP               | --                   | 97.39                       | --         |
| MW-2      | 4/24/2019  | 99.59                      | 1.53                   | 1.52             | 0.01                 | 98.07                       | --         |
| MW-2      | 8/1/2019   | 99.59                      | 2.87                   | NP               | --                   | 96.72                       | --         |
| MW-2      | 10/30/2019 | 99.59                      | 1.90                   | NP               | --                   | 97.69                       | --         |
| MW-2      | 2/6/2020   | 99.59                      | 0.87                   | NP               | --                   | 98.72                       | --         |
| MW-2      | 6/24/2020  | 99.59                      | 1.55                   | NP               | --                   | 98.04                       | --         |
| MW-2      | 9/23/2020  | 99.59                      | 2.23                   | NP               | --                   | 97.36                       | --         |
| MW-2      | 11/11/2020 | 99.59                      | 1.49                   | NP               | --                   | 98.10                       | --         |
| MW-2      | 2/10/2021  | 99.59                      | 1.08                   | NP               | --                   | 98.51                       | --         |
| MW-2      | 5/6/2021   | 99.59                      | 1.58                   | NP               | --                   | 98.01                       | --         |
| MW-2      | 8/4/2021   | 99.59                      | 2.45                   | NP               | --                   | 97.14                       | --         |
| MW-2      | 11/17/2021 | 99.59                      | 0.90                   | NP               | --                   | 98.69                       | --         |
| MW-2      | 1/26/2022  | 99.59                      | 1.74                   | NP               | --                   | 97.85                       | --         |

Table 1  
Groundwater Gauging Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| Well I.D. | Date       | GROUNDWATER ELEVATION DATA |                        |                  |                      |                             |            |
|-----------|------------|----------------------------|------------------------|------------------|----------------------|-----------------------------|------------|
|           |            | TOC Elevation (ft)         | Water Level Depth (ft) | LNAPL Depth (ft) | LNAPL Thickness (ft) | Water Level Elevation* (ft) | Qualifiers |
| MW-2      | 4/27/2022  | 99.59                      | 2.46                   | NP               | --                   | 97.13                       | --         |
| MW-2      | 7/20/2022  | 99.59                      | 2.68                   | NP               | --                   | 96.91                       | --         |
| MW-2      | 10/18/2022 | 99.59                      | 2.26                   | NP               | --                   | 97.33                       | --         |
| MW-2      | 1/24/2023  | 99.59                      | 0.83                   | NP               | --                   | 98.76                       | --         |
| MW-2      | 4/12/2023  | 99.59                      | 0.74                   | NP               | --                   | 98.85                       | --         |
|           |            |                            |                        |                  |                      |                             |            |
| MW-3      | 6/29/2016  | 99.91                      | 1.98                   | NP               | --                   | 97.93                       | --         |
| MW-3      | 9/8/2016   | 99.91                      | 2.61                   | NP               | --                   | 97.30                       | --         |
| MW-3      | 12/1/2016  | 99.91                      | 1.02                   | NP               | --                   | 98.89                       | --         |
| MW-3      | 2/22/2017  | 99.91                      | 1.11                   | NP               | --                   | 98.80                       | --         |
| MW-3      | 5/10/2017  | 99.91                      | 1.32                   | NP               | --                   | 98.59                       | --         |
| MW-3      | 8/16/2017  | 99.91                      | 2.26                   | NP               | --                   | 97.65                       | --         |
| MW-3      | 10/31/2017 | 99.91                      | 1.51                   | NP               | --                   | 98.40                       | --         |
| MW-3      | 2/13/2018  | 99.91                      | 1.00                   | NP               | --                   | 98.91                       | --         |
| MW-3      | 5/2/2018   | 99.91                      | 1.28                   | NP               | --                   | 98.63                       | --         |
| MW-3      | 8/8/2018   | 99.91                      | 2.46                   | NP               | --                   | 97.45                       | --         |
| MW-3      | 10/23/2018 | 99.91                      | 2.11                   | NP               | --                   | 97.80                       | --         |
| MW-3      | 1/30/2019  | 99.91                      | 1.09                   | NP               | --                   | 98.82                       | --         |
| MW-3      | 4/24/2019  | 99.91                      | 1.33                   | NP               | --                   | 98.58                       | --         |
| MW-3      | 8/1/2019   | 99.91                      | 1.84                   | NP               | --                   | 98.07                       | --         |
| MW-3      | 10/30/2019 | 99.91                      | 1.21                   | NP               | --                   | 98.70                       | --         |
| MW-3      | 2/6/2020   | 99.91                      | 0.85                   | NP               | --                   | 99.06                       | --         |
| MW-3      | 6/24/2020  | 99.91                      | 1.29                   | NP               | --                   | 98.62                       | --         |
| MW-3      | 9/23/2020  | 99.91                      | 1.73                   | NP               | --                   | 98.18                       | --         |
| MW-3      | 11/11/2020 | 99.91                      | 1.00                   | NP               | --                   | 98.91                       | --         |
| MW-3      | 2/10/2021  | 99.91                      | 1.17                   | NP               | --                   | 98.74                       | --         |
| MW-3      | 5/6/2021   | 99.91                      | 1.34                   | NP               | --                   | 98.57                       | --         |
| MW-3      | 8/4/2021   | 99.91                      | 1.80                   | NP               | --                   | 98.11                       | --         |
| MW-3      | 11/17/2021 | 99.91                      | 0.91                   | NP               | --                   | 99.00                       | --         |
| MW-3      | 1/26/2022  | 99.91                      | 0.95                   | NP               | --                   | 98.96                       | --         |
| MW-3      | 4/27/2022  | 99.91                      | 1.18                   | NP               | --                   | 98.73                       | --         |
| MW-3      | 7/20/2022  | 99.91                      | 1.28                   | NP               | --                   | 98.63                       | --         |
| MW-3      | 10/18/2022 | 99.91                      | 1.53                   | NP               | --                   | 98.38                       | --         |
| MW-3      | 1/24/2023  | 99.91                      | 0.75                   | NP               | --                   | 99.16                       | --         |
| MW-3      | 4/12/2023  | 99.91                      | 0.85                   | NP               | --                   | 99.06                       | --         |
|           |            |                            |                        |                  |                      |                             |            |
| MW-4      | 6/29/2016  | 99.70                      | 2.20                   | NP               | --                   | 97.50                       | --         |
| MW-4      | 9/8/2016   | 99.70                      | 2.75                   | NP               | --                   | 96.95                       | --         |
| MW-4      | 12/1/2016  | 99.70                      | 1.00                   | NP               | --                   | 98.70                       | --         |
| MW-4      | 2/22/2017  | 99.70                      | 1.05                   | NP               | --                   | 98.65                       | --         |
| MW-4      | 5/10/2017  | 99.70                      | 1.34                   | NP               | --                   | 98.36                       | --         |
| MW-4      | 8/16/2017  | 99.70                      | 2.44                   | NP               | --                   | 97.26                       | --         |
| MW-4      | 10/31/2017 | 99.70                      | 1.35                   | NP               | --                   | 98.35                       | --         |
| MW-4      | 2/13/2018  | 99.70                      | 1.02                   | NP               | --                   | 98.68                       | --         |
| MW-4      | 5/2/2018   | 99.70                      | 1.29                   | NP               | --                   | 98.41                       | --         |
| MW-4      | 8/8/2018   | 99.70                      | 3.63                   | NP               | --                   | 96.07                       | --         |
| MW-4      | 10/23/2018 | 99.70                      | 2.20                   | NP               | --                   | 97.50                       | --         |
| MW-4      | 1/30/2019  | 99.70                      | 1.05                   | NP               | --                   | 98.65                       | --         |
| MW-4      | 4/24/2019  | 99.70                      | 1.35                   | NP               | --                   | 98.35                       | --         |
| MW-4      | 8/1/2019   | 99.70                      | 2.16                   | NP               | --                   | 97.54                       | --         |
| MW-4      | 10/30/2019 | 99.70                      | 1.20                   | NP               | --                   | 98.50                       | --         |
| MW-4      | 2/6/2020   | 99.70                      | 0.80                   | NP               | --                   | 98.90                       | --         |
| MW-4      | 6/24/2020  | 99.70                      | 1.40                   | NP               | --                   | 98.30                       | --         |
| MW-4      | 9/23/2020  | 99.70                      | 2.00                   | NP               | --                   | 97.70                       | --         |

Table 1  
Groundwater Gauging Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| Well I.D. | Date       | GROUNDWATER ELEVATION DATA |                        |                  |                      |                             |            |
|-----------|------------|----------------------------|------------------------|------------------|----------------------|-----------------------------|------------|
|           |            | TOC Elevation (ft)         | Water Level Depth (ft) | LNAPL Depth (ft) | LNAPL Thickness (ft) | Water Level Elevation* (ft) | Qualifiers |
| MW-4      | 11/11/2020 | 99.70                      | 1.11                   | NP               | --                   | 98.59                       | --         |
| MW-4      | 2/10/2021  | 99.70                      | 1.07                   | NP               | --                   | 98.63                       | --         |
| MW-4      | 5/6/2021   | 99.70                      | 1.47                   | NP               | --                   | 98.23                       | --         |
| MW-4      | 8/4/2021   | 99.70                      | 2.05                   | NP               | --                   | 97.65                       | --         |
| MW-4      | 11/17/2021 | 99.70                      | 0.84                   | NP               | --                   | 98.86                       | --         |
| MW-4      | 1/26/2022  | 99.70                      | 0.88                   | NP               | --                   | 98.82                       | --         |
| MW-4      | 4/27/2022  | 99.70                      | 1.02                   | NP               | --                   | 98.68                       | --         |
| MW-4      | 7/20/2022  | 99.70                      | 1.41                   | NP               | --                   | 98.29                       | --         |
| MW-4      | 10/18/2022 | 99.70                      | 1.94                   | NP               | --                   | 97.76                       | --         |
| MW-4      | 1/24/2023  | 99.70                      | 0.75                   | NP               | --                   | 98.95                       | --         |
| MW-4      | 4/12/2023  | 99.70                      | 0.82                   | NP               | --                   | 98.88                       | --         |
|           |            |                            |                        |                  |                      |                             |            |
| MW-5      | 6/29/2016  | 99.60                      | 1.49                   | NP               | --                   | 98.11                       | --         |
| MW-5      | 9/8/2016   | 99.60                      | 1.57                   | NP               | --                   | 98.03                       | --         |
| MW-5      | 12/1/2016  | 99.60                      | 0.61                   | NP               | --                   | 98.99                       | --         |
| MW-5      | 2/22/2017  | 99.60                      | 0.77                   | NP               | --                   | 98.83                       | --         |
| MW-5      | 5/10/2017  | 99.60                      | 1.27                   | NP               | --                   | 98.33                       | --         |
| MW-5      | 8/16/2017  | 99.60                      | 1.70                   | NP               | --                   | 97.90                       | --         |
| MW-5      | 10/31/2017 | 99.60                      | 1.02                   | NP               | --                   | 98.58                       | --         |
| MW-5      | 2/13/2018  | 99.60                      | 0.82                   | NP               | --                   | 98.78                       | --         |
| MW-5      | 5/2/2018   | 99.60                      | 1.12                   | NP               | --                   | 98.48                       | --         |
| MW-5      | 8/8/2018   | 99.60                      | 1.80                   | NP               | --                   | 97.80                       | --         |
| MW-5      | 10/23/2018 | 99.60                      | 1.52                   | NP               | --                   | 98.08                       | --         |
| MW-5      | 1/30/2019  | 99.60                      | 0.73                   | NP               | --                   | 98.87                       | --         |
| MW-5      | 4/24/2019  | 99.60                      | 1.20                   | NP               | --                   | 98.40                       | --         |
| MW-5      | 8/1/2019   | 99.60                      | 1.55                   | NP               | --                   | 98.05                       | --         |
| MW-5      | 10/30/2019 | 99.60                      | 0.89                   | NP               | --                   | 98.71                       | --         |
| MW-5      | 2/6/2020   | 99.60                      | 0.50                   | NP               | --                   | 99.10                       | --         |
| MW-5      | 6/24/2020  | 99.60                      | 1.13                   | NP               | --                   | 98.47                       | --         |
| MW-5      | 9/23/2020  | 99.60                      | 1.42                   | NP               | --                   | 98.18                       | --         |
| MW-5      | 11/11/2020 | 99.60                      | 0.87                   | NP               | --                   | 98.73                       | --         |
| MW-5      | 2/10/2021  | 99.60                      | 0.82                   | NP               | --                   | 98.78                       | --         |
| MW-5      | 5/6/2021   | 99.60                      | 1.22                   | NP               | --                   | 98.38                       | --         |
| MW-5      | 8/4/2021   | 99.60                      | 1.48                   | NP               | --                   | 98.12                       | --         |
| MW-5      | 11/17/2021 | --                         | --                     | --               | --                   | --                          | DL         |
| MW-5      | 1/26/2022  | 99.60                      | 0.55                   | NP               | --                   | 99.05                       | --         |
| MW-5      | 4/27/2022  | 99.60                      | 0.71                   | NP               | --                   | 98.89                       | --         |
| MW-5      | 7/20/2022  | 99.60                      | 1.04                   | NP               | --                   | 98.56                       | --         |
| MW-5      | 10/18/2022 | 99.60                      | 1.37                   | NP               | --                   | 98.23                       | --         |
| MW-5      | 1/24/2023  | 99.60                      | 0.25                   | NP               | --                   | 99.35                       | DL         |
| MW-5      | 4/12/2023  | 99.60                      | 0.44                   | NP               | --                   | 99.16                       | DL         |

**Notes:**

TOC - Top of Casing

ft - feet

NP - No Product

LNAPL - Light Non-Aqueous Phase Liquid

\* - Corrected for LNAPL if present (assumes LNAPL specific gravity = 0.75)

-- No Information Available

DL - Depth to water was < 0.5 feet below TOC

Table 2  
Groundwater Analytical Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| CONSTITUENT<br>UNIT                 |            | B<br>ug/L    | T<br>ug/L   | E<br>ug/L  | X<br>ug/L   | TPH-G<br>ug/L    | TPH-D<br>ug/L | TPH-O<br>ug/L |
|-------------------------------------|------------|--------------|-------------|------------|-------------|------------------|---------------|---------------|
| Well ID                             | Date       |              |             |            |             |                  |               |               |
| <b>MTCA METHOD A CLEANUP LEVELS</b> |            | <b>5</b>     | <b>1000</b> | <b>700</b> | <b>1000</b> | <b>1000/800*</b> | <b>500</b>    | <b>500</b>    |
| MW-1                                | 6/29/2016  | < 20         | < 20        | < 30       | < 30        | < 50             | 160           | < 250         |
| MW-1                                | 9/8/2016   | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 50             | 150           | < 250         |
| MW-1                                | 12/1/2016  | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 50             | 120           | < 250         |
| MW-1                                | 2/22/2017  | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 250         |
| MW-1                                | 5/10/2017  | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 500            | < 100         | < 260         |
| MW-1                                | 8/16/2017  | < 1.0        | < 1.0       | < 1.0      | < 3.0       | < 100            | 140           | 330           |
| MW-1                                | 10/31/2017 | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 100         | < 260         |
| MW-1                                | 2/13/2018  | < 2.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 5/2/2018   | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 10/23/2018 | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 1/30/2019  | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 4/24/2019  | < 3.0        | < 2.0       | < 3.0      | < 3.0 *     | < 250            | < 100         | < 100         |
| MW-1                                | 8/1/2019   | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | 180           | < 350         |
| MW-1                                | 10/30/2019 | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 2/6/2020   | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-1                                | 6/24/2020  | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | 130           | < 370         |
| MW-1                                | 9/23/2020  | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | 140           | < 350         |
| MW-1                                | 11/11/2020 | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | 140           | < 330         |
| MW-1                                | 2/10/2021  | < 3.0        | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 360         |
| MW-1                                | 5/6/2021   | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 250            | 270           | < 340         |
| MW-1                                | 8/4/2021   | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 250            | 310           | < 380         |
| MW-1                                | 11/17/2021 | < 1.0        | < 1.0 *1    | < 1.0      | < 2.0       | < 250            | < 110         | < 350         |
| MW-1                                | 1/26/2022  | < 1.0 *1     | < 1.0       | < 1.0 *1   | < 2.0 *1    | < 250            | < 140         | < 440         |
| MW-1                                | 4/27/2022  | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 50             | 110           | < 360         |
| MW-1                                | 7/20/2022  | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 50             | 110           | < 370         |
| MW-1                                | 10/18/2022 | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 50             | < 110         | < 350         |
| MW-1                                | 1/24/2023  | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 50             | 120           | < 360         |
| MW-1                                | 4/12/2023  | < 1.0        | < 1.0       | < 1.0      | < 2.0       | < 50             | 150           | < 360         |
|                                     |            |              |             |            |             |                  |               |               |
| MW-2                                | 6/29/2016  | <b>100</b>   | 6.9         | 56         | 92          | <b>2,300</b>     | <b>810</b>    | < 250         |
| MW-2                                | 12/1/2016  | <b>170</b>   | 8.7         | 280        | 250         | <b>7,000</b>     | <b>1,700</b>  | < 260         |
| MW-2                                | 2/22/2017  | <b>90</b>    | < 20        | 120        | 110         | <b>6,500</b>     | <b>1,300</b>  | < 250         |
| MW-2                                | 5/10/2017  | <b>85</b>    | 6.4         | 220        | 150         | <b>6,000</b>     | <b>990</b>    | < 250         |
| MW-2                                | 2/13/2018  | <b>180</b>   | 8.3         | 130        | 150         | <b>5,000</b>     | <b>2,100</b>  | < 350         |
| MW-2                                | 5/2/2018   | <b>170 *</b> | 6.3 *       | 130        | 110         | <b>4,200</b>     | <b>1,100</b>  | < 360         |
| MW-2                                | 1/30/2019  | <b>130</b>   | 7.2         | 74         | 94          | <b>4,500</b>     | <b>1,800</b>  | < 350         |
| MW-2                                | 8/1/2019   | <b>110</b>   | 6.2         | 25         | 43          | <b>1,600</b>     | <b>1,000</b>  | < 350         |
| MW-2                                | 10/30/2019 | <b>140</b>   | 6.1         | 62         | 51          | <b>3,400</b>     | <b>2,000</b>  | < 350         |
| MW-2                                | 2/6/2020   | <b>120</b>   | 5.4         | 44         | 35          | <b>2,300</b>     | <b>930</b>    | < 360         |
| MW-2                                | 6/24/2020  | <b>13</b>    | < 2.0       | 9.5        | 3.0         | 750              | <b>590</b>    | < 350         |
| MW-2                                | 9/23/2020  | <b>15</b>    | < 2.0       | 19         | 10          | <b>1,100</b>     | <b>590</b>    | < 350         |
| MW-2                                | 11/11/2020 | <b>99</b>    | 6.2         | 31         | 44          | <b>1,500</b>     | <b>970</b>    | < 340         |
| MW-2                                | 2/10/2021  | <b>47</b>    | 3.5         | 33         | 17          | <b>1,700</b>     | <b>670</b>    | < 350         |
| MW-2                                | 5/6/2021   | <b>35</b>    | 3.0         | 17         | 12          | <b>1,700</b>     | <b>670</b>    | < 360         |
| MW-2                                | 8/4/2021   | <b>39</b>    | < 10        | 30         | < 20        | <b>1,800</b>     | <b>830</b>    | 410           |
| MW-2                                | 11/17/2021 | <b>330</b>   | < 50 *1     | < 50       | < 100       | <b>1,700</b>     | < 2200        | < 6900        |
| MW-2                                | 1/26/2022  | <b>85 *1</b> | < 5.0       | 25 *1      | 14 *1       | <b>1,500</b>     | <b>730</b>    | < 440         |
| MW-2                                | 4/27/2022  | 4.3          | < 1.0       | 2.6        | < 2.0       | 510              | <b>900</b>    | < 360         |
| MW-2                                | 7/20/2022  | <b>5.9</b>   | < 1.0       | 1.6        | < 2.0       | 300              | <b>760</b>    | < 370         |
| MW-2                                | 10/18/2022 | <b>20</b>    | < 10        | 12         | < 20        | <b>3,200</b>     | <b>650</b>    | < 350         |
| MW-2                                | 1/24/2023  | <b>93</b>    | < 10        | 16         | 22          | <b>1,400</b>     | <b>950</b>    | 390           |
| MW-2                                | 4/12/2023  | <b>51</b>    | < 10        | 14         | < 20        | <b>1,600</b>     | <b>840</b>    | < 350         |

Table 2  
Groundwater Analytical Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| CONSTITUENT<br>UNIT                 |            | B<br>ug/L | T<br>ug/L   | E<br>ug/L  | X<br>ug/L   | TPH-G<br>ug/L    | TPH-D<br>ug/L | TPH-O<br>ug/L |
|-------------------------------------|------------|-----------|-------------|------------|-------------|------------------|---------------|---------------|
| Well ID                             | Date       |           |             |            |             |                  |               |               |
| <b>MTCA METHOD A CLEANUP LEVELS</b> |            | <b>5</b>  | <b>1000</b> | <b>700</b> | <b>1000</b> | <b>1000/800*</b> | <b>500</b>    | <b>500</b>    |
| MW-3                                | 6/29/2016  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 250         |
| MW-3                                | 9/8/2016   | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 250         |
| MW-3                                | 12/1/2016  | < 2.0     | 88          | < 3.0      | < 3.0       | 100              | 180           | < 260         |
| MW-3                                | 2/22/2017  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 260         |
| MW-3                                | 5/10/2017  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 500            | < 100         | < 250         |
| MW-3                                | 8/16/2017  | < 1.0     | < 1.0       | < 1.0      | < 3.0       | < 100            | < 100         | < 250         |
| MW-3                                | 10/31/2017 | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 100         | < 260         |
| MW-3                                | 2/13/2018  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 5/2/2018   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 10/23/2018 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 120           | < 350         |
| MW-3                                | 1/30/2019  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 4/24/2019  | < 3.0     | < 2.0       | < 3.0      | < 3.0 *     | < 250            | < 100         | < 100         |
| MW-3                                | 8/1/2019   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 110           | < 350         |
| MW-3                                | 10/30/2019 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 2/6/2020   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 6/24/2020  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 120         | < 380         |
| MW-3                                | 9/23/2020  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 110           | < 350         |
| MW-3                                | 11/11/2020 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 2/10/2021  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-3                                | 5/6/2021   | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 250            | < 110         | < 360         |
| MW-3                                | 8/4/2021   | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 250            | 270           | < 360         |
| MW-3                                | 11/17/2021 | < 1.0     | < 1.0 *1    | < 1.0      | < 2.0       | < 250            | < 110         | < 340         |
| MW-3                                | 1/26/2022  | < 1.0 *1  | < 1.0       | < 1.0 *1   | < 2.0 *1    | < 250            | < 130         | < 430         |
| MW-3                                | 4/27/2022  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | < 110         | < 370         |
| MW-3                                | 7/20/2022  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | < 120         | < 370         |
| MW-3                                | 10/18/2022 | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | 110           | < 350         |
| MW-3                                | 1/24/2023  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | 120           | < 370         |
| MW-3                                | 4/12/2023  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | 150           | < 360         |
|                                     |            |           |             |            |             |                  |               |               |
| MW-4                                | 6/29/2016  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | 110           | < 250         |
| MW-4                                | 9/8/2016   | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 250         |
| MW-4                                | 12/1/2016  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | 140           | < 260         |
| MW-4                                | 2/22/2017  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 50             | < 110         | < 250         |
| MW-4                                | 5/10/2017  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 500            | 120           | < 250         |
| MW-4                                | 8/16/2017  | < 1.0     | < 1.0       | < 1.0      | < 3.0       | < 100            | < 100         | < 250         |
| MW-4                                | 10/31/2017 | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 100           | < 250         |
| MW-4                                | 2/13/2018  | < 2.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 130           | < 350         |
| MW-4                                | 5/2/2018   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-4                                | 10/23/2018 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 200           | < 350         |
| MW-4                                | 1/30/2019  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 110           | < 350         |
| MW-4                                | 4/24/2019  | < 3.0     | < 2.0       | < 3.0      | < 3.0 *     | < 250            | < 100         | < 100         |
| MW-4                                | 8/1/2019   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 160           | < 350         |
| MW-4                                | 10/30/2019 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-4                                | 2/6/2020   | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-4                                | 6/24/2020  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 120         | < 380         |
| MW-4                                | 9/23/2020  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 140           | < 350         |
| MW-4                                | 11/11/2020 | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | 120           | < 350         |
| MW-4                                | 2/10/2021  | < 3.0     | < 2.0       | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-4                                | 5/6/2021   | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 250            | < 110         | < 350         |
| MW-4                                | 8/4/2021   | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 250            | 310           | < 370         |
| MW-4                                | 11/17/2021 | < 1.0     | < 1.0 *1    | < 1.0      | < 2.0       | < 250            | < 110         | < 340         |
| MW-4                                | 1/26/2022  | < 1.0 *1  | < 1.0       | < 1.0 *1   | < 2.0 *1    | < 250            | < 130         | < 420         |
| MW-4                                | 4/27/2022  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | < 110         | < 360         |
| MW-4                                | 7/20/2022  | < 1.0     | < 1.0       | < 1.0      | < 2.0       | < 50             | < 120         | < 380         |

Table 2  
Groundwater Analytical Data  
OPLC Tacoma Junction  
2660 Frank Albert Road E, Fife, WA

| CONSTITUENT<br>UNIT                 |            | B<br>ug/L  | T<br>ug/L   | E<br>ug/L  | X<br>ug/L   | TPH-G<br>ug/L    | TPH-D<br>ug/L | TPH-O<br>ug/L |
|-------------------------------------|------------|------------|-------------|------------|-------------|------------------|---------------|---------------|
| Well ID                             | Date       |            |             |            |             |                  |               |               |
| <b>MTCA METHOD A CLEANUP LEVELS</b> |            | <b>5</b>   | <b>1000</b> | <b>700</b> | <b>1000</b> | <b>1000/800*</b> | <b>500</b>    | <b>500</b>    |
| MW-4                                | 10/18/2022 | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 50             | < 110         | < 350         |
| MW-4                                | 1/24/2023  | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 50             | 140           | < 370         |
| MW-4                                | 4/12/2023  | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 50             | 120           | < 360         |
|                                     |            |            |             |            |             |                  |               |               |
| MW-5                                | 6/29/2016  | < 2.0      | < 2.0       | < 3.0      | < 3.0       | 300              | 230           | < 250         |
| MW-5                                | 9/8/2016   | < 2.0      | < 2.0       | < 3.0      | < 3.0       | 270              | 250           | < 250         |
| MW-5                                | 12/1/2016  | < 2.0      | < 2.0       | < 3.0      | < 3.0       | 89               | 180           | < 250         |
| MW-5                                | 2/22/2017  | < 2.0      | < 2.0       | < 3.0      | < 3.0       | 97               | < 110         | < 250         |
| MW-5                                | 5/10/2017  | < 2.0      | < 2.0       | < 3.0      | < 3.0       | < 500            | 220           | < 250         |
| MW-5                                | 8/16/2017  | < 1.0      | < 1.0       | < 1.0      | < 3.0       | 240              | 150           | < 250         |
| MW-5                                | 10/31/2017 | < 2.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 120           | < 260         |
| MW-5                                | 2/13/2018  | 3.4        | < 2.0       | 7.4        | < 3.0       | 330              | 250           | < 370         |
| MW-5                                | 5/2/2018   | < 3.0 *    | < 2.0 *     | < 3.0      | < 3.0       | < 250            | < 110         | < 350         |
| MW-5                                | 10/23/2018 | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 200           | < 350         |
| MW-5                                | 1/30/2019  | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 150           | < 350         |
| MW-5                                | 4/24/2019  | < 3.0      | < 2.0       | < 3.0      | < 3.0 *     | < 250            | 130           | < 100         |
| MW-5                                | 8/1/2019   | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 200           | < 350         |
| MW-5                                | 10/30/2019 | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 120           | < 350         |
| MW-5                                | 2/6/2020   | < 3.0      | < 2.0       | 4.2        | < 3.0       | 380              | 190           | < 350         |
| MW-5                                | 6/24/2020  | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 210           | < 360         |
| MW-5                                | 9/23/2020  | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 160           | < 360         |
| MW-5                                | 11/11/2020 | < 3.0      | < 2.0       | < 3.0      | < 3.0       | < 250            | 120           | < 340         |
| MW-5                                | 2/10/2021  | 3.4        | < 2.0       | < 3.0      | < 3.0       | 260              | 150           | < 360         |
| MW-5                                | 5/6/2021   | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 250            | 150           | < 340         |
| MW-5                                | 8/4/2021   | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 250            | 290           | < 360         |
| MW-5                                | 11/17/2021 | < 1.0      | < 1.0 *1    | < 1.0      | < 2.0       | < 250            | < 2100        | < 6800        |
| MW-5                                | 1/26/2022  | 3.5        | < 1.0       | 3.9        | < 2.0       | 270              | 170           | < 440         |
| MW-5                                | 4/27/2022  | 2.4        | < 1.0       | 1.9        | < 2.0       | 600              | 310           | < 360         |
| MW-5                                | 7/20/2022  | < 1.0      | < 1.0       | < 1.0      | < 2.0       | < 50             | 130           | < 350         |
| MW-5                                | 10/18/2022 | < 1.0      | < 1.0       | < 1.0      | < 2.0       | 110              | 130           | < 350         |
| MW-5                                | 1/24/2023  | <b>5.5</b> | 1.1         | 6.1        | < 2.0       | 470              | 380           | < 370         |
| MW-5                                | 4/12/2023  | 1.3        | < 1.0       | 1.7        | < 2.0       | 210              | 190           | < 360         |

**Notes:**

TPH-G = Total petroleum hydrocarbons as gasoline by Northwest Method NWTPH-Gx

TPH-D = Total petroleum hydrocarbons as diesel by Northwest Method NWTPH-Dx

TPH-O = Total petroleum hydrocarbons as oil by Northwest Method NWTPH-Dx

1,000/800<sup>1</sup> ug/L if no detectable levels of Benzene in the sample - otherwise 800 ug/L

<1.0 = Concentrations were not detected above the laboratory method reporting limit.

ug/L = Micrograms per liter (ppb)

-- = No value given/Not analyzed/Not applicable

MTCA = Model Toxics Control Act

Results in **bold** indicate concentrations in excess of MTCA Method A Cleanup Levels

\* = RPD of the LCS and LCSD exceeds the control limits. LCS or LCSD is outside acceptance limits.

\*1 = LCS/LCSD RPD exceeds control limits.

## Figures

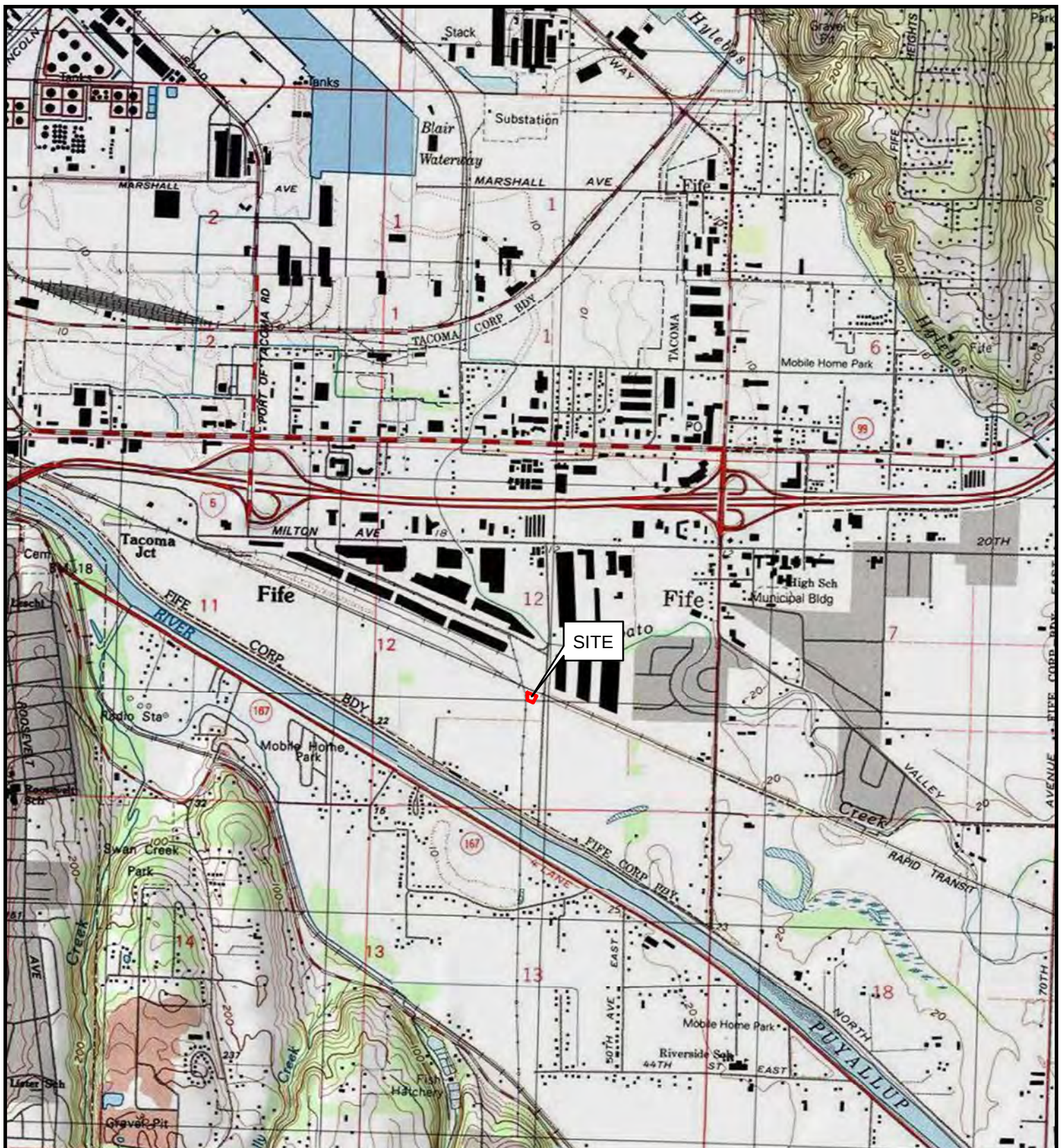
Figure 1 - Site Location Map

Figure 2 - Site Map

Figure 3 - Groundwater Elevation Contour Map – January 24, 2023

Figure 4 - Groundwater Elevation Contour Map – April 12, 2023

Figure 5 - Groundwater Analytical Data Map – January 24, 2023 and April 12, 2023

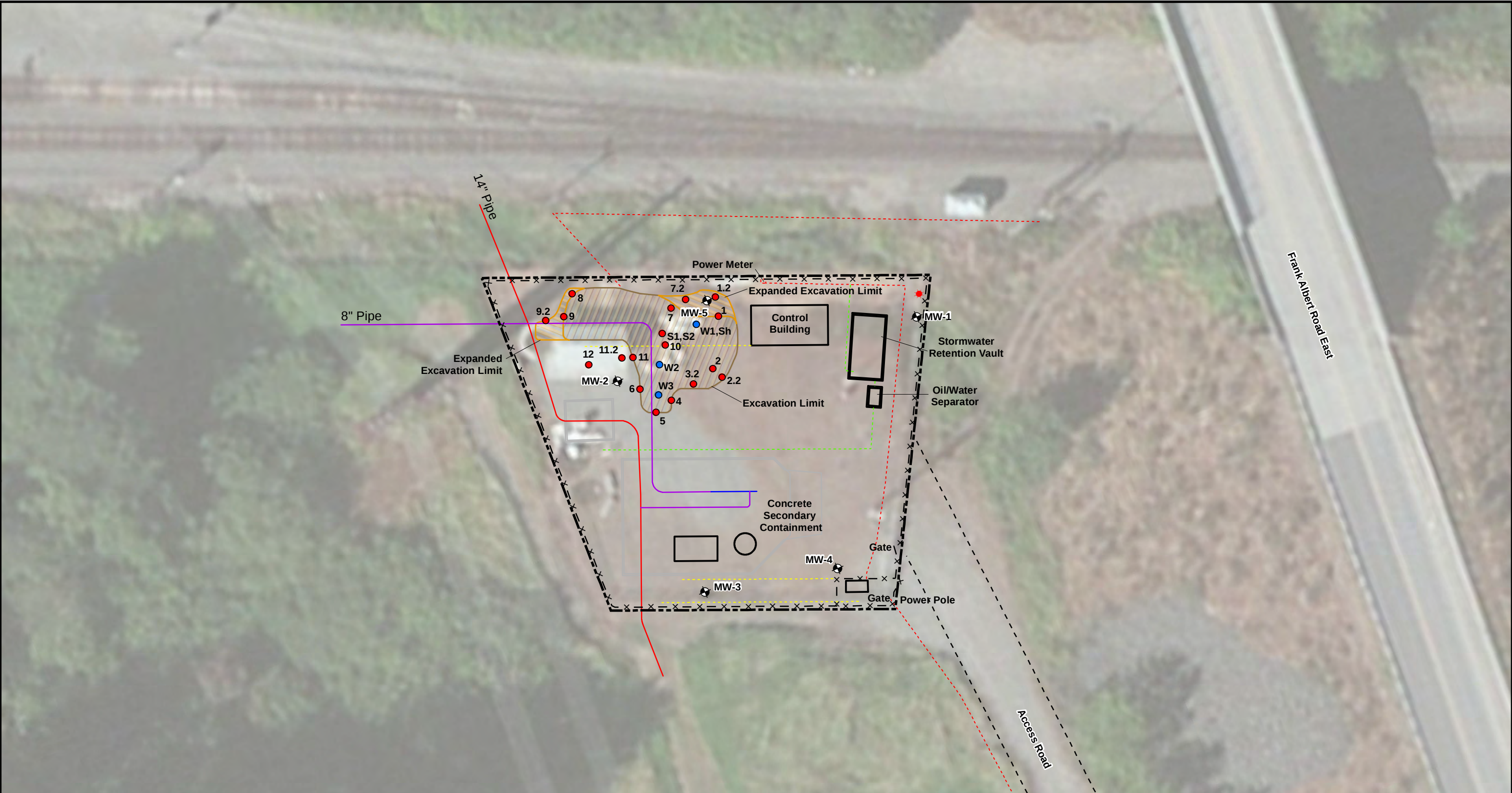


USGS 7.5-minute Series  
Topographic Series  
Puyallup, WA, 2013

**FIGURE 1**  
SITE LOCATION MAP  
OLYMPIC PIPE LINE COMPANY - TACOMA JUNCTION  
2660 FRANK ALBERT ROAD EAST  
FIFE, WA

|                                                   |                          |                                         |
|---------------------------------------------------|--------------------------|-----------------------------------------|
| PROJECT NO.<br><i>OPLC - Tacoma Junction 2022</i> | PREPARED BY<br><i>MB</i> | REF SCALE<br><i>1:24,000</i>            |
| DATE<br><i>7/30/2021</i>                          | REVIEWED BY<br><i>FS</i> | MAP SCALE<br><i>1 INCH = 2,000 FEET</i> |





Legend

- Monitoring Well Location
- Light Pole
- Soil Sample Location
- Water Sample Location
- Original Excavation
- Expanded Excavation
- Property Boundary
- Fence
- 14" Pipeline
- 10" Pipeline
- 8" Pipeline
- Utility - Storm Water
- Groundwire
- Utility - Electric

Sources: 2013, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

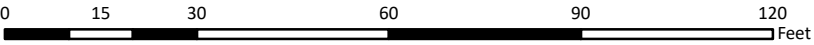
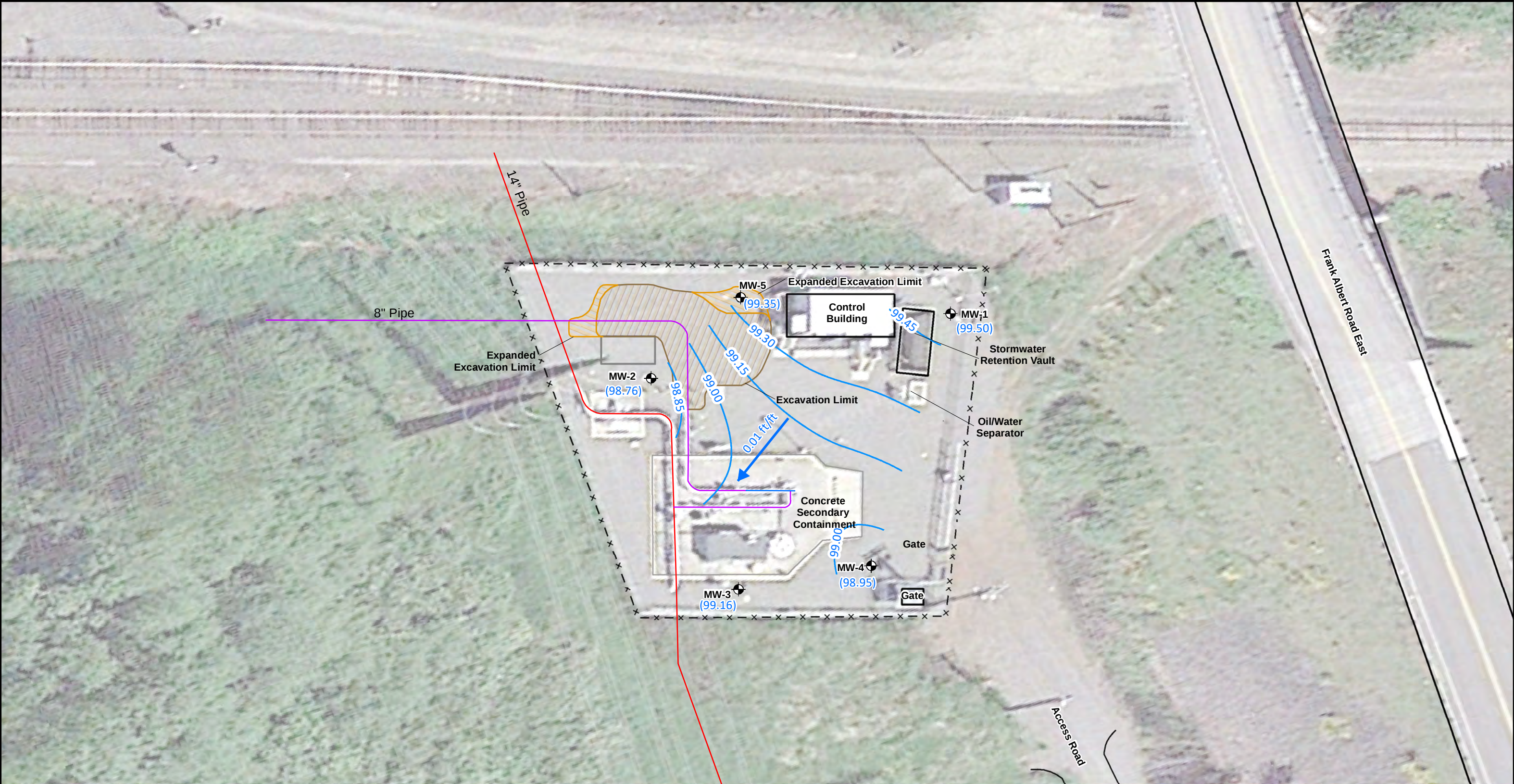


FIGURE 2

SITE MAP

OLYMPIC PIPE LINE COMPANY - TACOMA JUNCTION  
2660 FRANK ALBERT ROAD EAST  
FIFE, WA

|                                            |                   |                               |  |
|--------------------------------------------|-------------------|-------------------------------|--|
| PROJECT NO.<br>OPLC - Tacoma Junction 2022 | PREPARED BY<br>MB | REF SCALE<br>1:360            |  |
| DATE<br>7/31/2021                          | REVIEWED BY<br>FS | MAP SCALE<br>1 INCH = 30 FEET |  |



Legend

- Property Boundary
- × - ×

Fence
- ⊕

Monitoring Well Location
- 14" Pipeline
- 10" Pipeline
- 8" Pipeline
- ▨

Original Excavation
- ▨

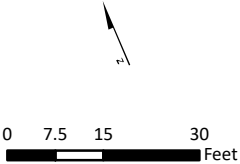
Expanded Excavation
- Groundwater Elevation Contour (ft)
- ←

Inferred Groundwater Flow Direction
- (99.16)

Groundwater Elevation Contour (ft)
- 0.01 ft/ft

Inferred Groundwater Gradient

Sources: 2015, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**FIGURE 3**  
GROUNDWATER ELEVATION CONTOUR MAP  
JANUARY 24, 2023  
OLYMPIC PIPELINE COMPANY  
TACOMA JUNCTION  
2660 FRANK ALBERT ROAD EAST  
FIFE, WASHINGTON

|                                            |                    |                               |  |
|--------------------------------------------|--------------------|-------------------------------|--|
| PROJECT NO.<br>OPLC - Tacoma Junction 2022 | PREPARED BY<br>TMB | REF SCALE<br>1:360            |  |
| DATE<br>7/26/2023                          | REVIEWED BY<br>MR  | MAP SCALE<br>1 INCH = 30 FEET |  |



Legend

- Property Boundary
- × — ×

Fence
- ⊕

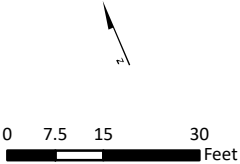
Monitoring Well Location
- 14" Pipeline
- 10" Pipeline
- 8" Pipeline
- Original Excavation
- Expanded Excavation
- Groundwater Elevation Contour (ft)
- ➔

Inferred Groundwater Flow Direction
- (99.06)

Groundwater Elevation Contour (ft)
- 0.005 ft/ft

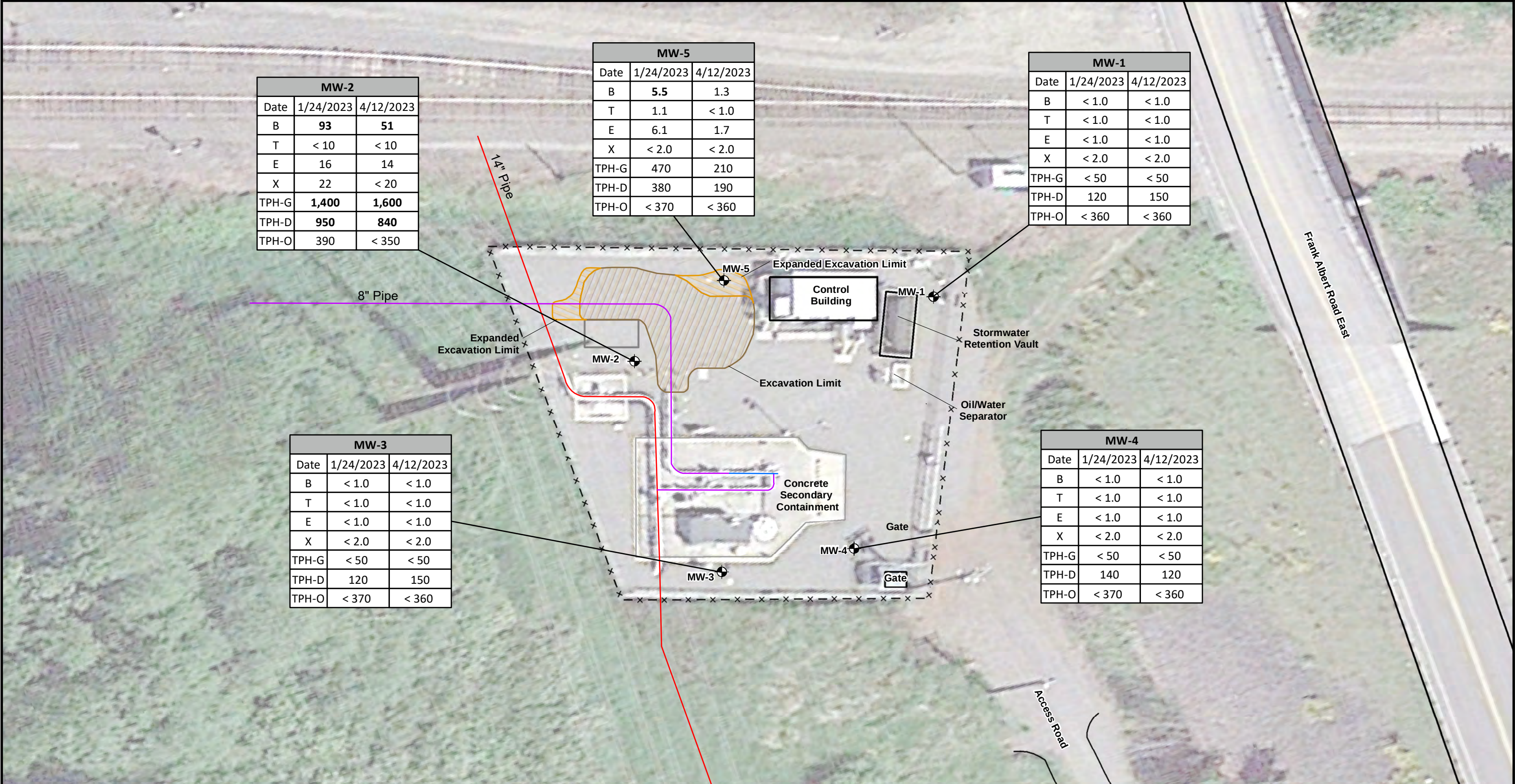
Inferred Groundwater Gradient

Sources: 2015, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



**FIGURE 4**  
GROUNDWATER ELEVATION CONTOUR MAP  
APRIL 12 , 2023  
OLYMPIC PIPELINE COMPANY  
TACOMA JUNCTION  
2660 FRANK ALBERT ROAD EAST  
FIFE, WASHINGTON

|                                            |                    |                               |  |
|--------------------------------------------|--------------------|-------------------------------|--|
| PROJECT NO.<br>OPLC - Tacoma Junction 2022 | PREPARED BY<br>TMB | REF SCALE<br>1:360            |  |
| DATE<br>7/26/2023                          | REVIEWED BY<br>MR  | MAP SCALE<br>1 INCH = 30 FEET |  |



**Legend**

----- Property Boundary

× - × Fence

⊕ Monitoring Well Location

— 14" Pipeline

— 10" Pipeline

— 8" Pipeline

Original Excavation

Expanded Excavation

B - Benzene

T - Toluene

E - Ethylbenzene

X - Total Xylenes

TPH-G - Total petroleum hydrocarbons as gasoline

TPH-D - Total petroleum hydrocarbons as diesel

TPH-O - Total petroleum hydrocarbons as oil

**Bold** - Concentration above MTCA Method A Cleanup Levels

< - Concentrations were not detected above the laboratory reporting limit

\*1 - LCS/LCSD RPD exceeds control limits

All values in micrograms per liter (µg/L)

Sources: 2015, Esri, DigitalGlobe, GeoEye, i-cubed, USDA FSA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 7.5 15 30 Feet

**FIGURE 5**

GROUNDWATER ANALYTICAL DATA MAP

JANUARY 24, 2023 AND APRIL 12, 2023

OLYMPIC PIPELINE COMPANY

TACOMA JUNCTION

2660 FRANK ALBERT ROAD EAST

FIFE, WASHINGTON

|                          |                      |                               |
|--------------------------|----------------------|-------------------------------|
| PROJECT NO.<br>WATJUA211 | PREPARED BY<br>TMB   | REF SCALE<br>1:360            |
| DATE<br>7/6/2023         | REVIEWED BY<br>KY/MG | MAP SCALE<br>1 INCH = 30 FEET |

## **Appendix A - Analytical Lab Reports and Chain-of-Custody Documentation**



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Megan Richard  
Antea USA Inc.  
18378-B Redmond Way  
Redmond, Washington 98052

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## JOB DESCRIPTION

BP - OPLC - Tacoma Junction  
OPLC-Tacoma Junction

## JOB NUMBER

580-122675-1

# Eurofins Seattle

## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

## Authorization



Authorized for release by  
Katie Grant, Project Manager I  
[Katie.Grant@et.eurofinsus.com](mailto:Katie.Grant@et.eurofinsus.com)  
(253)922-2310

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# Table of Contents

|                                  |    |
|----------------------------------|----|
| Cover Page . . . . .             | 1  |
| Table of Contents . . . . .      | 3  |
| Definitions/Glossary . . . . .   | 4  |
| Case Narrative . . . . .         | 5  |
| Detection Summary . . . . .      | 6  |
| Client Sample Results . . . . .  | 7  |
| Surrogate Summary . . . . .      | 11 |
| QC Sample Results . . . . .      | 13 |
| QC Association Summary . . . . . | 18 |
| Lab Chronicle . . . . .          | 20 |
| Certification Summary . . . . .  | 22 |
| Method Summary . . . . .         | 23 |
| Sample Summary . . . . .         | 24 |
| Chain of Custody . . . . .       | 25 |
| Receipt Checklists . . . . .     | 26 |
| Prep Data . . . . .              | 27 |



## Definitions/Glossary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery                                                                                            |
| CFL            | Contains Free Liquid                                                                                        |
| CFU            | Colony Forming Unit                                                                                         |
| CNF            | Contains No Free Liquid                                                                                     |
| DER            | Duplicate Error Ratio (normalized absolute difference)                                                      |
| Dil Fac        | Dilution Factor                                                                                             |
| DL             | Detection Limit (DoD/DOE)                                                                                   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)                                                               |
| EDL            | Estimated Detection Limit (Dioxin)                                                                          |
| LOD            | Limit of Detection (DoD/DOE)                                                                                |
| LOQ            | Limit of Quantitation (DoD/DOE)                                                                             |
| MCL            | EPA recommended "Maximum Contaminant Level"                                                                 |
| MDA            | Minimum Detectable Activity (Radiochemistry)                                                                |
| MDC            | Minimum Detectable Concentration (Radiochemistry)                                                           |
| MDL            | Method Detection Limit                                                                                      |
| ML             | Minimum Level (Dioxin)                                                                                      |
| MPN            | Most Probable Number                                                                                        |
| MQL            | Method Quantitation Limit                                                                                   |
| NC             | Not Calculated                                                                                              |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)                                                |
| NEG            | Negative / Absent                                                                                           |
| POS            | Positive / Present                                                                                          |
| PQL            | Practical Quantitation Limit                                                                                |
| PRES           | Presumptive                                                                                                 |
| QC             | Quality Control                                                                                             |
| RER            | Relative Error Ratio (Radiochemistry)                                                                       |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)                                                         |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                         |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                       |
| TNTC           | Too Numerous To Count                                                                                       |

# Case Narrative

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

**Job ID: 580-122675-1**

**Laboratory: Eurofins Seattle**

## Narrative

**Job Narrative**  
**580-122675-1**

## Comments

No additional comments.

## Receipt

The samples were received on 1/25/2023 1:25 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5° C.

## Receipt Exceptions

The following samples were received at the laboratory without a sample collection time documented on the chain of custody: MW-1\_20230124 (580-122675-1), MW-2\_20230124 (580-122675-2), MW-3\_20230124 (580-122675-3), MW-4\_20230124 (580-122675-4) and MW-5\_20230124 (580-122675-5). The samples were logged in using the times noted on the container labels.

## GC/MS VOA

Method NWTPH-Gx: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-2\_20230124 (580-122675-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Client Sample ID: MW-1\_20230124

## Lab Sample ID: 580-122675-1

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 120    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-2\_20230124

## Lab Sample ID: 580-122675-2

| Analyte              | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|----------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| Benzene              | 93     |           | 10  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| Ethylbenzene         | 16     |           | 10  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| m-Xylene & p-Xylene  | 22     |           | 20  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| Xylenes, Total       | 22     |           | 20  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| Gasoline             | 1400   |           | 500 |     | ug/L | 10      |   | NWTPH-Gx | Total/NA  |
| #2 Diesel (C10-C24)  | 950    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |
| Motor Oil (>C24-C36) | 390    |           | 360 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-3\_20230124

## Lab Sample ID: 580-122675-3

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 120    |           | 120 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-4\_20230124

## Lab Sample ID: 580-122675-4

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 140    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-5\_20230124

## Lab Sample ID: 580-122675-5

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| Benzene             | 5.5    |           | 1.0 |     | ug/L | 1       |   | 8260D    | Total/NA  |
| Ethylbenzene        | 6.1    |           | 1.0 |     | ug/L | 1       |   | 8260D    | Total/NA  |
| Toluene             | 1.1    |           | 1.0 |     | ug/L | 1       |   | 8260D    | Total/NA  |
| Gasoline            | 470    |           | 50  |     | ug/L | 1       |   | NWTPH-Gx | Total/NA  |
| #2 Diesel (C10-C24) | 380    |           | 120 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

Client Sample ID: MW-1\_20230124

Lab Sample ID: 580-122675-1

Date Collected: 01/24/23 12:45

Matrix: Water

Date Received: 01/25/23 13:25

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte             | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Benzene             | ND     |           | 1.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |
| Ethylbenzene        | ND     |           | 1.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |
| m-Xylene & p-Xylene | ND     |           | 2.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |
| o-Xylene            | ND     |           | 1.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |
| Toluene             | ND     |           | 1.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |
| Xylenes, Total      | ND     |           | 2.0 |     | ug/L |   |          | 01/31/23 23:44 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 97        |           | 80 - 120 |          | 01/31/23 23:44 | 1       |
| 4-Bromofluorobenzene (Surr)  | 81        |           | 80 - 120 |          | 01/31/23 23:44 | 1       |
| Dibromofluoromethane (Surr)  | 99        |           | 80 - 120 |          | 01/31/23 23:44 | 1       |
| Toluene-d8 (Surr)            | 102       |           | 80 - 120 |          | 01/31/23 23:44 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Gasoline | ND     |           | 50 |     | ug/L |   |          | 01/31/23 23:44 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 81        |           | 77 - 123 |          | 01/31/23 23:44 | 1       |

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 120    |           | 110 |     | ug/L |   | 02/03/23 09:26 | 02/03/23 20:34 | 1       |
| Motor Oil (>C24-C36) | ND     |           | 360 |     | ug/L |   | 02/03/23 09:26 | 02/03/23 20:34 | 1       |

| Surrogate   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|-----------|----------|----------------|----------------|---------|
| o-Terphenyl | 80        |           | 50 - 150 | 02/03/23 09:26 | 02/03/23 20:34 | 1       |

Client Sample ID: MW-2\_20230124

Lab Sample ID: 580-122675-2

Date Collected: 01/24/23 11:30

Matrix: Water

Date Received: 01/25/23 13:25

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte             | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Benzene             | 93     |           | 10 |     | ug/L |   |          | 02/01/23 00:08 | 10      |
| Ethylbenzene        | 16     |           | 10 |     | ug/L |   |          | 02/01/23 00:08 | 10      |
| m-Xylene & p-Xylene | 22     |           | 20 |     | ug/L |   |          | 02/01/23 00:08 | 10      |
| o-Xylene            | ND     |           | 10 |     | ug/L |   |          | 02/01/23 00:08 | 10      |
| Toluene             | ND     |           | 10 |     | ug/L |   |          | 02/01/23 00:08 | 10      |
| Xylenes, Total      | 22     |           | 20 |     | ug/L |   |          | 02/01/23 00:08 | 10      |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 90        |           | 80 - 120 |          | 02/01/23 00:08 | 10      |
| 4-Bromofluorobenzene (Surr)  | 93        |           | 80 - 120 |          | 02/01/23 00:08 | 10      |
| Dibromofluoromethane (Surr)  | 96        |           | 80 - 120 |          | 02/01/23 00:08 | 10      |
| Toluene-d8 (Surr)            | 105       |           | 80 - 120 |          | 02/01/23 00:08 | 10      |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Gasoline | 1400   |           | 500 |     | ug/L |   |          | 02/01/23 00:08 | 10      |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

Client Sample ID: MW-2\_20230124

Lab Sample ID: 580-122675-2

Date Collected: 01/24/23 11:30

Matrix: Water

Date Received: 01/25/23 13:25

| Surrogate                                                            | %Recovery | Qualifier |     |     |      |   | Limits         |                |         |  | Prepared       | Analyzed       | Dil Fac |
|----------------------------------------------------------------------|-----------|-----------|-----|-----|------|---|----------------|----------------|---------|--|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr)                                          | 93        |           |     |     |      |   | 77 - 123       |                |         |  |                | 02/01/23 00:08 | 10      |
| Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) |           |           |     |     |      |   |                |                |         |  |                |                |         |
| Analyte                                                              | Result    | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |  |                |                |         |
| #2 Diesel (C10-C24)                                                  | 950       |           | 110 |     | ug/L |   | 02/03/23 09:26 | 02/03/23 20:54 | 1       |  |                |                |         |
| Motor Oil (>C24-C36)                                                 | 390       |           | 360 |     | ug/L |   | 02/03/23 09:26 | 02/03/23 20:54 | 1       |  |                |                |         |
| Surrogate                                                            | %Recovery | Qualifier |     |     |      |   | Limits         |                |         |  | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl                                                          | 74        |           |     |     |      |   | 50 - 150       |                |         |  | 02/03/23 09:26 | 02/03/23 20:54 | 1       |

Client Sample ID: MW-3\_20230124

Lab Sample ID: 580-122675-3

Date Collected: 01/24/23 10:30

Matrix: Water

Date Received: 01/25/23 13:25

| Method: SW846 8260D - Volatile Organic Compounds by GC/MS |           |           |          |     |      |   |          |                |         |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Analyte                                                   | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
| Benzene                                                   | ND        |           | 1.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| Ethylbenzene                                              | ND        |           | 1.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| m-Xylene & p-Xylene                                       | ND        |           | 2.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| o-Xylene                                                  | ND        |           | 1.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| Toluene                                                   | ND        |           | 1.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| Xylenes, Total                                            | ND        |           | 2.0      |     | ug/L |   |          | 02/01/23 00:33 | 1       |
| Surrogate                                                 | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr)                              | 84        |           | 80 - 120 |     |      |   |          | 02/01/23 00:33 | 1       |
| 4-Bromofluorobenzene (Surr)                               | 87        |           | 80 - 120 |     |      |   |          | 02/01/23 00:33 | 1       |
| Dibromofluoromethane (Surr)                               | 99        |           | 80 - 120 |     |      |   |          | 02/01/23 00:33 | 1       |
| Toluene-d8 (Surr)                                         | 103       |           | 80 - 120 |     |      |   |          | 02/01/23 00:33 | 1       |

| Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS) |           |           |          |     |      |   |          |                |         |
|--------------------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Analyte                                                            | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
| Gasoline                                                           | ND        |           | 50       |     | ug/L |   |          | 02/01/23 00:33 | 1       |
|                                                                    |           |           |          |     |      |   |          |                |         |
| Surrogate                                                          | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)                                        | 87        |           | 77 - 123 |     |      |   |          | 02/01/23 00:33 | 1       |

| Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) |           |           |          |     |      |   |                |                |         |
|----------------------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Analyte                                                              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
| #2 Diesel (C10-C24)                                                  | 120       |           | 120      |     | ug/L |   | 02/03/23 09:26 | 02/03/23 21:14 | 1       |
| Motor Oil (>C24-C36)                                                 | ND        |           | 370      |     | ug/L |   | 02/03/23 09:26 | 02/03/23 21:14 | 1       |
|                                                                      |           |           |          |     |      |   |                |                |         |
| Surrogate                                                            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl                                                          | 76        |           | 50 - 150 |     |      |   | 02/03/23 09:26 | 02/03/23 21:14 | 1       |

Client Sample ID: MW-4\_20230124

Lab Sample ID: 580-122675-4

Date Collected: 01/24/23 09:45

Matrix: Water

Date Received: 01/25/23 13:25

| <b>Method: SW846 8260D - Volatile Organic Compounds by GC/MS</b> |        |           |     |     |      |   |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
| Benzene                                                          | ND     |           | 1.0 |     | ug/L |   |          | 02/02/23 18:21 | 1       |
| Ethylbenzene                                                     | ND     |           | 1.0 |     | ug/L |   |          | 02/02/23 18:21 | 1       |
| m-Xylene & p-Xylene                                              | ND     |           | 2.0 |     | ug/L |   |          | 02/02/23 18:21 | 1       |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

Client Sample ID: MW-4\_20230124

Lab Sample ID: 580-122675-4

Date Collected: 01/24/23 09:45

Matrix: Water

Date Received: 01/25/23 13:25

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

| Analyte                      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| o-Xylene                     | ND        |           | 1.0      |     | ug/L |   |          | 02/02/23 18:21 | 1       |
| Toluene                      | ND        |           | 1.0      |     | ug/L |   |          | 02/02/23 18:21 | 1       |
| Xylenes, Total               | ND        |           | 2.0      |     | ug/L |   |          | 02/02/23 18:21 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 105       |           | 80 - 120 |     |      |   |          | 02/02/23 18:21 | 1       |
| 4-Bromofluorobenzene (Surr)  | 96        |           | 80 - 120 |     |      |   |          | 02/02/23 18:21 | 1       |
| Dibromofluoromethane (Surr)  | 101       |           | 80 - 120 |     |      |   |          | 02/02/23 18:21 | 1       |
| Toluene-d8 (Surr)            | 98        |           | 80 - 120 |     |      |   |          | 02/02/23 18:21 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte                     | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline                    | ND        |           | 50       |     | ug/L |   |          | 02/03/23 15:04 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 88        |           | 77 - 123 |     |      |   |          | 02/03/23 15:04 | 1       |

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 140       |           | 110      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 11:33 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 370      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 11:33 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 75        |           | 50 - 150 |     |      |   | 02/03/23 09:26 | 02/06/23 11:33 | 1       |

Client Sample ID: MW-5\_20230124

Lab Sample ID: 580-122675-5

Date Collected: 01/24/23 12:00

Matrix: Water

Date Received: 01/25/23 13:25

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte                      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Benzene                      | 5.5       |           | 1.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| Ethylbenzene                 | 6.1       |           | 1.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| m-Xylene & p-Xylene          | ND        |           | 2.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| o-Xylene                     | ND        |           | 1.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| Toluene                      | 1.1       |           | 1.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| Xylenes, Total               | ND        |           | 2.0      |     | ug/L |   |          | 02/02/23 18:46 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 102       |           | 80 - 120 |     |      |   |          | 02/02/23 18:46 | 1       |
| 4-Bromofluorobenzene (Surr)  | 99        |           | 80 - 120 |     |      |   |          | 02/02/23 18:46 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 80 - 120 |     |      |   |          | 02/02/23 18:46 | 1       |
| Toluene-d8 (Surr)            | 99        |           | 80 - 120 |     |      |   |          | 02/02/23 18:46 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte                     | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline                    | 470       |           | 50       |     | ug/L |   |          | 02/03/23 15:28 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 98        |           | 77 - 123 |     |      |   |          | 02/03/23 15:28 | 1       |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

Client Sample ID: MW-5\_20230124

Lab Sample ID: 580-122675-5

Date Collected: 01/24/23 12:00

Matrix: Water

Date Received: 01/25/23 13:25

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 380       |           | 120      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 11:53 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 370      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 11:53 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 84        |           | 50 - 150 |     |      |   | 02/03/23 09:26 | 02/06/23 11:53 | 1       |

# Surrogate Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID     | Client Sample ID       | DCA      | BFB      | DBFM     | TOL      |
|-------------------|------------------------|----------|----------|----------|----------|
|                   |                        | (80-120) | (80-120) | (80-120) | (80-120) |
| 580-122675-1      | MW-1_20230124          | 97       | 81       | 99       | 102      |
| 580-122675-2      | MW-2_20230124          | 90       | 93       | 96       | 105      |
| 580-122675-3      | MW-3_20230124          | 84       | 87       | 99       | 103      |
| 580-122675-4      | MW-4_20230124          | 105      | 96       | 101      | 98       |
| 580-122675-5      | MW-5_20230124          | 102      | 99       | 98       | 99       |
| LCS 580-416652/6  | Lab Control Sample     | 87       | 96       | 95       | 102      |
| LCS 580-416908/7  | Lab Control Sample     | 101      | 100      | 98       | 101      |
| LCSD 580-416652/7 | Lab Control Sample Dup | 90       | 93       | 98       | 100      |
| LCSD 580-416908/8 | Lab Control Sample Dup | 99       | 95       | 92       | 105      |
| MB 580-416652/5   | Method Blank           | 88       | 86       | 94       | 100      |
| MB 580-416908/6   | Method Blank           | 101      | 90       | 90       | 105      |

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID     | Client Sample ID       | BFB      |
|-------------------|------------------------|----------|
|                   |                        | (77-123) |
| 580-122675-1      | MW-1_20230124          | 81       |
| 580-122675-2      | MW-2_20230124          | 93       |
| 580-122675-3      | MW-3_20230124          | 87       |
| 580-122675-4      | MW-4_20230124          | 88       |
| 580-122675-5      | MW-5_20230124          | 98       |
| LCS 580-416648/8  | Lab Control Sample     | 93       |
| LCS 580-417009/8  | Lab Control Sample     | 96       |
| LCSD 580-416648/9 | Lab Control Sample Dup | 96       |
| LCSD 580-417009/9 | Lab Control Sample Dup | 96       |
| MB 580-416648/5   | Method Blank           | 86       |
| MB 580-417009/5   | Method Blank           | 91       |

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID      | Client Sample ID   | OTPH     |
|--------------------|--------------------|----------|
|                    |                    | (50-150) |
| 580-122675-1       | MW-1_20230124      | 80       |
| 580-122675-2       | MW-2_20230124      | 74       |
| 580-122675-3       | MW-3_20230124      | 76       |
| 580-122675-4       | MW-4_20230124      | 75       |
| 580-122675-5       | MW-5_20230124      | 84       |
| LCS 580-416996/2-A | Lab Control Sample | 89       |

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Surrogate Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Matrix: Water

Prep Type: Total/NA

| Percent Surrogate Recovery (Acceptance Limits) |                        |                  |
|------------------------------------------------|------------------------|------------------|
| Lab Sample ID                                  | Client Sample ID       | OTPH<br>(50-150) |
| LCSD 580-416996/3-A                            | Lab Control Sample Dup | 95               |
| MB 580-416996/1-A                              | Method Blank           | 74               |
| Surrogate Legend                               |                        |                  |
| OTPH = o-Terphenyl                             |                        |                  |

# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-416652/5

Matrix: Water

Analysis Batch: 416652

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte             | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Benzene             | ND        |              | 1.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |
| Ethylbenzene        | ND        |              | 1.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |
| m-Xylene & p-Xylene | ND        |              | 2.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |
| o-Xylene            | ND        |              | 1.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |
| Toluene             | ND        |              | 1.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |
| Xylenes, Total      | ND        |              | 2.0 |     | ug/L |   |          | 01/31/23 14:48 | 1       |

| Surrogate                    | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 88           |              | 80 - 120 |          | 01/31/23 14:48 | 1       |
| 4-Bromofluorobenzene (Surr)  | 86           |              | 80 - 120 |          | 01/31/23 14:48 | 1       |
| Dibromofluoromethane (Surr)  | 94           |              | 80 - 120 |          | 01/31/23 14:48 | 1       |
| Toluene-d8 (Surr)            | 100          |              | 80 - 120 |          | 01/31/23 14:48 | 1       |

Lab Sample ID: LCS 580-416652/6

Matrix: Water

Analysis Batch: 416652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|------|---|------|-------------|
| Benzene             | 10.0        | 11.0       |               | ug/L |   | 110  | 80 - 122    |
| Ethylbenzene        | 10.0        | 10.2       |               | ug/L |   | 102  | 80 - 120    |
| m-Xylene & p-Xylene | 10.0        | 9.94       |               | ug/L |   | 99   | 80 - 120    |
| o-Xylene            | 10.0        | 9.86       |               | ug/L |   | 99   | 80 - 120    |
| Toluene             | 10.0        | 10.6       |               | ug/L |   | 106  | 80 - 120    |
| Xylenes, Total      | 20.0        | 19.8       |               | ug/L |   | 99   | 80 - 120    |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 87            |               | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 96            |               | 80 - 120 |
| Dibromofluoromethane (Surr)  | 95            |               | 80 - 120 |
| Toluene-d8 (Surr)            | 102           |               | 80 - 120 |

Lab Sample ID: LCSD 580-416652/7

Matrix: Water

Analysis Batch: 416652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|------|---|------|-------------|-----|-----------|
| Benzene             | 10.0        | 10.9        |                | ug/L |   | 109  | 80 - 122    | 0   | 14        |
| Ethylbenzene        | 10.0        | 9.89        |                | ug/L |   | 99   | 80 - 120    | 4   | 14        |
| m-Xylene & p-Xylene | 10.0        | 9.71        |                | ug/L |   | 97   | 80 - 120    | 2   | 14        |
| o-Xylene            | 10.0        | 9.60        |                | ug/L |   | 96   | 80 - 120    | 3   | 16        |
| Toluene             | 10.0        | 10.1        |                | ug/L |   | 101  | 80 - 120    | 5   | 13        |
| Xylenes, Total      | 20.0        | 19.3        |                | ug/L |   | 97   | 80 - 120    | 3   | 16        |

| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits   |
|------------------------------|----------------|----------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 90             |                | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 93             |                | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98             |                | 80 - 120 |

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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-416652/7

Matrix: Water

Analysis Batch: 416652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

|                   | LCSD      | LCSD      |          |
|-------------------|-----------|-----------|----------|
| Surrogate         | %Recovery | Qualifier | Limits   |
| Toluene-d8 (Surr) | 100       |           | 80 - 120 |

Lab Sample ID: MB 580-416908/6

Matrix: Water

Analysis Batch: 416908

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte             | MB        | MB | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|-----------|----|-----|-----|------|---|----------|----------------|---------|
| Result              | Qualifier |    |     |     |      |   |          |                |         |
| Benzene             | ND        |    | 1.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |
| Ethylbenzene        | ND        |    | 1.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |
| m-Xylene & p-Xylene | ND        |    | 2.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |
| o-Xylene            | ND        |    | 1.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |
| Toluene             | ND        |    | 1.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |
| Xylenes, Total      | ND        |    | 2.0 |     | ug/L |   |          | 02/02/23 16:16 | 1       |

| Surrogate                    | MB        | MB | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|----|----------|----------|----------------|---------|
| %Recovery                    | Qualifier |    |          |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 101       |    | 80 - 120 |          | 02/02/23 16:16 | 1       |
| 4-Bromofluorobenzene (Surr)  | 90        |    | 80 - 120 |          | 02/02/23 16:16 | 1       |
| Dibromofluoromethane (Surr)  | 90        |    | 80 - 120 |          | 02/02/23 16:16 | 1       |
| Toluene-d8 (Surr)            | 105       |    | 80 - 120 |          | 02/02/23 16:16 | 1       |

Lab Sample ID: LCS 580-416908/7

Matrix: Water

Analysis Batch: 416908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte             | Spike  | LCS       | LCS | Unit | D | %Rec   | %Rec     |
|---------------------|--------|-----------|-----|------|---|--------|----------|
| Added               | Result | Qualifier |     |      |   | Limits |          |
| Benzene             | 10.0   | 10.5      |     | ug/L |   | 105    | 80 - 122 |
| Ethylbenzene        | 10.0   | 10.8      |     | ug/L |   | 108    | 80 - 120 |
| m-Xylene & p-Xylene | 10.0   | 10.8      |     | ug/L |   | 108    | 80 - 120 |
| o-Xylene            | 10.0   | 10.8      |     | ug/L |   | 108    | 80 - 120 |
| Toluene             | 10.0   | 10.7      |     | ug/L |   | 107    | 80 - 120 |
| Xylenes, Total      | 20.0   | 21.6      |     | ug/L |   | 108    | 80 - 120 |

| Surrogate                    | LCS       | LCS | Limits   |
|------------------------------|-----------|-----|----------|
| %Recovery                    | Qualifier |     |          |
| 1,2-Dichloroethane-d4 (Surr) | 101       |     | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 100       |     | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98        |     | 80 - 120 |
| Toluene-d8 (Surr)            | 101       |     | 80 - 120 |

Lab Sample ID: LCSD 580-416908/8

Matrix: Water

Analysis Batch: 416908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte             | Spike  | LCSD      | LCSD | Unit | D | %Rec   | %Rec     | RPD   | RPD |
|---------------------|--------|-----------|------|------|---|--------|----------|-------|-----|
| Added               | Result | Qualifier |      |      |   | Limits |          | Limit |     |
| Benzene             | 10.0   | 10.5      |      | ug/L |   | 105    | 80 - 122 | 0     | 14  |
| Ethylbenzene        | 10.0   | 10.8      |      | ug/L |   | 108    | 80 - 120 | 1     | 14  |
| m-Xylene & p-Xylene | 10.0   | 10.7      |      | ug/L |   | 107    | 80 - 120 | 0     | 14  |
| o-Xylene            | 10.0   | 10.6      |      | ug/L |   | 106    | 80 - 120 | 2     | 16  |
| Toluene             | 10.0   | 11.0      |      | ug/L |   | 110    | 80 - 120 | 3     | 13  |

Eurofins Seattle

# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-416908/8

Matrix: Water

Analysis Batch: 416908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                      | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|------------------------------|----------------|----------------|----------------|------|---|------|-------------|-----|-----------|
| Xylenes, Total               | 20.0           | 21.3           |                | ug/L |   | 107  | 80 - 120    | 1   | 16        |
| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |             |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 99             |                | 80 - 120       |      |   |      |             |     |           |
| 4-Bromofluorobenzene (Surr)  | 95             |                | 80 - 120       |      |   |      |             |     |           |
| Dibromofluoromethane (Surr)  | 92             |                | 80 - 120       |      |   |      |             |     |           |
| Toluene-d8 (Surr)            | 105            |                | 80 - 120       |      |   |      |             |     |           |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 580-416648/5

Matrix: Water

Analysis Batch: 416648

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result    | MB Qualifier | RL       | MDL | Unit | D        | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|-----|------|----------|----------------|----------------|---------|
| Gasoline                    | ND           |              | 50       |     | ug/L |          |                | 01/31/23 14:48 | 1       |
| Surrogate                   | MB %Recovery | MB Qualifier | Limits   |     |      | Prepared | Analyzed       | Dil Fac        |         |
| 4-Bromofluorobenzene (Surr) | 86           |              | 77 - 123 |     |      |          | 01/31/23 14:48 | 1              |         |

Lab Sample ID: LCS 580-416648/8

Matrix: Water

Analysis Batch: 416648

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|                             |           |           | Spike    | LCS    | LCS       |      |   |      | %Rec     |  |  |
|-----------------------------|-----------|-----------|----------|--------|-----------|------|---|------|----------|--|--|
| Analyte                     |           |           | Added    | Result | Qualifier | Unit | D | %Rec | Limits   |  |  |
| Gasoline                    |           |           | 1000     | 939    |           | ug/L |   | 94   | 55 - 148 |  |  |
| Surrogate                   | LCS       | LCS       |          |        |           |      |   |      |          |  |  |
|                             | %Recovery | Qualifier | Limits   |        |           |      |   |      |          |  |  |
| 4-Bromofluorobenzene (Surr) | 93        |           | 77 - 123 |        |           |      |   |      |          |  |  |

Lab Sample ID: LCSD 580-416648/9

Matrix: Water

Analysis Batch: 416648

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                     | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|-----------------------------|----------------|----------------|----------------|------|---|------|-------------|-----|-----------|
| Gasoline                    | 1000           | 954            |                | ug/L |   | 95   | 55 - 148    | 2   | 10        |
| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |             |     |           |
| 4-Bromofluorobenzene (Surr) | 96             |                | 77 - 123       |      |   |      |             |     |           |

Lab Sample ID: MB 580-417009/5

Matrix: Water

Analysis Batch: 417009

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|----|-----|------|---|----------|----------------|---------|
| Gasoline | ND        |              | 50 |     | ug/L |   |          | 02/03/23 13:51 | 1       |

Eurofins Seattle

# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS) (Continued)

Lab Sample ID: MB 580-417009/5

Matrix: Water

Analysis Batch: 417009

Client Sample ID: Method Blank

Prep Type: Total/NA

| Surrogate                   | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------------|-----------------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 91              |                 | 77 - 123 |          | 02/03/23 13:51 | 1       |

Lab Sample ID: LCS 580-417009/8

Matrix: Water

Analysis Batch: 417009

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|                             |           |           | Spike    | LCS    | LCS       |      |   |      | %Rec     |  |  |
|-----------------------------|-----------|-----------|----------|--------|-----------|------|---|------|----------|--|--|
| Analyte                     |           |           | Added    | Result | Qualifier | Unit | D | %Rec | Limits   |  |  |
| Gasoline                    |           |           | 1000     | 908    |           | ug/L |   | 91   | 55 - 148 |  |  |
|                             |           |           |          |        |           |      |   |      |          |  |  |
| Surrogate                   | LCS       | LCS       |          |        |           |      |   |      |          |  |  |
|                             | %Recovery | Qualifier | Limits   |        |           |      |   |      |          |  |  |
| 4-Bromofluorobenzene (Surr) | 96        |           | 77 - 123 |        |           |      |   |      |          |  |  |

Lab Sample ID: LCSD 580-417009/9

Matrix: Water

Analysis Batch: 417009

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

|                             |                   |                   | Spike    | LCSD   | LCSD      |      |   |      | %Rec     | RPD |       |
|-----------------------------|-------------------|-------------------|----------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte                     |                   |                   | Added    | Result | Qualifier | Unit | D | %Rec | Limits   | RPD | Limit |
| Gasoline                    |                   |                   | 1000     | 882    |           | ug/L | - | 88   | 55 - 148 | 3   | 10    |
| Surrogate                   | LCSD<br>%Recovery | LCSD<br>Qualifier | Limits   |        |           |      |   |      |          |     |       |
| 4-Bromofluorobenzene (Surr) | 96                |                   | 77 - 123 |        |           |      |   |      |          |     |       |

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-416996/1-A

Matrix: Water

Analysis Batch: 417138

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 416996

| Analyte              | MB<br>Result    | MB<br>Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------------|-----------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND              |                 | 110      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 10:32 | 1       |
| Motor Oil (>C24-C36) | ND              |                 | 350      |     | ug/L |   | 02/03/23 09:26 | 02/06/23 10:32 | 1       |
| Surrogate            | MB<br>%Recovery | MB<br>Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 74              |                 | 50 - 150 |     |      |   | 02/03/23 09:26 | 02/06/23 10:32 | 1       |

Lab Sample ID: LCS 580-416996/2-A

Matrix: Water

Analysis Batch: 417138

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 416996

|                      |    |  | Spike | LCS    | LCS       |      |   |      | %Rec     |  |  |
|----------------------|----|--|-------|--------|-----------|------|---|------|----------|--|--|
| Analyte              |    |  | Added | Result | Qualifier | Unit | D | %Rec | Limits   |  |  |
| #2 Diesel (C10-C24)  |    |  | 4000  | 3940   |           | ug/L |   | 98   | 50 - 120 |  |  |
| Motor Oil (>C24-C36) |    |  | 4000  | 4060   |           | ug/L |   | 102  | 64 - 120 |  |  |
|                      |    |  |       |        |           |      |   |      |          |  |  |
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|                      |    |  |       |        |           |      |   |      |          |  |  |
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|                      |    |  |       |        |           |      |   |      |          |  |  |
|                      |    |  |       |        |           |      |   |      |          |  |  |
|                      |    |  |       |        |           |      |   |      |          |  |  |
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|                      |    |  |       |        |           |      |   |      |          |  |  |
|                      |    |  |       |        |           |      |   |      |          |  |  |
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|                      |    |  |       |        |           |      |   |      |          |  |  |
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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-416996/3-A

Matrix: Water

Analysis Batch: 417138

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 416996

| Analyte              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------------------|-------------|-------------|----------------|------|---|------|-------------|-----|-----------|
| #2 Diesel (C10-C24)  | 4000        | 4180        |                | ug/L |   | 104  | 50 - 120    | 6   | 26        |
| Motor Oil (>C24-C36) | 4000        | 4400        |                | ug/L |   | 110  | 64 - 120    | 8   | 24        |

| Surrogate   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-------------|----------------|----------------|-------------|
| o-Terphenyl | 95             |                | 50 - 150    |

# QC Association Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## GC/MS VOA

### Analysis Batch: 416648

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|-------------------|------------------------|-----------|--------|----------|------------|
| 580-122675-1      | MW-1_20230124          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-122675-2      | MW-2_20230124          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-122675-3      | MW-3_20230124          | Total/NA  | Water  | NWTPH-Gx |            |
| MB 580-416648/5   | Method Blank           | Total/NA  | Water  | NWTPH-Gx |            |
| LCS 580-416648/8  | Lab Control Sample     | Total/NA  | Water  | NWTPH-Gx |            |
| LCSD 580-416648/9 | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Gx |            |

### Analysis Batch: 416652

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 580-122675-1      | MW-1_20230124          | Total/NA  | Water  | 8260D  |            |
| 580-122675-2      | MW-2_20230124          | Total/NA  | Water  | 8260D  |            |
| 580-122675-3      | MW-3_20230124          | Total/NA  | Water  | 8260D  |            |
| MB 580-416652/5   | Method Blank           | Total/NA  | Water  | 8260D  |            |
| LCS 580-416652/6  | Lab Control Sample     | Total/NA  | Water  | 8260D  |            |
| LCSD 580-416652/7 | Lab Control Sample Dup | Total/NA  | Water  | 8260D  |            |

### Analysis Batch: 416908

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 580-122675-4      | MW-4_20230124          | Total/NA  | Water  | 8260D  |            |
| 580-122675-5      | MW-5_20230124          | Total/NA  | Water  | 8260D  |            |
| MB 580-416908/6   | Method Blank           | Total/NA  | Water  | 8260D  |            |
| LCS 580-416908/7  | Lab Control Sample     | Total/NA  | Water  | 8260D  |            |
| LCSD 580-416908/8 | Lab Control Sample Dup | Total/NA  | Water  | 8260D  |            |

### Analysis Batch: 417009

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|-------------------|------------------------|-----------|--------|----------|------------|
| 580-122675-4      | MW-4_20230124          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-122675-5      | MW-5_20230124          | Total/NA  | Water  | NWTPH-Gx |            |
| MB 580-417009/5   | Method Blank           | Total/NA  | Water  | NWTPH-Gx |            |
| LCS 580-417009/8  | Lab Control Sample     | Total/NA  | Water  | NWTPH-Gx |            |
| LCSD 580-417009/9 | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Gx |            |

## GC Semi VOA

### Prep Batch: 416996

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 580-122675-1        | MW-1_20230124          | Total/NA  | Water  | 3510C  |            |
| 580-122675-2        | MW-2_20230124          | Total/NA  | Water  | 3510C  |            |
| 580-122675-3        | MW-3_20230124          | Total/NA  | Water  | 3510C  |            |
| 580-122675-4        | MW-4_20230124          | Total/NA  | Water  | 3510C  |            |
| 580-122675-5        | MW-5_20230124          | Total/NA  | Water  | 3510C  |            |
| MB 580-416996/1-A   | Method Blank           | Total/NA  | Water  | 3510C  |            |
| LCS 580-416996/2-A  | Lab Control Sample     | Total/NA  | Water  | 3510C  |            |
| LCSD 580-416996/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3510C  |            |

### Analysis Batch: 417067

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method   | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 580-122675-1  | MW-1_20230124    | Total/NA  | Water  | NWTPH-Dx | 416996     |
| 580-122675-2  | MW-2_20230124    | Total/NA  | Water  | NWTPH-Dx | 416996     |
| 580-122675-3  | MW-3_20230124    | Total/NA  | Water  | NWTPH-Dx | 416996     |

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## QC Association Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

### GC Semi VOA

#### Analysis Batch: 417138

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 580-122675-4        | MW-4_20230124          | Total/NA  | Water  | NWTPH-Dx | 416996     |
| 580-122675-5        | MW-5_20230124          | Total/NA  | Water  | NWTPH-Dx | 416996     |
| MB 580-416996/1-A   | Method Blank           | Total/NA  | Water  | NWTPH-Dx | 416996     |
| LCS 580-416996/2-A  | Lab Control Sample     | Total/NA  | Water  | NWTPH-Dx | 416996     |
| LCSD 580-416996/3-A | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Dx | 416996     |

# Lab Chronicle

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

**Client Sample ID: MW-1\_20230124**

**Lab Sample ID: 580-122675-1**

**Date Collected: 01/24/23 12:45**

**Matrix: Water**

**Date Received: 01/25/23 13:25**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 416652       | JJY     | EET SEA | 01/31/23 23:44       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 416648       | JJY     | EET SEA | 01/31/23 23:44       |
| Total/NA  | Prep       | 3510C        |     |                 | 416996       | TGO     | EET SEA | 02/03/23 09:26       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 417067       | KLW     | EET SEA | 02/03/23 20:34       |

**Client Sample ID: MW-2\_20230124**

**Lab Sample ID: 580-122675-2**

**Date Collected: 01/24/23 11:30**

**Matrix: Water**

**Date Received: 01/25/23 13:25**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 10              | 416652       | JJY     | EET SEA | 02/01/23 00:08       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 10              | 416648       | JJY     | EET SEA | 02/01/23 00:08       |
| Total/NA  | Prep       | 3510C        |     |                 | 416996       | TGO     | EET SEA | 02/03/23 09:26       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 417067       | KLW     | EET SEA | 02/03/23 20:54       |

**Client Sample ID: MW-3\_20230124**

**Lab Sample ID: 580-122675-3**

**Date Collected: 01/24/23 10:30**

**Matrix: Water**

**Date Received: 01/25/23 13:25**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 416652       | JJY     | EET SEA | 02/01/23 00:33       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 416648       | JJY     | EET SEA | 02/01/23 00:33       |
| Total/NA  | Prep       | 3510C        |     |                 | 416996       | TGO     | EET SEA | 02/03/23 09:26       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 417067       | KLW     | EET SEA | 02/03/23 21:14       |

**Client Sample ID: MW-4\_20230124**

**Lab Sample ID: 580-122675-4**

**Date Collected: 01/24/23 09:45**

**Matrix: Water**

**Date Received: 01/25/23 13:25**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 416908       | JSM     | EET SEA | 02/02/23 18:21       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 417009       | JSM     | EET SEA | 02/03/23 15:04       |
| Total/NA  | Prep       | 3510C        |     |                 | 416996       | TGO     | EET SEA | 02/03/23 09:26       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 417138       | KLW     | EET SEA | 02/06/23 11:33       |

**Client Sample ID: MW-5\_20230124**

**Lab Sample ID: 580-122675-5**

**Date Collected: 01/24/23 12:00**

**Matrix: Water**

**Date Received: 01/25/23 13:25**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 416908       | JSM     | EET SEA | 02/02/23 18:46       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 417009       | JSM     | EET SEA | 02/03/23 15:28       |
| Total/NA  | Prep       | 3510C        |     |                 | 416996       | TGO     | EET SEA | 02/03/23 09:26       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 417138       | KLW     | EET SEA | 02/06/23 11:53       |

Eurofins Seattle

# Lab Chronicle

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

**Laboratory References:**  
EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

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# Accreditation/Certification Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

## Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

| Authority  | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|-----------------|
| Washington | State   | C788                  | 07-13-23        |

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# Method Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

| Method   | Method Description                                | Protocol | Laboratory |
|----------|---------------------------------------------------|----------|------------|
| 8260D    | Volatile Organic Compounds by GC/MS               | SW846    | EET SEA    |
| NWTPH-Gx | Northwest - Volatile Petroleum Products (GC/MS)   | NWTPH    | EET SEA    |
| NWTPH-Dx | Northwest - Semi-Volatile Petroleum Products (GC) | NWTPH    | EET SEA    |
| 3510C    | Liquid-Liquid Extraction (Separatory Funnel)      | SW846    | EET SEA    |
| 5030B    | Purge and Trap                                    | SW846    | EET SEA    |

### Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Sample Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-122675-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 580-122675-1  | MW-1_20230124    | Water  | 01/24/23 12:45 | 01/25/23 13:25 |
| 580-122675-2  | MW-2_20230124    | Water  | 01/24/23 11:30 | 01/25/23 13:25 |
| 580-122675-3  | MW-3_20230124    | Water  | 01/24/23 10:30 | 01/25/23 13:25 |
| 580-122675-4  | MW-4_20230124    | Water  | 01/24/23 09:45 | 01/25/23 13:25 |
| 580-122675-5  | MW-5_20230124    | Water  | 01/24/23 12:00 | 01/25/23 13:25 |

*Laboratory Management Program (LaMP) Chain of Custody Record*  
*Soil, Sediment and Groundwater Samples*

Page 1 of 1

BP Site Node Path: Olympic Pipeline Company

Req Due Date (mm/dd/yy): Standard TAT

Rush TAT Yes No X

BP/RM Facility No: Tacoma Junction

Lab Work Order Number:

[illegible]

## Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-122675-1

**Login Number: 122675**

**List Source: Eurofins Seattle**

**List Number: 1**

**Creator: Groves, Elizabeth**

| Question                                                                                 | Answer | Comment                                                            |
|------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |                                                                    |
| The cooler's custody seal, if present, is intact.                                        | True   |                                                                    |
| Sample custody seals, if present, are intact.                                            | True   |                                                                    |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |                                                                    |
| Samples were received on ice.                                                            | True   |                                                                    |
| Cooler Temperature is acceptable.                                                        | True   |                                                                    |
| Cooler Temperature is recorded.                                                          | True   |                                                                    |
| COC is present.                                                                          | True   |                                                                    |
| COC is filled out in ink and legible.                                                    | True   |                                                                    |
| COC is filled out with all pertinent information.                                        | False  | No sample date and/or time on COC, logged in per container labels. |
| Is the Field Sampler's name present on COC?                                              | True   |                                                                    |
| There are no discrepancies between the containers received and the COC.                  | True   |                                                                    |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |                                                                    |
| Sample containers have legible labels.                                                   | True   |                                                                    |
| Containers are not broken or leaking.                                                    | True   |                                                                    |
| Sample collection date/times are provided.                                               | True   |                                                                    |
| Appropriate sample containers are used.                                                  | True   |                                                                    |
| Sample bottles are completely filled.                                                    | True   |                                                                    |
| Sample Preservation Verified.                                                            | True   |                                                                    |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |                                                                    |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |                                                                    |
| Multiphasic samples are not present.                                                     | True   |                                                                    |
| Samples do not require splitting or compositing.                                         | True   |                                                                    |
| Residual Chlorine Checked.                                                               | N/A    |                                                                    |

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 416652 Batch Start Date: 01/31/23 13:11 Batch Analyst: Yu, Johnathon JBatch Method: 8260D Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00026 | VOAMasterMix<br>00098 | VOASTDGASweek<br>00135 |
|----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|-----------------------|------------------------|
| MB 580-416652/5      |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            |                       |                        |
| LCS<br>580-416652/6  |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| LCSD<br>580-416652/7 |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| 580-122675-C-1       | MW-1_20230124    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-122675-C-2       | MW-2_20230124    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-122675-C-3       | MW-3_20230124    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |

## Batch Notes

|                 |          |
|-----------------|----------|
| pH Indicator ID | hc293085 |
| Vial Lot Number | 0110901h |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260D

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 416908 Batch Start Date: 02/02/23 14:59 Batch Analyst: McKell, Justin SBatch Method: 8260D Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00026 | VOAMasterMix<br>00099 | VOASTDGASweek<br>00136 |
|----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|-----------------------|------------------------|
| MB 580-416908/6      |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            |                       |                        |
| LCS<br>580-416908/7  |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| LCSD<br>580-416908/8 |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| 580-122675-C-4       | MW-4_20230124    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-122675-C-5       | MW-5_20230124    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |

## Batch Notes

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260D

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 416648 Batch Start Date: 01/31/23 13:11 Batch Analyst: Yu, Johnathon JBatch Method: NWTPH-Gx Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00026 | GRO_LCS 00083 |  |
|----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|---------------|--|
| MB 580-416648/5      |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            |               |  |
| LCS<br>580-416648/8  |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| LCSD<br>580-416648/9 |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| 580-122675-C-1       | MW-1_20230124    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-122675-C-2       | MW-2_20230124    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-122675-C-3       | MW-3_20230124    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |

| Batch Notes     |          |
|-----------------|----------|
| pH Indicator ID | hc293085 |
| Vial Lot Number | 0110901h |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 417009 Batch Start Date: 02/03/23 12:38 Batch Analyst: McKell, Justin SBatch Method: NWTPH-Gx Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00026 | GRO_LCS 00083 |  |
|----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|---------------|--|
| MB 580-417009/5      |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            |               |  |
| LCS<br>580-417009/8  |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| LCSD<br>580-417009/9 |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| 580-122675-D-4       | MW-4_20230124    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-122675-D-5       | MW-5_20230124    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

Page 1 of 1

## GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins SeattleJob No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 416996Batch Start Date: 02/03/23 09:25Batch Analyst: Oseen, Taryn GBatch Method: 3510CBatch End Date: 02/03/23 15:08

| Lab Sample ID       | Client Sample ID | Method Chain       | Basis | GrossWeight | TareWeight | InitialAmount | FinalAmount | ReceivedpH | FirstAdjustpH |
|---------------------|------------------|--------------------|-------|-------------|------------|---------------|-------------|------------|---------------|
| MB 580-416996/1     |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| LCS<br>580-416996/2 |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| LCS<br>580-416996/3 |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| 580-122675-A-1      | MW-1_20230124    | 3510C,<br>NWTPH-Dx | T     | 00410.12 g  | 00167.55 g | 242.6 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-122675-B-2      | MW-2_20230124    | 3510C,<br>NWTPH-Dx | T     | 00410.45 g  | 00167.51 g | 242.9 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-122675-B-3      | MW-3_20230124    | 3510C,<br>NWTPH-Dx | T     | 00406.26 g  | 00167.94 g | 238.3 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-122675-B-4      | MW-4_20230124    | 3510C,<br>NWTPH-Dx | T     | 00406.30 g  | 00167.08 g | 239.2 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-122675-A-5      | MW-5_20230124    | 3510C,<br>NWTPH-Dx | T     | 00404.60 g  | 00166.97 g | 237.6 mL      | 2 mL        | 2 SU       | n/a SU        |

| Lab Sample ID       | Client Sample ID | Method Chain       | Basis | SecondAdjustpH | TPH_Water_Spk<br>00035 | TPH_WaterSurr<br>00092 |  |  |  |
|---------------------|------------------|--------------------|-------|----------------|------------------------|------------------------|--|--|--|
| MB 580-416996/1     |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         |                        | 100 uL                 |  |  |  |
| LCS<br>580-416996/2 |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         | 100 uL                 | 100 uL                 |  |  |  |
| LCS<br>580-416996/3 |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         | 100 uL                 | 100 uL                 |  |  |  |
| 580-122675-A-1      | MW-1_20230124    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-122675-B-2      | MW-2_20230124    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-122675-B-3      | MW-3_20230124    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-122675-B-4      | MW-4_20230124    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-122675-A-5      | MW-5_20230124    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

Page 1 of 2

## GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-122675-1

SDG No.: \_\_\_\_\_

Batch Number: 416996 Batch Start Date: 02/03/23 09:25 Batch Analyst: Oseen, Taryn GBatch Method: 3510C Batch End Date: 02/03/23 15:08

| Batch Notes                             |                              |
|-----------------------------------------|------------------------------|
| Method/Fraction                         | 3510C_LVI/NWTPH_Dx/AK102_103 |
| Balance ID                              | SEA225                       |
| pH Indicator ID                         | 6202002/6007004              |
| Pipette/Syringe/Dispenser ID            | MP5                          |
| Analyst ID - Extraction                 | TA/TO/CC                     |
| Reagent Water ID                        | DI                           |
| Analyst ID - Spike Analyst              | TO                           |
| Analyst ID - Spike Witness Analyst      | CC/TA                        |
| Sufficient Volume for Batch QC          | no                           |
| Acid Used for pH Adjustment ID          | 3213804                      |
| Prep Solvent ID                         | 22K0162004                   |
| Prep Solvent Volume Used                | 100 mL                       |
| Filter ID                               | 17393765                     |
| Na2SO4 ID                               | Baked Na2SO4_00455           |
| Analyst ID - Concentration              | TA                           |
| Equipment ID - Concentration 1          | Steambath 1                  |
| Thermometer ID - Concentration 1        | 61013-040-1                  |
| Concentration 1 Uncorrected Temperature | 70.0-75.0 Degrees C          |
| Concentration 1 Corrected Temperature   | 69.6-74.6 Degrees C          |
| Equipment ID - Concentration 2          | Turbovap 6                   |
| Thermometer ID - Concentration 2        | DIGITALREADOUT               |
| Concentration 2 Uncorrected Temperature | 30 Degrees C                 |
| Concentration 2 Corrected Temperature   | 29.8 Degrees C               |
| Vial Lot Number                         | 22072009/21124026            |
| Silica Gel ID                           | 3304818                      |
| Batch Comment                           | Vialed by: TA                |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

Page 2 of 2



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Megan Richard  
Antea USA Inc.  
18378-B Redmond Way  
Redmond, Washington 98052

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## JOB DESCRIPTION

BP - OPLC - Tacoma Junction  
OPLC-Tacoma Junction

## JOB NUMBER

580-125935-1

# Eurofins Seattle

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

## Authorization



Authorized for release by  
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(253)922-2310

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# Table of Contents

|                                  |    |
|----------------------------------|----|
| Cover Page . . . . .             | 1  |
| Table of Contents . . . . .      | 3  |
| Definitions/Glossary . . . . .   | 4  |
| Case Narrative . . . . .         | 5  |
| Detection Summary . . . . .      | 6  |
| Client Sample Results . . . . .  | 7  |
| Surrogate Summary . . . . .      | 11 |
| QC Sample Results . . . . .      | 13 |
| QC Association Summary . . . . . | 18 |
| Lab Chronicle . . . . .          | 20 |
| Certification Summary . . . . .  | 22 |
| Method Summary . . . . .         | 23 |
| Sample Summary . . . . .         | 24 |
| Chain of Custody . . . . .       | 25 |
| Receipt Checklists . . . . .     | 26 |
| Prep Data . . . . .              | 27 |



## Definitions/Glossary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery                                                                                            |
| CFL            | Contains Free Liquid                                                                                        |
| CFU            | Colony Forming Unit                                                                                         |
| CNF            | Contains No Free Liquid                                                                                     |
| DER            | Duplicate Error Ratio (normalized absolute difference)                                                      |
| Dil Fac        | Dilution Factor                                                                                             |
| DL             | Detection Limit (DoD/DOE)                                                                                   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)                                                               |
| EDL            | Estimated Detection Limit (Dioxin)                                                                          |
| LOD            | Limit of Detection (DoD/DOE)                                                                                |
| LOQ            | Limit of Quantitation (DoD/DOE)                                                                             |
| MCL            | EPA recommended "Maximum Contaminant Level"                                                                 |
| MDA            | Minimum Detectable Activity (Radiochemistry)                                                                |
| MDC            | Minimum Detectable Concentration (Radiochemistry)                                                           |
| MDL            | Method Detection Limit                                                                                      |
| ML             | Minimum Level (Dioxin)                                                                                      |
| MPN            | Most Probable Number                                                                                        |
| MQL            | Method Quantitation Limit                                                                                   |
| NC             | Not Calculated                                                                                              |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)                                                |
| NEG            | Negative / Absent                                                                                           |
| POS            | Positive / Present                                                                                          |
| PQL            | Practical Quantitation Limit                                                                                |
| PRES           | Presumptive                                                                                                 |
| QC             | Quality Control                                                                                             |
| RER            | Relative Error Ratio (Radiochemistry)                                                                       |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)                                                         |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                         |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                       |
| TNTC           | Too Numerous To Count                                                                                       |

# Case Narrative

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Job ID: 580-125935-1**

**Laboratory: Eurofins Seattle**

## Narrative

**Job Narrative**  
**580-125935-1**

## Comments

No additional comments.

## Receipt

The samples were received on 4/12/2023 12:34 PM. Unless otherwise noted below, the samples arrived in good condition. The temperature of the cooler at receipt was 10.3° C.

## GC/MS VOA

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-2\_20230412 (580-125935-2). Elevated reporting limits (RLs) are provided.

Method NWTPH-Gx: The following sample was diluted due to the nature of the sample matrix: MW-2\_20230412 (580-125935-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

## VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

# Detection Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Client Sample ID: MW-1\_20230412

## Lab Sample ID: 580-125935-1

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 150    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-2\_20230412

## Lab Sample ID: 580-125935-2

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| Benzene             | 51     |           | 10  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| Ethylbenzene        | 14     |           | 10  |     | ug/L | 10      |   | 8260D    | Total/NA  |
| Gasoline            | 1600   |           | 500 |     | ug/L | 10      |   | NWTPH-Gx | Total/NA  |
| #2 Diesel (C10-C24) | 840    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-3\_20230412

## Lab Sample ID: 580-125935-3

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 150    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-4\_20230412

## Lab Sample ID: 580-125935-4

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| #2 Diesel (C10-C24) | 120    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: MW-5\_20230412

## Lab Sample ID: 580-125935-5

| Analyte             | Result | Qualifier | RL  | MDL | Unit | Dil Fac | D | Method   | Prep Type |
|---------------------|--------|-----------|-----|-----|------|---------|---|----------|-----------|
| Benzene             | 1.3    |           | 1.0 |     | ug/L | 1       |   | 8260D    | Total/NA  |
| Ethylbenzene        | 1.7    |           | 1.0 |     | ug/L | 1       |   | 8260D    | Total/NA  |
| Gasoline            | 210    |           | 50  |     | ug/L | 1       |   | NWTPH-Gx | Total/NA  |
| #2 Diesel (C10-C24) | 190    |           | 110 |     | ug/L | 1       |   | NWTPH-Dx | Total/NA  |

## Client Sample ID: Trip Blank\_20230412

## Lab Sample ID: 580-125935-6

No Detections.

# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

Client Sample ID: MW-1\_20230412

Lab Sample ID: 580-125935-1

Date Collected: 04/12/23 09:10

Matrix: Water

Date Received: 04/12/23 12:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte             | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Benzene             | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |
| Ethylbenzene        | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |
| m-Xylene & p-Xylene | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |
| o-Xylene            | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |
| Toluene             | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |
| Xylenes, Total      | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 21:18 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 95        |           | 80 - 120 |          | 04/17/23 21:18 | 1       |
| 4-Bromofluorobenzene (Surr)  | 100       |           | 80 - 120 |          | 04/17/23 21:18 | 1       |
| Dibromofluoromethane (Surr)  | 99        |           | 80 - 120 |          | 04/17/23 21:18 | 1       |
| Toluene-d8 (Surr)            | 96        |           | 80 - 120 |          | 04/17/23 21:18 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Gasoline | ND     |           | 50 |     | ug/L |   |          | 04/17/23 21:18 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 105       |           | 77 - 123 |          | 04/17/23 21:18 | 1       |

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 150    |           | 110 |     | ug/L |   | 04/17/23 10:13 | 04/19/23 19:52 | 1       |
| Motor Oil (>C24-C36) | ND     |           | 360 |     | ug/L |   | 04/17/23 10:13 | 04/19/23 19:52 | 1       |

| Surrogate   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------|-----------|-----------|----------|----------------|----------------|---------|
| o-Terphenyl | 62        |           | 50 - 150 | 04/17/23 10:13 | 04/19/23 19:52 | 1       |

Client Sample ID: MW-2\_20230412

Lab Sample ID: 580-125935-2

Date Collected: 04/12/23 10:20

Matrix: Water

Date Received: 04/12/23 12:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte             | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Benzene             | 51     |           | 10 |     | ug/L |   |          | 04/17/23 22:55 | 10      |
| Ethylbenzene        | 14     |           | 10 |     | ug/L |   |          | 04/17/23 22:55 | 10      |
| m-Xylene & p-Xylene | ND     |           | 20 |     | ug/L |   |          | 04/17/23 22:55 | 10      |
| o-Xylene            | ND     |           | 10 |     | ug/L |   |          | 04/17/23 22:55 | 10      |
| Toluene             | ND     |           | 10 |     | ug/L |   |          | 04/17/23 22:55 | 10      |
| Xylenes, Total      | ND     |           | 20 |     | ug/L |   |          | 04/17/23 22:55 | 10      |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 95        |           | 80 - 120 |          | 04/17/23 22:55 | 10      |
| 4-Bromofluorobenzene (Surr)  | 98        |           | 80 - 120 |          | 04/17/23 22:55 | 10      |
| Dibromofluoromethane (Surr)  | 95        |           | 80 - 120 |          | 04/17/23 22:55 | 10      |
| Toluene-d8 (Surr)            | 100       |           | 80 - 120 |          | 04/17/23 22:55 | 10      |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Gasoline | 1600   |           | 500 |     | ug/L |   |          | 04/17/23 22:55 | 10      |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Client Sample ID: MW-2\_20230412**

**Lab Sample ID: 580-125935-2**

**Date Collected: 04/12/23 10:20**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Surrogate                                                            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
|----------------------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr)                                          | 104       |           | 77 - 123 |     |      |   |                | 04/17/23 22:55 | 10      |
| Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) |           |           |          |     |      |   |                |                |         |
| Analyte                                                              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
| #2 Diesel (C10-C24)                                                  | 840       |           | 110      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:12 | 1       |
| Motor Oil (>C24-C36)                                                 | ND        |           | 350      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:12 | 1       |
| Surrogate                                                            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl                                                          | 65        |           | 50 - 150 |     |      |   | 04/17/23 10:13 | 04/19/23 20:12 | 1       |

**Client Sample ID: MW-3\_20230412**

**Lab Sample ID: 580-125935-3**

**Date Collected: 04/12/23 10:55**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Method: SW846 8260D - Volatile Organic Compounds by GC/MS |           |           |          |     |      |   |          |                |         |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Analyte                                                   | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
| Benzene                                                   | ND        |           | 1.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
| Ethylbenzene                                              | ND        |           | 1.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
| m-Xylene & p-Xylene                                       | ND        |           | 2.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
| o-Xylene                                                  | ND        |           | 1.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
| Toluene                                                   | ND        |           | 1.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
| Xylenes, Total                                            | ND        |           | 2.0      |     | ug/L |   |          | 04/17/23 21:42 | 1       |
|                                                           |           |           |          |     |      |   |          |                |         |
| Surrogate                                                 | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr)                              | 100       |           | 80 - 120 |     |      |   |          | 04/17/23 21:42 | 1       |
| 4-Bromofluorobenzene (Surr)                               | 98        |           | 80 - 120 |     |      |   |          | 04/17/23 21:42 | 1       |
| Dibromofluoromethane (Surr)                               | 102       |           | 80 - 120 |     |      |   |          | 04/17/23 21:42 | 1       |
| Toluene-d8 (Surr)                                         | 95        |           | 80 - 120 |     |      |   |          | 04/17/23 21:42 | 1       |

**Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)**

| Analyte                     | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline                    | ND        |           | 50       |     | ug/L |   |          | 04/17/23 21:42 | 1       |
|                             |           |           |          |     |      |   |          |                |         |
| Surrogate                   | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 103       |           | 77 - 123 |     |      |   |          | 04/17/23 21:42 | 1       |

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)**

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 150       |           | 110      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:32 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 360      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:32 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 62        |           | 50 - 150 |     |      |   | 04/17/23 10:13 | 04/19/23 20:32 | 1       |

**Client Sample ID: MW-4\_20230412**

**Lab Sample ID: 580-125935-4**

**Date Collected: 04/12/23 11:25**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| <b>Method: SW846 8260D - Volatile Organic Compounds by GC/MS</b> |        |           |     |     |      |   |          |                |         |
|------------------------------------------------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte                                                          | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
| Benzene                                                          | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |
| Ethylbenzene                                                     | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |
| m-Xylene & p-Xylene                                              | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

Client Sample ID: MW-4\_20230412

Lab Sample ID: 580-125935-4

Date Collected: 04/12/23 11:25

Matrix: Water

Date Received: 04/12/23 12:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

| Analyte        | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| o-Xylene       | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |
| Toluene        | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |
| Xylenes, Total | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 22:06 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 99        |           | 80 - 120 |          | 04/17/23 22:06 | 1       |
| 4-Bromofluorobenzene (Surr)  | 105       |           | 80 - 120 |          | 04/17/23 22:06 | 1       |
| Dibromofluoromethane (Surr)  | 106       |           | 80 - 120 |          | 04/17/23 22:06 | 1       |
| Toluene-d8 (Surr)            | 96        |           | 80 - 120 |          | 04/17/23 22:06 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Gasoline | ND     |           | 50 |     | ug/L |   |          | 04/17/23 22:06 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 111       |           | 77 - 123 |          | 04/17/23 22:06 | 1       |

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result | Qualifier | RL  | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 120    |           | 110 |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:53 | 1       |
| Motor Oil (>C24-C36) | ND     |           | 360 |     | ug/L |   | 04/17/23 10:13 | 04/19/23 20:53 | 1       |

| Surrogate           | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|-----------|----------|----------------|----------------|---------|
| <i>o</i> -Terphenyl | 63        |           | 50 - 150 | 04/17/23 10:13 | 04/19/23 20:53 | 1       |

Client Sample ID: MW-5\_20230412

Lab Sample ID: 580-125935-5

Date Collected: 04/12/23 09:40

Matrix: Water

Date Received: 04/12/23 12:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte             | Result | Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Benzene             | 1.3    |           | 1.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |
| Ethylbenzene        | 1.7    |           | 1.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |
| m-Xylene & p-Xylene | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |
| o-Xylene            | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |
| Toluene             | ND     |           | 1.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |
| Xylenes, Total      | ND     |           | 2.0 |     | ug/L |   |          | 04/17/23 22:30 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 97        |           | 80 - 120 |          | 04/17/23 22:30 | 1       |
| 4-Bromofluorobenzene (Surr)  | 96        |           | 80 - 120 |          | 04/17/23 22:30 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 80 - 120 |          | 04/17/23 22:30 | 1       |
| Toluene-d8 (Surr)            | 101       |           | 80 - 120 |          | 04/17/23 22:30 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte  | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|----|-----|------|---|----------|----------------|---------|
| Gasoline | 210    |           | 50 |     | ug/L |   |          | 04/17/23 22:30 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 101       |           | 77 - 123 |          | 04/17/23 22:30 | 1       |

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# Client Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Client Sample ID: MW-5\_20230412**

**Lab Sample ID: 580-125935-5**

**Date Collected: 04/12/23 09:40**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

| Analyte              | Result    | Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | 190       |           | 110      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 21:13 | 1       |
| Motor Oil (>C24-C36) | ND        |           | 360      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 21:13 | 1       |
| Surrogate            | %Recovery | Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 65        |           | 50 - 150 |     |      |   | 04/17/23 10:13 | 04/19/23 21:13 | 1       |

**Client Sample ID: Trip Blank\_20230412**

**Lab Sample ID: 580-125935-6**

**Date Collected: 04/12/23 12:00**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte                      | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Benzene                      | ND        |           | 1.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| Ethylbenzene                 | ND        |           | 1.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| m-Xylene & p-Xylene          | ND        |           | 2.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| o-Xylene                     | ND        |           | 1.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| Toluene                      | ND        |           | 1.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| Xylenes, Total               | ND        |           | 2.0      |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 100       |           | 80 - 120 |     |      |   |          | 04/19/23 08:02 | 1       |
| 4-Bromofluorobenzene (Surr)  | 90        |           | 80 - 120 |     |      |   |          | 04/19/23 08:02 | 1       |
| Dibromofluoromethane (Surr)  | 101       |           | 80 - 120 |     |      |   |          | 04/19/23 08:02 | 1       |
| Toluene-d8 (Surr)            | 94        |           | 80 - 120 |     |      |   |          | 04/19/23 08:02 | 1       |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

| Analyte                     | Result    | Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Gasoline                    | ND        |           | 50       |     | ug/L |   |          | 04/19/23 08:02 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 95        |           | 77 - 123 |     |      |   |          | 04/19/23 08:02 | 1       |

# Surrogate Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|--------------------|------------------------|------------------------------------------------|-----------------|------------------|-----------------|
|                    |                        | DCA<br>(80-120)                                | BFB<br>(80-120) | DBFM<br>(80-120) | TOL<br>(80-120) |
| 580-125935-1       | MW-1_20230412          | 95                                             | 100             | 99               | 96              |
| 580-125935-2       | MW-2_20230412          | 95                                             | 98              | 95               | 100             |
| 580-125935-3       | MW-3_20230412          | 100                                            | 98              | 102              | 95              |
| 580-125935-4       | MW-4_20230412          | 99                                             | 105             | 106              | 96              |
| 580-125935-5       | MW-5_20230412          | 97                                             | 96              | 98               | 101             |
| 580-125935-6       | Trip Blank_20230412    | 100                                            | 90              | 101              | 94              |
| LCS 580-423429/16  | Lab Control Sample     | 99                                             | 99              | 94               | 100             |
| LCS 580-423571/7   | Lab Control Sample     | 94                                             | 99              | 95               | 101             |
| LCSD 580-423429/17 | Lab Control Sample Dup | 95                                             | 104             | 98               | 99              |
| LCSD 580-423571/8  | Lab Control Sample Dup | 96                                             | 97              | 96               | 101             |
| MB 580-423429/15   | Method Blank           | 101                                            | 93              | 102              | 94              |
| MB 580-423571/6    | Method Blank           | 99                                             | 96              | 98               | 94              |

**Surrogate Legend**

DCA = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane (Surr)  
TOL = Toluene-d8 (Surr)

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |  |
|--------------------|------------------------|------------------------------------------------|--|
|                    |                        | BFB<br>(77-123)                                |  |
| 580-125935-1       | MW-1_20230412          | 105                                            |  |
| 580-125935-2       | MW-2_20230412          | 104                                            |  |
| 580-125935-3       | MW-3_20230412          | 103                                            |  |
| 580-125935-4       | MW-4_20230412          | 111                                            |  |
| 580-125935-5       | MW-5_20230412          | 101                                            |  |
| 580-125935-6       | Trip Blank_20230412    | 95                                             |  |
| 580-126016-F-1 MS  | Matrix Spike           | 104                                            |  |
| 580-126016-F-1 MSD | Matrix Spike Duplicate | 106                                            |  |
| LCS 580-423425/18  | Lab Control Sample     | 104                                            |  |
| LCS 580-423567/9   | Lab Control Sample     | 104                                            |  |
| LCSD 580-423425/19 | Lab Control Sample Dup | 106                                            |  |
| LCSD 580-423567/10 | Lab Control Sample Dup | 102                                            |  |
| MB 580-423425/15   | Method Blank           | 98                                             |  |
| MB 580-423567/6    | Method Blank           | 101                                            |  |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Percent Surrogate Recovery (Acceptance Limits) |  |
|---------------|------------------|------------------------------------------------|--|
|               |                  | OTPH<br>(50-150)                               |  |
| 580-125935-1  | MW-1_20230412    | 62                                             |  |
| 580-125935-2  | MW-2_20230412    | 65                                             |  |

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# Surrogate Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID       | Client Sample ID       | OTPH<br>(50-150) |
|---------------------|------------------------|------------------|
| 580-125935-3        | MW-3_20230412          | 62               |
| 580-125935-4        | MW-4_20230412          | 63               |
| 580-125935-5        | MW-5_20230412          | 65               |
| LCS 580-423386/2-A  | Lab Control Sample     | 97               |
| LCSD 580-423386/3-A | Lab Control Sample Dup | 78               |
| MB 580-423386/1-A   | Method Blank           | 76               |

### Surrogate Legend

OTPH = o-Terphenyl

# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-423429/15

Matrix: Water

Analysis Batch: 423429

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte             | MB Result | MB Qualifier | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|-----|-----|------|---|----------|----------------|---------|
| Benzene             | ND        |              | 1.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| Ethylbenzene        | ND        |              | 1.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| m-Xylene & p-Xylene | ND        |              | 2.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| o-Xylene            | ND        |              | 1.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| Toluene             | ND        |              | 1.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| Xylenes, Total      | ND        |              | 2.0 |     | ug/L |   |          | 04/17/23 14:51 | 1       |

| Surrogate                    | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 101          |              | 80 - 120 |          | 04/17/23 14:51 | 1       |
| 4-Bromofluorobenzene (Surr)  | 93           |              | 80 - 120 |          | 04/17/23 14:51 | 1       |
| Dibromofluoromethane (Surr)  | 102          |              | 80 - 120 |          | 04/17/23 14:51 | 1       |
| Toluene-d8 (Surr)            | 94           |              | 80 - 120 |          | 04/17/23 14:51 | 1       |

Lab Sample ID: LCS 580-423429/16

Matrix: Water

Analysis Batch: 423429

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|------|---|------|-------------|
| Benzene             | 10.0        | 10.8       |               | ug/L |   | 108  | 80 - 122    |
| Ethylbenzene        | 10.0        | 10.7       |               | ug/L |   | 107  | 80 - 120    |
| m-Xylene & p-Xylene | 10.0        | 10.7       |               | ug/L |   | 107  | 80 - 120    |
| o-Xylene            | 10.0        | 10.8       |               | ug/L |   | 108  | 80 - 120    |
| Toluene             | 10.0        | 10.7       |               | ug/L |   | 107  | 80 - 120    |
| Xylenes, Total      | 20.0        | 21.5       |               | ug/L |   | 108  | 80 - 120    |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 99            |               | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 99            |               | 80 - 120 |
| Dibromofluoromethane (Surr)  | 94            |               | 80 - 120 |
| Toluene-d8 (Surr)            | 100           |               | 80 - 120 |

Lab Sample ID: LCSD 580-423429/17

Matrix: Water

Analysis Batch: 423429

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|------|---|------|-------------|-----|-----------|
| Benzene             | 10.0        | 10.5        |                | ug/L |   | 105  | 80 - 122    | 3   | 14        |
| Ethylbenzene        | 10.0        | 10.4        |                | ug/L |   | 104  | 80 - 120    | 3   | 14        |
| m-Xylene & p-Xylene | 10.0        | 10.4        |                | ug/L |   | 104  | 80 - 120    | 2   | 14        |
| o-Xylene            | 10.0        | 10.4        |                | ug/L |   | 104  | 80 - 120    | 4   | 16        |
| Toluene             | 10.0        | 10.4        |                | ug/L |   | 104  | 80 - 120    | 3   | 13        |
| Xylenes, Total      | 20.0        | 20.8        |                | ug/L |   | 104  | 80 - 120    | 3   | 16        |

| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits   |
|------------------------------|----------------|----------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 95             |                | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 104            |                | 80 - 120 |
| Dibromofluoromethane (Surr)  | 98             |                | 80 - 120 |

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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-423429/17

Matrix: Water

Analysis Batch: 423429

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

|                   | LCSD      | LCSD      |          |
|-------------------|-----------|-----------|----------|
| Surrogate         | %Recovery | Qualifier | Limits   |
| Toluene-d8 (Surr) | 99        |           | 80 - 120 |

Lab Sample ID: MB 580-423571/6

Matrix: Water

Analysis Batch: 423571

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte             | MB        | MB | RL  | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------------|-----------|----|-----|-----|------|---|----------|----------------|---------|
| Result              | Qualifier |    |     |     |      |   |          |                |         |
| Benzene             | ND        |    | 1.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |
| Ethylbenzene        | ND        |    | 1.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |
| m-Xylene & p-Xylene | ND        |    | 2.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |
| o-Xylene            | ND        |    | 1.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |
| Toluene             | ND        |    | 1.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |
| Xylenes, Total      | ND        |    | 2.0 |     | ug/L |   |          | 04/19/23 05:36 | 1       |

| Surrogate                    | MB        | MB | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|----|----------|----------|----------------|---------|
| %Recovery                    | Qualifier |    |          |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 99        |    | 80 - 120 |          | 04/19/23 05:36 | 1       |
| 4-Bromofluorobenzene (Surr)  | 96        |    | 80 - 120 |          | 04/19/23 05:36 | 1       |
| Dibromofluoromethane (Surr)  | 98        |    | 80 - 120 |          | 04/19/23 05:36 | 1       |
| Toluene-d8 (Surr)            | 94        |    | 80 - 120 |          | 04/19/23 05:36 | 1       |

Lab Sample ID: LCS 580-423571/7

Matrix: Water

Analysis Batch: 423571

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte             | Spike  | LCS       | LCS | Unit | D | %Rec   | %Rec     |
|---------------------|--------|-----------|-----|------|---|--------|----------|
| Added               | Result | Qualifier |     |      |   | Limits |          |
| Benzene             | 10.0   | 9.89      |     | ug/L |   | 99     | 80 - 122 |
| Ethylbenzene        | 10.0   | 9.91      |     | ug/L |   | 99     | 80 - 120 |
| m-Xylene & p-Xylene | 10.0   | 9.76      |     | ug/L |   | 98     | 80 - 120 |
| o-Xylene            | 10.0   | 9.94      |     | ug/L |   | 99     | 80 - 120 |
| Toluene             | 10.0   | 9.79      |     | ug/L |   | 98     | 80 - 120 |
| Xylenes, Total      | 20.0   | 19.7      |     | ug/L |   | 99     | 80 - 120 |

| Surrogate                    | LCS       | LCS | Limits   |
|------------------------------|-----------|-----|----------|
| %Recovery                    | Qualifier |     |          |
| 1,2-Dichloroethane-d4 (Surr) | 94        |     | 80 - 120 |
| 4-Bromofluorobenzene (Surr)  | 99        |     | 80 - 120 |
| Dibromofluoromethane (Surr)  | 95        |     | 80 - 120 |
| Toluene-d8 (Surr)            | 101       |     | 80 - 120 |

Lab Sample ID: LCSD 580-423571/8

Matrix: Water

Analysis Batch: 423571

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte             | Spike  | LCSD      | LCSD | Unit | D | %Rec   | %Rec     | RPD   | RPD |
|---------------------|--------|-----------|------|------|---|--------|----------|-------|-----|
| Added               | Result | Qualifier |      |      |   | Limits |          | Limit |     |
| Benzene             | 10.0   | 10.4      |      | ug/L |   | 104    | 80 - 122 | 5     | 14  |
| Ethylbenzene        | 10.0   | 9.98      |      | ug/L |   | 100    | 80 - 120 | 1     | 14  |
| m-Xylene & p-Xylene | 10.0   | 10.2      |      | ug/L |   | 102    | 80 - 120 | 4     | 14  |
| o-Xylene            | 10.0   | 10.2      |      | ug/L |   | 102    | 80 - 120 | 3     | 16  |
| Toluene             | 10.0   | 10.0      |      | ug/L |   | 100    | 80 - 120 | 2     | 13  |

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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-423571/8

Matrix: Water

Analysis Batch: 423571

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                      | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|------------------------------|----------------|----------------|----------------|------|---|------|-------------|-----|-----------|
| Xylenes, Total               | 20.0           | 20.4           |                | ug/L |   | 102  | 80 - 120    | 3   | 16        |
| Surrogate                    | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |             |     |           |
| 1,2-Dichloroethane-d4 (Surr) | 96             |                | 80 - 120       |      |   |      |             |     |           |
| 4-Bromofluorobenzene (Surr)  | 97             |                | 80 - 120       |      |   |      |             |     |           |
| Dibromofluoromethane (Surr)  | 96             |                | 80 - 120       |      |   |      |             |     |           |
| Toluene-d8 (Surr)            | 101            |                | 80 - 120       |      |   |      |             |     |           |

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS)

Lab Sample ID: MB 580-423425/15

Matrix: Water

Analysis Batch: 423425

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|-----|------|---|----------|----------------|---------|
| Gasoline                    | ND           |              | 50       |     | ug/L |   |          | 04/17/23 14:51 | 1       |
| Surrogate                   | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 98           |              | 77 - 123 |     |      |   |          | 04/17/23 14:51 | 1       |

Lab Sample ID: LCS 580-423425/18

Matrix: Water

Analysis Batch: 423425

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|                             |           |           | Spike    | LCS    | LCS       |      |   |      | %Rec     |  |  |
|-----------------------------|-----------|-----------|----------|--------|-----------|------|---|------|----------|--|--|
| Analyte                     |           |           | Added    | Result | Qualifier | Unit | D | %Rec | Limits   |  |  |
| Gasoline                    |           |           | 1000     | 997    |           | ug/L |   | 100  | 55 - 148 |  |  |
| Surrogate                   | LCS       | LCS       |          |        |           |      |   |      |          |  |  |
|                             | %Recovery | Qualifier | Limits   |        |           |      |   |      |          |  |  |
| 4-Bromofluorobenzene (Surr) | 104       |           | 77 - 123 |        |           |      |   |      |          |  |  |

Lab Sample ID: LCSD 580-423425/19

Matrix: Water

Analysis Batch: 423425

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                     | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|-----------------------------|----------------|----------------|----------------|------|---|------|-------------|-----|-----------|
| Gasoline                    | 1000           | 996            |                | ug/L |   | 100  | 55 - 148    | 0   | 10        |
| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |             |     |           |
| 4-Bromofluorobenzene (Surr) | 106            |                | 77 - 123       |      |   |      |             |     |           |

Lab Sample ID: MB 580-423567/6

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte  | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|----|-----|------|---|----------|----------------|---------|
| Gasoline | ND        |              | 50 |     | ug/L |   |          | 04/19/23 05:36 | 1       |

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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC/MS) (Continued)

Lab Sample ID: MB 580-423567/6

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Method Blank

Prep Type: Total/NA

| Surrogate                   | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------------|-----------------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 101             |                 | 77 - 123 |          | 04/19/23 05:36 | 1       |

Lab Sample ID: LCS 580-423567/9

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

|                             |           |           | Spike    | LCS    | LCS       |      |   |      |          |        |  |  |
|-----------------------------|-----------|-----------|----------|--------|-----------|------|---|------|----------|--------|--|--|
| Analyte                     |           |           | Added    | Result | Qualifier | Unit | D | %Rec | %Rec     | Limits |  |  |
| Gasoline                    |           |           | 1000     | 1030   |           | ug/L |   | 103  | 55 - 148 |        |  |  |
| Surrogate                   | LCS       | LCS       |          |        |           |      |   |      |          |        |  |  |
|                             | %Recovery | Qualifier | Limits   |        |           |      |   |      |          |        |  |  |
| 4-Bromofluorobenzene (Surr) | 104       |           | 77 - 123 |        |           |      |   |      |          |        |  |  |

Lab Sample ID: LCSD 580-423567/10

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

| Analyte                     |                   |                   | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits | RPD | RPD<br>Limit |
|-----------------------------|-------------------|-------------------|----------------|----------------|-------------------|------|---|------|----------------|-----|--------------|
| Gasoline                    |                   |                   | 1000           | 991            |                   | ug/L |   | 99   | 55 - 148       | 3   | 10           |
| Surrogate                   | LCSD<br>%Recovery | LCSD<br>Qualifier | Limits         |                |                   |      |   |      |                |     |              |
| 4-Bromofluorobenzene (Surr) | 102               |                   | 77 - 123       |                |                   |      |   |      |                |     |              |

Lab Sample ID: 580-126016-F-1 MS

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Matrix Spike

Prep Type: Total/NA

| Analyte                     | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |  |  |
|-----------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|-------------|--|--|
| Gasoline                    | ND            |                  | 1000        | 1020      |              | ug/L |   | 102  | 55 - 148    |  |  |
| Surrogate                   | MS %Recovery  | MS Qualifier     | Limits      |           |              |      |   |      |             |  |  |
| 4-Bromofluorobenzene (Surr) | 104           |                  | 77 - 123    |           |              |      |   |      |             |  |  |

Lab Sample ID: 580-126016-F-1 MSD

Matrix: Water

Analysis Batch: 423567

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

| Analyte                     | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|-----------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Gasoline                    | ND            |                  | 1000        | 1060       |               | ug/L |   | 106  | 55 - 148    | 5   | 10        |
| Surrogate                   | MSD %Recovery | MSD Qualifier    | Limits      |            |               |      |   |      |             |     |           |
| 4-Bromofluorobenzene (Surr) | 106           |                  | 77 - 123    |            |               |      |   |      |             |     |           |

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# QC Sample Results

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-423386/1-A

Matrix: Water

Analysis Batch: 423652

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 423386

| Analyte              | MB Result    | MB Qualifier | RL       | MDL | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------------|--------------|----------|-----|------|---|----------------|----------------|---------|
| #2 Diesel (C10-C24)  | ND           |              | 110      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 18:52 | 1       |
| Motor Oil (>C24-C36) | ND           |              | 350      |     | ug/L |   | 04/17/23 10:13 | 04/19/23 18:52 | 1       |
| Surrogate            | MB %Recovery | MB Qualifier | Limits   |     |      |   | Prepared       | Analyzed       | Dil Fac |
| o-Terphenyl          | 76           |              | 50 - 150 |     |      |   | 04/17/23 10:13 | 04/19/23 18:52 | 1       |

Lab Sample ID: LCS 580-423386/2-A

Matrix: Water

Analysis Batch: 423652

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 423386

| Analyte              | Spike Added   | LCS Result    | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------------------|---------------|---------------|---------------|------|---|------|-------------|
| #2 Diesel (C10-C24)  | 4000          | 3960          |               | ug/L |   | 99   | 50 - 120    |
| Motor Oil (>C24-C36) | 4000          | 3990          |               | ug/L |   | 100  | 64 - 120    |
| Surrogate            | LCS %Recovery | LCS Qualifier | Limits        |      |   |      |             |
| o-Terphenyl          | 97            |               | 50 - 150      |      |   |      |             |

Lab Sample ID: LCSD 580-423386/3-A

Matrix: Water

Analysis Batch: 423652

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 423386

| Analyte              | Spike Added    | LCSD Result    | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------------------|----------------|----------------|----------------|------|---|------|-------------|-----|-----------|
| #2 Diesel (C10-C24)  | 4000           | 3210           |                | ug/L |   | 80   | 50 - 120    | 21  | 26        |
| Motor Oil (>C24-C36) | 4000           | 3260           |                | ug/L |   | 81   | 64 - 120    | 20  | 24        |
| Surrogate            | LCSD %Recovery | LCSD Qualifier | Limits         |      |   |      |             |     |           |
| o-Terphenyl          | 78             |                | 50 - 150       |      |   |      |             |     |           |

# QC Association Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## GC/MS VOA

### Analysis Batch: 423425

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 580-125935-1       | MW-1_20230412          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-125935-2       | MW-2_20230412          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-125935-3       | MW-3_20230412          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-125935-4       | MW-4_20230412          | Total/NA  | Water  | NWTPH-Gx |            |
| 580-125935-5       | MW-5_20230412          | Total/NA  | Water  | NWTPH-Gx |            |
| MB 580-423425/15   | Method Blank           | Total/NA  | Water  | NWTPH-Gx |            |
| LCS 580-423425/18  | Lab Control Sample     | Total/NA  | Water  | NWTPH-Gx |            |
| LCSD 580-423425/19 | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Gx |            |

### Analysis Batch: 423429

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 580-125935-1       | MW-1_20230412          | Total/NA  | Water  | 8260D  |            |
| 580-125935-2       | MW-2_20230412          | Total/NA  | Water  | 8260D  |            |
| 580-125935-3       | MW-3_20230412          | Total/NA  | Water  | 8260D  |            |
| 580-125935-4       | MW-4_20230412          | Total/NA  | Water  | 8260D  |            |
| 580-125935-5       | MW-5_20230412          | Total/NA  | Water  | 8260D  |            |
| MB 580-423429/15   | Method Blank           | Total/NA  | Water  | 8260D  |            |
| LCS 580-423429/16  | Lab Control Sample     | Total/NA  | Water  | 8260D  |            |
| LCSD 580-423429/17 | Lab Control Sample Dup | Total/NA  | Water  | 8260D  |            |

### Analysis Batch: 423567

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 580-125935-6       | Trip Blank_20230412    | Total/NA  | Water  | NWTPH-Gx |            |
| MB 580-423567/6    | Method Blank           | Total/NA  | Water  | NWTPH-Gx |            |
| LCS 580-423567/9   | Lab Control Sample     | Total/NA  | Water  | NWTPH-Gx |            |
| LCSD 580-423567/10 | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Gx |            |
| 580-126016-F-1 MS  | Matrix Spike           | Total/NA  | Water  | NWTPH-Gx |            |
| 580-126016-F-1 MSD | Matrix Spike Duplicate | Total/NA  | Water  | NWTPH-Gx |            |

### Analysis Batch: 423571

| Lab Sample ID     | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------------|-----------|--------|--------|------------|
| 580-125935-6      | Trip Blank_20230412    | Total/NA  | Water  | 8260D  |            |
| MB 580-423571/6   | Method Blank           | Total/NA  | Water  | 8260D  |            |
| LCS 580-423571/7  | Lab Control Sample     | Total/NA  | Water  | 8260D  |            |
| LCSD 580-423571/8 | Lab Control Sample Dup | Total/NA  | Water  | 8260D  |            |

## GC Semi VOA

### Prep Batch: 423386

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 580-125935-1        | MW-1_20230412          | Total/NA  | Water  | 3510C  |            |
| 580-125935-2        | MW-2_20230412          | Total/NA  | Water  | 3510C  |            |
| 580-125935-3        | MW-3_20230412          | Total/NA  | Water  | 3510C  |            |
| 580-125935-4        | MW-4_20230412          | Total/NA  | Water  | 3510C  |            |
| 580-125935-5        | MW-5_20230412          | Total/NA  | Water  | 3510C  |            |
| MB 580-423386/1-A   | Method Blank           | Total/NA  | Water  | 3510C  |            |
| LCS 580-423386/2-A  | Lab Control Sample     | Total/NA  | Water  | 3510C  |            |
| LCSD 580-423386/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3510C  |            |

## QC Association Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

### GC Semi VOA

#### Analysis Batch: 423652

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 580-125935-1        | MW-1_20230412          | Total/NA  | Water  | NWTPH-Dx | 423386     |
| 580-125935-2        | MW-2_20230412          | Total/NA  | Water  | NWTPH-Dx | 423386     |
| 580-125935-3        | MW-3_20230412          | Total/NA  | Water  | NWTPH-Dx | 423386     |
| 580-125935-4        | MW-4_20230412          | Total/NA  | Water  | NWTPH-Dx | 423386     |
| 580-125935-5        | MW-5_20230412          | Total/NA  | Water  | NWTPH-Dx | 423386     |
| MB 580-423386/1-A   | Method Blank           | Total/NA  | Water  | NWTPH-Dx | 423386     |
| LCS 580-423386/2-A  | Lab Control Sample     | Total/NA  | Water  | NWTPH-Dx | 423386     |
| LCSD 580-423386/3-A | Lab Control Sample Dup | Total/NA  | Water  | NWTPH-Dx | 423386     |

# Lab Chronicle

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Client Sample ID: MW-1\_20230412**

**Lab Sample ID: 580-125935-1**

**Date Collected: 04/12/23 09:10**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 423429       | JSM     | EET SEA | 04/17/23 21:18       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 423425       | JSM     | EET SEA | 04/17/23 21:18       |
| Total/NA  | Prep       | 3510C        |     |                 | 423386       | TGO     | EET SEA | 04/17/23 10:13       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 423652       | KLW     | EET SEA | 04/19/23 19:52       |

**Client Sample ID: MW-2\_20230412**

**Lab Sample ID: 580-125935-2**

**Date Collected: 04/12/23 10:20**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 10              | 423429       | JSM     | EET SEA | 04/17/23 22:55       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 10              | 423425       | JSM     | EET SEA | 04/17/23 22:55       |
| Total/NA  | Prep       | 3510C        |     |                 | 423386       | TGO     | EET SEA | 04/17/23 10:13       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 423652       | KLW     | EET SEA | 04/19/23 20:12       |

**Client Sample ID: MW-3\_20230412**

**Lab Sample ID: 580-125935-3**

**Date Collected: 04/12/23 10:55**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 423429       | JSM     | EET SEA | 04/17/23 21:42       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 423425       | JSM     | EET SEA | 04/17/23 21:42       |
| Total/NA  | Prep       | 3510C        |     |                 | 423386       | TGO     | EET SEA | 04/17/23 10:13       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 423652       | KLW     | EET SEA | 04/19/23 20:32       |

**Client Sample ID: MW-4\_20230412**

**Lab Sample ID: 580-125935-4**

**Date Collected: 04/12/23 11:25**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 423429       | JSM     | EET SEA | 04/17/23 22:06       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 423425       | JSM     | EET SEA | 04/17/23 22:06       |
| Total/NA  | Prep       | 3510C        |     |                 | 423386       | TGO     | EET SEA | 04/17/23 10:13       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 423652       | KLW     | EET SEA | 04/19/23 20:53       |

**Client Sample ID: MW-5\_20230412**

**Lab Sample ID: 580-125935-5**

**Date Collected: 04/12/23 09:40**

**Matrix: Water**

**Date Received: 04/12/23 12:34**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 423429       | JSM     | EET SEA | 04/17/23 22:30       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 423425       | JSM     | EET SEA | 04/17/23 22:30       |
| Total/NA  | Prep       | 3510C        |     |                 | 423386       | TGO     | EET SEA | 04/17/23 10:13       |
| Total/NA  | Analysis   | NWTPH-Dx     |     | 1               | 423652       | KLW     | EET SEA | 04/19/23 21:13       |

Eurofins Seattle

# Lab Chronicle

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

**Client Sample ID: Trip Blank\_20230412**  
**Date Collected: 04/12/23 12:00**  
**Date Received: 04/12/23 12:34**

**Lab Sample ID: 580-125935-6**  
**Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 423571       | ITR     | EET SEA | 04/19/23 08:02       |
| Total/NA  | Analysis   | NWTPH-Gx     |     | 1               | 423567       | ITR     | EET SEA | 04/19/23 08:02       |

**Laboratory References:**  
EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Accreditation/Certification Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

## Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

| Authority  | Program | Identification Number | Expiration Date |
|------------|---------|-----------------------|-----------------|
| Washington | State   | C788                  | 07-13-23        |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

# Method Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

| Method   | Method Description                                | Protocol | Laboratory |
|----------|---------------------------------------------------|----------|------------|
| 8260D    | Volatile Organic Compounds by GC/MS               | SW846    | EET SEA    |
| NWTPH-Gx | Northwest - Volatile Petroleum Products (GC/MS)   | NWTPH    | EET SEA    |
| NWTPH-Dx | Northwest - Semi-Volatile Petroleum Products (GC) | NWTPH    | EET SEA    |
| 3510C    | Liquid-Liquid Extraction (Separatory Funnel)      | SW846    | EET SEA    |
| 5030B    | Purge and Trap                                    | SW846    | EET SEA    |

### Protocol References:

NWTPH = Northwest Total Petroleum Hydrocarbon

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

# Sample Summary

Client: Antea USA Inc.  
Project/Site: BP - OPLC - Tacoma Junction

Job ID: 580-125935-1

| Lab Sample ID | Client Sample ID    | Matrix | Collected      | Received       |
|---------------|---------------------|--------|----------------|----------------|
| 580-125935-1  | MW-1_20230412       | Water  | 04/12/23 09:10 | 04/12/23 12:34 |
| 580-125935-2  | MW-2_20230412       | Water  | 04/12/23 10:20 | 04/12/23 12:34 |
| 580-125935-3  | MW-3_20230412       | Water  | 04/12/23 10:55 | 04/12/23 12:34 |
| 580-125935-4  | MW-4_20230412       | Water  | 04/12/23 11:25 | 04/12/23 12:34 |
| 580-125935-5  | MW-5_20230412       | Water  | 04/12/23 09:40 | 04/12/23 12:34 |
| 580-125935-6  | Trip Blank_20230412 | Water  | 04/12/23 12:00 | 04/12/23 12:34 |

**Laboratory Management Program (LaMP) Chain of Custody Record**  
**Soil, Sediment and Groundwater Samples**

Page 1 of 1

BP Site Node Path: Olympic Pipeline Company

Req Due Date (mm/dd/yy):      Standard TAT

Rush TAT Yes No X

BP/RM Facility No: Tacoma Junction

Lab Work Order Number:

[illegible]

7 COC July 2018



580-125935 Chain of Custody

4/21/2023

## Login Sample Receipt Checklist

Client: Antea USA Inc.

Job Number: 580-125935-1

**Login Number: 125935**

**List Source: Eurofins Seattle**

**List Number: 1**

**Creator: Groves, Elizabeth**

| Question                                                                                 | Answer | Comment                                                      |
|------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |                                                              |
| The cooler's custody seal, if present, is intact.                                        | True   |                                                              |
| Sample custody seals, if present, are intact.                                            | True   |                                                              |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |                                                              |
| Samples were received on ice.                                                            | True   |                                                              |
| Cooler Temperature is acceptable.                                                        | True   | Received same day of collection; chilling process has begun. |
| Cooler Temperature is recorded.                                                          | True   |                                                              |
| COC is present.                                                                          | True   |                                                              |
| COC is filled out in ink and legible.                                                    | True   |                                                              |
| COC is filled out with all pertinent information.                                        | True   |                                                              |
| Is the Field Sampler's name present on COC?                                              | True   |                                                              |
| There are no discrepancies between the containers received and the COC.                  | True   |                                                              |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |                                                              |
| Sample containers have legible labels.                                                   | True   |                                                              |
| Containers are not broken or leaking.                                                    | True   |                                                              |
| Sample collection date/times are provided.                                               | True   |                                                              |
| Appropriate sample containers are used.                                                  | True   |                                                              |
| Sample bottles are completely filled.                                                    | True   |                                                              |
| Sample Preservation Verified.                                                            | True   |                                                              |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |                                                              |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |                                                              |
| Multiphasic samples are not present.                                                     | True   |                                                              |
| Samples do not require splitting or compositing.                                         | True   |                                                              |
| Residual Chlorine Checked.                                                               | N/A    |                                                              |

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423429 Batch Start Date: 04/17/23 13:14 Batch Analyst: McKell, Justin SBatch Method: 8260D Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00028 | VOAMasterMix<br>00101 | VOASTDGASweek<br>00141 |
|-----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|-----------------------|------------------------|
| MB<br>580-423429/15   |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            |                       |                        |
| LCS<br>580-423429/16  |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| LCSD<br>580-423429/17 |                  | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| 580-125935-E-1        | MW-1_20230412    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-125935-E-3        | MW-3_20230412    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-125935-E-4        | MW-4_20230412    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-125935-E-5        | MW-5_20230412    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |
| 580-125935-E-2        | MW-2_20230412    | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |

## Batch Notes

|                 |          |
|-----------------|----------|
| pH Indicator ID | 6204001  |
| Vial Lot Number | 0126501H |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260D

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423571 Batch Start Date: 04/19/23 03:59 Batch Analyst: Rakotz, Ian TBatch Method: 8260D Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID       | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00028 | VOAMasterMix<br>00101 | VOASTDGASweek<br>00141 |
|----------------------|------------------------|--------------|-------|---------------|-------------|------------|-----------------|-----------------------|------------------------|
| MB 580-423571/6      |                        | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            |                       |                        |
| LCS<br>580-423571/7  |                        | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| LCSD<br>580-423571/8 |                        | 8260D        |       | 5 mL          | 5 mL        |            | 1 uL            | 10 uL                 | 10 uL                  |
| 580-125935-A-6       | Trip<br>Blank 20230412 | 8260D        | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |                       |                        |

| Batch Notes     |          |
|-----------------|----------|
| pH Indicator ID | 215322   |
| Vial Lot Number | 0126501H |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8260D

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423425 Batch Start Date: 04/17/23 13:14 Batch Analyst: McKell, Justin SBatch Method: NWTPH-Gx Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00028 | GRO_LCS 00083 |  |
|-----------------------|------------------|--------------|-------|---------------|-------------|------------|-----------------|---------------|--|
| MB<br>580-423425/15   |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            |               |  |
| LCS<br>580-423425/18  |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| LCSD<br>580-423425/19 |                  | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| 580-125935-E-1        | MW-1_20230412    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-125935-E-3        | MW-3_20230412    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-125935-E-4        | MW-4_20230412    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-125935-E-5        | MW-5_20230412    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-125935-E-2        | MW-2_20230412    | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |

## Batch Notes

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

Page 1 of 1

## GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423567 Batch Start Date: 04/19/23 03:59 Batch Analyst: Rakotz, Ian TBatch Method: NWTPH-Gx Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID         | Method Chain | Basis | InitialAmount | FinalAmount | Initial pH | 5X SUR/IS 00028 | GRO_LCS 00083 |  |
|-----------------------|--------------------------|--------------|-------|---------------|-------------|------------|-----------------|---------------|--|
| MB 580-423567/6       |                          | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            |               |  |
| LCS<br>580-423567/9   |                          | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| LCSD<br>580-423567/10 |                          | NWTPH-Gx     |       | 5 mL          | 5 mL        |            | 1 uL            | 25 uL         |  |
| 580-125935-A-6        | Trip<br>Blank 20230412   | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-126016-E-1        | 20230412-MD-13-3<br>5-GW | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            |               |  |
| 580-126016-F-1<br>MS  | 20230412-MD-13-3<br>5-GW | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            | 21.5 uL       |  |
| 580-126016-F-1<br>MSD | 20230412-MD-13-3<br>5-GW | NWTPH-Gx     | T     | 5 mL          | 5 mL        | <2 SU      | 1 uL            | 21.5 uL       |  |

## Batch Notes

|                 |          |
|-----------------|----------|
| pH Indicator ID | 215322   |
| Vial Lot Number | 0126501H |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Gx

Page 1 of 1

## GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins SeattleJob No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423386Batch Start Date: 04/17/23 10:12Batch Analyst: Oseen, Taryn GBatch Method: 3510CBatch End Date: 04/17/23 15:42

| Lab Sample ID       | Client Sample ID | Method Chain       | Basis | GrossWeight | TareWeight | InitialAmount | FinalAmount | ReceivedpH | FirstAdjustpH |
|---------------------|------------------|--------------------|-------|-------------|------------|---------------|-------------|------------|---------------|
| MB 580-423386/1     |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| LCS<br>580-423386/2 |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| LCS<br>580-423386/3 |                  | 3510C,<br>NWTPH-Dx |       |             |            | 250 mL        | 2 mL        | 7 SU       | 2 SU          |
| 580-125935-A-1      | MW-1_20230412    | 3510C,<br>NWTPH-Dx | T     | 00412.44 g  | 00166.43 g | 246 mL        | 2 mL        | 2 SU       | n/a SU        |
| 580-125935-A-2      | MW-2_20230412    | 3510C,<br>NWTPH-Dx | T     | 00415.38 g  | 00168.46 g | 246.9 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-125935-B-3      | MW-3_20230412    | 3510C,<br>NWTPH-Dx | T     | 00411.90 g  | 00167.43 g | 244.5 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-125935-A-4      | MW-4_20230412    | 3510C,<br>NWTPH-Dx | T     | 00408.81 g  | 00167.14 g | 241.7 mL      | 2 mL        | 2 SU       | n/a SU        |
| 580-125935-B-5      | MW-5_20230412    | 3510C,<br>NWTPH-Dx | T     | 00412.41 g  | 00167.27 g | 245.1 mL      | 2 mL        | 2 SU       | n/a SU        |

| Lab Sample ID       | Client Sample ID | Method Chain       | Basis | SecondAdjustpH | TPH_Water_Spk<br>00037 | TPH_WaterSurr<br>00098 |  |  |  |
|---------------------|------------------|--------------------|-------|----------------|------------------------|------------------------|--|--|--|
| MB 580-423386/1     |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         |                        | 100 uL                 |  |  |  |
| LCS<br>580-423386/2 |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         | 100 uL                 | 100 uL                 |  |  |  |
| LCS<br>580-423386/3 |                  | 3510C,<br>NWTPH-Dx |       | n/a SU         | 100 uL                 | 100 uL                 |  |  |  |
| 580-125935-A-1      | MW-1_20230412    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-125935-A-2      | MW-2_20230412    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-125935-B-3      | MW-3_20230412    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-125935-A-4      | MW-4_20230412    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |
| 580-125935-B-5      | MW-5_20230412    | 3510C,<br>NWTPH-Dx | T     | n/a SU         |                        | 100 uL                 |  |  |  |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

Page 1 of 2

## GC SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Seattle Job No.: 580-125935-1

SDG No.: \_\_\_\_\_

Batch Number: 423386 Batch Start Date: 04/17/23 10:12 Batch Analyst: Oseen, Taryn GBatch Method: 3510C Batch End Date: 04/17/23 15:42

| Batch Notes                             |                           |
|-----------------------------------------|---------------------------|
| Method/Fraction                         | 3510C_LVI/NWTPH_Dx        |
| Balance ID                              | SEA225                    |
| pH Indicator ID                         | 10BDH3421/6105009/6204001 |
| Pipette/Syringe/Dispenser ID            | MP5                       |
| Analyst ID - Extraction                 | AA/SL/TO                  |
| Reagent Water ID                        | DI                        |
| Analyst ID - Spike Analyst              | TO                        |
| Analyst ID - Spike Witness Analyst      | AA                        |
| Sufficient Volume for Batch QC          | no                        |
| Acid Used for pH Adjustment ID          | 224621                    |
| Prep Solvent ID                         | 22G0962004                |
| Prep Solvent Volume Used                | 100 mL                    |
| Filter ID                               | 09-790-12F                |
| Na2SO4 ID                               | baked Na2SO4_00459        |
| Analyst ID - Concentration              | AA/SL                     |
| Equipment ID - Concentration 1          | Steambath 1               |
| Thermometer ID - Concentration 1        | 61013-040-1               |
| Concentration 1 Uncorrected Temperature | 70.0-75.0 Degrees C       |
| Concentration 1 Corrected Temperature   | 69.4-74.4 Degrees C       |
| Equipment ID - Concentration 2          | Turbovap 5                |
| Thermometer ID - Concentration 2        | DIGITAL READOUT           |
| Concentration 2 Uncorrected Temperature | 20.0 Degrees C            |
| Concentration 2 Corrected Temperature   | 19.8 Degrees C            |
| Vial Lot Number                         | 13-09-1335                |
| Batch Comment                           | Vialed by:AA              |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

NWTPH-Dx

Page 2 of 2