Groundwater Quarterly Monitoring Report

Former Time Oil Company Site, 10350 N Time Oil Road, Portland, Oregon

Prepared for:

Gothic Bridge Land Enterprises, LLC

July 26, 2024

Project No. M2554.01.001

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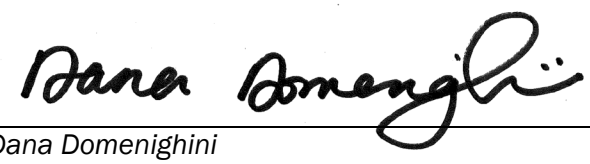
MAUL FOSTER ALONGI

Groundwater Quarterly Monitoring Report

Former Time Oil Company Site, 10350 N Time Oil Road, Portland, Oregon

The material and data in this report were prepared under the supervision and direction of the undersigned.

Maul Foster & Alongi, Inc.



Dana Domenighini
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Ted Wall, PE
Vice President

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Abbreviations

CUL	cleanup level
DEQ	Department of Environmental Quality (Oregon)
EPA	U.S. Environmental Protection Agency
HASP	health and safety plan
JSCS	joint source control strategy
MFA	Maul Foster & Alongi, Inc.
NWTPH	Northwest Total Petroleum Hydrocarbon
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCP	pentachlorophenol
pg/L	picogram per liter
ROD	record of decision
SAP	sampling and analysis plan
SLV	screening level value
the Site	Former Time Oil Company site, 10350 N Time Oil Road, Portland, Oregon
TEQ	toxicity equivalents
TPH	total petroleum hydrocarbon
ug/L	microgram per liter

1 Introduction

Maul Foster & Alongi, Inc. (MFA) prepared this quarterly monitoring report to present the activities conducted to date as part of the groundwater sampling at the former Time Oil Company site located at 10350 N Time Oil Road in Portland, Oregon (the Site) (Figure 1-1). The reporting period for this submittal is for work completed in May 2024.

1.1 Purpose and Objective

The groundwater monitoring is being completed in conformance with the requirements set forth in the Consent Judgment filed between RestorCap, LLC, and the Oregon Department of Environmental Quality (DEQ) (Consent Order No. 22CV06251).[1] The monitoring activities were completed in accordance with the DEQ-approved *Groundwater Sampling and Analysis Plan* (SAP) (MFA 2023).

The objective of this report is to provide a detailed description of groundwater monitoring activities completed to date, summarize data results and analysis, and identify the monitoring events and activities planned for the next quarter.

1.2 Scope of Work

In accordance with the SAP, MFA conducted the following activities at the Site in May 2024:

- Collected groundwater samples from monitoring wells LW010S, LW013S, LW006D, LW025D, and LW039D located on Site (fourth quarterly event).
- Measured water levels at each of the monitoring wells.
- Analyzed groundwater samples for the following contaminants of interest: gasoline-, diesel-, and heavy oil-range total petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs), pentachlorophenol (PCP), polychlorinated biphenyls (PCBs), and dioxins/furans.
- Compared analytical data to cleanup levels (CULs) from Table 17 (Errata #2) of the Portland Harbor Record of Decision (ROD) (EPA 2020) and screening level values (SLVs) from Table 3-1 of the Portland Harbor Joint Source Control Strategy (JSCS) (DEQ and EPA 2005).

2 Groundwater Monitoring Activities

Prior to conducting field work, a site-specific health and safety plan (HASP) was prepared for the activities conducted at the Site. The HASP was prepared in general accordance with the

[1] On June 16, 2022, the burdens and benefits of the Consent Judgment were assigned by RestorCap, LLC to Rivergate Development, LLC. On June 1, 2023, the burdens and benefits of the Consent Judgment were assigned by Rivergate Development, LLC to Gothic Bridge Land Enterprises, LLC.

Occupational Safety and Health Act and the Oregon Administrative Rules. A copy of the HASP was maintained on-site for use by MFA staff during the field activities. This section provides a summary of the groundwater monitoring activities performed in May 2024.

2.1 Groundwater Sampling

Groundwater monitoring was conducted on May 20, 2024. Groundwater sampling was completed in accordance with the scope of work in the SAP (MFA 2023). The well locations are shown on Figure 2-1.

The wells were opened to allow the water level to equilibrate with the ambient air pressure, followed by measurement of the static water level, using a water level indicator. The water levels were recorded on the field sampling data sheet (Appendix A). Groundwater levels and groundwater level elevations are discussed in Section 2.2.

The monitoring wells were purged using a peristaltic pump with a flow rate of 0.2 to 0.5 liters per minute before they were sampled. Water quality parameter measurements were collected during low-flow purging with a flow-through cell and an in-line, multiprobe meter at approximately three-minute intervals. Water levels were also measured during purging to monitor drawdown. Parameter measurements recorded during purging included purge volume, purge flow rate, water level, temperature, specific conductivity, dissolved oxygen, pH, oxygen reduction potential, and turbidity (see field sampling data sheets in Appendix A). Once the monitoring parameters stabilized, low-flow sampling was conducted using a peristaltic pump with tubing dedicated to each well.

The groundwater samples were collected directly into laboratory-supplied bottles. Approximately 11.9 gallons of purge water was generated during the monitoring event. The investigation-derived waste water was containerized and temporarily stored on site pending profiling, removal, and disposal.

2.2 Groundwater Level Measurements

Water level measurements were completed in accordance with the SAP (MFA 2023). The wells were opened to allow the water level to equilibrate with the ambient air pressure; the static water level was then measured using a water level indicator.

The static water levels and groundwater level elevations measured on May 20, 2024, are presented in Table 2-1. In addition, the Willamette River stage at the time of the sampling event as reported for the gauge station located at the Morrison Bridge is included in Table 2-1 for comparison to the groundwater monitoring well elevations.

3 Chemical Analyses and Results

Groundwater samples were submitted to Apex Laboratories, LLC in Tigard, Oregon. Copies of the analytical laboratory reports are included in Appendix B. A data validation memorandum presents the quality assurance/quality control review of the data and is included in Appendix C. The results of the

data quality review indicate that the data are of acceptable quality and are suitable for their intended purpose with the appropriate qualifiers assigned.

3.1 Analyses Performed

Groundwater samples were analyzed for the following:

- Gasoline-range TPH by Northwest TPH (NWTPH) Method NWTPH-Gx
- Diesel- and heavy oil-range TPH by NWTPH-Dx
- PAHs and PCP by U.S. Environmental Protection Agency (EPA) Method 8270E
- PCBs by EPA Method 8082A
- Dioxins/furans by EPA Method 1613B

3.2 Laboratory Analytical Results and Screening

The sections below summarize the groundwater analytical results presented in Table 3-1, which includes the groundwater results for samples collected in August and November 2023 and February and May 2024 to allow for comparison. In order to support DEQ's progress toward a source control determination at the Site, sample results were screened against the groundwater CULs in Table 17 (Errata #2) of the Portland Harbor ROD and, for contaminants without CULs, the JSCS SLVs (collectively, the Portland Harbor ROD CULs and JSCS SLVs are referred to herein as "SLVs," unless otherwise noted).

3.2.1 Groundwater Results

Petroleum hydrocarbons, PAHs, PCP, and dioxins/furans were detected above laboratory detection limits in the groundwater samples as summarized below:

- Gasoline-range TPH—Gasoline-range TPH was detected in LW006D, LW025D, and LW039D at concentrations ranging from 116 to 865 micrograms per liter (ug/L). In general, the concentrations of gasoline-range TPH are stable, except in LW025D where gasoline-range TPH concentrations have slightly decreased since the prior sampling events and LW039D where gasoline-range TPH concentrations have slightly increased. No SLVs are established for gasoline-range TPH.
- Diesel- and heavy oil-range TPH—Diesel-range TPH was detected in LW006D, LW025D, and LW039D at concentrations ranging from 334 to 2,830 ug/L. Whereas, heavy oil-range TPH was not detected in any of the wells. These concentrations are generally stable, except in LW025D where diesel-range TPH concentrations have decreased since the previous sampling events and LW039D where diesel-range TPH concentrations have increased since the prior sampling events. No SLVs are established for diesel- and heavy oil-range TPH.
- PAHs—The majority of PAHs analyzed were not detected in groundwater samples. Of the two PAHs detected, all were below the SLVs. The concentrations of detected PAHs are stable or slightly decreased since the prior sampling events.
- PCP—PCP was detected in LW013S at a concentration of 0.0987 (estimated), which is above the SLV. A comparison of these results to previous sampling events is as follows:

  - The reported, estimated detection of PCP in LW013S is generally stable with the prior sampling events, which were previously not detected at a method detection limit of 0.0952 ug/L and reported, estimated detections ranging from 0.0974 to 0.102 ug/L.
  - LW013S were historically sampled for PCP (by others). Prior sampling dates range from 2000 to 2017. Historical PCP results for LW013S ranged from 0.0968 to 9.3 ug/L, with the last four sampling events (2016 to 2017) not detected with detection limits ranging from 0.0962 to 0.0980 ug/L. The last detection of PCP in LW013S occurred in February 2016 at a concentration of 0.0975 ug/L. The detected PCP concentration is within the historical range observed on the Site.

- PCBs—PCBs were not detected above laboratory detection limits in the groundwater samples. These results are generally stable since the prior sampling events.
- Dioxins/furans—Samples from monitoring wells LW006D, LW010S, and LW013S had concentrations of one to four individual congeners. Dioxins/furans were not detected above laboratory detection limits in LW025D and LW039D. 2,3,7,8-tetrachlorodibenzo-p-dioxin is the only dioxin/furan congener with an SLV, and there were no samples with detected concentrations of this congener. Additionally, calculated dioxin/furan TEQ concentrations exceed the SLV in samples from each location, except LW025D and LW039D which were not detected above the method detection limits. Concentrations of dioxin/furan TEQ ranged from 2.10 (estimated) to 2.40 (estimated) picograms per liter (pg/L). A comparison of these results to previous sampling events is as follows:
  - The concentrations of dioxin/furan TEQ are generally stable with the prior sampling events.
  - Of the five wells sampled during this event, only monitoring well LW006D was historically analyzed for dioxins/furans (by others). Prior sampling dates range from 2006 to 2017. Historical TEQ results for LW006D ranged from 0.069 to 5.31 pg/L, with the last three sampling events (2015 to 2017) ranging from 1.87 to 5.31 pg/L. The detected dioxin/furan TEQ concentrations are within the historical range observed on the Site.

4 Summary and Future Activities

MFA conducted the fourth and final quarterly groundwater monitoring event at the Site in May 2024. Chemical data from these activities identified concentrations of petroleum hydrocarbons, PAHs, PCP, and dioxins/furans in the groundwater samples collected, at levels generally consistent with prior monitoring results.

Groundwater monitoring as outlined in the Consent Judgment has been completed, and no additional groundwater sampling events are planned.

References

DEQ and EPA. 2005. *Portland Harbor Joint Source Control Strategy.* Prepared by the Oregon Department of Environmental Quality and U.S. Environmental Protection Agency. December.

EPA. 2020. Sean Sheldrake, Office of Environmental Cleanup, U.S. Environmental Protection Agency Region 10. *Errata #2 for Portland Harbor Superfund Site Record of Decision ROD Table 17*. Memorandum to Portland Harbor site file. January 14.

MFA. 2023. *Groundwater Sampling and Analysis Plan, Former Time Oil Company Site, 10350 N Time Oil Road, Portland, Oregon.* Prepared for Gothic Bridge Land Enterprises, LLC. Maul Foster & Alongi, Inc.: Portland, OR. July 12.

Limitations

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Figures

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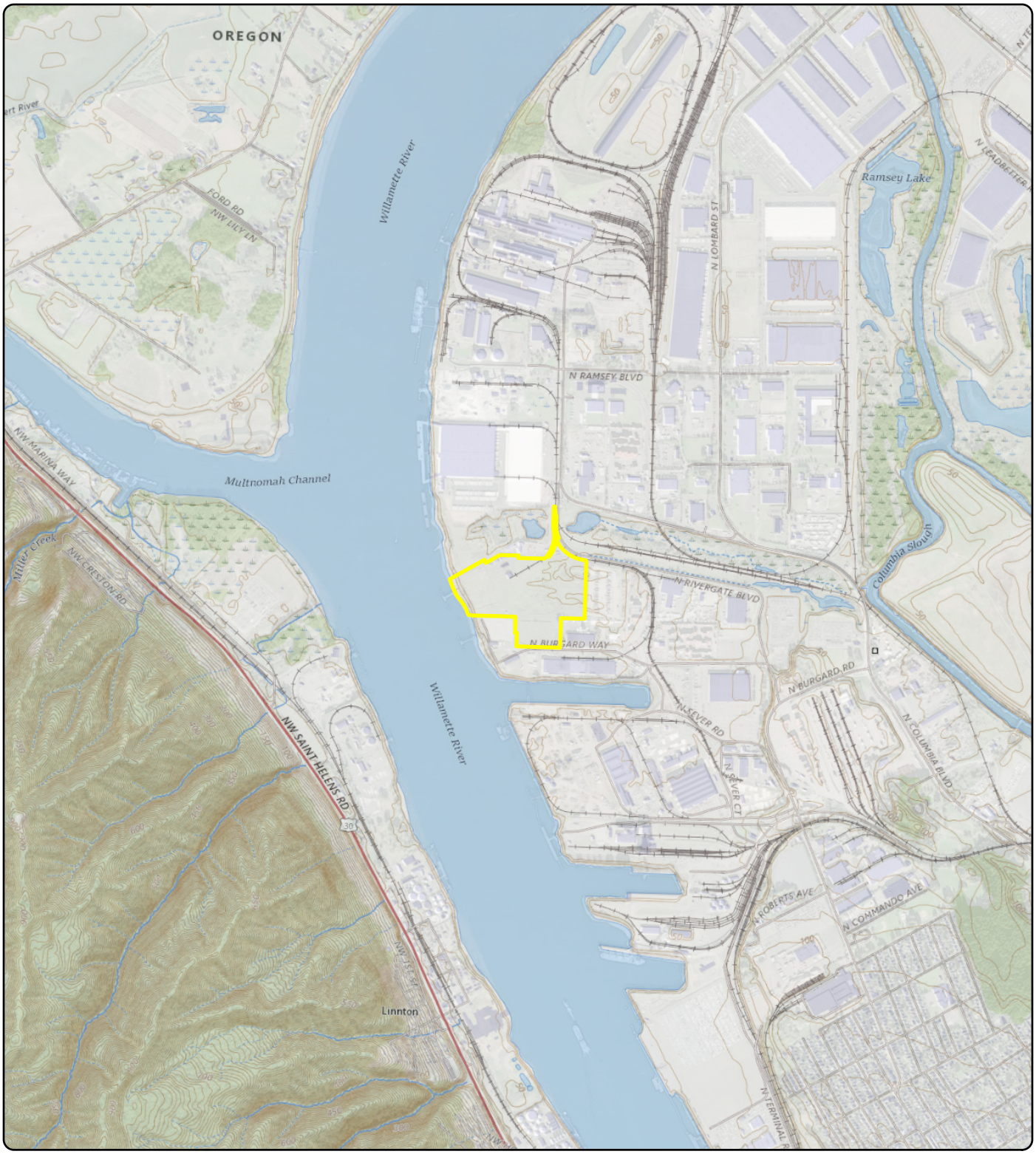

Notes
U.S. Geological Survey 7.5-minute topographic quadrangle (2020): Linnton.
Township 2 north, range 1 west, sections 34 and 35.

Data Source
Property boundary obtained from Oregon Metro.

Legend

Property Boundary

Figure 1-1
Site Location

10350 N Time Oil Road
Portland, OR

0 1,000 2,000
Feet

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p. 971 544 2139 | www.maulfoster.com

Path: X:\O_MFA_Projects\M2554\01\001\Pro\M2554_01_001_002.aprx\Fig 1-1 Property Location
Print Date: 6/30/2023
Reviewed By: ddomenighini
Produced By: sturner
Project: M2554.01.001

Figure 2-1
Groundwater Monitoring Well Locations

10350 N Time Oil Road Portland, OR

Legend

- Monitoring Well
- Property Boundary
- Tax Lot

0 200
Feet

Data Sources
Aerial photograph obtained from the City of Portland; tax lot data obtained from Oregon Metro.

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Path: X:\0_MFA_Projects\M2554\01\001\Pro\M2554_01_001_002.aprx\Fig 2-1 Property Overview
Print Date: 6/30/2023
Reviewed By: ddomenighini
Produced By: sturner
Project: M2554.01.001

Tables

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Table 2-1
Groundwater Elevations
Former Time Oil Company Site, Portland, Oregon

Location	TOC Reference Elevation (feet)[a][b]	Date	Water Level (feet below TOC)	Water Level Elevation (feet)
LW006D	30.84	08/31/2023	24.99	5.85
		11/28/2023	25.35	5.49
		02/28/2024	23.29	7.55
		05/20/2024	23.24	7.60
LW010S	30.75	08/31/2023	19.15[c]	11.60
		11/28/2023	19.14[c]	11.61
		02/28/2024	19.61	11.14
		05/20/2024	18.20	12.55
LW013S	30.17	08/31/2023	18.16	12.01
		11/28/2023	18.25	11.92
		02/28/2024	16.27	13.90
		05/20/2024	17.00	13.17
LW025D	35.38	08/31/2023	27.95	7.43
		11/28/2023	27.83	7.55
		02/28/2024	25.78	9.60
		05/20/2024	25.79	9.59
LW039D	9.35	08/31/2023	3.84	5.51
		11/28/2023	3.80	5.55
		02/28/2024	2.16	7.19
		05/20/2024	2.04	7.31
River Gauge[d][e][1]	NA	08/31/2023	NA	3.63
		11/28/20223		2.91
		02/28/2024		5.04
		05/20/2024		5.14

Notes

NA = not applicable.

NGVD29 = National Geodetic Vertical Datum of 1929.

TOC = top of casing.

[a]TOC reference elevations obtained from historical surveys conducted by Zarosinski-Tatone Engineers, Inc. of Portland, Oregon.

[b]Elevation datum was not specified in the historical documents reviewed.

[c]It was determined that the total depth of LW010S as noted in historical documents was inaccurate as a depth to bottom measurement was collected from the TOC on February 28, 2024 and was two feet deeper than the value presented in the historical documents. Water levels have been updated from those presented in the November 13, 2023 and February 7, 2024 Groundwater Monitoring Reports due to this discovery. This change does not affect the remaining data presented in the previous quarterly monitoring reports.

[d]River gauge values based on U.S. Geological Survey data at time of water level measurements during each sampling event.

[e]Elevation datum is NGVD29.

References

[1]USGS. 2024. *Willamette River at Portland, OR - 1411720* . https://waterdata.usgs.gov/monitoring-location/14211720/#parameterCode=00065&period=P365D&showMedian=true.

Table 3-1
Summary of Groundwater Analytical Results
Former Time Oil Site, Portland, Oregon

Location:	EPA Portland Harbor ROD/ JSCS[a][1][2]	LW006D						LW010S		LW013S				
Sample Name:		LW006D	LW006D-DUP	LW006D	LW006D-DUP	LW006D	LW006D	LW010S	LW010S	LW013S	LW013S	LW013S	LW013S	LW013S-DUP
Collection Date:		08/31/2023	08/31/2023	11/28/2023	11/28/2023	02/28/2024	05/20/2024	02/28/2024	05/20/2024	08/31/2023	11/28/2023	02/28/2024	05/20/2024	05/20/2024
TPH (ug/L)														
Gasoline-range hydrocarbons	NV	433	713	720	683	723	522	50 U	50.0 U	50 U	50 U	50 U	50.0 U	50.0 U
Diesel-range hydrocarbons	NV	447	463	427	485	421	334	98 U	96.2 U	101 U	97.1 U	96.2 U	95.2 U	97.1 U
Oil-range hydrocarbons	NV	200 U	202 U	200 U	202 U	194 U	200 U	196 U	192 U	226 J	194 U	192 U	190 U	194 U
PCB Aroclors (ug/L)														
Aroclor 1016	0.96	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1221	0.034	0.0102 U	0.0211 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1232	0.034	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1242	0.034	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1248	0.034	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1254	0.033	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1260	0.034	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1262	NV	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Aroclor 1268	NV	0.0102 U	0.0105 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
Total PCBs[b]	0.014	0.0102 U	0.0211 U	0.0110 UJ	0.0110 UJ	0.00971 U	0.00952 U	0.00971 U	0.00943 U	0.00971 U	0.0100 U	0.00980 U	0.00952 U	0.00971 U
SVOCs (ug/L)														
1-Methylnaphthalene	NV	0.0851 UJ	0.0816 U	0.0833 UJ	0.0808 UJ	0.0769 U	0.0762 U	0.0194 U	0.0194 U	0.0190 U	0.0194 UJ	0.0194 U	0.0189 U	0.0190 U
2-Methylnaphthalene	2.1	0.0851 UJ	0.0816 U	0.0833 UJ	0.0808 UJ	0.0769 U	0.0762 U	0.0194 U	0.0194 U	0.0190 U	0.0194 UJ	0.0194 U	0.0189 U	0.0190 U
Acenaphthene	23	0.127 J	0.211	0.255 J	0.200 J	0.201	0.141	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Acenaphthylene	0.2	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Anthracene	0.73	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.0365	0.0504 J-	0.0169 J	0.0422	0.0587
Benzo(a)anthracene	0.0012	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00989 J	0.00943 U	0.00952 U
Benzo(a)pyrene	0.00012	0.0638 UJ	0.0612 U	0.0625 UJ	0.0606 UJ	0.0577 U	0.0571 U	0.0146 U	0.0146 U	0.0143 U	0.0146 UJ	0.0240 J	0.0142 U	0.0143 U
Benzo(b)fluoranthene	0.0012	0.0638 UJ	0.0612 U	0.0625 UJ	0.0606 UJ	0.0577 U	0.0571 U	0.0146 U	0.0146 U	0.0143 U	0.0146 UJ	0.0210 J	0.0142 U	0.0143 U
Benzo(ghi)perylene	0.4	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.0119 J	0.00943 U	0.00952 U
Benzo(k)fluoranthene	0.0013	0.0638 UJ	0.0612 U	0.0625 UJ	0.0606 UJ	0.0577 U	0.0571 U	0.0146 U	0.0146 U	0.0143 U	0.0146 UJ	0.0146 U	0.0142 U	0.0143 U
Chrysene	0.0013	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Dibenzo(a,h)anthracene	0.00012	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Fluoranthene	6.2	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Fluorene	3.9	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Indeno(1,2,3-cd)pyrene	0.0012	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.0111 J	0.00943 U	0.00952 U
Naphthalene	12	0.170 UJ	0.286 U	0.333 UJ	0.364 UJ	0.346 U	0.229 U	0.0194 U	0.0194 U	0.0190 U	0.0194 UJ	0.0194 U	0.0189 U	0.019 U
Pentachlorophenol	0.03	0.426 U	0.408 U	0.417 UJ	0.404 UJ	0.391 J	0.381 U	0.0971 U	0.0971 U	0.0952 U	0.0974 J	0.102 J	0.0943 U	0.0987 J
Phenanthrene	6.3	0.0426 UJ	0.0408 U	0.0451 J	0.0404 UJ	0.048 J	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.00971 U	0.00943 U	0.00952 U
Pyrene	10	0.0426 UJ	0.0408 U	0.0417 UJ	0.0404 UJ	0.0385 U	0.0381 U	0.00971 U	0.00971 U	0.00952 U	0.00971 UJ	0.0108 J	0.00943 U	0.00952 U
cPAH TEQ[c][d][3]	0.00012	0.0638 UJ	0.0612 U	0.0625 UJ	0.0606 U	0.0577 U	0.0571 U	0.0146 U	0.0146 U	0.0143 U	0.0146 UJ	0.0331 J	0.0142 U	0.0143 U

Table 3-1
Summary of Groundwater Analytical Results
Former Time Oil Site, Portland, Oregon

Location:	EPA Portland Harbor ROD/ JSCS[a][1][2]	LW006D						LW010S		LW013S				
Sample Name:		LW006D	LW006D-DUP	LW006D	LW006D-DUP	LW006D	LW006D	LW010S	LW010S	LW013S	LW013S	LW013S	LW013S	LW013S-DUP
Collection Date:		08/31/2023	08/31/2023	11/28/2023	11/28/2023	02/28/2024	05/20/2024	02/28/2024	05/20/2024	08/31/2023	11/28/2023	02/28/2024	05/20/2024	05/20/2024
Dioxins and Furans (pg/L)														
1,2,3,4,6,7,8-HpCDD	NV	4.90 UK	12.0 J	34.3 J	2.07 UJ	3.76 J	2.93 U	1.58 U	15.8 UJK	23.4 J	1.43 U	1.37 U	1.43 U	1.52 U
1,2,3,4,6,7,8-HpCDF	NV	1.19 U	1.87 J	5.48 J	1.21 UJ	1.56 U	1.09 U	1.38 U	2.60 J	2.33 J	1.43 U	1.35 U	1.12 U	1.03 U
1,2,3,4,7,8,9-HpCDF	NV	1.49 U	1.27 U	1.58 U	1.43 U	1.45 U	1.40 U	1.42 U	1.36 U	1.09 U	1.70 U	1.44 U	1.40 U	1.28 U
1,2,3,4,7,8-HxCDD	NV	1.08 U	1.68 U	2.09 U	1.59 U	1.13 U	1.36 U	1.40 U	1.37 U	1.59 U	1.45 U	1.43 U	1.28 U	1.59 U
1,2,3,4,7,8-HxCDF	NV	1.17 U	1.21 U	1.73 UK	1.37 U	1.36 U	1.36 U	1.47 U	1.64 U	1.40 U	1.54 U	1.43 U	1.43 U	1.49 U
1,2,3,6,7,8-HxCDD	NV	1.09 UK	1.53 U	2.11 U	1.38 U	1.19 U	1.12 U	1.38 U	1.20 U	1.15 U	1.35 U	1.38 U	1.11 U	1.17 U
1,2,3,6,7,8-HxCDF	NV	1.09 U	1.08 U	1.64 U	1.30 U	1.40 U	1.04 U	1.44 U	1.31 U	1.27 U	1.45 U	1.41 U	1.08 U	1.20 U
1,2,3,7,8,9-HxCDD	NV	0.973 U	1.53 U	1.96 U	1.37 U	1.12 U	1.18 U	1.34 U	1.23 U	1.28 U	1.30 U	1.36 U	1.14 U	1.30 U
1,2,3,7,8,9-HxCDF	NV	1.37 U	1.32 U	2.11 U	1.72 U	1.49 U	1.46 U	1.69 U	1.84 U	1.43 U	1.85 U	1.47 U	1.59 U	1.66 U
1,2,3,7,8-PeCDD	NV	1.35 U	1.39 U	1.71 U	4.42 U	1.26 U	1.32 U	1.31 U	1.37 U	1.12 U	1.46 U	1.32 U	1.26 U	1.52 U
1,2,3,7,8-PeCDF	NV	1.44 U	1.33 U	1.63 U	1.86 U	1.25 U	1.64 U	1.30 U	1.67 U	1.25 U	1.59 U	1.28 U	1.55 U	1.84 U
2,3,4,6,7,8-HxCDF	NV	1.02 U	1.03 U	14.0 J	1.23 UJ	1.33 U	1.17 U	1.50 U	1.42 U	1.15 U	1.35 U	1.38 U	1.22 U	1.29 U
2,3,4,7,8-PeCDF	NV	1.21 U	1.16 U	1.42 U	1.60 U	1.07 U	1.36 U	1.13 U	1.41 U	1.09 U	1.28 U	1.10 U	1.31 U	1.61 U
2,3,7,8-TCDD	0.0051	1.45 U	1.29 U	1.34 U	1.28 U	1.40 U	1.45 U	1.23 U	1.54 U	1.14 U	1.48 U	1.26 U	1.45 U	1.62 U
2,3,7,8-TCDF	NV	1.34 U	1.16 U	1.37 U	1.29 U	1.22 U	1.23 U	1.17 U	1.22 U	1.19 U	1.48 U	1.18 U	1.14 U	1.33 U
OCDD	NV	42.8 J	107	280 J	10.1 J	30.0 J	10.3 J	8.08 J	110	113	2.91 J	6.48 J	5.84 J	2.84 U
OCDF	NV	2.53 UK	9.23 J	24.1 J	2.71 J	2.90 J	1.05 U	1.27 U	8.13 J	7.96 J	1.46 U	1.27 U	1.05 U	1.60 U
Total HpCDDs	NV	4.87 U	12.0 J	46.9 J	2.07 UJ	3.76 J	2.93 U	1.58 U	15.7 U	34.1 J	1.43 U	1.37 U	2.13 U	1.52 U
Total HpCDFs	NV	3.21 J	6.29 J	25.1 J	1.31 UJ	3.90 J	1.22 U	1.40 U	11.2 J	7.49 J	1.55 U	1.40 U	1.25 U	1.14 U
Total HxCDDs	NV	1.47 U	1.58 U	2.05 U	1.44 U	1.15 U	2.08 J	1.38 U	1.27 U	3.27 J	1.37 U	1.39 U	1.17 U	1.33 U
Total HxCDFs	NV	1.15 U	1.15 U	14.0 J	1.39 UJ	1.40 U	1.23 U	1.52 U	1.66 U	1.31 U	1.53 U	1.42 U	1.30 U	1.39 U
Total PeCDDs	NV	1.35 U	1.39 U	1.71 U	4.42 U	1.26 U	1.32 U	1.31 U	1.37 U	1.12 U	1.46 U	1.32 U	1.26 U	1.74 U
Total PeCDFs	NV	1.32 U	1.24 U	2.16 J	1.72 U	1.15 U	1.49 U	1.21 U	1.54 U	1.17 U	1.42 U	1.18 U	1.42 U	1.72 U
Total TCDDs	NV	1.45 U	1.29 U	1.34 U	1.28 U	1.40 U	1.45 U	1.23 U	1.54 U	1.14 U	1.48 U	1.26 U	1.45 U	1.62 U
Total TCDFs	NV	1.34 U	1.16 U	1.37 U	1.29 U	1.22 U	1.23 U	1.17 U	1.22 U	1.19 U	1.48 U	1.18 U	1.14 U	1.33 U
Dioxin/Furan TEQ[e][4]	0.0051	2.11 J	2.24 J	4.31 J	3.71 J	2.08 J	2.14 J	2.05 J	2.40 J	2.13 J	2.30 J	2.05 J	2.10 J	1.62 U

Table 3-1
Summary of Groundwater Analytical Results
Former Time Oil Site, Portland, Oregon

Location:	EPA Portland Harbor ROD/ JSCS[a][1][2]	LW025D					LW039D			
Sample Name:		LW025D	LW025D	LW025D	LW025D-DUP	LW025D	LW039D	LW039D	LW039D	LW039D
Collection Date:		08/31/2023	11/29/2023	02/28/2024	02/28/2024	05/20/2024	08/31/2023	11/28/2023	02/28/2024	05/20/2024
TPH (ug/L)										
Gasoline-range hydrocarbons	NV	936	1,030	995	932	865	100 U	50 U	50 U	116
Diesel-range hydrocarbons	NV	4,270	5,110	3,580	3,610	2,830	221	101 U	253	526
Oil-range hydrocarbons	NV	200 U	200 U	192 U	194 U	198 U	200 U	202 U	198 U	196 U
PCB Aroclors (ug/L)										
Aroclor 1016	0.96	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1221	0.034	0.0217 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1232	0.034	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1242	0.034	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1248	0.034	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1254	0.033	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1260	0.034	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1262	NV	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Aroclor 1268	NV	0.0109 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
Total PCBs[b]	0.014	0.0217 U	0.0105 UJ	0.00952 U	0.00971 U	0.00980 U	0.0118 U	0.0106 UJ	0.00980 U	0.00990 U
SVOCs (ug/L)										
1-Methylnaphthalene	NV	0.421 U	0.417 UJ	0.388 U	0.388 U	0.400 U	0.0200 U	0.0208 UJ	0.0196 U	0.0396 U
2-Methylnaphthalene	2.1	0.421 U	0.417 UJ	0.388 U	0.388 U	0.400 U	0.0200 U	0.0208 UJ	0.0196 U	0.0198 U
Acenaphthene	23	1.04	0.742 J	1.22	1.37	1.20 U	0.0381	0.0132 J	0.0358	0.188 U
Acenaphthylene	0.2	0.421 U	0.208 UJ	0.388 U	0.388 U	0.400 U	0.0100 U	0.0104 UJ	0.00980 U	0.0297 U
Anthracene	0.73	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.0594 U
Benzo(a)anthracene	0.0012	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Benzo(a)pyrene	0.00012	0.316 U	0.312 UJ	0.291 U	0.291 U	0.300 U	0.0150 U	0.0156 UJ	0.0147 U	0.0149 U
Benzo(b)fluoranthene	0.0012	0.316 U	0.312 UJ	0.291 U	0.291 U	0.300 U	0.0150 U	0.0156 UJ	0.0147 U	0.0149 U
Benzo(ghi)perylene	0.4	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Benzo(k)fluoranthene	0.0013	0.316 U	0.312 UJ	0.291 U	0.291 U	0.300 U	0.0150 U	0.0156 UJ	0.0147 U	0.0149 U
Chrysene	0.0013	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Dibenzo(a,h)anthracene	0.00012	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Fluoranthene	6.2	0.211 U	0.208 UJ	0.204 J	0.234 J	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Fluorene	3.9	1.65	1.32 J	2.20	2.35	1.78	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Indeno(1,2,3-cd)pyrene	0.0012	0.211 U	0.208 UJ	0.194 U	0.194 U	0.200 U	0.0100 U	0.0104 UJ	0.00980 U	0.00990 U
Naphthalene	12	0.421 U	0.417 UJ	0.777 U	0.777 U	0.400 U	0.0200 U	0.0208 UJ	0.0392 U	0.129 U
Pentachlorophenol	0.03	2.11 U	2.08 UJ	1.94 U	1.94 U	2.00 U	0.100 U	0.104 UJ	0.0980 U	0.0990 U
Phenanthrene	6.3	0.875	0.645 J	1.10	1.23	1.03	0.0100 U	0.0104 UJ	0.00980 U	0.0198 U
Pyrene	10	0.211 U	0.208 UJ	0.216 J	0.201 J	0.200 U	0.0238	0.0152 J	0.0131 J	0.0221
cPAH TEQ[c][d][3]	0.00012	0.316 U	0.312 UJ	0.291 U	0.291 U	0.300 U	0.015 U	0.0156 UJ	0.0147 U	0.0149 U

Table 3-1
Summary of Groundwater Analytical Results
Former Time Oil Site, Portland, Oregon

Location:	EPA Portland Harbor ROD/ JSCS[a][1][2]	LW025D					LW039D			
Sample Name:		LW025D	LW025D	LW025D	LW025D-DUP	LW025D	LW039D	LW039D	LW039D	LW039D
Collection Date:		08/31/2023	11/29/2023	02/28/2024	02/28/2024	05/20/2024	08/31/2023	11/28/2023	02/28/2024	05/20/2024
Dioxins and Furans (pg/L)										
1,2,3,4,6,7,8-HpCDD	NV	2.39 J	1.33 U	1.34 U	1.41 U	1.37 U	1.30 U	1.27 U	1.38 U	1.37 U
1,2,3,4,6,7,8-HpCDF	NV	1.11 U	1.27 U	1.41 U	1.06 U	1.04 U	1.11 U	1.49 U	1.21 U	1.04 U
1,2,3,4,7,8,9-HpCDF	NV	1.40 U	1.36 U	1.57 U	2.02 U	1.33 U	1.31 U	1.32 U	1.35 U	1.34 U
1,2,3,4,7,8-HxCDD	NV	1.55 U	1.39 U	1.35 U	1.21 U	1.33 U	1.43 U	1.32 U	1.27 U	1.53 U
1,2,3,4,7,8-HxCDF	NV	1.53 U	1.39 U	1.45 U	1.12 U	1.39 U	1.36 U	1.38 U	1.29 U	1.29 U
1,2,3,6,7,8-HxCDD	NV	1.30 U	1.23 U	1.55 U	1.25 U	1.12 U	1.16 U	1.38 U	1.34 U	1.17 U
1,2,3,6,7,8-HxCDF	NV	1.31 U	1.35 U	1.43 U	1.12 U	1.04 U	1.16 U	1.31 U	1.41 U	1.03 U
1,2,3,7,8,9-HxCDD	NV	1.35 U	1.25 U	1.39 U	1.19 U	1.17 U	1.23 U	1.29 U	1.26 U	1.27 U
1,2,3,7,8,9-HxCDF	NV	1.67 U	1.57 U	1.63 U	1.37 U	1.55 U	1.45 U	1.58 U	1.44 U	1.43 U
1,2,3,7,8-PeCDD	NV	1.16 U	1.42 U	1.36 U	1.30 U	1.20 U	1.36 U	1.66 U	1.32 U	1.49 U
1,2,3,7,8-PeCDF	NV	1.38 U	1.42 U	1.33 U	1.50 U	1.47 U	1.44 U	1.39 U	1.37 U	1.23 U
2,3,4,6,7,8-HxCDF	NV	1.27 U	1.38 U	1.36 U	1.26 U	1.22 U	1.11 U	1.33 U	1.16 U	1.10 U
2,3,4,7,8-PeCDF	NV	1.23 U	1.22 U	1.11 U	1.23 U	1.27 U	1.25 U	1.24 U	1.22 U	1.07 U
2,3,7,8-TCDD	0.0051	1.29 U	1.44 U	1.70 U	1.33 U	1.41 U	1.35 U	1.44 U	1.44 U	1.16 U
2,3,7,8-TCDF	NV	1.32 U	1.53 U	1.21 U	1.32 U	1.28 U	1.36 U	1.42 U	1.54 U	1.20 U
OCDD	NV	13.4 J	1.43 U	1.25 U	1.31 U	1.22 U	3.57 UK	4.51 J	1.31 U	1.29 U
OCDF	NV	1.38 U	1.34 U	1.33 U	1.18 U	1.20 U	1.15 U	1.31 U	1.40 U	1.14 U
Total HpCDDs	NV	2.39 J	1.33 U	1.34 U	1.41 U	1.37 U	1.30 U	1.27 U	1.38 U	1.98 U
Total HpCDFs	NV	1.24 U	1.31 U	1.48 U	1.39 U	1.17 U	1.20 U	1.40 U	1.28 U	1.17 U
Total HxCDDs	NV	1.39 U	1.29 U	1.42 U	1.22 U	1.20 U	1.26 U	1.33 U	1.29 U	1.31 U
Total HxCDFs	NV	1.43 U	1.42 U	1.46 U	1.21 U	1.27 U	1.26 U	1.39 U	1.32 U	1.20 U
Total PeCDDs	NV	1.16 U	1.42 U	1.36 U	1.30 U	1.20 U	1.36 U	1.66 U	1.32 U	1.49 U
Total PeCDFs	NV	1.30 U	1.31 U	1.22 U	1.35 U	1.37 U	1.34 U	1.31 U	1.29 U	1.15 U
Total TCDDs	NV	1.29 U	1.44 U	1.70 U	1.33 U	1.41 U	1.35 U	1.44 U	1.44 U	1.16 U
Total TCDFs	NV	1.32 U	1.53 U	1.21 U	1.32 U	1.28 U	1.36 U	1.42 U	1.54 U	1.20 U
Dioxin/Furan TEQ[e][4]	0.0051	2.04 J	1.44 U	1.70 U	1.33 U	1.41 U	1.36 U	2.33 J	1.44 U	1.49 U

Table 3-1
Summary of Groundwater Analytical Results
Former Time Oil Site, Portland, Oregon

Notes

Shading indicates values that exceed screening criteria; non-detects (U, UJ, UJK, or UK) were not compared with screening criteria.

-- = not analyzed.

cPAH = carcinogenic polycyclic aromatic hydrocarbon.

EPA = U.S. Environmental Protection Agency.

J = result is estimated.

J- = result is estimated, but the result may be biased low.

JSCS = Joint Source Control Strategy.

ND = non-detect.

NV = no value.

PCB = polychlorinated biphenyl.

pg/L = picograms per liter.

ROD = record of decision.

SVOC = semivolatile organic compound.

TEF = toxic equivalent factor.

TEQ = toxicity equivalency.

TPH = total petroleum hydrocarbons.

ug/L = micrograms per liter.

U = result is non-detect at the laboratory detection limit or estimated detection limit.

UJ = result is non-detect with an estimated detection limit.

UJK = result is non-detect, an estimated value, and an estimated maximum potential concentration.

UK = result is non-detect and an estimated maximum potential concentration.

[a]Portland Harbor ROD groundwater cleanup levels are primarily applied. When ROD cleanup levels are not available, Portland Harbor JSCS initial upland water screening levels are applied.

[b]Total PCBs is the sum of all detected PCB Aroclors. When all results are non-detect, the highest detection limit is shown.

[c]cPAH TEQ is calculated as the sum of each cPAH multiplied by the corresponding cPAH TEF value. Non-detect results are also multiplied by one-half. When all of the cPAHs are non-detect in a given sample, the reported TEQ value is the highest product resulting from multiplying each cPAH detection limit by the corresponding TEF value.

[d]cPAH TEQ results have been updated from those presented in the previous quarterly monitoring reports due to identification of a minor formulaic error. The changes do not affect the data results that presented in the previous quarterly monitoring reports.

[e]Dioxin/furan TEQ calculated as the sum of each congener concentration multiplied by the corresponding mammalian TEF value. Non-detect values are also multiplied by one-half. When all of the congeners are non-detect in a given sample, the reported TEQ value is the highest product resulting from multiplying each congener detection limit by the corresponding TEF value.

References

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Appendix A

Field Sampling Data Sheets

MAUL FOSTER ALONGI

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2554.01.001	Gothic Bridge Land Enterprises, LLC	Former Time Oil GW Monitoring	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
LW006D	Monitoring	Stick-up	Top of Casing	2.0		29.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/20/2024	11:03	35.50	--	23.24	--	12.26	2.00

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	11:11	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
11:14	0.3	0.4	23.49	6.33	15.2	172.6	0.27	98.4	61.8
11:17	0.6	0.4	23.52	6.17	15.2	213.1	0.17	75.6	12.2
11:20	0.9	0.4	23.52	6.42	15.2	238.7	0.19	-106.9	8.16
11:23	1.2	0.4	23.52	6.52	15.2	246.3	0.15	-115.6	7.60
11:26	1.5	0.4	23.52	6.58	15.4	250.6	0.13	-120.9	4.55
11:29	1.8	0.4	23.52	6.58	15.3	252.9	0.12	-121.5	4.16
11:32	2.1	0.4	23.52	6.59	15.4	255.5	0.13	-123.2	3.66

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless

General Comments

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	LW006D		
Sample Date	05/20/2024	Sample Time	11:32

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	3
Amber glass		N	8
Poly			
		Total No. Containers:	11

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2554.01.001	Gothic Bridge Land Enterprises, LLC	Former Time Oil GW Monitoring	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
LW010S	Monitoring	Stick-up	Top of Casing	2.0		19.3

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/20/2024	14:45	19.70	--	18.20	--	1.50	0.24

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*						
Purge Start Time	14:58	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
15:01	0.3	0.4	18.28	6.34	15.6	107.7	4.20	109.8	17.2
15:04	0.6	0.4	18.28	6.14	15.6	105.7	4.21	120.3	11.3
15:07	0.9	0.4	18.28	6.12	15.4	103.8	4.22	125.7	7.9
15:10	1.2	0.4	18.28	6.14	15.5	103.9	4.44	127.4	6.0
15:13	1.5	0.4	18.28	6.21	15.3	103.1	4.24	127.0	4.3
15:16	1.8	0.4	18.28	6.24	15.8	103.7	4.22	126.8	3.6
15:19	2.1	0.4	18.28	6.28	15.6	103.2	4.22	127.0	3.6

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless

General Comments

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	LW010S		
Sample Date	05/20/2024	Sample Time	15:19

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	3
Amber glass		N	8
Poly			
		Total No. Containers:	11

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2554.01.001	Gothic Bridge Land Enterprises, LLC	Former Time Oil GW Monitoring	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
LW013S	Monitoring	Stick-up	Top of Casing	2.0		18.5

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/20/2024	16:12	19.00	--	17.00	--	2.00	0.33

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	16:21	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
16:24	0.4	0.5	17.03	6.45	14.9	90.8	2.83	152.5	4.42
16:27	0.8	0.5	17.03	6.17	14.6	89.6	3.12	151.3	2.01
16:30	1.2	0.5	17.03	6.17	14.8	89.8	3.00	148.0	3.10
16:33	1.6	0.5	17.03	6.17	14.6	89.6	3.14	146.3	4.09

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	LW013S		
Sample Date	05/20/2024	Sample Time	16:33

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	6
Amber glass		N	16
Poly			
		Total No. Containers:	22

General Comments

Collected duplicate sample at this location (LW013-DUP).

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2554.01.001	Gothic Bridge Land Enterprises, LLC	Former Time Oil GW Monitoring	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
LW025D	Monitoring	Stick-up	Top of Casing	2.0		28.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/20/2024	12:43	28.24	--	25.79	--	2.45	0.40

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	12:51	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*	*± 10*	*< 5 or ± 10% if > 5*	
Time	**Cumulative Purge Volume**	**Flowrate**	**Water Level**	**pH**	**Temperature**	**Conductivity**	**Dissolved Oxygen**	**ORP**	**Turbidity**
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
12:54	0.4	0.5	25.83	6.65	18.2	473.8	0.36	-123.4	118.0
12:57	0.8	0.5	25.88	6.64	16.9	458.6	0.18	-126.9	126.0
13:00	1.2	0.5	25.88	6.60	17.2	461.9	0.14	-128.7	88.3
13:03	1.6	0.5	25.88	6.60	17.1	461.1	0.12	-130.2	81.8
13:06	2.0	0.5	25.88	6.65	17.3	463.9	0.11	-135.7	38.4
13:09	2.4	0.5	25.88	6.68	17.3	464.9	0.09	-137.6	29.3
13:12	2.8	0.5	25.88	6.68	17.1	461.9	0.09	-137.9	30.1
13:15	3.2	0.5	25.88	6.68	17.3	463.9	0.08	-139.4	28.4
13:18	3.6	0.5	25.88	6.68	17.2	462.9	0.08	-139.5	21.6
13:21	4.0	0.5	25.88	6.67	17.1	462.5	0.08	-139.7	8.19
13:24	4.4	0.5	25.88	6.68	17.2	464.4	0.08	-141.1	9.00
13:27	4.8	0.5	25.88	6.68	17.2	465.5	0.07	-141.8	8.32

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless, suspended solids present

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	LW025D		
Sample Date	05/20/2024	Sample Time	13:27

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	3
Amber glass		N	8
Poly			
		Total No. Containers:	11

General Comments

Groundwater Field Sampling Data Sheet

MAUL FOSTER ALONGI

Project Information

Project No.	Client Name	Project Name	Sampling Event	Sampler(s)
M2554.01.001	Gothic Bridge Land Enterprises, LLC	Former Time Oil GW Monitoring	May 2024	C. Anderson

Well Information

Location ID	Well Type	Monument Type	Depth Measuring Point	Well Diameter (in)	Screen Interval (ft)	Sample Depth (ft)
LW039D	Monitoring	Stick-up	Top of Casing	2.0		7.0

Hydrology/Level Measurements

Date	Time	Depth to Bottom (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Water Column (ft)	Well Casing Volume (gal)
		DTB	*DTP*	*DTW*	*DTP - DTW*	*DTB - DTW*	*(gal/ft x water column)*
05/20/2024	8:58	9.02	--	2.04	--	6.98	1.14

0.75" = 0.023 gal/ft
1" = 0.041 gal/ft
1.5" = 0.092 gal/ft
2" = 0.163 gal/ft
3" = 0.367 gal/ft
4" = 0.653 gal/ft
6" = 1.469 gal/ft
8" = 2.611 gal/ft

Water Quality Data

Purge Method	Peristaltic Pump	*Purge/Sampling Methods: peristaltic pump, submersible pump, vacuum pump, inertia pump, dedicated pump, disposable bailer, other*							
Purge Start Time	9:14	*ideally < 0.3 ft drawdown*	*± 0.1*	*± 3%*	*± 3%*	*± 10% if > 0.5*		*± 10*	*< 5 or ± 10% if > 5*

Time	Cumulative Purge Volume	Flowrate	Water Level	pH	Temperature	Conductivity	Dissolved Oxygen	ORP	Turbidity
	gal	*L/min*	*ft*	*SU*	*degrees C*	*uS/cm*	*mg/L*	*mV*	*NTU*
9:19	0.3	0.2	2.23	6.34	14.8	570.1	0.26	-84.8	2.23
9:22	0.5	0.2	2.23	6.38	14.9	508.8	0.26	-92.4	1.69
9:25	0.7	0.2	2.23	6.42	14.9	480.1	0.15	-99.4	1.98
9:28	0.9	0.2	2.23	6.42	14.9	460.8	0.14	-101.2	2.98
9:31	1.1	0.2	2.23	6.45	14.9	446.1	0.14	-103.1	2.05
9:34	1.3	0.2	2.23	6.47	15.0	438.1	0.12	-105.4	2.72

Last row of water quality data are considered final field parameters unless otherwise noted.

Water Quality Observations *(clarity, tint, odor, sheen, etc.)*: Clear, colorless

Sample Information

Sampling Method	Peristaltic Pump		
Sample Name	LW039D		
Sample Date	05/20/2024	Sample Time	9:34

Container Type	Preservative	Filtered (Y/N)	No. Containers
VOA		N	3
Amber glass		N	8
Poly			
		Total No. Containers:	11

General Comments

Appendix B

Laboratory Analytical Reports

MAUL FOSTER ALONGI

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Friday, June 28, 2024

Dana Domenighini
Maul Foster & Alongi, INC.
3140 NE Broadway Street
Portland, OR 97232

RE: A4E1493 - Time Oil - M2554.01.0

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A4E1493, which was received by the laboratory on 5/21/2024 at 4:59:00PM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: pnerenberg@apex-labs.com, or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information					
Acceptable Receipt Temperature is less than, or equal to, 6 degC (not frozen), or received on ice the same day as sampling.					
(See Cooler Receipt Form for details)					
Cooler #1	1.8	degC	Cooler #2	0.9	degC
Cooler #3	0.6	degC	Cooler #4	3.0	degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.
All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LW006D	A4E1493-01	Water	05/20/24 11:32	05/21/24 16:59
LW010S	A4E1493-02	Water	05/20/24 15:19	05/21/24 16:59
LW013S	A4E1493-03	Water	05/20/24 16:33	05/21/24 16:59
LW025D	A4E1493-04	Water	05/20/24 13:27	05/21/24 16:59
LW039D	A4E1493-05	Water	05/20/24 09:34	05/21/24 16:59
LW013S-DUP	A4E1493-06	Water	05/20/24 16:33	05/21/24 16:59

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

ANALYTICAL CASE NARRATIVE

A4E1493 — **Apex Laboratories**

Amended Report Revision 1:

This report supersedes all previous reports.

Analysis for PCBs were added after the previous report version had been completed.

Philip Nerenberg
Lab Director
6/28/24

Apex Laboratories

Philip Nerenberg, Lab Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW006D (A4E1493-01)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	**0.334**	0.100	0.200	mg/L	1	06/03/24 19:55	NWTPH-Dx	
Oil	ND	0.200	0.400	mg/L	1	06/03/24 19:55	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 97 %*		*Limits: 50-150 %*	*1*	*06/03/24 19:55*	*NWTPH-Dx*	
LW010S (A4E1493-02)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	ND	0.0962	0.192	mg/L	1	06/03/24 20:15	NWTPH-Dx	
Oil	ND	0.192	0.385	mg/L	1	06/03/24 20:15	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 98 %*		*Limits: 50-150 %*	*1*	*06/03/24 20:15*	*NWTPH-Dx*	
LW013S (A4E1493-03)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	ND	0.0952	0.190	mg/L	1	06/03/24 20:57	NWTPH-Dx	
Oil	ND	0.190	0.381	mg/L	1	06/03/24 20:57	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 99 %*		*Limits: 50-150 %*	*1*	*06/03/24 20:57*	*NWTPH-Dx*	
LW025D (A4E1493-04)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	**2.83**	0.0990	0.198	mg/L	1	06/03/24 21:17	NWTPH-Dx	
Oil	ND	0.198	0.396	mg/L	1	06/03/24 21:17	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 102 %*		*Limits: 50-150 %*	*1*	*06/03/24 21:17*	*NWTPH-Dx*	
LW039D (A4E1493-05)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	**0.526**	0.0980	0.196	mg/L	1	06/03/24 21:59	NWTPH-Dx	**F-11**
Oil	ND	0.196	0.392	mg/L	1	06/03/24 21:59	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 99 %*		*Limits: 50-150 %*	*1*	*06/03/24 21:59*	*NWTPH-Dx*	
LW013S-DUP (A4E1493-06)				**Matrix: Water**		**Batch: 24F0004**		
Diesel	ND	0.0971	0.194	mg/L	1	06/03/24 22:19	NWTPH-Dx	
Oil	ND	0.194	0.388	mg/L	1	06/03/24 22:19	NWTPH-Dx	
Surrogate: o-Terphenyl (Surr)		*Recovery: 92 %*		*Limits: 50-150 %*	*1*	*06/03/24 22:19*	*NWTPH-Dx*	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW006D (A4E1493-01RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	**0.522**	0.0500	0.100	mg/L	1	05/30/24 16:03	NWTPH-Gx (MS)	**F-03**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 107 %*	*Limits: 50-150 %*		*1*	*05/30/24 16:03*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*110 %*	*50-150 %*	*1*	*05/30/24 16:03*	*NWTPH-Gx (MS)*	
LW010S (A4E1493-02RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/30/24 12:52	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 102 %*	*Limits: 50-150 %*		*1*	*05/30/24 12:52*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*	*1*	*05/30/24 12:52*	*NWTPH-Gx (MS)*	
LW013S (A4E1493-03RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/30/24 13:19	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 102 %*	*Limits: 50-150 %*		*1*	*05/30/24 13:19*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*	*1*	*05/30/24 13:19*	*NWTPH-Gx (MS)*	
LW025D (A4E1493-04RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	**0.865**	0.0500	0.100	mg/L	1	05/30/24 16:30	NWTPH-Gx (MS)	**F-03**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 105 %*	*Limits: 50-150 %*		*1*	*05/30/24 16:30*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*	*1*	*05/30/24 16:30*	*NWTPH-Gx (MS)*	
LW039D (A4E1493-05RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	**0.116**	0.0500	0.100	mg/L	1	05/30/24 15:36	NWTPH-Gx (MS)	**F-03**
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 106 %*	*Limits: 50-150 %*		*1*	*05/30/24 15:36*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*109 %*	*50-150 %*	*1*	*05/30/24 15:36*	*NWTPH-Gx (MS)*	
LW013S-DUP (A4E1493-06RE1)				**Matrix: Water**		**Batch: 24E1068**		
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/30/24 13:46	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery: 102 %*	*Limits: 50-150 %*		*1*	*05/30/24 13:46*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*	*1*	*05/30/24 13:46*	*NWTPH-Gx (MS)*	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW006D (A4E1493-01)				**Matrix: Water**		**Batch: 24F0886**		**C-07**
Aroclor 1016	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1221	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1232	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1242	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1248	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1254	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1260	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1262	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Aroclor 1268	ND	0.00952	0.0190	ug/L	1	06/27/24 10:22	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 74 %*		*Limits: 40-135 %*	*1*	*06/27/24 10:22*	*EPA 8082A*	
LW010S (A4E1493-02)				**Matrix: Water**		**Batch: 24F0886**		**C-07**
Aroclor 1016	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1221	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1232	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1242	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1248	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1254	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1260	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1262	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Aroclor 1268	ND	0.00943	0.0189	ug/L	1	06/27/24 10:40	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 71 %*		*Limits: 40-135 %*	*1*	*06/27/24 10:40*	*EPA 8082A*	
LW013S (A4E1493-03)				**Matrix: Water**		**Batch: 24F0886**		**C-07**
Aroclor 1016	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1221	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1232	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1242	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1248	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1254	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1260	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1262	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	
Aroclor 1268	ND	0.00952	0.0190	ug/L	1	06/27/24 10:58	EPA 8082A	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW013S (A4E1493-03)				**Matrix: Water**		**Batch: 24F0886**		C-07
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 70 %*	*Limits: 40-135 %*		*1*	*06/27/24 10:58*	*EPA 8082A*	
LW025D (A4E1493-04)				**Matrix: Water**		**Batch: 24F0886**		C-07
Aroclor 1016	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1221	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1232	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1242	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1248	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1254	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1260	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1262	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Aroclor 1268	ND	0.00980	0.0196	ug/L	1	06/27/24 09:29	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 68 %*	*Limits: 40-135 %*		*1*	*06/27/24 09:29*	*EPA 8082A*	
LW039D (A4E1493-05)				**Matrix: Water**		**Batch: 24F0886**		C-07
Aroclor 1016	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1221	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1232	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1242	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1248	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1254	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1260	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1262	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Aroclor 1268	ND	0.00990	0.0198	ug/L	1	06/27/24 09:47	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 72 %*	*Limits: 40-135 %*		*1*	*06/27/24 09:47*	*EPA 8082A*	
LW013S-DUP (A4E1493-06)				**Matrix: Water**		**Batch: 24F0886**		C-07
Aroclor 1016	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1221	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1232	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1242	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1248	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1254	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1260	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW013S-DUP (A4E1493-06)				**Matrix: Water**		**Batch: 24F0886**		**C-07**
Aroclor 1262	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Aroclor 1268	ND	0.00971	0.0194	ug/L	1	06/27/24 10:05	EPA 8082A	
Surrogate: Decachlorobiphenyl (Surr)		*Recovery: 71 %*		*Limits: 40-135 %*	*1*	*06/27/24 10:05*	*EPA 8082A*	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW006D (A4E1493-01)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	**0.141**	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Acenaphthylene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Anthracene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Benz(a)anthracene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Benzo(a)pyrene	ND	0.0571	0.114	ug/L	4	05/24/24 15:35	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0571	0.114	ug/L	4	05/24/24 15:35	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0571	0.114	ug/L	4	05/24/24 15:35	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Chrysene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Fluoranthene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Fluorene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
1-Methylnaphthalene	ND	0.0762	0.152	ug/L	4	05/24/24 15:35	EPA 8270E	
2-Methylnaphthalene	ND	0.0762	0.152	ug/L	4	05/24/24 15:35	EPA 8270E	
Naphthalene	ND	0.229	0.229	ug/L	4	05/24/24 15:35	EPA 8270E	R-02
Phenanthrene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Pyrene	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Carbazole	ND	0.0571	0.114	ug/L	4	05/24/24 15:35	EPA 8270E	
Dibenzofuran	ND	0.0381	0.0762	ug/L	4	05/24/24 15:35	EPA 8270E	
Pentachlorophenol (PCP)	ND	0.381	0.762	ug/L	4	05/24/24 15:35	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*48 %*	*Limits: 44-120 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*44 %*	*44-120 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
Phenol-d6 (Surr)			*18 %*	*10-133 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*72 %*	*50-134 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
2-Fluorophenol (Surr)			*22 %*	*19-120 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*97 %*	*43-140 %*	*4*	*05/24/24 15:35*	*EPA 8270E*	
LW010S (A4E1493-02)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Acenaphthylene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Anthracene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Benz(a)anthracene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Benzo(a)pyrene	ND	0.0146	0.0291	ug/L	1	05/24/24 19:52	EPA 8270E	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW010S (A4E1493-02)				**Matrix: Water**		**Batch: 24E0858**		
Benzo(b)fluoranthene	ND	0.0146	0.0291	ug/L	1	05/24/24 19:52	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0146	0.0291	ug/L	1	05/24/24 19:52	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Chrysene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Fluoranthene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Fluorene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
1-Methylnaphthalene	ND	0.0194	0.0388	ug/L	1	05/24/24 19:52	EPA 8270E	
2-Methylnaphthalene	ND	0.0194	0.0388	ug/L	1	05/24/24 19:52	EPA 8270E	
Naphthalene	ND	0.0194	0.0388	ug/L	1	05/24/24 19:52	EPA 8270E	
Phenanthrene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Pyrene	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Carbazole	ND	0.0146	0.0291	ug/L	1	05/24/24 19:52	EPA 8270E	
Dibenzofuran	ND	0.00971	0.0194	ug/L	1	05/24/24 19:52	EPA 8270E	
Pentachlorophenol (PCP)	ND	0.0971	0.194	ug/L	1	05/24/24 19:52	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*49 %*	*Limits: 44-120 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*41 %*	*44-120 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	*S-06*
Phenol-d6 (Surr)			*18 %*	*10-133 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*81 %*	*50-134 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	
2-Fluorophenol (Surr)			*23 %*	*19-120 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*66 %*	*43-140 %*	*1*	*05/24/24 19:52*	*EPA 8270E*	
LW013S (A4E1493-03)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Acenaphthylene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Anthracene	**0.0422**	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Benz(a)anthracene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Benzo(a)pyrene	ND	0.0142	0.0283	ug/L	1	05/24/24 20:29	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0142	0.0283	ug/L	1	05/24/24 20:29	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0142	0.0283	ug/L	1	05/24/24 20:29	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Chrysene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	

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Philip Nerenberg, Lab Director

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ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW013S (A4E1493-03)				**Matrix: Water**		**Batch: 24E0858**		
Fluoranthene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Fluorene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
1-Methylnaphthalene	ND	0.0189	0.0377	ug/L	1	05/24/24 20:29	EPA 8270E	
2-Methylnaphthalene	ND	0.0189	0.0377	ug/L	1	05/24/24 20:29	EPA 8270E	
Naphthalene	ND	0.0189	0.0377	ug/L	1	05/24/24 20:29	EPA 8270E	
Phenanthrene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Pyrene	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Carbazole	ND	0.0142	0.0283	ug/L	1	05/24/24 20:29	EPA 8270E	
Dibenzofuran	ND	0.00943	0.0189	ug/L	1	05/24/24 20:29	EPA 8270E	
Pentachlorophenol (PCP)	ND	0.0943	0.189	ug/L	1	05/24/24 20:29	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*49 %*	*Limits: 44-120 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*39 %*	*44-120 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	*S-06*
Phenol-d6 (Surr)			*17 %*	*10-133 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*76 %*	*50-134 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	
2-Fluorophenol (Surr)			*23 %*	*19-120 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*67 %*	*43-140 %*	*1*	*05/24/24 20:29*	*EPA 8270E*	
LW025D (A4E1493-04)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	ND	1.20	1.20	ug/L	20	05/24/24 21:05	EPA 8270E	R-02
Acenaphthylene	ND	0.400	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Anthracene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Benz(a)anthracene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Benzo(a)pyrene	ND	0.300	0.600	ug/L	20	05/24/24 21:05	EPA 8270E	
Benzo(b)fluoranthene	ND	0.300	0.600	ug/L	20	05/24/24 21:05	EPA 8270E	
Benzo(k)fluoranthene	ND	0.300	0.600	ug/L	20	05/24/24 21:05	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Chrysene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Fluoranthene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Fluorene	**1.78**	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
1-Methylnaphthalene	ND	0.400	0.800	ug/L	20	05/24/24 21:05	EPA 8270E	
2-Methylnaphthalene	ND	0.400	0.800	ug/L	20	05/24/24 21:05	EPA 8270E	

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Philip Nerenberg, Lab Director

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Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW025D (A4E1493-04)				**Matrix: Water**		**Batch: 24E0858**		
Naphthalene	ND	0.400	0.800	ug/L	20	05/24/24 21:05	EPA 8270E	
Phenanthrene	**1.03**	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Pyrene	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Carbazole	ND	0.300	0.600	ug/L	20	05/24/24 21:05	EPA 8270E	
Dibenzofuran	ND	0.200	0.400	ug/L	20	05/24/24 21:05	EPA 8270E	
Pentachlorophenol (PCP)	ND	2.00	4.00	ug/L	20	05/24/24 21:05	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*48 %*	*Limits: 44-120 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*47 %*	*44-120 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
Phenol-d6 (Surr)			*17 %*	*10-133 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*71 %*	*50-134 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
2-Fluorophenol (Surr)			*23 %*	*19-120 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*112 %*	*43-140 %*	*20*	*05/24/24 21:05*	*EPA 8270E*	
LW039D (A4E1493-05)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	ND	0.188	0.188	ug/L	1	05/24/24 21:42	EPA 8270E	R-02
Acenaphthylene	ND	0.0297	0.0297	ug/L	1	05/24/24 21:42	EPA 8270E	R-02
Anthracene	ND	0.0594	0.0594	ug/L	1	05/24/24 21:42	EPA 8270E	R-02
Benz(a)anthracene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Benzo(a)pyrene	ND	0.0149	0.0297	ug/L	1	05/24/24 21:42	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0149	0.0297	ug/L	1	05/24/24 21:42	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0149	0.0297	ug/L	1	05/24/24 21:42	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Chrysene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Fluoranthene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Fluorene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
1-Methylnaphthalene	ND	0.0396	0.0396	ug/L	1	05/24/24 21:42	EPA 8270E	
2-Methylnaphthalene	ND	0.0198	0.0396	ug/L	1	05/24/24 21:42	EPA 8270E	
Naphthalene	ND	0.129	0.129	ug/L	1	05/24/24 21:42	EPA 8270E	R-02
Phenanthrene	ND	0.0198	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Pyrene	**0.0221**	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	
Carbazole	ND	0.0297	0.0297	ug/L	1	05/24/24 21:42	EPA 8270E	
Dibenzofuran	ND	0.00990	0.0198	ug/L	1	05/24/24 21:42	EPA 8270E	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW039D (A4E1493-05)				**Matrix: Water**		**Batch: 24E0858**		
Pentachlorophenol (PCP)	ND	0.0990	0.198	ug/L	1	05/24/24 21:42	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*59 %*	*Limits: 44-120 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*50 %*	*44-120 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
Phenol-d6 (Surr)			*24 %*	*10-133 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*75 %*	*50-134 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
2-Fluorophenol (Surr)			*34 %*	*19-120 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*100 %*	*43-140 %*	*1*	*05/24/24 21:42*	*EPA 8270E*	
LW013S-DUP (A4E1493-06)				**Matrix: Water**		**Batch: 24E0858**		
Acenaphthene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Acenaphthylene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Anthracene	**0.0587**	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Benz(a)anthracene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Benzo(a)pyrene	ND	0.0143	0.0286	ug/L	1	05/24/24 22:19	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0143	0.0286	ug/L	1	05/24/24 22:19	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0143	0.0286	ug/L	1	05/24/24 22:19	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Chrysene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Fluoranthene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Fluorene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
1-Methylnaphthalene	ND	0.0190	0.0381	ug/L	1	05/24/24 22:19	EPA 8270E	
2-Methylnaphthalene	ND	0.0190	0.0381	ug/L	1	05/24/24 22:19	EPA 8270E	
Naphthalene	ND	0.0190	0.0381	ug/L	1	05/24/24 22:19	EPA 8270E	
Phenanthrene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Pyrene	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Carbazole	ND	0.0143	0.0286	ug/L	1	05/24/24 22:19	EPA 8270E	
Dibenzofuran	ND	0.00952	0.0190	ug/L	1	05/24/24 22:19	EPA 8270E	
Pentachlorophenol (PCP)	**0.0987**	0.0952	0.190	ug/L	1	05/24/24 22:19	EPA 8270E	**J**
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*48 %*	*Limits: 44-120 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	
2-Fluorobiphenyl (Surr)			*41 %*	*44-120 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	*S-06*
Phenol-d6 (Surr)			*18 %*	*10-133 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	
p-Terphenyl-d14 (Surr)			*70 %*	*50-134 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	

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Philip Nerenberg

Philip Nerenberg, Lab Director

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ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
LW013S-DUP (A4E1493-06)				**Matrix: Water**		**Batch: 24E0858**		
Surrogate: 2-Fluorophenol (Surr)		*Recovery:*	*23 %*	*Limits: 19-120 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	
2,4,6-Tribromophenol (Surr)			*70 %*	*43-140 %*	*1*	*05/24/24 22:19*	*EPA 8270E*	

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ANALYTICAL REPORT

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Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24F0004 - EPA 3510C (Fuels/Acid Ext.)									Water			
Blank (24F0004-BLK1)			Prepared: 06/03/24 07:17		Analyzed: 06/03/24 18:53							
NWTPH-Dx												
Diesel	ND	0.100	0.200	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.200	0.400	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 94 %*		*Limits: 50-150 %*				*Dilution: 1x*			
LCS (24F0004-BS1)			Prepared: 06/03/24 07:17		Analyzed: 06/03/24 19:13							
NWTPH-Dx												
Diesel	0.906	0.100	0.200	mg/L	1	1.25	---	72	36-132%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*		*Limits: 50-150 %*				*Dilution: 1x*			
LCS Dup (24F0004-BSD1)			Prepared: 06/03/24 07:17		Analyzed: 06/03/24 19:34							Q-19
NWTPH-Dx												
Diesel	0.763	0.100	0.200	mg/L	1	1.25	---	61	36-132%	17	30%	
Surr: o-Terphenyl (Surr)			*Recovery: 99 %*		*Limits: 50-150 %*				*Dilution: 1x*			

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ANALYTICAL REPORT

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3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24E1068 - EPA 5030C									Water			
Blank (24E1068-BLK1)			Prepared: 05/30/24 07:01		Analyzed: 05/30/24 12:07							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*108 %*		*50-150 %*			*"*				
LCS (24E1068-BS2)			Prepared: 05/30/24 07:01		Analyzed: 05/30/24 11:40							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.507	0.0500	0.100	mg/L	1	0.500	---	101	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*100 %*		*50-150 %*			*"*				
Duplicate (24E1068-DUP1)			Prepared: 05/30/24 07:01		Analyzed: 05/30/24 23:20							T-02
QC Source Sample: Non-SDG (A4E1473-01)												
Gasoline Range Organics	ND	0.500	1.00	mg/L	10	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*103 %*		*50-150 %*			*"*				
Duplicate (24E1068-DUP2)			Prepared: 05/30/24 07:01		Analyzed: 05/31/24 00:14							T-02
QC Source Sample: Non-SDG (A4E1591-01RE1)												
Gasoline Range Organics	**5.74**	0.250	0.500	mg/L	5	---	5.44	---	---	5	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 117 %*		*Limits: 50-150 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Sur)			*102 %*		*50-150 %*			*"*				

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ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

QUALITY CONTROL (QC) SAMPLE RESULTS

Polychlorinated Biphenyls by EPA 8082A

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24F0886 - EPA 3510C (Neutral pH)							Water					
Blank (24F0886-BLK1)			Prepared: 06/26/24 12:11		Analyzed: 06/27/24 09:29							C-07
EPA 8082A												
Aroclor 1016	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1221	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1232	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1242	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1248	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1254	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1260	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1262	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Aroclor 1268	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 72 %*		*Limits: 40-135 %*			*Dilution: 1x*				
LCS (24F0886-BS1)			Prepared: 06/26/24 12:11		Analyzed: 06/27/24 09:47							C-07
EPA 8082A												
Aroclor 1016	0.718	0.0100	0.0200	ug/L	1	1.25	---	57	46-129%	---	---	
Aroclor 1260	0.910	0.0100	0.0200	ug/L	1	1.25	---	73	45-134%	---	---	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 70 %*		*Limits: 40-135 %*			*Dilution: 1x*				
LCS Dup (24F0886-BSD1)			Prepared: 06/26/24 12:11		Analyzed: 06/27/24 10:05							C-07, Q-19
EPA 8082A												
Aroclor 1016	0.761	0.0100	0.0200	ug/L	1	1.25	---	61	46-129%	6	30%	
Aroclor 1260	0.901	0.0100	0.0200	ug/L	1	1.25	---	72	45-134%	1	30%	
Surr: Decachlorobiphenyl (Surr)			*Recovery: 71 %*		*Limits: 40-135 %*			*Dilution: 1x*				

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Philip Nerenberg

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24E0858 - EPA 3510C (Acid Extraction)									Water			
Blank (24E0858-BLK1)			Prepared: 05/23/24 15:00 Analyzed: 05/24/24 12:34									
EPA 8270E												
Acenaphthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 83 %*		*Limits: 44-120 %*				*Dilution: 1x*			
2-Fluorobiphenyl (Surr)			*72 %*		*44-120 %*				*"*			
Phenol-d6 (Surr)			*32 %*		*10-133 %*				*"*			
p-Terphenyl-d14 (Surr)			*87 %*		*50-134 %*				*"*			
2-Fluorophenol (Surr)			*42 %*		*19-120 %*				*"*			
2,4,6-Tribromophenol (Surr)			*77 %*		*43-140 %*				*"*			
LCS (24E0858-BS1)			Prepared: 05/23/24 15:00 Analyzed: 05/24/24 13:10									
EPA 8270E												
Acenaphthene	3.05	0.0400	0.0800	ug/L	4	4.00	---	76	47-122%	---	---	
Acenaphthylene	3.35	0.0400	0.0800	ug/L	4	4.00	---	84	41-130%	---	---	

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24E0858 - EPA 3510C (Acid Extraction)							**Water**					
LCS (24E0858-BS1)			Prepared: 05/23/24 15:00 Analyzed: 05/24/24 13:10									
Anthracene	3.52	0.0400	0.0800	ug/L	4	4.00	---	88	57-123%	---	---	
Benz(a)anthracene	3.47	0.0400	0.0800	ug/L	4	4.00	---	87	58-125%	---	---	
Benzo(a)pyrene	3.88	0.0600	0.120	ug/L	4	4.00	---	97	54-128%	---	---	
Benzo(b)fluoranthene	3.60	0.0600	0.120	ug/L	4	4.00	---	90	53-131%	---	---	
Benzo(k)fluoranthene	3.74	0.0600	0.120	ug/L	4	4.00	---	94	57-129%	---	---	
Benzo(g,h,i)perylene	3.59	0.0400	0.0800	ug/L	4	4.00	---	90	50-134%	---	---	
Chrysene	3.70	0.0400	0.0800	ug/L	4	4.00	---	92	59-123%	---	---	
Dibenz(a,h)anthracene	3.55	0.0400	0.0800	ug/L	4	4.00	---	89	51-134%	---	---	
Fluoranthene	3.67	0.0400	0.0800	ug/L	4	4.00	---	92	57-128%	---	---	
Fluorene	3.37	0.0400	0.0800	ug/L	4	4.00	---	84	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.48	0.0400	0.0800	ug/L	4	4.00	---	87	52-134%	---	---	
1-Methylnaphthalene	2.75	0.0800	0.160	ug/L	4	4.00	---	69	41-120%	---	---	
2-Methylnaphthalene	2.80	0.0800	0.160	ug/L	4	4.00	---	70	40-121%	---	---	
Naphthalene	2.63	0.0800	0.160	ug/L	4	4.00	---	66	40-121%	---	---	
Phenanthrene	3.46	0.0400	0.0800	ug/L	4	4.00	---	86	59-120%	---	---	
Pyrene	3.71	0.0400	0.0800	ug/L	4	4.00	---	93	57-126%	---	---	
Carbazole	4.13	0.0600	0.120	ug/L	4	4.00	---	103	60-122%	---	---	
Dibenzofuran	3.28	0.0400	0.0800	ug/L	4	4.00	---	82	53-120%	---	---	
Pentachlorophenol (PCP)	3.72	0.400	0.800	ug/L	4	4.00	---	93	35-138%	---	---	
Bis(2-ethylhexyl)phthalate	3.57	0.800	1.60	ug/L	4	4.00	---	89	55-135%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 86 %*	*Limits: 44-120 %*			*Dilution: 4x*					
2-Fluorobiphenyl (Surr)			*71 %*	*44-120 %*			*"*					
Phenol-d6 (Surr)			*30 %*	*10-133 %*			*"*					
p-Terphenyl-d14 (Surr)			*84 %*	*50-134 %*			*"*					
2-Fluorophenol (Surr)			*39 %*	*19-120 %*			*"*					
2,4,6-Tribromophenol (Surr)			*98 %*	*43-140 %*			*"*					
LCS Dup (24E0858-BSD1)			Prepared: 05/23/24 15:00 Analyzed: 05/24/24 13:46									**Q-19**
EPA 8270E												
Acenaphthene	2.89	0.0400	0.0800	ug/L	4	4.00	---	72	47-122%	5	30%	
Acenaphthylene	3.12	0.0400	0.0800	ug/L	4	4.00	---	78	41-130%	7	30%	
Anthracene	3.27	0.0400	0.0800	ug/L	4	4.00	---	82	57-123%	7	30%	
Benz(a)anthracene	3.29	0.0400	0.0800	ug/L	4	4.00	---	82	58-125%	5	30%	
Benzo(a)pyrene	3.72	0.0600	0.120	ug/L	4	4.00	---	93	54-128%	4	30%	

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 24E0858 - EPA 3510C (Acid Extraction)							**Water**					
LCS Dup (24E0858-BSD1)			Prepared: 05/23/24 15:00		Analyzed: 05/24/24 13:46							**Q-19**
Benzo(b)fluoranthene	3.44	0.0600	0.120	ug/L	4	4.00	---	86	53-131%	5	30%	
Benzo(k)fluoranthene	3.56	0.0600	0.120	ug/L	4	4.00	---	89	57-129%	5	30%	
Benzo(g,h,i)perylene	3.44	0.0400	0.0800	ug/L	4	4.00	---	86	50-134%	4	30%	
Chrysene	3.43	0.0400	0.0800	ug/L	4	4.00	---	86	59-123%	7	30%	
Dibenz(a,h)anthracene	3.34	0.0400	0.0800	ug/L	4	4.00	---	84	51-134%	6	30%	
Fluoranthene	3.43	0.0400	0.0800	ug/L	4	4.00	---	86	57-128%	7	30%	
Fluorene	3.14	0.0400	0.0800	ug/L	4	4.00	---	78	52-124%	7	30%	
Indeno(1,2,3-cd)pyrene	3.32	0.0400	0.0800	ug/L	4	4.00	---	83	52-134%	4	30%	
1-Methylnaphthalene	2.65	0.0800	0.160	ug/L	4	4.00	---	66	41-120%	4	30%	
2-Methylnaphthalene	2.70	0.0800	0.160	ug/L	4	4.00	---	68	40-121%	4	30%	
Naphthalene	2.49	0.0800	0.160	ug/L	4	4.00	---	62	40-121%	6	30%	
Phenanthrene	3.22	0.0400	0.0800	ug/L	4	4.00	---	80	59-120%	7	30%	
Pyrene	3.46	0.0400	0.0800	ug/L	4	4.00	---	86	57-126%	7	30%	
Carbazole	3.75	0.0600	0.120	ug/L	4	4.00	---	94	60-122%	10	30%	
Dibenzofuran	3.08	0.0400	0.0800	ug/L	4	4.00	---	77	53-120%	6	30%	
Pentachlorophenol (PCP)	3.50	0.400	0.800	ug/L	4	4.00	---	88	35-138%	6	30%	
Bis(2-ethylhexyl)phthalate	3.30	0.800	1.60	ug/L	4	4.00	---	83	55-135%	8	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 79 %*		*Limits: 44-120 %*				*Dilution: 4x*			
2-Fluorobiphenyl (Surr)			*67 %*		*44-120 %*				*"*			
Phenol-d6 (Surr)			*31 %*		*10-133 %*				*"*			
p-Terphenyl-d14 (Surr)			*80 %*		*50-134 %*				*"*			
2-Fluorophenol (Surr)			*39 %*		*19-120 %*				*"*			
2,4,6-Tribromophenol (Surr)			*91 %*		*43-140 %*				*"*			

Apex Laboratories

Philip Nerenberg, Lab Director

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Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: Time Oil	
3140 NE Broadway Street	Project Number: M2554.01.0	Report ID:
Portland, OR 97232	Project Manager: Dana Domenighini	A4E1493 - 06 28 24 1226

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24F0004							
A4E1493-01	Water	NWTPH-Dx	05/20/24 11:32	06/03/24 07:17	1000mL/5mL	1000mL/5mL	1.00
A4E1493-02	Water	NWTPH-Dx	05/20/24 15:19	06/03/24 07:17	1040mL/5mL	1000mL/5mL	0.96
A4E1493-03	Water	NWTPH-Dx	05/20/24 16:33	06/03/24 07:17	1050mL/5mL	1000mL/5mL	0.95
A4E1493-04	Water	NWTPH-Dx	05/20/24 13:27	06/03/24 07:17	1010mL/5mL	1000mL/5mL	0.99
A4E1493-05	Water	NWTPH-Dx	05/20/24 09:34	06/03/24 07:17	1020mL/5mL	1000mL/5mL	0.98
A4E1493-06	Water	NWTPH-Dx	05/20/24 16:33	06/03/24 07:17	1030mL/5mL	1000mL/5mL	0.97

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030C

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24E1068							
A4E1493-01RE1	Water	NWTPH-Gx (MS)	05/20/24 11:32	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00
A4E1493-02RE1	Water	NWTPH-Gx (MS)	05/20/24 15:19	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00
A4E1493-03RE1	Water	NWTPH-Gx (MS)	05/20/24 16:33	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00
A4E1493-04RE1	Water	NWTPH-Gx (MS)	05/20/24 13:27	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00
A4E1493-05RE1	Water	NWTPH-Gx (MS)	05/20/24 09:34	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00
A4E1493-06RE1	Water	NWTPH-Gx (MS)	05/20/24 16:33	05/30/24 12:19	5mL/5mL	5mL/5mL	1.00

Polychlorinated Biphenyls by EPA 8082A

Prep: EPA 3510C (Neutral pH)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24F0886							
A4E1493-01	Water	EPA 8082A	05/20/24 11:32	06/26/24 12:11	1050mL/1mL	1000mL/1mL	0.95
A4E1493-02	Water	EPA 8082A	05/20/24 15:19	06/26/24 12:11	1060mL/1mL	1000mL/1mL	0.94
A4E1493-03	Water	EPA 8082A	05/20/24 16:33	06/26/24 12:11	1050mL/1mL	1000mL/1mL	0.95
A4E1493-04	Water	EPA 8082A	05/20/24 13:27	06/26/24 12:11	1020mL/1mL	1000mL/1mL	0.98
A4E1493-05	Water	EPA 8082A	05/20/24 09:34	06/26/24 12:11	1010mL/1mL	1000mL/1mL	0.99
A4E1493-06	Water	EPA 8082A	05/20/24 16:33	06/26/24 12:11	1030mL/1mL	1000mL/1mL	0.97

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 24E0858							

Apex Laboratories

Philip Nerenberg, Lab Director

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503-718-2323
ORELAP ID: OR100062

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

SAMPLE PREPARATION INFORMATION

Selected Semivolatile Organic Compounds by EPA 8270E

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A4E1493-01	Water	EPA 8270E	05/20/24 11:32	05/23/24 15:00	1050mL/1mL	1000mL/1mL	0.95
A4E1493-02	Water	EPA 8270E	05/20/24 15:19	05/23/24 15:00	1030mL/1mL	1000mL/1mL	0.97
A4E1493-03	Water	EPA 8270E	05/20/24 16:33	05/23/24 15:00	1060mL/1mL	1000mL/1mL	0.94
A4E1493-04	Water	EPA 8270E	05/20/24 13:27	05/23/24 15:00	1000mL/1mL	1000mL/1mL	1.00
A4E1493-05	Water	EPA 8270E	05/20/24 09:34	05/23/24 15:00	1010mL/1mL	1000mL/1mL	0.99
A4E1493-06	Water	EPA 8270E	05/20/24 16:33	05/23/24 15:00	1050mL/1mL	1000mL/1mL	0.95

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

C-07	Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
F-03	The result for this hydrocarbon range is elevated due to the presence of individual analyte peaks in the quantitation range that are not representative of the fuel pattern reported.
F-11	The hydrocarbon pattern indicates possible weathered diesel, mineral oil, or a contribution from a related component.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified DL.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-06	Surrogate recovery is outside of established control limits.
T-02	This Batch QC sample was analyzed outside of the method specified 12 hour analysis window. Results are estimated.

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.

ND Analyte NOT DETECTED at or above the detection or reporting limit.

NR Result Not Reported

RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as " dry", " wet", or " " (blank) designation.

" dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.

" wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

Results for Volatiles analyses on soils and sediments that are reported on a “dry weight” basis include the water miscible solvent (WMS) correction referenced in the EPA 8000 Method guidance documents. Solid and Liquid samples reported on an “As Received” basis do not have the WMS correction applied, as dry weight was not performed.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

" *** " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

Philip Nerenberg, Lab Director

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Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to one half of the Reporting Limit (RL).
Blank results for gravimetric analyses are evaluated to the Reporting Level, not to half of the Reporting Level.
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.
-Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.
'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level, if results are not reported to the MDL.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

AMENDED REPORT

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Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

All reported analytes are included in Apex Laboratories' current ORELAP scope.

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.
Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provded by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Philip Nerenberg

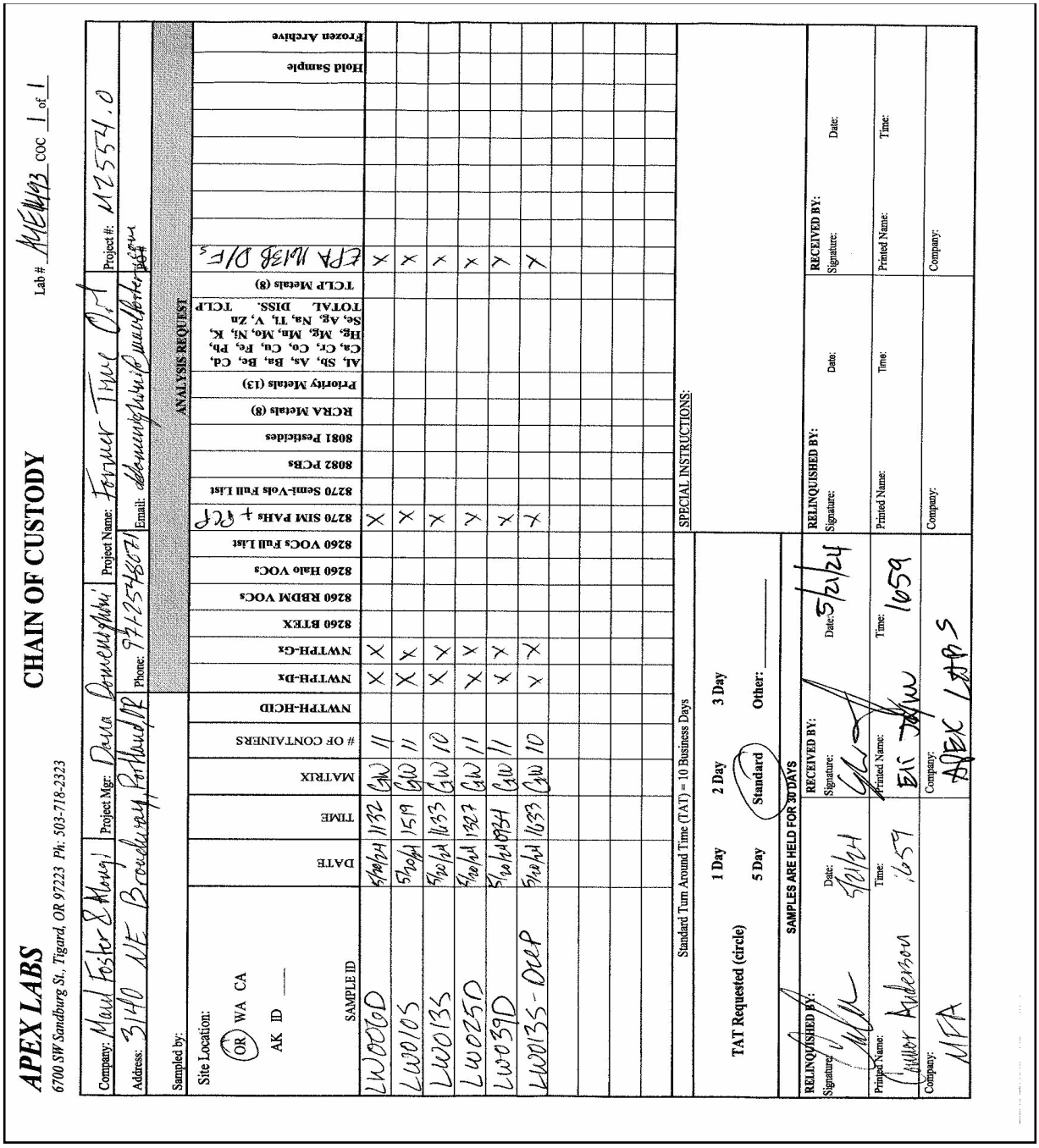
Philip Nerenberg, Lab Director

Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: **OR100062**

ANALYTICAL REPORT

AMENDED REPORT

Maul Foster & Alongi, INC.	Project: **Time Oil**	
3140 NE Broadway Street	Project Number: **M2554.01.0**	**Report ID:**
Portland, OR 97232	Project Manager: **Dana Domenighini**	**A4E1493 - 06 28 24 1226**



APEX LABS
6700 SW Sandburg St., Tigard, OR 97223 Ph: 503-718-2323

CHAIN OF CUSTODY

Lab # A4E1493 COC 1 of 1

Company: Maul Foster & Alongi | Project Mgr: Dana Domenighini | Project Name: Former Time Oil | Project #: M2554.0

Address: 3140 NE Broadway, Portland OR | Phone: 971-254-7867 | Email: ddomenighini@maulfoster.com

Sampled by:

Site Location: (OR) WA CA AK ID ___

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 BTEX	8260 RBDM VOCs	8260 Halo VOCs	8260 VOCs Full List	8270 SIM PAHs + 1-MN	8270 Semi-Vols Full List	8082 PCBs	8081 Pesticides	RCRA Metals (8)	Priority Metals (13)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS. TCLP	TCLP Metals (8)	EPA Diesel Ext.	Hold Sample	Frozen Archive
LW0060	5/20/24	1132	GW	11		X	X					X								X	
LW0105	5/20/24	1519	GW	11		X	X					X								X	
LW0135	5/20/24	1633	GW	10		X	X					X								X	
LW0250	5/20/24	1327	GW	11		X	X					X								X	
LW0390	5/20/24	0934	GW	11		X	X					X								X	
LW0135-Dup	5/20/24	1633	GW	10		X	X					X								X	

Standard Turn Around Time (TAT) = 10 Business Days

TAT Requested (circle): 1 Day 2 Day 3 Day 5 Day Standard Other: ___

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:

RELINQUISHED BY:	Date:	Time:	RECEIVED BY:	Date:	Time:
Signature:	5/20/24		Signature:	5/21/24	
Printed Name:		1659	Printed Name:		1659
Company:			Company:	APEX	LABS
RELINQUISHED BY:	Date:	Time:	RECEIVED BY:	Date:	Time:
Signature:			Signature:		
Printed Name:			Printed Name:		
Company:			Company:		

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

The results in this report apply to the samples analyzed in accordance with the chain of custody document(s) and updated by any subsequent written communications. This analytical report must be reproduced in its entirety.

APEX LABS COOLER RECEIPT FORM

Client: Maul Foster + Alongi Element WO#: A4 E1493

Project/Project #: Former Time Oil M2554.0

Delivery Info:

Date/time received: 5/21/24 @ 1659 By: EST

Delivered by: Apex__ Client X ESS__ FedEx__ UPS__ Radio__ Morgan__ SDS__ Evergreen__ Other__

From USDA Regulated Origin? Yes__ No X

Cooler Inspection Date/time inspected: 5/21/24 @ 1700 By: EST

Chain of Custody included? Yes X No__

Signed/dated by client? Yes X No__

Contains USDA Reg. Soils? Yes__ No X Unsure (email RegSoils)__

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	1.8	0.9	0.6	3.0			
Custody seals? (Y/N)	N	N	N	N			
Received on ice? (Y/N)	Y	Y	Y	Y			
Temp. blanks? (Y/N)	Y	Y	Y	Y			
Ice type: (Gel/Real/Other)	Real	Real	Real	Real			
Condition (In/Out):	In	In	In	In			

Cooler out of temp? (Y/N) Possible reason why:

Green dots applied to out of temperature samples? Yes/No

Out of temperature samples form initiated? Yes/No

Sample Inspection: Date/time inspected: 5/22/24 @ 1459 By: lh

All samples intact? Yes X No__ Comments:

Bottle labels/COCs agree? Yes X No X Comments: COC needs 11 conts for LW001OS, we received 10 conts.

COC/container discrepancies form initiated? Yes__ No X

Containers/volumes received appropriate for analysis? Yes X No__ Comments:

Do VOA vials have visible headspace? Yes__ No X NA__

Comments

Water samples: pH checked: Yes X No__ NA__ pH appropriate? Yes X No__ NA__ pH ID: A23I172

Comments:

Labeled by: lh Witness: [signature] Cooler Inspected by: lh

Form Y-003 R-02

Your Project #: A4E1493
Your C.O.C. #: n/a

Attention: Philip Nerenberg

Apex Laboratories
6700 SW Sandburg St.
Tigard, OR
USA 97223

Report Date: 2024/06/05
Report #: R8177298
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4G0981
Received: 2024/05/29, 12:35

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Dioxins/Furans in Water (1613B) (1)	6	2024/05/31	2024/06/03	BRL SOP-00410	EPA 1613B m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Confirmatory runs for 2,3,7,8-TCDF are performed only if the primary result is greater than the RDL.

U = Undetected at the limit of quantitation.
J = Estimated concentration between the EDL & RDL.
B = Blank Contamination.
Q = One or more quality control criteria failed.
E = Analyte concentration exceeds the maximum concentration level.
K = Estimated maximum possible concentration due to ion abundance ratio failure.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Lori Dufour, Project Manager
Email: Lori.Dufour@bureauveritas.com
Phone# (905) 817-5700

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ569							
Sampling Date		2024/05/20 11:32							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW006D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.45 U	1.45	9.62	1.45	1.00	1.45	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.32 U	1.32	48.1	1.86	1.00	1.32	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.36 U	1.36	48.1	2.25	0.100	0.136	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.12 U	1.12	48.1	1.40	0.100	0.112	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.18 U	1.18	48.1	1.13	0.100	0.118	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	2.93 U	2.93	48.1	1.90	0.0100	0.0293	0	9426497
Octa CDD *	pg/L	10.3 J	1.20	96.2	3.13	0.000300	0.00309	1	9426497
Total Tetra CDD *	pg/L	1.45 U	1.45	9.62	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.32 U	1.32	48.1	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	2.08 J	1.21	48.1	4.00	N/A	N/A	1	9426497
Total Hepta CDD *	pg/L	2.93 U	2.93	48.1	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.23 U	1.23	9.62	1.68	0.100	0.123	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.64 U	1.64	48.1	1.33	0.0300	0.0492	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.36 U	1.36	48.1	1.23	0.300	0.408	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.36 U	1.36	48.1	1.85	0.100	0.136	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.04 U	1.04	48.1	1.52	0.100	0.104	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.17 U	1.17	48.1	1.97	0.100	0.117	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.46 U	1.46	48.1	1.66	0.100	0.146	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	1.09 U	1.09	48.1	2.00	0.0100	0.0109	0	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.40 U	1.40	48.1	1.87	0.0100	0.0140	0	9426497
Octa CDF **	pg/L	1.05 U	1.05	96.2	3.99	0.000300	0.000315	0	9426497
Total Tetra CDF **	pg/L	1.23 U	1.23	9.62	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.49 U	1.49	48.1	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.23 U	1.23	48.1	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	1.22 U	1.22	48.1	4.00	N/A	N/A	0	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.28	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	77	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ569							
Sampling Date		2024/05/20 11:32							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW006D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	104	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	112	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	87	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	81	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	104	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	88	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	71	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ570							
Sampling Date		2024/05/20 15:19							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW010S	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.54 U	1.54	9.90	1.45	1.00	1.54	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.37 U	1.37	49.5	1.86	1.00	1.37	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.37 U	1.37	49.5	2.25	0.100	0.137	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.20 U	1.20	49.5	1.40	0.100	0.120	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.23 U	1.23	49.5	1.13	0.100	0.123	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	15.8 U (1)	15.8	49.5	1.90	0.0100	0.158	0	9426497
Octa CDD *	pg/L	110	1.25	99.0	3.13	0.000300	0.0330	1	9426497
Total Tetra CDD *	pg/L	1.54 U	1.54	9.90	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.37 U	1.37	49.5	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	1.27 U	1.27	49.5	4.00	N/A	N/A	0	9426497
Total Hepta CDD *	pg/L	15.7 U	15.7	49.5	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.22 U	1.22	9.90	1.68	0.100	0.122	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.67 U	1.67	49.5	1.33	0.0300	0.0501	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.41 U	1.41	49.5	1.23	0.300	0.423	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.64 U	1.64	49.5	1.85	0.100	0.164	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.31 U	1.31	49.5	1.52	0.100	0.131	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.42 U	1.42	49.5	1.97	0.100	0.142	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.84 U	1.84	49.5	1.66	0.100	0.184	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	2.60 J	1.08	49.5	2.00	0.0100	0.0260	1	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.36 U	1.36	49.5	1.87	0.0100	0.0136	0	9426497
Octa CDF **	pg/L	8.13 J	1.23	99.0	3.99	0.000300	0.00244	1	9426497
Total Tetra CDF **	pg/L	1.22 U	1.22	9.90	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.54 U	1.54	49.5	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.66 U	1.66	49.5	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	11.2 J	1.20	49.5	4.00	N/A	N/A	2	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.74	N/A	N/A

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

(1) EMPC / NDR - Peak detected does not meet ratio criteria and has resulted in an elevated detection limit.

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ570							
Sampling Date		2024/05/20 15:19							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW010S	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDD *	%	92	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	98	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	81	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	77	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	83	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	65	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ571							
Sampling Date		2024/05/20 16:33							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW013S	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.45 U	1.45	9.43	1.45	1.00	1.45	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.26 U	1.26	47.2	1.86	1.00	1.26	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.28 U	1.28	47.2	2.25	0.100	0.128	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.11 U	1.11	47.2	1.40	0.100	0.111	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.14 U	1.14	47.2	1.13	0.100	0.114	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	1.43 U	1.43	47.2	1.90	0.0100	0.0143	0	9426497
Octa CDD *	pg/L	5.84 J	1.19	94.3	3.13	0.000300	0.00175	1	9426497
Total Tetra CDD *	pg/L	1.45 U	1.45	9.43	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.26 U	1.26	47.2	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	1.17 U	1.17	47.2	4.00	N/A	N/A	0	9426497
Total Hepta CDD *	pg/L	2.13 U	2.13	47.2	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.14 U	1.14	9.43	1.68	0.100	0.114	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.55 U	1.55	47.2	1.33	0.0300	0.0465	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.31 U	1.31	47.2	1.23	0.300	0.393	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.43 U	1.43	47.2	1.85	0.100	0.143	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.08 U	1.08	47.2	1.52	0.100	0.108	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.22 U	1.22	47.2	1.97	0.100	0.122	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.59 U	1.59	47.2	1.66	0.100	0.159	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	1.12 U	1.12	47.2	2.00	0.0100	0.0112	0	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.40 U	1.40	47.2	1.87	0.0100	0.0140	0	9426497
Octa CDF **	pg/L	1.05 U	1.05	94.3	3.99	0.000300	0.000315	0	9426497
Total Tetra CDF **	pg/L	1.14 U	1.14	9.43	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.42 U	1.42	47.2	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.30 U	1.30	47.2	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	1.25 U	1.25	47.2	4.00	N/A	N/A	0	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.19	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ571							
Sampling Date		2024/05/20 16:33							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW013S	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	96	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	109	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	105	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	96	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	102	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	111	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	80	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	79	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	107	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	84	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	67	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ572							
Sampling Date		2024/05/20 13:27							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW025D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.41 U	1.41	9.71	1.45	1.00	1.41	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.20 U	1.20	48.5	1.86	1.00	1.20	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.33 U	1.33	48.5	2.25	0.100	0.133	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.12 U	1.12	48.5	1.40	0.100	0.112	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.17 U	1.17	48.5	1.13	0.100	0.117	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	1.37 U	1.37	48.5	1.90	0.0100	0.0137	0	9426497
Octa CDD *	pg/L	1.22 U	1.22	97.1	3.13	0.000300	0.000366	0	9426497
Total Tetra CDD *	pg/L	1.41 U	1.41	9.71	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.20 U	1.20	48.5	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	1.20 U	1.20	48.5	4.00	N/A	N/A	0	9426497
Total Hepta CDD *	pg/L	1.37 U	1.37	48.5	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.28 U	1.28	9.71	1.68	0.100	0.128	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.47 U	1.47	48.5	1.33	0.0300	0.0441	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.27 U	1.27	48.5	1.23	0.300	0.381	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.39 U	1.39	48.5	1.85	0.100	0.139	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.04 U	1.04	48.5	1.52	0.100	0.104	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.22 U	1.22	48.5	1.97	0.100	0.122	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.55 U	1.55	48.5	1.66	0.100	0.155	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	1.04 U	1.04	48.5	2.00	0.0100	0.0104	0	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.33 U	1.33	48.5	1.87	0.0100	0.0133	0	9426497
Octa CDF **	pg/L	1.20 U	1.20	97.1	3.99	0.000300	0.000360	0	9426497
Total Tetra CDF **	pg/L	1.28 U	1.28	9.71	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.37 U	1.37	48.5	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.27 U	1.27	48.5	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	1.17 U	1.17	48.5	4.00	N/A	N/A	0	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.08	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	76	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ572							
Sampling Date		2024/05/20 13:27							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW025D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	83	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	90	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	89	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	94	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	85	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	98	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	86	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	71	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	82	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	64	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

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* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ573							
Sampling Date		2024/05/20 09:34							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW039D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.16 U	1.16	9.90	1.45	1.00	1.16	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.49 U	1.49	49.5	1.86	1.00	1.49	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.53 U	1.53	49.5	2.25	0.100	0.153	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.17 U	1.17	49.5	1.40	0.100	0.117	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.27 U	1.27	49.5	1.13	0.100	0.127	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	1.37 U	1.37	49.5	1.90	0.0100	0.0137	0	9426497
Octa CDD *	pg/L	1.29 U	1.29	99.0	3.13	0.000300	0.000387	0	9426497
Total Tetra CDD *	pg/L	1.16 U	1.16	9.90	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.49 U	1.49	49.5	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	1.31 U	1.31	49.5	4.00	N/A	N/A	0	9426497
Total Hepta CDD *	pg/L	1.98 U	1.98	49.5	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.20 U	1.20	9.90	1.68	0.100	0.120	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.23 U	1.23	49.5	1.33	0.0300	0.0369	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.07 U	1.07	49.5	1.23	0.300	0.321	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.29 U	1.29	49.5	1.85	0.100	0.129	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.03 U	1.03	49.5	1.52	0.100	0.103	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.10 U	1.10	49.5	1.97	0.100	0.110	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.43 U	1.43	49.5	1.66	0.100	0.143	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	1.04 U	1.04	49.5	2.00	0.0100	0.0104	0	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.34 U	1.34	49.5	1.87	0.0100	0.0134	0	9426497
Octa CDF **	pg/L	1.14 U	1.14	99.0	3.99	0.000300	0.000342	0	9426497
Total Tetra CDF **	pg/L	1.20 U	1.20	9.90	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.15 U	1.15	49.5	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.20 U	1.20	49.5	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	1.17 U	1.17	49.5	4.00	N/A	N/A	0	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.05	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	65	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ573							
Sampling Date		2024/05/20 09:34							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW039D	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	93	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	108	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	90	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	92	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	101	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	100	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	72	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	70	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	94	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	102	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	58	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	65	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	70	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

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WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

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* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ574							
Sampling Date		2024/05/20 16:33							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW013S-DUP	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
2,3,7,8-Tetra CDD *	pg/L	1.62 U	1.62	10.5	1.45	1.00	1.62	0	9426497
1,2,3,7,8-Penta CDD *	pg/L	1.52 U	1.52	52.6	1.86	1.00	1.52	0	9426497
1,2,3,4,7,8-Hexa CDD *	pg/L	1.59 U	1.59	52.6	2.25	0.100	0.159	0	9426497
1,2,3,6,7,8-Hexa CDD *	pg/L	1.17 U	1.17	52.6	1.40	0.100	0.117	0	9426497
1,2,3,7,8,9-Hexa CDD *	pg/L	1.30 U	1.30	52.6	1.13	0.100	0.130	0	9426497
1,2,3,4,6,7,8-Hepta CDD *	pg/L	1.52 U	1.52	52.6	1.90	0.0100	0.0152	0	9426497
Octa CDD *	pg/L	2.84 U	2.84	105	3.13	0.000300	0.000852	0	9426497
Total Tetra CDD *	pg/L	1.62 U	1.62	10.5	4.00	N/A	N/A	0	9426497
Total Penta CDD *	pg/L	1.74 U	1.74	52.6	4.00	N/A	N/A	0	9426497
Total Hexa CDD *	pg/L	1.33 U	1.33	52.6	4.00	N/A	N/A	0	9426497
Total Hepta CDD *	pg/L	1.52 U	1.52	52.6	4.00	N/A	N/A	0	9426497
2,3,7,8-Tetra CDF **	pg/L	1.33 U	1.33	10.5	1.68	0.100	0.133	0	9426497
1,2,3,7,8-Penta CDF **	pg/L	1.84 U	1.84	52.6	1.33	0.0300	0.0552	0	9426497
2,3,4,7,8-Penta CDF **	pg/L	1.61 U	1.61	52.6	1.23	0.300	0.483	0	9426497
1,2,3,4,7,8-Hexa CDF **	pg/L	1.49 U	1.49	52.6	1.85	0.100	0.149	0	9426497
1,2,3,6,7,8-Hexa CDF **	pg/L	1.20 U	1.20	52.6	1.52	0.100	0.120	0	9426497
2,3,4,6,7,8-Hexa CDF **	pg/L	1.29 U	1.29	52.6	1.97	0.100	0.129	0	9426497
1,2,3,7,8,9-Hexa CDF **	pg/L	1.66 U	1.66	52.6	1.66	0.100	0.166	0	9426497
1,2,3,4,6,7,8-Hepta CDF **	pg/L	1.03 U	1.03	52.6	2.00	0.0100	0.0103	0	9426497
1,2,3,4,7,8,9-Hepta CDF **	pg/L	1.28 U	1.28	52.6	1.87	0.0100	0.0128	0	9426497
Octa CDF **	pg/L	1.60 U	1.60	105	3.99	0.000300	0.000480	0	9426497
Total Tetra CDF **	pg/L	1.33 U	1.33	10.5	4.00	N/A	N/A	0	9426497
Total Penta CDF **	pg/L	1.72 U	1.72	52.6	4.00	N/A	N/A	0	9426497
Total Hexa CDF **	pg/L	1.39 U	1.39	52.6	4.00	N/A	N/A	0	9426497
Total Hepta CDF **	pg/L	1.14 U	1.14	52.6	4.00	N/A	N/A	0	9426497
TOTAL TOXIC EQUIVALENCY	pg/L	N/A	N/A	N/A	N/A	N/A	4.82	N/A	N/A
Surrogate Recovery (%)									
37CL4 2378 Tetra CDD *	%	63	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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DIOXINS AND FURANS BY HRMS (WATER)

Bureau Veritas ID		ZHJ574							
Sampling Date		2024/05/20 16:33							
COC Number		n/a				TOXIC EQUIVALENCY		# of	
	UNITS	LW013S-DUP	EDL	RDL	MDL	TEF (2005 WHO)	TEQ(DL)	Isomers	QC Batch
C13-1234678 HeptaCDD *	%	97	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234678 HeptaCDF **	%	113	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDD *	%	92	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123478 HexaCDF **	%	97	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-1234789 HeptaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDD *	%	105	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123678 HexaCDF **	%	105	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDD *	%	73	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-12378 PentaCDF **	%	73	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-123789 HexaCDF **	%	99	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-234678 HexaCDF **	%	106	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-23478 PentaCDF **	%	76	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDD *	%	63	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-2378 TetraCDF **	%	72	N/A	N/A	N/A	N/A	N/A	N/A	9426497
C13-OCDD *	%	75	N/A	N/A	N/A	N/A	N/A	N/A	9426497

EDL = Estimated Detection Limit

RDL = Reportable Detection Limit

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient,
The Total Toxic Equivalency (TEQ) value reported is the sum of Toxic Equivalent Quotients for the congeners tested.

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

QC Batch = Quality Control Batch

* CDD = Chloro Dibenzo-p-Dioxin

N/A = Not Applicable

** CDF = Chloro Dibenzo-p-Furan

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TEST SUMMARY

Bureau Veritas ID: ZHJ569 **Collected:** 2024/05/20
Sample ID: LW006D **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

Bureau Veritas ID: ZHJ570 **Collected:** 2024/05/20
Sample ID: LW010S **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

Bureau Veritas ID: ZHJ571 **Collected:** 2024/05/20
Sample ID: LW013S **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

Bureau Veritas ID: ZHJ572 **Collected:** 2024/05/20
Sample ID: LW025D **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

Bureau Veritas ID: ZHJ573 **Collected:** 2024/05/20
Sample ID: LW039D **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

Bureau Veritas ID: ZHJ574 **Collected:** 2024/05/20
Sample ID: LW013S-DUP **Shipped:**
Matrix: Water **Received:** 2024/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dioxins/Furans in Water (1613B)	HRMS/MS	9426497	2024/05/31	2024/06/03	Yan Qin

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.8°C
Package 2	4.5°C
Package 3	3.6°C
Package 4	4.5°C
Package 5	3.5°C
Package 6	4.9°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
9426497	YQI	Spiked Blank	37CL4 2378 Tetra CDD	2024/06/03		74	%	35 - 197
			C13-1234678 HeptaCDD	2024/06/03		94	%	23 - 140
			C13-1234678 HeptaCDF	2024/06/03		104	%	28 - 143
			C13-123478 HexaCDD	2024/06/03		106	%	32 - 141
			C13-123478 HexaCDF	2024/06/03		100	%	26 - 152
			C13-1234789 HeptaCDF	2024/06/03		95	%	28 - 138
			C13-123678 HexaCDD	2024/06/03		103	%	28 - 130
			C13-123678 HexaCDF	2024/06/03		109	%	26 - 123
			C13-12378 PentaCDD	2024/06/03		85	%	25 - 181
			C13-12378 PentaCDF	2024/06/03		82	%	24 - 185
			C13-123789 HexaCDF	2024/06/03		103	%	29 - 147
			C13-234678 HexaCDF	2024/06/03		108	%	28 - 136
			C13-23478 PentaCDF	2024/06/03		85	%	21 - 178
			C13-2378 TetraCDD	2024/06/03		67	%	25 - 164
			C13-2378 TetraCDF	2024/06/03		74	%	24 - 169
			C13-OCDD	2024/06/03		72	%	17 - 157
			2,3,7,8-Tetra CDD	2024/06/03		106	%	67 - 158
			1,2,3,7,8-Penta CDD	2024/06/03		103	%	25 - 181
			1,2,3,4,7,8-Hexa CDD	2024/06/03		100	%	70 - 164
			1,2,3,6,7,8-Hexa CDD	2024/06/03		107	%	76 - 134
			1,2,3,7,8,9-Hexa CDD	2024/06/03		107	%	64 - 162
			1,2,3,4,6,7,8-Hepta CDD	2024/06/03		110	%	70 - 140
			Octa CDD	2024/06/03		104	%	78 - 144
			2,3,7,8-Tetra CDF	2024/06/03		102	%	75 - 158
			1,2,3,7,8-Penta CDF	2024/06/03		105	%	80 - 134
			2,3,4,7,8-Penta CDF	2024/06/03		104	%	68 - 160
			1,2,3,4,7,8-Hexa CDF	2024/06/03		107	%	72 - 134
			1,2,3,6,7,8-Hexa CDF	2024/06/03		110	%	84 - 130
			2,3,4,6,7,8-Hexa CDF	2024/06/03		109	%	70 - 156
			1,2,3,7,8,9-Hexa CDF	2024/06/03		110	%	78 - 130
			1,2,3,4,6,7,8-Hepta CDF	2024/06/03		112	%	82 - 122
			1,2,3,4,7,8,9-Hepta CDF	2024/06/03		108	%	78 - 138
			Octa CDF	2024/06/03		103	%	63 - 170
9426497	YQI	Spiked Blank DUP	37CL4 2378 Tetra CDD	2024/06/03		69	%	35 - 197
			C13-1234678 HeptaCDD	2024/06/03		94	%	23 - 140
			C13-1234678 HeptaCDF	2024/06/03		101	%	28 - 143
			C13-123478 HexaCDD	2024/06/03		100	%	32 - 141
			C13-123478 HexaCDF	2024/06/03		104	%	26 - 152
			C13-1234789 HeptaCDF	2024/06/03		96	%	28 - 138
			C13-123678 HexaCDD	2024/06/03		114	%	28 - 130
			C13-123678 HexaCDF	2024/06/03		109	%	26 - 123
			C13-12378 PentaCDD	2024/06/03		83	%	25 - 181
			C13-12378 PentaCDF	2024/06/03		79	%	24 - 185
			C13-123789 HexaCDF	2024/06/03		106	%	29 - 147
			C13-234678 HexaCDF	2024/06/03		108	%	28 - 136
			C13-23478 PentaCDF	2024/06/03		84	%	21 - 178
			C13-2378 TetraCDD	2024/06/03		59	%	25 - 164
			C13-2378 TetraCDF	2024/06/03		61	%	24 - 169
			C13-OCDD	2024/06/03		71	%	17 - 157
			2,3,7,8-Tetra CDD	2024/06/03		104	%	67 - 158
			1,2,3,7,8-Penta CDD	2024/06/03		103	%	25 - 181
			1,2,3,4,7,8-Hexa CDD	2024/06/03		101	%	70 - 164
			1,2,3,6,7,8-Hexa CDD	2024/06/03		103	%	76 - 134

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,7,8,9-Hexa CDD	2024/06/03		102	%	64 - 162
			1,2,3,4,6,7,8-Hepta CDD	2024/06/03		107	%	70 - 140
			Octa CDD	2024/06/03		102	%	78 - 144
			2,3,7,8-Tetra CDF	2024/06/03		102	%	75 - 158
			1,2,3,7,8-Penta CDF	2024/06/03		102	%	80 - 134
			2,3,4,7,8-Penta CDF	2024/06/03		101	%	68 - 160
			1,2,3,4,7,8-Hexa CDF	2024/06/03		105	%	72 - 134
			1,2,3,6,7,8-Hexa CDF	2024/06/03		107	%	84 - 130
			2,3,4,6,7,8-Hexa CDF	2024/06/03		107	%	70 - 156
			1,2,3,7,8,9-Hexa CDF	2024/06/03		106	%	78 - 130
			1,2,3,4,6,7,8-Hepta CDF	2024/06/03		110	%	82 - 122
			1,2,3,4,7,8,9-Hepta CDF	2024/06/03		104	%	78 - 138
			Octa CDF	2024/06/03		101	%	63 - 170
9426497	YQI	RPD	2,3,7,8-Tetra CDD	2024/06/03	1.9		%	25
			1,2,3,7,8-Penta CDD	2024/06/03	0		%	25
			1,2,3,4,7,8-Hexa CDD	2024/06/03	1.0		%	25
			1,2,3,6,7,8-Hexa CDD	2024/06/03	3.8		%	25
			1,2,3,7,8,9-Hexa CDD	2024/06/03	4.8		%	25
			1,2,3,4,6,7,8-Hepta CDD	2024/06/03	2.8		%	25
			Octa CDD	2024/06/03	1.9		%	25
			2,3,7,8-Tetra CDF	2024/06/03	0		%	25
			1,2,3,7,8-Penta CDF	2024/06/03	2.9		%	25
			2,3,4,7,8-Penta CDF	2024/06/03	2.9		%	25
			1,2,3,4,7,8-Hexa CDF	2024/06/03	1.9		%	25
			1,2,3,6,7,8-Hexa CDF	2024/06/03	2.8		%	25
			2,3,4,6,7,8-Hexa CDF	2024/06/03	1.9		%	25
			1,2,3,7,8,9-Hexa CDF	2024/06/03	3.7		%	25
			1,2,3,4,6,7,8-Hepta CDF	2024/06/03	1.8		%	25
			1,2,3,4,7,8,9-Hepta CDF	2024/06/03	3.8		%	25
			Octa CDF	2024/06/03	2.0		%	25
9426497	YQI	Method Blank	37CL4 2378 Tetra CDD	2024/06/03		65	%	35 - 197
			C13-1234678 HeptaCDD	2024/06/03		95	%	23 - 140
			C13-1234678 HeptaCDF	2024/06/03		107	%	28 - 143
			C13-123478 HexaCDD	2024/06/03		96	%	32 - 141
			C13-123478 HexaCDF	2024/06/03		94	%	26 - 152
			C13-1234789 HeptaCDF	2024/06/03		101	%	28 - 138
			C13-123678 HexaCDD	2024/06/03		98	%	28 - 130
			C13-123678 HexaCDF	2024/06/03		103	%	26 - 123
			C13-12378 PentaCDD	2024/06/03		76	%	25 - 181
			C13-12378 PentaCDF	2024/06/03		71	%	24 - 185
			C13-123789 HexaCDF	2024/06/03		99	%	29 - 147
			C13-234678 HexaCDF	2024/06/03		102	%	28 - 136
			C13-23478 PentaCDF	2024/06/03		76	%	21 - 178
			C13-2378 TetraCDD	2024/06/03		59	%	25 - 164
			C13-2378 TetraCDF	2024/06/03		66	%	24 - 169
			C13-OCDD	2024/06/03		71	%	17 - 157
			2,3,7,8-Tetra CDD	2024/06/03	1.45 U, EDL=1.45		pg/L	
			1,2,3,7,8-Penta CDD	2024/06/03	1.58 U, EDL=1.58		pg/L	
			1,2,3,4,7,8-Hexa CDD	2024/06/03	2.91 U, EDL=2.91		pg/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			1,2,3,6,7,8-Hexa CDD	2024/06/03	2.42 U, EDL=2.42		pg/L	
			1,2,3,7,8,9-Hexa CDD	2024/06/03	2.54 U, EDL=2.54		pg/L	
			1,2,3,4,6,7,8-Hepta CDD	2024/06/03	1.52 U, EDL=1.52		pg/L	
			Octa CDD	2024/06/03	2.25 U, EDL=2.25		pg/L	
			Total Tetra CDD	2024/06/03	1.45 U, EDL=1.45		pg/L	
			Total Penta CDD	2024/06/03	1.58 U, EDL=1.58		pg/L	
			Total Hexa CDD	2024/06/03	2.61 U, EDL=2.61		pg/L	
			Total Hepta CDD	2024/06/03	1.52 U, EDL=1.52		pg/L	
			2,3,7,8-Tetra CDF	2024/06/03	1.22 U, EDL=1.22		pg/L	
			1,2,3,7,8-Penta CDF	2024/06/03	1.80 U, EDL=1.80		pg/L	
			2,3,4,7,8-Penta CDF	2024/06/03	1.53 U, EDL=1.53		pg/L	
			1,2,3,4,7,8-Hexa CDF	2024/06/03	1.31 U, EDL=1.31		pg/L	
			1,2,3,6,7,8-Hexa CDF	2024/06/03	1.04 U, EDL=1.04		pg/L	
			2,3,4,6,7,8-Hexa CDF	2024/06/03	1.14 U, EDL=1.14		pg/L	
			1,2,3,7,8,9-Hexa CDF	2024/06/03	1.42 U, EDL=1.42		pg/L	
			1,2,3,4,6,7,8-Hepta CDF	2024/06/03	1.06 U, EDL=1.06		pg/L	
			1,2,3,4,7,8,9-Hepta CDF	2024/06/03	1.31 U, EDL=1.31		pg/L	
			Octa CDF	2024/06/03	1.92 U, EDL=1.92		pg/L	
			Total Tetra CDF	2024/06/03	1.22 U, EDL=1.22		pg/L	
			Total Penta CDF	2024/06/03	1.65 U, EDL=1.65		pg/L	
			Total Hexa CDF	2024/06/03	1.21 U, EDL=1.21		pg/L	
			Total Hepta CDF	2024/06/03	1.17 U, EDL=1.17		pg/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cathy Xu, Scientific Specialist, Ultra Trace Analysis, HRMS

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Appendix C

Data Validation Memorandum

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Data Validation Memorandum

Project No. M2554.01.001 | June 12, 2024| Gothic Bridge Land Enterprises, LLC

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for groundwater samples collected on May 20, 2024 at 10350 N Time Oil Road in Portland, Oregon.

Apex Laboratories, LLC (Apex) and Bureau Veritas (BV) performed the analyses. MFA reviewed Apex report number A4E1493 and BV report number C4G0981. The analyses performed and the samples analyzed are listed in the following tables.

Analysis	Reference
Diesel- and oil-range hydrocarbons	NWTPH-Dx
Dioxins and furans	EPA 1613B (modified)
Gasoline-range hydrocarbons	NWTPH-Gx
Polychlorinated biphenyls as Aroclors	EPA 8082A
Semivolatile organic compounds	EPA 8270E

Notes
EPA = U.S. Environmental Protection Agency.
NWTPH = Northwest Total Petroleum Hydrocarbons.

Samples Analyzed	
Report A4E1493/C4G0981	
LW006D	LW025D
LW010S	LW039D
LW013S	LW013S-DUP

Data Validation Procedures

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2014, 2020a, 2020b) and appropriate laboratory- and method-specific guidelines (Apex 2023, BV 2021, EPA 1986).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review guidelines do not specifically address (e.g., Northwest Total Petroleum Hydrocarbons [NWTPH]-Dx).

Based on the data quality assurance/quality control review described herein, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- U = result is non-detect at the laboratory detection limit (LDL) or estimated detection limit (EDL).
- UJK = result is non-detect, an estimated value, and an estimated maximum potential concentration (EMPC).

General Qualifications

Apex noted that, to minimize matrix interference, EPA Method 8082A samples and associated batch quality control samples were processed with sulfuric acid cleanup by EPA Method 3665A, sulfur cleanup by EPA Method 3660B, and Florisil cleanup by EPA Method 3620B. No qualification by the reviewer was required.

According to report A4E1493, the NWTPH-Gx gasoline-range hydrocarbons results for samples LW006D, LW025D, and LW039D were flagged by the laboratory as having a chromatographic patterns with individual analyte peaks in the quantitation range but no detected fuel pattern. The results were reported as gasoline-range hydrocarbons instead of specific fuel products; thus, qualifications were not required.

According to report A4E1493, the NWTPH-Dx diesel-range hydrocarbons result for sample LW039D was flagged by the laboratory as indicating possible weathered diesel, mineral oil, or a contribution from a related component. The result was reported as diesel-range hydrocarbons instead of a specific fuel product; thus, qualification was not required.

Estimated Maximum Potential Concentration Results

In accordance with EPA Region 10 guidance for data validation of polychlorinated dibenzodioxins and polychlorinated dibenzofurans (PCDDs/PCDFs) (EPA 2014) and EPA national functional guidelines for high-resolution Superfund methods data review (EPA 2020a), the reviewer qualified EPA Method 1613B results in BV report number C4G0981 because of laboratory EMPC detections.

Where BV flagged congener results below method reporting limits (MRLs) as EMPCs, the reviewer qualified the results at the reported concentration with UJK, as non-detect, an estimated value, and an EMPC.

Final data qualifier for the EPA Method 1613B EMPC result is as follows:

Report	Sample	Analyte	Original Result (pg/L)	Qualified Result (pg/L)
C4G0981	LW010S	1,2,3,4,6,7,8-HpCDD	15.8 U[(a)]	15.8 UJK

Notes
pg/L = picograms per liter.
UJK = result is non-detect, an estimated value, and an estimated maximum potential concentration.
[(a)]The laboratory flagged the result as an EMPC with the note "EMPC/NDR – Peak detected does not meet ratio criteria and has resulted in an elevated detection limit."

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody form accompanying the reports.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

Apex evaluated results to LDLs and BV evaluated results to EDLs. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised LDLs and method reporting limit (MRLs).

The laboratories qualified results between the LDLs or EDLs and MRLs with J, as estimated.

Apex noted that multiple EPA Method 8270E results for LW006D, LW025D, and LW039D had a raised LDL and MRL to account for interference from coeluting organic compounds present in the samples. Qualification by the reviewer was not required.

BV reports MRLs as RDLs, or "reportable detection limits".

Blank Results

Method Blanks

Laboratory method blanks are used to evaluate whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies, in accordance with laboratory- and method-specific requirements.

All laboratory method blank results were non-detect to LDLs or EDLs.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate the adequacy of the field equipment decontamination process when decontaminated sampling equipment is used to collect samples.

These blanks were not required for this sampling event, as all samples were collected using dedicated or single-use equipment.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during sample storage and during shipment between the sampling location and the laboratory.

Trip blank samples were not required for this sampling event because samples were not analyzed for volatile organic compounds.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy. BV reports LCSs as "spiked blanks" and LCSDs as "spiked blank DUPs" Where LCSDs were not reported, accuracy and precision was evaluated based on the laboratory duplicate results. The LCS and the LCSD were prepared and analyzed at the required frequency.

All LCS and LCSD results were within acceptance limits for percent recovery and relative percent difference (RPD).

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision. Where laboratory duplicates were not reported, batch precision was evaluated based on LCS and LCSD results. All remaining laboratory duplicate samples were prepared and analyzed at the required frequency.

In cases where the laboratory had prepared laboratory duplicates with samples from unrelated projects, laboratory duplicate RPD control limit exceedances did not require qualification because these sample matrices were not representative of project sample matrices.

All laboratory duplicate results met the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and analysis. Apex and BV did not report MS and MSDs, and batch precision and/or accuracy was evaluated with LCS and LCSD or laboratory duplicate results.

Labeled Analog Recovery Results

According to report C4G0981, EPA Method 1613B samples were spiked with carbon-13 (C13) labeled standards to quantify the relative response of analytes in each sample.

All C13 labeled standard recoveries were within acceptance limits.

Surrogate Results

Surrogate results are used to evaluate laboratory performance of target organic compounds for individual samples.

According to report A4E1493, the EPA Method 8270E 2-fluorobiphenyl surrogate results for samples LW010S, LW013S, and LW013S-DUP were below the respective lower percent recovery acceptance limits of 44 percent, at 41 percent, 39 percent, and 41 percent, respectively. The reviewer confirmed that this surrogate represents the base/neutral compounds, and the two remaining base/neutral surrogates were within acceptance limits; thus, no qualifications were necessary.

All remaining surrogate results were within percent recovery acceptance limits.

Field Duplicate Results

Field duplicate results are used to evaluate field precision and sample homogeneity. The following field duplicate and parent sample pair was submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
A4E1493/C4G0981	LW013S	LW013S-DUP

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect. When only one result in the sample pair was non-detect, RPD was evaluated using the LDL or EDL of the non-detect result.

All field duplicate results met the RPD acceptance criteria.

Data Package

The data package was reviewed for transcription errors, omissions, and anomalies.

According to the Cooler Receipt Form attached to report A4E1493, the chain of custody listed 11 containers for sample LW010S, although only 10 were received. The reviewer confirmed this was erroneous and the laboratory received the correct number of containers for this sample.

Report A4E1493 was amended on June 28, 2024, to include EPA Method 8082A analyses that were inadvertently missed on the chain of custody.

No additional issues were found.

References

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EPA. 1986. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods.* EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2014. *R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B and SW846 Method 8290A.* EPA-910-R-14-003. U.S. Environmental Protection Agency, Office of Environmental Assessment. May.

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EPA. 2020b. *National Functional Guidelines for Organic Superfund Methods Data Review.* EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.