Second Quarter 2022

Groundwater Data Analysis Report

TAYLOR WAY AND ALEXANDER AVENUE FILL AREA SITE
TACOMA, WASHINGTON

Cleanup Site ID: 4692

August 10, 2022

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GENERAL METALS OF TACOMA
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PORT OF TACOMA
CLEAN EARTH

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August 10, 2022

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1.0 Introduction

Dalton, Olmsted, and Fuglevand, Inc. (DOF) prepared this Second Quarter Groundwater Data Analysis Report for the Taylor Way and Alexander Avenue Fill Area (TWAAFA) Site (Figure 1) on behalf of Glenn Springs Holdings, Inc. (Occidental Chemical Corporation), General Metals of Tacoma (GMT), and Clean Earth Inc. (Clean Earth) formerly known as Stericycle Environmental Solutions, Inc. and Burlington Environmental (Burlington). These parties are among those identified in the Agreed Order (AO) Number 14260 (issued December 4, 2020) by the Washington State Department of Ecology (Ecology) as potentially liable parties at the TWAAFA Site (each a "PLP", collectively, the "PLPs" or "AO parties"). The Port of Tacoma (Port) is also a PLP to the TWAAFA Site, identified by Ecology in the Enforcement Order Number DE 19410 (issued December 4, 2020).

This Report was prepared to summarize the data collected and activities performed by all AO and EO PLPs with respect to the TWAAFA Site groundwater monitoring program during the second quarter of 2022, in accordance with the Revised Groundwater Monitoring Plan (DOF, 2022). The July 2020 Groundwater Monitoring Plan was revised in April 2022 to account for the installation of new monitoring wells and updated survey information.

1.1 Background and Objective

The Revised Groundwater Monitoring Plan was designed to monitor the groundwater at the TWAAFA Site. It utilizes 55 groundwater monitoring wells at the TWAAFA Site, including monitoring wells installed as agreed to in the Data Gaps Work Plan (DOF, 2020). The monitoring wells and analyses required are summarized in Table 1. The monitoring wells are located at the TWAAFA Site to provide adequate information regarding (1) groundwater flow at the TWAAFA Site, (2) groundwater units underlying the TWAAFA Site; and (3) groundwater leaving the TWAAFA Site and flowing to off-site, downgradient and cross-gradient locations.

The second quarter 2022 monitoring event was completed as the second of four planned events in 2022 to be conducted for the TWAAFA Site under the Data Gaps Work Plan (DOF, 2020).

1.2 TWAAFA Site Description

As shown in Figure 2, the TWAAFA Site is composed of multiple parcels under ownership by different parties – the Port, Burlington, and Pierce County (owner of the former Clean Care parcels). For the second quarter 2022 monitoring event, wells located on Port parcels were monitored by the Port's consultant Maul, Foster, and Alongi (MFA) and all other wells were monitored by DOF. MFA and DOF coordinated the monitoring event simultaneously and utilized the same laboratory as used for prior work conducted under the Data Gaps Work Plan (DOF, 2020).

2.0 Methodology

During the second quarter 2022, DOF and the Port completed the following work related to groundwater monitoring in accordance with the Revised Groundwater Monitoring Plan (DOF, 2022):

- Measured groundwater levels and collected groundwater samples from the groundwater monitoring network wells within the TWAAFA Site;
- Submitted groundwater samples to an independent laboratory for analysis; and

- Reviewed laboratory analytical reports for data quality validation.

The monitoring well network is shown on Figure 2. Measurement of water levels and sampling of wells on the Port parcels was completed by MFA on behalf of the Port, in coordination with DOF. Measurement of water levels and sampling of wells on Burlington and the former CleanCare parcels was conducted by DOF on behalf of the AO parties.

2.1 Water Level Measurements

On May 2, 2022, DOF and MFA conducted a water level measuring event that consisted of gauging depth to water surface and depth to light non-aqueous phase liquid (LNAPL), if present, at all monitoring wells within the TWAAFA Site following the procedures described in the Revised Groundwater Monitoring Plan (DOF, 2022). Groundwater measurements and observations regarding LNAPL are summarized in Table 2. All network monitoring wells were measured within a 12-hour period.

Figures 3 and 4 present the groundwater elevations measured during this event for the shallow and deep aquifers, respectively.

2.2 Groundwater Quality Sample Collection and Analysis

Groundwater samples were collected from all monitoring wells during the second quarter 2022 event as listed in Table 1 from May 3 to May 12, 2022. Samples were collected in accordance with the Revised Groundwater Monitoring Plan (DOF, 2022). Prior to sampling, groundwater purging was conducted at each well. During groundwater purging, water quality parameters were recorded, and once stabilization criteria were met, a groundwater sample was collected. Field forms documenting data collected during monitoring well sampling are included in Appendix A.

Groundwater samples were analyzed for the following constituents as shown on Table 1:

- Volatile organic compounds (VOCs).
- Semi-volatile organic compounds (SVOCs).
- Total petroleum hydrocarbons (TPHs) as gasoline-range organics (Gx), diesel-range organics (Dx), and lube oil. TPH-Dx was analyzed with and without silica gel cleanup.
- Polychlorinated biphenyls (PCBs) analyzed as individual Aroclors.
- Metals including arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc, and manganese.

Groundwater samples collected by DOF and MFA were submitted to Friedman and Bruya, Inc. (FBI) for chemical analysis. Laboratory analytical reports produced by FBI for the groundwater samples collected by DOF were submitted to data validation reviewers, QA/QC Solutions, LLC. MFA conducted an in-house independent review of the laboratory analytical reports on groundwater samples collected for the Port. Data validation reports are included along with the laboratory data reports in Appendix B.

2.3 Investigation-Derived Waste

The primary waste stream generated during the monitoring event was purged groundwater, which was containerized as it was generated. Groundwater was containerized in separate 55-gallon steel drums based on the parcel ownership and characterized based on sampling results. The Port manages purged groundwater generated from wells on Port-owned parcels whereas Clean Earth manages purged groundwater generated from wells on Burlington-owned parcels. DOF coordinates disposal of purged

groundwater with Pierce County and Ecology for purged groundwater generated from wells on the former Clean Care parcels.

3.0 Results

This section presents the results of data collected during the second quarter 2022 monitoring event.

3.1 Groundwater Elevations

Depth to water measurements were converted to elevation using survey data and mapped to determine hydraulic gradient for both the shallow and deep aquifers. Groundwater elevations for the shallow and deep aquifers from the second quarter 2022 monitoring event are provided in Table 2 and illustrated on Figures 3 and 4, respectively.

Potentiometric surface elevation contours for the shallow aquifer are generally consistent with historically reported observations, exhibited by a generally radial outflow from a central mound beneath the Burlington parcels. Where well clusters included multiple wells screened within the shallow aquifer, as is the case with several of the "CCW" well clusters on the former CleanCare parcels, the "B" interval measurements were used for mapping groundwater elevations as their screen depths are more consistent with wells across the Site. Elevations at a few wells appeared anomalous and were not used for contouring. Additional time will be spent to assure water levels equilibrate prior to recording values during the next event.

The deep aquifer displayed a generally flat hydraulic gradient, which is consistent with historical observations.

3.2 Quality Assurance/Quality Control (QA/QC) Discussion

Analytical data quality review was conducted on all samples collected during this monitoring event analyzed and reported by FBI as specified in the Quality Assurance Project Plan (QAPP) (DOF, 2020). The data validation (DV) reports were completed by QA/QC solutions for DOF-collected samples on Burlington and former CleanCare parcels and by MFA for MFA-collected samples on Port parcels. Analytical reports and associated DV reports are included in Appendix B.

Hold times, initial and continuing calibrations, method blanks, surrogate recoveries, laboratory duplicate results, field duplicate results, matrix spike/matrix spike duplicate results, and reporting limits were reviewed to assess compliance with applicable methods and project requirements. Qualified data were deemed to be of acceptable quality for their intended use, with the appropriate final data qualifiers assigned, except for results that were rejected due to insufficient surrogate recovery. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, as well as data qualifiers assigned by the reviewer during validation.

In several instances, results for TPH were qualified as 'NJ,' defined as a *tentatively identified compound*, because the sample chromatographic pattern did not resemble the fuel standard used for quantitation. On July 22, 2022, DOF submitted a request to Ecology to discontinue analyzing for TPH-Dx without using the silica gel cleanup preparation during the upcoming third and fourth monitoring events, based on review of results collected to date showing more interferences in analyses when silica gel cleanup is not utilized. A response from Ecology was received on August 2, 2022. The AO group is reviewing Ecology's response as part of planning for the third quarter event.

3.3 Groundwater Chemistry Analytical Results

Validated analytical results of groundwater samples collected during the second quarter 2022 monitoring event at the TWAAFA Site are included in Tables 3 through 7. Screening levels used in this report for comparison of analytical results were those identified in the 2020 Data Gaps Work Plan (DOF, 2020). These screening levels were based on levels developed in the 2005 Burlington RI Report and also applied in the Port's 2006 1514 Taylor Way RI. These screening levels were site-specific screening levels developed under Ecology's Model Toxics Control Act (MTCA) in consideration of the conceptual model identifying non-potable groundwater and industrial/commercial use. After Ecology's review of the Draft Data Gaps Work Plan, Ecology requested that several screening levels be revised to default table values available in Ecology's Cleanup Levels and Risk Calculation (CLARC) tables. Ecology's requested changes to the screening levels were implemented in the Final 2020 Data Gaps Work Plan. In addition, Ecology's lowest current MTCA Method A or B Groundwater Screening Levels are included in Tables 3 through 7 as a reference for analytes that did not have a screening level included in the Data Gaps Work Plan.

Results of the second quarter 2022 monitoring event are summarized below and select frequently detected constituents are shown on Figures 5 through 16.

Summary of TPH analytical results (Table 3):

- TPH-Gx was detected at concentrations above its respective Data Gaps Work Plan screening level, primarily in shallow wells located on the former CleanCare parcels (CCW-2A, CCW-2B, CCW-3B, CCW-5B, and CCW-7B). The highest concentration of TPH-Gx (5,400 micrograms per liter [µg/L]) was detected at CCW-2A, which is centrally located on the former CleanCare parcels. Concentrations were below their respective Data Gaps Work Plan screening level in all deep wells and all other shallow wells analyzed for TPH. TPH-Gx concentrations are illustrated on Figures 5 and 6.
- TPH-Dx and lube oil range hydrocarbons were detected above the screening level in wells throughout the TWAAFA Site when analyzed without silica gel cleanup (CCW-1C, CCW-2A, CCW-2B, CCW-3A, CCW-3B, CCW-3C, CCW-4C, CCW-5B, CCW-5C, CCW-6B, CCW-6C, CCW-7B, CCW-7C, CCW-8B, MW-1, MW-4, SB-3A, TWA-1, TWA-5D, CTMW-7, CTMW-9, CTMW-11R2, CTMW-12, CTMW-17, CTMW-17D, CTMW-20, CTMW-24D, and CTWM-25). Split samples analyzed using silica gel cleanup preparation methods resulted in significantly lower concentrations with detections above the screening level at CCW-2A, CCW-3A, and MW-1, generally near the center of the TWAAFA Site. The highest concentrations of TPH-Dx were in the shallow aquifer. TPH-Dx concentrations are illustrated on Figures 7 and 8.

Summary of VOC analytical results (Table 4):

- Select VOCs were detected at concentrations above their respective Data Gaps Work Plan screening level: 1,4-dichlorobenzene, benzene, *cis*-1,2-dichloroethene, tetrachloroethene, toluene, trichloroethene, and vinyl chloride. Benzene and vinyl chloride concentrations are illustrated on Figures 9 through 12.
- The highest concentrations of VOCs were detected on the former CleanCare parcels (within well cluster CCW-2) including tetrachloroethene (1,900 µg/L), trichloroethene (550 µg/L), and vinyl chloride (47 µg/L) reported in the shallowest depth interval (CCW-2A). The highest concentrations of benzene and vinyl chloride were in the shallow aquifer.

- Concentrations of VOCs were generally below their respective Data Gaps Work Plan screening levels at wells farther away from the center of the TWAAFA Site.

Summary of SVOC analytical results (Table 5):

- Several SVOCs were detected above laboratory reporting limits at generally low concentrations. The only SVOC detected above their respective Data Gaps Work Plan screening level was bis(2-ethylhexyl) phthalate at MW-1, SB-1A, SB-2A, SB-3A, TWA-2, and TWA-5D. However, these bis(2-ethylhexl) phthalate detections were all qualified as estimated with a potentially high bias (J+) due to method blank contamination noted in the blank associated with these samples.

Summary of metals analytical results (Table 6):

- Metals detected above their respective screening levels included mercury, arsenic, chromium, copper, lead, manganese, nickel, and zinc. Concentrations of two of the most widely detected metals (arsenic and copper) are illustrated on Figures 13 through 16.
- Mercury was detected at concentrations ranging from 0.02 µg/L to 0.044 µg/L. Out of the 48 wells sampled, only three wells recorded detections of mercury and only one sample exceeded the Data Gaps Work Plan screening level of 0.025 µg/L (CTMW-17).
- Arsenic concentrations ranged from less than 1 µg/L (not detected) to 1,170 µg/L (CCW-5B). Out of the 48 wells sampled, fourteen recorded concentrations that exceeded the Data Gaps Work Plan screening level of 5 µg/L. Arsenic concentrations were highest on the former Clean Care parcels in samples collected in the shallow aquifer.
- Chromium concentrations ranged from less than 1 µg/L (not detected) to 27.8 µg/L (TWA-6D). Out of the 48 wells sampled, only three samples (TWA-6D, CTMW-17, and CTMW-25D) exceeded the Data Gaps Work Plan screening level of 11 µg/L.
- Copper was detected primarily on the former CleanCare parcels at concentrations ranging from less than 1 µg/L (not detected) to 199 µg/L (CTMW-17). Out of the 48 wells sampled, nine exceeded the Data Gaps Work Plan screening level of 2.4 µg/L. Copper concentrations were highest in the shallow aquifer.
- Lead concentrations ranged from less than 1 µg/L (not detected) to 97.2 µg/L (CTMW-17), primarily on the former CleanCare parcels, centrally located within the site. Out of the 48 wells sampled, only three samples (CCW-5B, CCW-6B, and CTMW-17) exceeded the screening level of 8.1 µg/L. Lead was only detected in samples from the shallow aquifer wells.
- Manganese was detected throughout the TWAAFA Site at concentrations ranging from 1 µg/L (not detected) to 3,330 µg/L (TWA-1). Manganese was detected in shallow and deep aquifer wells with concentrations highest in the north-central area of the TWAAFA Site.
- Nickel was detected throughout the Site at concentrations ranging from 1.29 µg/L to 160 µg/L (CCW-3A). Nickel concentrations exceeded the Data Gaps Work Plan screening level of 10 µg/L at only four wells (CCW-3A, CTMW-5, CTMW-8, CTMW-11R2), all within the shallow aquifer.
- Zinc concentrations ranged from less than 5 µg/L (not detected) to 274 µg/L (CCW-3A). Out of the 48 wells sampled, detections of Zinc were limited to the shallow aquifer wells and only three samples (CCW-3A, CCW-6B, CTMW-5) exceeded the screening level of 81 µg/L.

Summary analytical results of PCBs (Table 7):

- PCBs were detected above laboratory reporting limits only in wells sampled at the former CleanCare parcels (CCW-3A, CCW-3C, CCW-8B, and MW-4). PCB concentrations in these wells ranged from 0.004 to 0.059 µg/L. Detected concentrations in well CCW-3A were qualified as estimated by the data validator. The PCB concentration for Aroclor-1260, exceeded its respective Data Gaps Work Plan screening level in MW-4, which is screened in the shallow aquifer.

3.4 Conclusions

The second quarter 2022 groundwater monitoring event was completed successfully following the objectives set forth in the Data Gaps Work Plan (DOF, 2020) and procedures outlined in the Revised Groundwater Monitoring Plan (DOF, 2022).

More wells were sampled during the second quarter event than during the first quarter monitoring event (Table 1). The observed groundwater flow patterns, derived from field measurements, were similar during first and second quarter 2022 events. No measurable LNAPL was recorded during the second quarter, versus first quarter 2022 when minimal (0.01 foot), but present, LNAPL was measured at several wells. TPH, metals, and limited VOCs and SVOCs exceeded their respective Data Gaps Work Plan screening levels. Similar to the first quarter monitoring event, the highest concentrations of compounds that exceeded Data Gap Work Plan screening levels were generally in the shallow aquifer and centrally located within the TWAAFA Site.

4.0 Upcoming Schedule

In accordance with the Revised Groundwater Monitoring Plan (DOF, 2022), four quarters of groundwater monitoring events are to be completed at the TWAAFA Site in 2022. The third quarter 2022 groundwater monitoring event is scheduled to be conducted at the TWAFAA Site in August 2022.

5.0 References

DOF, 2020. Final Data Gaps Work Plan, TWAAFA Site, Tacoma, Washington. July.

DOF, 2022. Revised Groundwater Monitoring Plan, TWAAFA Site, Tacoma, Washington. April.

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Tables

Table 1
Groundwater Monitoring Schedule
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

Well ID	Water Levels	Analyses								
		VOCs by 8260B	VOCs by 8260B w/SIM	TPH-Diesel by NWTPH-Dx[1]	TPH-Gasoline by NWTPH-Gx	Total Metals[2] by 6020 & Mercury by 1631E	SVOCs by 8270	cPAHS only by 8270	1,4-Dioxane by 8260	PCBs by 8082
CCW-1A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-1B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-1C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-2A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-2B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-2C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-3A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-3B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-3C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-4C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-5B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-5C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-6B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-6C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-7B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CCW-7C	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
CCW-8B	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
MW-1[3]	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
MW-4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
SB-1A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
SB-2A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
SB-3A	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
CTMW-1	1,2,3,4	--	--	--	--	--	--	--	--	--
CTMW-5	1,2,3,4	2	2	2	--	2	--			--
CTMW-7	**1,2,3,4**	**2**	**2**	**2**		**2**	**--**	**2**	**2**	**--**
CTMW-8	1,2,3,4	2	2	2	--	2	--	--	--	--
CTMW-9	**1,2,3,4**	**2**	**2**	**2**		**2**	**--**		**2**	**--**
CTMW-10[3]	1,2,3,4	--	--	--	--	--	--	--	--	--
CTMW-11R2	1,2,3,4	2	2	2	--	2	--	--	--	--
CTMW-12	**1,2,3,4**	**2**	**2**	**2**		**2**	**--**	**2**		**--**
CTMW-14	1,2,3,4	2	2	2	--	2	--	2		--
CTMW-15	1,2,3,4	2	2	2	--	2	--	2	2	--
CTMW-17	1,2,3,4	2	2	2	--	2	--		2	--
CTMW-17D	**1,2,3,4**	**2**	**2**	**2**		**2**	**--**			**--**
CTMW-18	1,2,3,4	2	2	2	2	2	--			--

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Table 1
Groundwater Monitoring Schedule
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

Well ID	Water Levels	Analyses								
		VOCs by 8260B	VOCs by 8260B w/SIM	TPH-Diesel by NWTPH-Dx[1]	TPH-Gasoline by NWTPH-Gx	Total Metals[2] by 6020 & Mercury by 1631E	SVOCs by 8270	cPAHS only by 8270	1,4-Dioxane by 8260	PCBs by 8082
CTMW-20	1,2,3,4	2	2	2	2	2	--			--
CTMW-23R	1,2,3,4	2	2	2	--	2	--			--
CTMW-24	1,2,3,4	2	2	2	--	2	--	2		--
CTMW-24D	**1,2,3,4**	**2**	**2**	**2**	**--**	**2**	**--**			**--**
CTMW-25D	**1,2,3,4**	**2**	**2**	**2**	**--**	**2**	**--**	**2**	**2**	**--**
PZ-1 [3]	1,2,3,4	--	--	--	--	--	--	--	--	--
PZ-5	1,2,3,4	--	--	--	--	--	--	--	--	--
PZ-7	1,2,3,4	--	--	--	--	--	--	--	--	--
PZ-8	1,2,3,4	--	--	--	--	--	--	--	--	--
PZ-9	1,2,3,4	--	--	--	--	--	--	--	--	--
TWA-1	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
TWA-2	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
TWA-3	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	1,2,3,4	--	1,2,3,4	1,2,3,4
TWA-4D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**--**	**2**	**2**	**--**
TWA-5D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
TWA-6D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
TWA-7D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**--**	**2**	**2**	**--**
TWA-8D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
TWA-9D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**
TWA-10D	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**1,2,3,4**	**--**	**1,2,3,4**	**1,2,3,4**

Notes
1. Will be analyzed with and without silica gel cleanup during the first sampling event and sample prep methods assessed in cooperation with Ecology for future events.
2. Metals: Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Zinc, and Manganese
3. Wells that historically had LNAPL.
4. Additional wells installed as agreed to in Data Gaps Work Plan (DOF, 2020): TWA-1, TWA-2, TWA-3, TWA-4D, TWA-7D, TWA-8D, TWA-9D, TWA-10D

Bold font indicates well is screened in deep aquifer
Gray shading indicates wells on the Port of Tacoma property and monitored by the Port's consultant

Abbreviations
1,2,3,4 = sampling to occur in first, second, third, and/or fourth quarter.
-- = Sampling not required
VOC = volatile organic compound
TPH = total petroleum hydrocarbon
SVOC = semi-volatile organic compound
cPAH = carcinogenic polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
LNAPL = light non-aqueous phase liquid

DOF

Table 2

Groundwater Elevation Data

Second Quarter 2022 Groundwater Analysis Report

TWAAFA Site

Tacoma, Washington

Well ID	Date	Depth to LNAPL(ft)	Depth to Water (ft)	Water Surface Elevation (Ft)	Top of Casing Elevaton NAVD 88 (ft)
CCW-1A	5/2/2022	--	4.69	11.12	15.81
CCW-1B	5/2/2022	--	4.23	11.07	15.30
CCW-1C	5/2/2022	**--**	**9.96**	**6.18**	**16.14**
CCW-2A	5/2/2022	--	2.68	12.66	15.34
CCW-2B	5/2/2022	--	2.37	12.87	15.24
CCW-2C	5/2/2022	**--**	**8.88**	**6.30**	**15.18**
CCW-3A	5/2/2022	--	3.61	13.26	16.87
CCW-3B	5/2/2022	--	4.23	13.00	17.23
CCW-3C	5/2/2022	**--**	**12.42**	**6.38**	**18.80**
CCW-4C	5/2/2022	**--**	**10.62**	**6.22**	**16.84**
CCW-5B	5/2/2022	--	2.99	12.75	15.74
CCW-5C	5/2/2022	**--**	**9.11**	**6.41**	**15.52**
CCW-6B	5/2/2022	--	2.29	13.14	15.43
CCW-6C	5/2/2022	**--**	**8.81**	**6.44**	**15.25**
CCW-7B	5/2/2022	--	2.22	12.81	15.03
CCW-7C	5/2/2022	**--**	**8.79**	**6.39**	**15.18**
CCW-8B	5/2/2022	--	4.12	12.32	16.44
MW-1	5/2/2022	sheen	1.22	12.85	14.07
MW-4	5/2/2022	--	5.99	13.23	19.22
SB-1A	5/2/2022	--	3.75	11.71	15.46
SB-2A	5/2/2022	--	4.64	10.39	15.03
SB-3A	5/2/2022	--	3.00	13.70	16.70
CTMW-1	5/2/2022	--	4.15	12.40	16.55
CTMW-5	5/2/2022	--	4.48	12.74	17.22
CTMW-7	5/2/2022	**--**	**11.92**	**6.41**	**18.33**
CTMW-8	5/2/2022	--	4.79	13.12	17.91
CTMW-9	5/2/2022	**--**	**11.51**	**5.99**	**17.50**
CTMW-10	5/2/2022	--	2.59	13.33	15.92
CTMW-11R2	5/2/2022	--	5.53	15.24	20.77
CTMW-12	5/2/2022	**--**	**15.35**	**6.06**	**21.41**
CTMW-14	5/2/2022	--	2.18	14.07	16.25

DOF

Table 2
Groundwater Elevation Data
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

Well ID	Date	Depth to LNAPL(ft)	Depth to Water (ft)	Water Surface Elevation (Ft)	Top of Casing Elevaton NAVD 88 (ft)
CTMW-15	5/2/2022	--	5.38	11.02	16.40
CTMW-17	5/2/2022	--	6.76	15.68	22.44
CTMW-17D	5/2/2022	**--**	**13.56**	**6.20**	**19.76**
CTMW-18	5/2/2022	--	7.28	15.22	22.50
CTMW-20	5/2/2022	--	2.43	11.72	14.15
CTMW-23R	5/2/2022	--	5.36	14.52	19.88
CTMW-24	5/2/2022	--	5.68	13.79	19.47
CTMW-24D	5/2/2022	**--**	**13.59**	**5.92**	**19.51**
CTMW-25D	5/2/2022	**--**	**10.17**	**6.01**	**16.18**
PZ-1	5/2/2022	--	0.78	16.11	16.89
PZ-5	5/2/2022	--	3.31	12.67	15.98
PZ-7	5/2/2022	--	10.64	13.45	24.09
PZ-8	5/2/2022	--	7.51	10.45	17.96
PZ-9	5/2/2022	--	5.82	12.85	18.67
TWA-1	5/2/2022	--	6.08	8.70	14.78
TWA-2	5/2/2022	--	3.60	8.09	11.69
TWA-3	5/2/2022	--	7.27	8.21	15.48
TWA-4D	5/2/2022	**--**	**11.07**	**4.21**	**15.28**
TWA-5D	5/2/2022	**--**	**11.65**	**6.49**	**18.14**
TWA-6D	5/2/2022	**--**	**11.37**	**6.28**	**17.65**
TWA-7D	5/2/2022	**--**	**9.75**	**5.65**	**15.40**
TWA-8D	5/2/2022	**--**	**9.52**	**5.40**	**14.92**
TWA-9D	5/2/2022	**--**	**9.62**	**6.22**	**15.84**
TWA-10D	5/2/2022	**--**	**9.94**	**6.03**	**15.97**

Notes

Gray shading indicates wells on the Port of Tacoma property and monitored by the Port's consultant

Bold font indicates well is screened in deep aquifer

-- = LNAPL not detected during measurement

Abbreviations

NAVD 88 = North American Vertical Datum

LNAPL = light non-aqueous phase liquid

DOF

Table 3
Groundwater Analytical Results - Total Petroleum Hydrocarbons
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

TPH	DGWP Screening Level	CCW-1A	CCW-1B	CCW-1C	CCW-2A	CCW-2B	CCW-2B (Duplicate)	CCW-2C	CCW-3A	CCW-3B	CCW-3C	CCW-4C	CCW-5B	CCW-5C
	Date Sampled	5/4/2022	5/4/2022	5/4/2022	5/5/2022	5/5/2022	5/5/2022	5/5/2022	5/9/2022	5/9/2022	5/9/2022	5/5/2022	5/6/2022	5/6/2022
Gasoline Range Organics	800	**180**	100 U	100 U	**5,400**	**3,900 J**	**3,900 J**	100 U	**460**	**1,000**	100 U	100 U	**880**	100 U
Diesel Range Organics	500	**420 NJ**	**240 NJ**	**1,000 NJ**	**3,300 NJ**	**2,200 NJ**	**2,400 NJ**	**400 NJ**	**11,000 NJ**	**2,500 NJ**	**650 NJ**	**1,200 NJ**	**2,900 NJ**	**1,700 NJ**
Lube Oil	500	250 U	250 U	**340 NJ**	**700 NJ**	**650 NJ**	**710 NJ**	250 U	**4,800 NJ**	**1,000 NJ**	**380 NJ**	**470 NJ**	**770 NJ**	**470 NJ**
with Silica Gel Cleanup														
Diesel Range Organics	500	**100 NJ**	50 U	50 U	**1,000 NJ**	**220 NJ**	**210 NJ**	50 U	**310 NJ**	**120**	50 U	50 U	**320 NJ**	50 U
Lube Oil	500	**250 NJ**	250 U	250 U	250 U	250 U	250 U	250 U	**510**	250 U	250 U	250 U	250 U	250 U

TPH	DGWP Screening Level	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D	TWA-7D	TWA-8D	TWA-9D	TWA-10D	CTMW-5	CTMW-7	CTMW-7 (Duplicate)
	Date Sampled	5/3/2022	5/3/2022	5/3/2022	5/12/2022	5/3/2022	5/3/2022	5/9/2022	5/11/2022	5/5/2022	5/3/2022	5/11/2022	5/11/2022	5/11/2022
Gasoline Range Organics	800	100 U	100 U	100 U	--	100 U	100 U	--	100 U	100 U	100 U	--	--	--
Diesel Range Organics	500	**1,100 ***	**320 ***	**150 ***	50 U	**700 ***	**450 ***	**210 NJ**	**98 NJ**	**96 NJ**	**230 ***	**59 NJ**	**1,200 NJ**	**1,300 NJ**
Lube Oil	500	**580 ***	**410 ***	250 U	250 U	**480 ***	250 U	250 U	250 U	250 U	250 U	300 U	**910 NJ**	**980 NJ**
with Silica Gel Cleanup														
Diesel Range Organics	500	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	60 U	50 U	50 U
Lube Oil	500	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	300 U	250 U	250 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in the Data Gaps Work Plan (DOF, 2020)
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
NJ = The sample chromatographic pattern does not resemble the fuel standard used for quantitation
TPH = Total Petroleum Hydrocarbons
U = Analyte is not detected above the reporting limit value shown
-- = Not analyzed
* = Flagged by the laboratory because the sample chromatographic pattern did not resemble the fuel standard used for quantitation

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Table 3
Groundwater Analytical Results - Total Petroleum Hydrocarbons
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

TPH	DGWP Screening Level	CCW-6B	CCW-6C	CCW-7B	CCW-7C	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	SB-1A	SB-2A	SB-3A
	Date Sampled	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022
Gasoline Range Organics	800	**170**	100 U	**890**	100 U	100 U	**120**	**110**	100 U	100 U	100 U	100 U
Diesel Range Organics	500	**880 NJ**	**990 NJ**	**1,600 NJ**	**670 NJ**	**3,700 NJ**	**9,900 J***	**9,000 ***	**7,700 NJ**	**110 ***	**76 ***	**990 ***
Lube Oil	500	**410 NJ**	**430 NJ**	**540 NJ**	**470 NJ**	**570 NJ**	**2,100 J***	**2,000 ***	**3,400 NJ**	300 U	250 U	**620 ***
with Silica Gel Cleanup												
Diesel Range Organics	500	50 U	50 U	**460**	50 U	**160**	**580 ***	**500 ***	**260 NJ**	60 U	50 U	50 U
Lube Oil	500	250 U	250 U	250 U	250 U	250 U	250 U	250 U	**470**	300 U	250 U	250 U

TPH	DGWP Screening Level	CTMW-8	CTMW-9	CTMW-11R2	CTMW-12	CTMW-14	CTMW-15	CTMW-17	CTMW-17D	CTMW-18	CTMW-20	CTMW-23R	CTMW-24	CTMW-24D	CTMW-25D
	Date Sampled	5/12/2022	5/12/2022	5/10/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022	5/11/2022	5/4/2022
Gasoline Range Organics	800	--	--	--	--	--	--	--	--	100 U	100 U	--	--	--	--
Diesel Range Organics	500	50 U	**2,600 NJ**	**570 NJ**	**800 NJ**	50 U	**480 ***	**930 NJ**	**830 NJ**	**200 NJ**	**3,200 ***	**79 NJ**	50 U	**620 NJ**	**3,100 ***
Lube Oil	500	250 U	**1,600 NJ**	250 U	**330 NJ**	250 U	250 U	**650 NJ**	**350 NJ**	250 U	**660 ***	250 U	250 U	**430 NJ**	**910 ***
with Silica Gel Cleanup															
Diesel Range Organics	500	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Lube Oil	500	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in the Data Gaps Work Plan (DOF, 2020
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
NJ = The sample chromatographic pattern does not resemble the fuel standard used for quantitation
TPH = Total Petroleum Hydrocarbons
U = Analyte is not detected above the reporting limit value shown
-- = Not analyzed
* = Flagged by the laboratory because the sample chromatographic pattern did not resemble the fuel standard used for quantitation

Table 4
Groundwater Analytical Results - Voltile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

VOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-1A	CCW-1B	CCW-1C	CCW-2A	CCW-2B	CCW-2B (Duplicate)	CCW-2C	CCW-3A	CCW-3B	CCW-3C
		Date Sampled	5/4/2022	5/4/2022	5/4/2022	5/5/2022	5/5/2022	5/5/2022	5/5/2022	5/9/2022	5/9/2022	5/9/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NA	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	25.3	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	**2.4**	**2.4**	1 U	1 U	1 U	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	**3.0**	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	1 U	1 U	**40**	**82**	**100**	1 U	**3.6**	1 U	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	**13**	**4.9**	**5.6**	1 U	1 U	1 U	1 U
1,2-Dichloroethane	59.4	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	23.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5730	--	1 U	1 U	1 U	**5.9**	**12**	**15**	1 U	**1.2**	1 U	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	**1.8**	**8.9**	**11**	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	1 U	1 U	**4.7**	**63**	**74**	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,420,000	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	**10**	**12**	1 U	**1.2**	1 U	1 U
2-Hexanone	1,960,000	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	NA	NA	1 U	1 U	1 U	1 U	**2**	**2.7**	1 U	1 U	1 U	1 U
Acetone	426,000	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	1.6	--	0.35 U	0.35 U	0.35 U	**44**	**58**	**62**	0.35 U	**12**	**2.9**	0.35 U
Bromobenzene	NA	64	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	NA	5.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	968	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	NA	2400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	NA	1600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5,030	--	1 U	1 U	1 U	**53**	**330** J-	**300**	1 U	1 U	1 U	1 U
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	**1.4**	**1.4**	1 U	1 U	1 U	1 U
Chloroform	283	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	133	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	--	**26**	1 U	1 U	**720** J+	1 U	**1**	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	887	--	1 U	1 U	1 U	**73**	**28**	**30**	1 U	**24**	1 U	1 U
Hexachlorobutadiene	NA	0.56	**0.5 U**	0.5 U	0.5 U	**0.82**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	NA	480	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	8,000	--	1 U	1 U	1 U	**7**	**3.1**	**3.7**	1 U	**1**	1 U	1 U
m, p-Xylene	266,000	--	2 U	2 U	2 U	**58**	**68**	**79**	2 U	**10**	2 U	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	**1.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	960	--	8 U	9.9 U	7.9 U	20 U	20 U	20 U	20 U	9.6 U	10 U	9.9 U
Naphthalene	3,090	--	1 U	1 U	1 U	**55**	**41**	**51**	1 U	**3.9**	**3.8**	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	**12**	**4.9**	**6.1**	1 U	1 U	1 U	1 U
o-Xylene	266,000	--	1 U	1 U	1 U	**44**	**47**	**53**	1 U	**7.2**	1 U	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	**4.9**	**1.9**	**2.3**	1 U	1 U	1 U	1 U
sec-Butylbenzene	359	--	1 U	1 U	1 U	**2.9**	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	**2**	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	2.9	--	**21**	1 U	1 U	**1,900** J+	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	--	1 U	1 U	1 U	**71**	**130**	**140**	1 U	**18**	**6**	1 U
trans-1,2-Dichloroethene	21,300	--	**2**	1 U	1 U	**45**	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.7	--	**24**	0.5 U	0.5 U	**550** J+	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	**0.61**	**0.026**	0.02 U	**47**	**1.1**	**1.2**	0.02 U	**0.087**	**0.83**	0.02 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

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Table 4
Groundwater Analytical Results - Voltile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

VOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-4C	CCW-5B	CCW-5C	CCW-6B	CCW-6C	CCW-7B	CCW-7C	CCW-8B	MW-1	MW-1 (Duplicate)
		Date Sampled	5/5/2022	5/6/2022	5/6/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NA	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	25.3	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	**8.2**	1 U	1 U	1 U	**2.1**	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	**1.6**	1 U	**2**	1 U	**12**	1 U	**1.0**	1 U	1 U
1,2-Dichloroethane	59.4	--	0.2 U	**0.92**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	23.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5730	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	**4.2**	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	**1.3**	1 U	**1.7**	1 U	**12**	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,420,000	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	1,960,000	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	426,000	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	1.6	--	0.35 U	**39**	0.35 U	**11**	0.35 U	**18**	**2.2**	**1.1**	**18**	**17**
Bromobenzene	NA	64	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	NA	5.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	968	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	NA	2400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	NA	1600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5,030	--	1 U	**69**	1 U	**14**	1 U	**44**	1 U	**2.7**	1 U	1 U
Chloroethane	64,900	--	1 U	**5**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	283	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	133	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	--	1 U	**1.5**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	887	--	1 U	**52**	1 U	**12**	1 U	**69**	1 U	1 U	1 U	1 U
Hexachlorobutadiene	NA	0.56	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	NA	480	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	8,000	--	1 U	**7.3**	1 U	**1.7**	1 U	**7.6**	1 U	**1.9**	1 U	1 U
m, p-Xylene	266,000	--	2 U	**11**	2 U	2 U	2 U	**6**	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	**5.6**	1 U	**1.4**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	960	--	20 U	**11**	**13**	11 U	13 U	13 U	12 U	20 U	6.3 U	6.9 U
Naphthalene	3,090	--	1 U	**9.1**	1 U	**3.6**	1 U	**64**	1 U	1 U	1 U	1 U
n-Propylbenzene	737	--	1 U	**15**	1 U	**1.7**	1 U	**13**	1 U	**2**	1 U	1 U
o-Xylene	266,000	--	1 U	**19**	1 U	**3**	1 U	**12**	1 U	1 U	1 U	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	359	--	1 U	**2**	1 U	1 U	1 U	**2.1**	1 U	1 U	1 U	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	2.9	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	--	1 U	**16**	1 U	**3.1**	1 U	**20**	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	21,300	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.7	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	0.02 U	**1.5**	0.02 U	**0.18**	0.02 U	**0.22**	0.02 U	**0.036**	0.02 U	0.02 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
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Abbreviations:
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J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

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Table 4
Groundwater Analytical Results - Voltile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

VOCs	DGWP Screening Level	MTCA A/B Screening Level	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D
		Date Sampled	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/12/2022	5/3/2022	5/3/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NA	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	25.3	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	59.4	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	23.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5730	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,420,000	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	1,960,000	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	426,000	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	1.6	--	**4.2**	0.35 U	0.35 U	0.35 U	**5.7**	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromobenzene	NA	64	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	NA	5.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	968	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	NA	2400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	NA	1600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5,030	--	**1.6**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	283	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	133	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	887	--	**2.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	NA	0.56	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	NA	480	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	8,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	266,000	--	2.2	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	960	--	20 U	11 UJ	5 U	5 U	6.4 UJ	11 UJ	12 UJ	**5.7**	7.3 U	8.3 U
Naphthalene	3,090	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	266,000	--	**3.9**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	359	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	2.9	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	--	**3.5**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	21,300	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.7	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	**0.59**	0.02 U	0.02 U	0.02 U	**0.1**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Notes:
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NJ = Tentatively identified compound, estimated value
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Table 4
Groundwater Analytical Results - Voltile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

VOCs	DGWP Screening Level	MTCA A/B Screening Level	TWA-7D	TWA-8D	TWA-9D	TWA-10D	CTMW-5	CTMW-7	CTMW-7 (Duplicate)	CTMW-8	CTMW-9	CTMW-11R2
		Date Sampled	5/9/2022	5/11/2022	5/5/2022	5/3/2022	5/11/2022	5/11/2022	5/11/2022	5/12/2022	5/12/2022	5/10/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NA	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	25.3	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	59.4	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	23.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5730	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,420,000	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	1,960,000	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	426,000	--	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	**64**
Benzene	1.6	--	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromobenzene	NA	64	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	NA	5.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	968	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	NA	2400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	NA	1600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5,030	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	283	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	133	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	887	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	NA	0.56	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	NA	480	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	8,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	266,000	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	1 U	1 U	1 U	**2.3**	**2.3**	1 U	1 U	1 U
Methylene chloride	960	--	12 U	5 U	**7.7**	12 UJ	5 U	9.9 U	5 U	**7.3**	5 U	5 U
Naphthalene	3,090	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	266,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	359	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	2.9	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	--	1 U	1 U	1 U	1 U	**1.4**	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	21,300	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.7	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	**0.068**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

Table 4
Groundwater Analytical Results - Voltile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

VOCs	DGWP Screening Level	MTCA A/B Screening Level	CTMW-12	CTMW-14	CTMW-15	CTMW-17	CTMW-17D	CTMW-18	CTMW-20	CTMW-23R	CTMW-24	CTMW-24D	CTMW-25D
		Date Sampled	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022	5/11/2022	5/4/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	NA	0.22	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	25.3	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	59.4	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	23.2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	5730	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	1,420,000	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	1,960,000	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	426,000	--	50 U	50 U	50 U	**56**	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Benzene	1.6	--	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromobenzene	NA	64	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	NA	5.5	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	968	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CFC-11	NA	2400	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
CFC-12	NA	1600	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5,030	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	283	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	133	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	16	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	887	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	NA	0.56	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexane	NA	480	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	8,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m, p-Xylene	266,000	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	1 U	1 U	1 U	**3.6**	1 U	1 U	1 U	1 U	1 U
Methylene chloride	960	--	**8.6**	**6.8**	5 U	**6.4**	**5.2**	5 U	7.5 U	5 U	5 U	5 U	7.5 U
Naphthalene	3,090	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	266,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
sec-Butylbenzene	359	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	2.9	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	130	--	1 U	1 U	1 U	**1.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	21,300	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichloroethene	0.7	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.0**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

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Table 5
Groundwater Analytical Results - Semi-Volatile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-1A	CCW-1B	CCW-1C	CCW-2A	CCW-2B	CCW-2B (Duplicate)	CCW-2C	CCW-3A	CCW-3B	CCW-3C
		Date Sampled	5/4/2022	5/4/2022	5/4/2022	5/5/2022	5/5/2022	5/5/2022	5/5/2022	5/9/2022	5/9/2022	5/9/2022
1,2,4-Trichlorobenzene	NA	1.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
1,2-Dichlorobenzene	NA	720	0.1 U	0.1 U	0.1 U	**5**	**1.4**	**1.9**	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
1,3-Dichlorobenzene	NA	NA	0.1 U	0.1 U	0.1 U	**0.72**	**2.9**	**3.5**	0.1 U	0.1 UJ-	**0.28 J-**	0.1 UJ-
1,4-Dichlorobenzene	NA	8.1	0.1 U	0.1 U	0.1 U	**1.7**	**19**	**23**	0.1 U	0.1 UJ-	**0.16 J-**	0.1 UJ-
1-Methylnaphthalene	NA	1.5	0.1 U	0.1 U	0.1 U	**17**	**0.14**	**1.3**	0.1 U	**0.61 J-**	**2.9 J-**	0.1 UJ-
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-
2,4,5-Trichlorophenol	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4,6-Trichlorophenol	NA	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4-Dichlorophenol	NA	24	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4-Dimethylphenol	553	--	1 U	1 U	1 U	**11**	1 U	1 U	1 U	**1.3**	1 U	1 U
2,4-Dinitrophenol	3,460	--	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
2,4-Dinitrotoluene	1,360	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,6-Dinitrotoluene	4,260	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ-	0.5 UJ-	0.5 UJ-
2-Chloronaphthalene	1,030	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
2-Chlorophenol	96.7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Methylnaphthalene	994	--	0.1 U	0.1 U	0.1 U	**17**	**0.37**	**0.18**	0.1 U	**0.75 J-**	**2.2 J-**	0.1 UJ-
2-Methylphenol	33,300	--	1 U	1 U	1 U	**5.1**	1 U	1 U	1 U	1 U	1 U	1 U
2-Nitroaniline	210	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitrophenol	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
3-Methylphenol + 4-Methylphenol	2,960	--	2 U	2 U	2 U	**12**	2 U	2 U	2 U	2 U	2 U	2 U
3-Nitroaniline	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	NA	1.3	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
4-Bromophenyl phenyl ether	NA	NA	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-
4-Chloro-3-methylphenol	20	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chloroaniline	6,730	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
4-Nitroaniline	NA	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	15,200	--	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3 U
Acenaphthene	643	--	0.01 UJ-	0.26 UJ-	0.16 UJ-	**4.9 J-**	**0.36 J-**	**0.88 J-**	0.01 UJ-	**0.27 J-**	**0.56 J-**	0.01 UJ-
Acenaphthylene	4,530	--	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-
Anthracene	14,200	--	0.01 U	0.01 U	0.01 U	**0.33**	0.01 U	**0.089**	0.01 U	0.01 UJ-	**0.023 J-**	0.01 UJ-
Benz[a]anthracene	10	--	0.01 U	0.01 U	0.01 U	**0.02**	0.01 U	0.01 U	0.01 U	0.01 UJ-	0.01 UJ-	0.01 UJ-
Benzo(a)pyrene	0.05	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ-	0.01 UJ-	0.01 UJ-
Benzo(b)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ-	0.01 U	0.01 U
Benzo(ghi)perylene	739	--	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-	0.02 UJ-
Benzo(k)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 UJ-	0.01 UJ-	0.01 UJ-
Benzoic acid	5,830,000	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzyl alcohol	1,270,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-chloroethoxy)methane	10	--	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-
Bis(2-chloroethyl) ether	NA	0.04	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Bis(2-ethylhexyl) phthalate	0.046	--	2.3 U	2.7 U	2.4 U	2.5 U	2.5 U	2.5 U	2.5 U	1.4 UJ-	1.5 U	1.2 U
Butylbenzyl phthalate	NA	46	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbazole	236	--	0.1 U	0.1 U	0.1 U	**3.1**	**0.19**	**0.36**	0.1 U	**0.33 J-**	**0.28 J-**	0.1 UJ-
Chrysene	10	--	0.01 U	0.01 U	0.01 U	**0.015**	0.01 U	0.01 U	0.01 U	0.01 UJ-	0.01 UJ-	0.01 UJ-
Dibenzo(a,h)anthracene	10	--	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-
Dibenzofuran	260	--	0.1 U	0.1 U	0.1 U	**2.4**	**0.11**	**0.29**	0.1 U	**0.18**	**0.21**	0.1 U
Diethyl phthalate	28,400	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.2 J-**	1 UJ-	1 UJ-
Dimethyl phthalate	72,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ-	1 UJ-	1 UJ-
Di-n-butyl phthalate	2,910	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.7**	**1.6**	1 U
Di-n-octyl phthalate	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ-	1 U	1 U
Fluoranthene	90.2	--	0.01 U	**0.014**	0.01 U	**0.36**	**0.077**	**0.14**	0.01 U	**0.026 J-**	0.01 UJ-	0.01 UJ-
Fluorene	2,740	--	0.01 U	**0.049**	**0.031**	**4.3**	**0.097**	**0.41**	0.01 U	**0.23 J-**	**0.67 J-**	0.01 UJ-
Hexachlorobenzene	NA	0.055	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
Hexachlorobutadiene	17.7	--	0.1 U	0.1 U	0.1 U	**0.21**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Hexachlorocyclopentadiene	NA	48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachloroethane	NA	5.6	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
Indeno(1,2,3-cd)pyrene	10	--	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-	0.01 UJ-
Isophorone	1,560	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
Naphthalene	3,090	--	0.1 U	0.1 U	0.1 U	**27**	**0.63**	**4.3**	0.1 U	**1.8 J-**	**2.4 J-**	0.1 UJ-
Nitrobenzene	449	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
N-Nitroso-di-n-propylamine	10	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ-	0.1 UJ-	0.1 UJ-
N-Nitrosodiphenylamine	10	--	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-	0.1 UJ-
Pentachlorophenol	50	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Phenanthrene	139	--	0.01 UJ-	0.062 UJ-	**0.04 J-**	**2.5 J-**	0.01 UJ-	**0.12 J-**	0.01 UJ-	**0.29 J-**	**0.32 J-**	0.01 UJ-
Phenol	789,000	--	1 U	1 U	1 U	**5.4**	1 U	1 U	1 U	1 U	1 U	1 U
Pyrene	603	--	0.01 U	**0.011**	0.01 U	**0.24**	**0.069**	**0.11**	0.01 U	**0.038 J-**	0.01 UJ-	0.01 UJ-
1,4-Dioxane	160	--	0.4 U	**3.7**	**20**	0.4 U	**1.2**	**1.1**	**2.2**	**1.5**	**2**	**1.5**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

Table 5
Groundwater Analytical Results - Semi-Volatile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-4C		CCW-5B		CCW-5C		CCW-6B		CCW-6C		CCW-7B		CCW-7C		CCW-8B		MW-1		MW-1 (Duplicate)	
		Date Sampled	5/5/2022		5/6/2022		5/6/2022		5/3/2022		5/3/2022		5/3/2022		5/3/2022		5/4/2022		5/4/2022		5/4/2022	
1,2,4-Trichlorobenzene	NA	1.5	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,2-Dichlorobenzene	NA	720	0.1	U	**0.83**		0.1	U	**0.83**		0.1	U	**4.9**		0.1	U	**0.32**		0.1	U	0.1	U
1,3-Dichlorobenzene	NA	NA	0.1	U	0.1	U	0.1	U	**0.26**		0.1	U	**1.6**		0.1	U	0.1	U	0.1	U	0.1	U
1,4-Dichlorobenzene	NA	8.1	0.1	U	**0.55**		0.1	U	**0.63**		0.1	U	**4.5**		0.1	U	0.1	U	0.1	U	0.1	U
1-Methylnaphthalene	NA	1.5	0.1	U	**10**		0.1	U	**1.3**		0.1	U	**22**		0.1	U	**3.9**		**4.4**		**6**	
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1	UJ-	0.1	UJ-	0.1	UJ-	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ-	0.1	U	0.1	U
2,4,5-Trichlorophenol	NA	800	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,4,6-Trichlorophenol	NA	4	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,4-Dichlorophenol	NA	24	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,4-Dimethylphenol	553	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2,4-Dinitrophenol	3,460	--	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
2,4-Dinitrotoluene	1,360	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,6-Dinitrotoluene	4,260	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Chloronaphthalene	1,030	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
2-Chlorophenol	96.7	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Methylnaphthalene	994	--	0.1	U	**3.3**		0.1	U	0.1	U	0.1	U	**1.7**		0.1	U	**1.1**		0.1	U	0.1	U
2-Methylphenol	33,300	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-Nitroaniline	210	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2-Nitrophenol	NA	NA	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
3-Methylphenol + 4-Methylphenol	2,960	--	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
3-Nitroaniline	NA	NA	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4,6-Dinitro-2-methylphenol	NA	1.3	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
4-Bromophenyl phenyl ether	NA	NA	0.1	UJ-	0.1	UJ-	0.1	UJ-	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ-	0.1	U	0.1	U
4-Chloro-3-methylphenol	20	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
4-Chloroaniline	6,730	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl phenyl ether	NA	NA	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	**0.21**	
4-Nitroaniline	NA	--	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitrophenol	15,200	--	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U
Acenaphthene	643	--	**0.027**	**J-**	1.4	UJ-	0.01	UJ-	**1.3**		0.01	U	**18**		0.01	U	**0.92**	**J-**	**0.8**		**0.71**	
Acenaphthylene	4,530	--	0.01	UJ-	0.01	UJ-	0.01	UJ-	0.01	U	0.01	U	0.01	U	0.01	U	0.01	UJ-	0.01	U	0.01	U
Anthracene	14,200	--	0.01	U	**0.054**		0.01	U	**0.027**		0.01	U	**1.2**		0.01	U	0.01	U	**0.63**		**0.76**	
Benz[a]anthracene	10	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	**0.043**		0.01	U	0.01	U	**0.015**		**0.018**	
Benzo(a)pyrene	0.05	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Benzo(b)fluoranthene	10	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Benzo(ghi)perylene	739	--	0.02	UJ-	0.02	UJ-	0.02	UJ-	0.02	U	0.02	U	0.02	U	0.02	U	0.02	UJ-	0.02	U	0.02	U
Benzo(k)fluoranthene	10	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Benzoic acid	5,830,000	--	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Benzyl alcohol	1,270,000	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Bis(2-chloroethoxy)methane	10	--	0.1	UJ-	0.1	UJ-	0.1	UJ-	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ-	0.1	U	0.1	U
Bis(2-chloroethyl) ether	NA	0.04	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Bis(2-ethylhexyl) phthalate	0.046	--	2.5	U	1.4	U	1.4	U	2.2	U	1.7	U	1.6	U	1.9	U	2.5	U	1.5	U	**3**	**J+**
Butylbenzyl phthalate	NA	46	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbazole	236	--	0.1	U	**0.62**		0.1	U	**0.37**		0.1	U	**7.3**		0.1	U	0.1	U	**1.1**		**1.2**	
Chrysene	10	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	**0.039**		0.01	U	0.01	U	**0.023**		**0.027**	
Dibenzo(a,h)anthracene	10	--	0.01	UJ-	0.01	UJ-	0.01	UJ-	0.01	U	0.01	U	0.01	U	0.01	U	0.01	UJ-	0.01	U	0.01	U
Dibenzofuran	260	--	0.1	U	**0.38**		0.1	U	**0.4**		0.1	U	**10**		0.1	U	0.1	U	**0.51**	**J**	**0.3**	**J**
Diethyl phthalate	28,400	--	1	U	1	U	1	U	**1.2**		1	U	1	U	1	U	1	U	**1.1**		**1.1**	
Dimethyl phthalate	72,000	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Di-n-butyl phthalate	2,910	--	1	U	1	U	1	U	**1.6**		1	U	1	U	1	U	1	U	**1.1**	**J**	**2.8**	**J**
Di-n-octyl phthalate	10	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Fluoranthene	90.2	--	**0.01**		**0.018**		0.01	U	**0.021**		0.01	U	**1.7**		0.01	U	**0.073**		**0.079**		**0.093**	
Fluorene	2,740	--	0.01	U	**0.78**		0.01	U	**0.52**		0.01	U	**12**		0.01	U	**0.17**		**1.1**		**1.3**	
Hexachlorobenzene	NA	0.055	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Hexachlorobutadiene	17.7	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Hexachlorocyclopentadiene	NA	48	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U	0.3	U
Hexachloroethane	NA	5.6	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Indeno(1,2,3-cd)pyrene	10	--	0.01	UJ-	0.01	UJ-	0.01	UJ-	0.01	U	0.01	U	0.01	U	0.01	U	0.01	UJ-	0.01	U	0.01	U
Isophorone	1,560	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Naphthalene	3,090	--	0.1	U	**5.2**		0.1	U	**2.2**		0.1	U	**31**		0.1	U	0.1	U	0.1	U	0.1	U
Nitrobenzene	449	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
N-Nitroso-di-n-propylamine	10	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
N-Nitrosodiphenylamine	10	--	0.1	UJ-	0.1	UJ-	0.1	UJ-	0.1	U	0.1	U	0.1	U	0.1	U	0.1	UJ-	0.1	U	0.1	U
Pentachlorophenol	50	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	**0.6**		**0.62**	
Phenanthrene	139	--	0.01	UJ-	0.24	UJ-	0.015	UJ-	0.01	U	0.01	U	**0.88**		**0.01**		0.01	UJ-	**0.6**		**1**	
Phenol	789,000	--	1	U	**1.5**		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Pyrene	603	--	**0.011**		**0.016**		0.01	U	**0.017**		0.01	U	**0.95**		0.01	U	**0.071**		**0.19**		**0.24**	
1,4-Dioxane	160	--	**19**		**2.3**		**6.4**		0.4	U	**6.6**		0.4	U	**5.6**		0.4	U	0.4	U	0.4	U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
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Bold values indicate detections
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Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
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NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

Table 5
Groundwater Analytical Results - Semi-Volatile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D
		Date Sampled	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/12/2022	5/3/2022	5/3/2022
1,2,4-Trichlorobenzene	NA	1.5	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
1,2-Dichlorobenzene	NA	720	**0.12**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
1,3-Dichlorobenzene	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
1,4-Dichlorobenzene	NA	8.1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
1-Methylnaphthalene	NA	1.5	0.1 U	0.1 U	0.1 U	0.1 U	**0.15**	0.1 U	0.1 U	--	0.1 U	0.1 U
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
2,4,5-Trichlorophenol	NA	800	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2,4,6-Trichlorophenol	NA	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2,4-Dichlorophenol	NA	24	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2,4-Dimethylphenol	553	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2,4-Dinitrophenol	3,460	--	3 U	3 U	3 U	3 U	3 U	3 U	3 U	--	3 U	3 U
2,4-Dinitrotoluene	1,360	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
2,6-Dinitrotoluene	4,260	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
2-Chloronaphthalene	1,030	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
2-Chlorophenol	96.7	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2-Methylnaphthalene	994	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
2-Methylphenol	33,300	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
2-Nitroaniline	210	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
2-Nitrophenol	NA	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
3-Methylphenol + 4-Methylphenol	2,960	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	--	2 U	2 U
3-Nitroaniline	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U
4,6-Dinitro-2-methylphenol	NA	1.3	3 U	3 U	3 U	3 U	3 U	3 U	3 U	--	3 U	3 U
4-Bromophenyl phenyl ether	NA	NA	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
4-Chloro-3-methylphenol	20	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
4-Chloroaniline	6,730	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Chlorophenyl phenyl ether	NA	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
4-Nitroaniline	NA	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	--	10 U	10 U
4-Nitrophenol	15,200	--	3 U	3 UJ	3 U	3 U	3 U	3 U	3 U	--	3 U	3 U
Acenaphthene	643	--	**0.17 J-**	0.01 U	0.01 U	**0.058**	**1.3**	0.01 U	**0.14**	--	0.01 U	0.01 U
Acenaphthylene	4,530	--	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U
Anthracene	14,200	--	0.01 U	0.01 U	0.01 U	**0.031**	**0.013**	0.01 U	**0.018**	--	0.01 U	0.01 U
Benz[a]anthracene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(a)pyrene	0.05	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(ghi)perylene	739	--	0.02 UJ-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U
Benzo(k)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzoic acid	5,830,000	--	5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	--	5 UJ	5 UJ
Benzyl alcohol	1,270,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Bis(2-chloroethoxy)methane	10	--	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Bis(2-chloroethyl) ether	NA	0.04	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Bis(2-ethylhexyl) phthalate	0.046	--	2.5 U	**1.9 J+**	**1.8 J+**	**3.1 J+**	1.3 U	**2 J+**	1.2 U	--	**1.7 J+**	1.3 U
Butylbenzyl phthalate	NA	46	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Carbazole	236	--	**0.28**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.11**	--	0.1 U	0.1 U
Chrysene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)anthracene	10	--	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	260	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Diethyl phthalate	28,400	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Dimethyl phthalate	72,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Di-n-butyl phthalate	2,910	--	1 U	1 U	1 U	**1.6 J**	1 U	1 U	1 U	--	1 U	**1.2 J**
Di-n-octyl phthalate	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
Fluoranthene	90.2	--	**0.022**	0.01 U	0.01 U	**0.01**	0.01 U	0.01 U	**0.03**	--	0.01 U	0.01 U
Fluorene	2,740	--	**0.13**	0.01 U	0.01 U	0.01 U	**0.46**	0.01 U	**0.14**	--	0.01 U	0.01 U
Hexachlorobenzene	NA	0.055	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Hexachlorobutadiene	17.7	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Hexachlorocyclopentadiene	NA	48	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	--	0.3 U	0.3 U
Hexachloroethane	NA	5.6	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	10	--	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	1,560	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Naphthalene	3,090	--	**0.1**	0.1 U	0.1 U	0.1 U	**0.38**	0.1 U	0.1 U	--	0.1 U	0.1 U
Nitrobenzene	449	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
N-Nitroso-di-n-propylamine	10	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
N-Nitrosodiphenylamine	10	--	**0.61 J-**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	--	0.1 U	0.1 U
Pentachlorophenol	50	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	--	0.5 U	0.5 U
Phenanthrene	139	--	0.01 UJ-	0.01 U	**0.011**	**0.028**	**0.011**	**0.014**	**0.017**	--	0.01 U	0.01 U
Phenol	789,000	--	1 U	1 UJ	**1 J+**	1 U	1 U	1 U	1 U	--	**1.2 J+**	1 U
Pyrene	603	--	**0.046**	0.01 U	0.01 U	**0.01**	0.01 U	0.01 U	**0.017**	--	0.01 U	0.01 U
1,4-Dioxane	160	--	**3**	0.4 U	0.4 U	0.4 U	**0.7**	**0.42**	0.4 U	0.40 U	**0.64**	**4.1**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
J- = qualified as estimated with an associated negative bias
NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

Table 5
Groundwater Analytical Results - Semi-Volatile Organic Compounds
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	TWA-8D	TWA-9D	TWA-10D	CTMW-7	CTMW-7 (Duplicate)	CTMW-9	CTMW-12	CTMW-14	CTMW-15	CTMW-17	CTMW-24	CTMW-25D
		Date Sampled	5/11/2022	5/5/2022	5/3/2022	5/11/2022	5/11/2022	5/12/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/11/2022	5/4/2022
1,2,4-Trichlorobenzene	NA	1.5	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	NA	720	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	NA	NA	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	NA	8.1	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
1-Methylnaphthalene	NA	1.5	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 U	0.1 UJ-	0.1 U	--	--	--	--	--	--	--	--	--
2,4,5-Trichlorophenol	NA	800	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	NA	4	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	24	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	553	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	3,460	--	3 U	3 U	3 U	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	1,360	--	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	4,260	--	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	1,030	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
2-Chlorophenol	96.7	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	994	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
2-Methylphenol	33,300	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
2-Nitroaniline	210	--	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
2-Nitrophenol	NA	NA	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
3-Methylphenol + 4-Methylphenol	2,960	--	2 U	2 U	2 U	--	--	--	--	--	--	--	--	--
3-Nitroaniline	NA	NA	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	NA	1.3	3 U	3 U	3 U	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	NA	NA	0.1 U	0.1 UJ-	0.1 U	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	20	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
4-Chloroaniline	6,730	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	NA	NA	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
4-Nitroaniline	NA	--	10 U	10 U	10 U	--	--	--	--	--	--	--	--	--
4-Nitrophenol	15,200	--	3 U	3 U	3 U	--	--	--	--	--	--	--	--	--
Acenaphthene	643	--	0.01 U	0.01 UJ-	0.01 U	--	--	--	--	--	--	--	--	--
Acenaphthylene	4,530	--	0.01 U	0.01 UJ-	0.01 U	--	--	--	--	--	--	--	--	--
Anthracene	14,200	--	0.01 U	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--
Benz[a]anthracene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U	--	0.01 U	0.01 U
Benzo(a)pyrene	0.05	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U	--	0.01 U	0.01 U
Benzo(b)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U	0.01 U	--	0.01 U	0.01 U
Benzo(ghi)perylene	739	--	0.02 U	0.02 UJ-	0.02 U	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U	--	0.01 U	0.01 U
Benzoic acid	5,830,000	--	5 U	5 U	5 UJ	--	--	--	--	--	--	--	--	--
Benzyl alcohol	1,270,000	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Bis(2-chloroethoxy)methane	10	--	0.1 U	0.1 UJ-	0.1 U	--	--	--	--	--	--	--	--	--
Bis(2-chloroethyl) ether	NA	0.04	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Bis(2-ethylhexyl) phthalate	0.046	--	1.8 U	1.1 U	1.5 U	--	--	--	--	--	--	--	--	--
Butylbenzyl phthalate	NA	46	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Carbazole	236	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Chrysene	10	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U	--	0.01 U	0.01 U
Dibenzo(a,h)anthracene	10	--	0.01 U	0.01 UJ-	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U	--	0.01 U	0.01 U
Dibenzofuran	260	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Diethyl phthalate	28,400	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	72,000	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	2,910	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Di-n-octyl phthalate	10	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Fluoranthene	90.2	--	**0.012**	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--
Fluorene	2,740	--	0.01 U	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	NA	0.055	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	17.7	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	NA	48	0.3 U	0.3 U	0.3 U	--	--	--	--	--	--	--	--	--
Hexachloroethane	NA	5.6	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	10	--	0.01 U	0.01 UJ-	0.01 U	0.01 U	0.01 U	--	0.01 UJ-	0.01 U	0.01 U		0.01 U	0.01 U
Isophorone	1,560	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Naphthalene	3,090	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
Nitrobenzene	449	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
N-Nitroso-di-n-propylamine	10	--	0.1 U	0.1 U	0.1 U	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	10	--	0.1 U	0.1 UJ-	0.1 U	--	--	--	--	--	--	--	--	--
Pentachlorophenol	50	--	0.5 U	0.5 U	0.5 U	--	--	--	--	--	--	--	--	--
Phenanthrene	139	--	**0.021**	0.01 UJ-	0.01 U	--	--	--	--	--	--	--	--	--
Phenol	789,000	--	1 U	1 U	1 U	--	--	--	--	--	--	--	--	--
Pyrene	603	--	**0.012**	0.01 U	0.01 U	--	--	--	--	--	--	--	--	--
1,4-Dioxane	160	--	0.4 U	**1.4**	0.4 U	**24**	**25**	**35**	--	--	**5.1**	**1.2 J-**	--	**57**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
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NA = Screening level not available in DGWP
NJ = Tentatively identified compound, estimated value
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
-- = Screening level available from DGWP (DOF, 2020)

Table 6
Groundwater Analytical Results - Total Metals
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

Metals	DGWP Screening Level	CCW-1A	CCW-1B	CCW-1C	CCW-2A	CCW-2B	CCW-2B (Duplicate)	CCW-2C	CCW-3A	CCW-3B	CCW-3C	CCW-4C	CCW-5B	CCW-5C
	Date Sampled	5/4/2022	5/4/2022	5/4/2022	5/5/2022	5/5/2022	5/5/2022	5/5/2022	5/9/2022	5/9/2022	5/9/2022	5/5/2022	5/6/2022	5/6/2022
Mercury	0.025	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Arsenic	5	**3.07**	1 U	**3.03**	**3.24**	**1,070**	**1,050**	**4.34**	**60.6**	**2.69**	**1.68**	**2.11**	**1,170**	**2.07**
Cadmium	40	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	11	1 U	1 U	**4.47**	1 U	1 U	1 U	**1.99**	**2.77**	1 U	**2.18**	3.17 U	1 U	**3.12**
Copper	2.4	1 U	**2.43**	1 U	4.2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2.31**	0.3 U
Lead	8.1	1 U	1 U	1 U	**3.93**	1 U	1 U	1 U	**6.03**	1 U	1 U	1 U	**34.8**	1 U
Manganese	100	**179**	**479**	**288**	**828**	**263**	**271**	**334**	**64.4**	**1,250**	**1,360**	**507**	**646**	**912**
Nickel	10	**5.45**	**3.34**	**4.92**	**5.77**	**9.66**	**9.81**	**5.00**	**160**	**5.13**	**2.55**	**6.87**	**4.17**	**2.70**
Zinc	81	5 U	5 U	5 U	**5.48**	5 U	5 U	5 U	**274**	5 U	5 U	5 U	**17.4**	5 U

Metals	DGWP Screening Level	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D	TWA-7D	TWA-8D	TWA-9D	TWA-10D	CTMW-5	CTMW-7	CTMW-7 (Duplicate)
	Date Sampled	5/3/2022	5/3/2022	5/3/2022	5/12/2022	5/3/2022	5/3/2022	5/9/2022	5/11/2022	5/5/2022	5/3/2022	5/11/2022	5/11/2022	5/11/2022
Mercury	0.025	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Arsenic	5	**3.86**	**45.7**	**12.4**	**7.58**	10 U	10 U	**8.98**	**10.1**	**12.7**	**11**	**176**	**2.69**	**2.76**
Cadmium	40	1 U	1 U	2 U	5 U	10 U	10 U	1 U	5 U	5 U	2 U	1 U	5 U	5 U
Chromium	11	1 U	1 U	**2.07 J+**	**2.49**	10 U	**27.8**	**1.17**	**1.91**	**9.21**	**5.72 J+**	**2.94**	**4.11**	**3.95**
Copper	2.4	**1.19 J+**	**4.01 J+**	**2.67 J+**	1 U	10 U	10 U	1 U	**1.24**	1.5 U	2 U	**59.2**	1 U	1 U
Lead	8.1	1 U	1 U	2 U	5 U	1 U	1 U	1 U	5 U	1 UJ	2 U	**6.88**	1 U	1 U
Manganese	100	**3,330**	**1,070**	**921**	**534**	**152**	**763**	**394**	**443**	**85.1**	**91.8**	**114**	**402**	**421**
Nickel	10	**3.85**	**7.52**	**6.86**	**3.92**	10 U	10 U	**3.59**	**4.71**	5 U	**3.00**	**18.1**	**3.66**	**3.73**
Zinc	81	5 U	5 U	10 U	5 U	50 U	50 U	5 U	5 U	25 U	10 U	**186**	5 U	5 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
X = Dissolved metals sample taken due to turbidity level

DOF DALTON OLMSTED FUGLEVAND

Table 6
Groundwater Analytical Results - Total Metals
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

Metals	DGWP Screening Level	CCW-6B	CCW-6C	CCW-7B	CCW-7C	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	MW-4 (Dissolved)[X]	SB-1A	SB-2A	SB-3A
Date Sampled		5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022
Mercury	0.025	**0.02**	0.02 U	**0.02**	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	0.02 U	0.02 U	0.02 U
Arsenic	5	**3.46**	10 U	**1.99**	**1.67**	**1.47**	**3.18**	**3.12**	**1.72**	**1.45**	**1.08**	**2.6**	**1.16**
Cadmium	40	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chromium	11	**1.70**	**23.7**	**1.39**	**6.72**	1 U	**1.43 J+**	**1.36 J+**	1.18 U	1 U	1 U	1 U	1 U
Copper	2.4	**10.6**	2 U	**1.29**	1 U	1 U	**4.06 J+**	**3.67 J+**	1.44 U	1 U	**2.85 J+**	1 U	1 U
Lead	8.1	**43.6**	1 U	**3.77**	1 U	1 U	**1.05**	1 U	**2.66**	1 U	1 U	1 U	1 U
Manganese	100	**690**	**258**	**739**	**161**	**412**	**119**	**113**	**729**	**688**	**169**	**454**	**241**
Nickel	10	**4.62**	10 U	**2.11**	**1.46**	**2.50**	**2.28**	**2.26**	**7.14**	**5.39**	**4.19**	**4.91**	**3.55**
Zinc	81	**88.8**	50 U	5 U	5 U	5 U	5 U	5 U	**13.0**	5 U	5 U	5 U	5 U

Metals	DGWP Screening Level	CTMW-8	CTMW-9	CTMW-11R2	CTMW-12	CTMW-14	CTMW-15	CTMW-17	CTMW-17D	CTMW-18	CTMW-20	CTMW-23R	CTMW-24	CTMW-24D	CTMW-25D
Date Sampled		5/12/2022	5/12/2022	5/10/2022	5/10/2022	5/12/2022	5/4/2022	5/10/2022	5/10/2022	5/11/2022	5/4/2022	5/10/2022	5/11/2022	5/11/2022	5/4/2022
Mercury	0.025	0.02 U	0.02 U	**0.012**	0.01 U	0.02 U	0.02 U	**0.044**	0.01 U	0.02 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U
Arsenic	5	**3.22**	**10**	5 U	**3.25**	**3.34**	**4.98**	**120**	**1.77**	**2.15**	**2.42**	1 U	1 U	**3.47**	**8.55**
Cadmium	40	5 U	5 U	5 U	1 U	1 U	1 U	**9.81**	1 U	1 U	1 U	1 U	1 U	5 U	5 U
Chromium	11	1 U	**7.29**	5 U	**3.62**	1 U	1 U	**17.4**	**3.80**	**7.54**	1 U	1 U	1 U	**6.41**	**19.7**
Copper	2.4	**1.13**	**1.31**	**3.13**	0.5 U	**4.66**	1 U	**199**	0.5 U	1 U	1 U	**0.826**	**1.67**	1 U	**2.31 J+**
Lead	8.1	1 U	1 U	5 U	1 U	1 U	1 U	**97.2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Manganese	100	1 U	**466**	5 U	**1,260**	**1.05**	**173**	**618**	**277**	**1,670**	**652**	**12.9**	**23.4**	**198**	**306**
Nickel	10	**31.2**	**8.60**	**41.3**	**2.25**	**1.85**	**1.90**	**12.8**	**1.92**	**9.87**	**3.93**	**2.84**	**2.32**	**1.29**	**6.43**
Zinc	81	5 U	5 U	25 U	5 U	5 U	5 U	**32.7**	5 U	5 U	5 U	5 U	**8.99**	5 U	5 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
J+ = Result is estimated, but the result may be biased high
U = Analyte is not detected above the reporting limit value shown
UJ = Analyte not detected above estimated value shown
X = Dissolved metals sample taken due to turbidity level

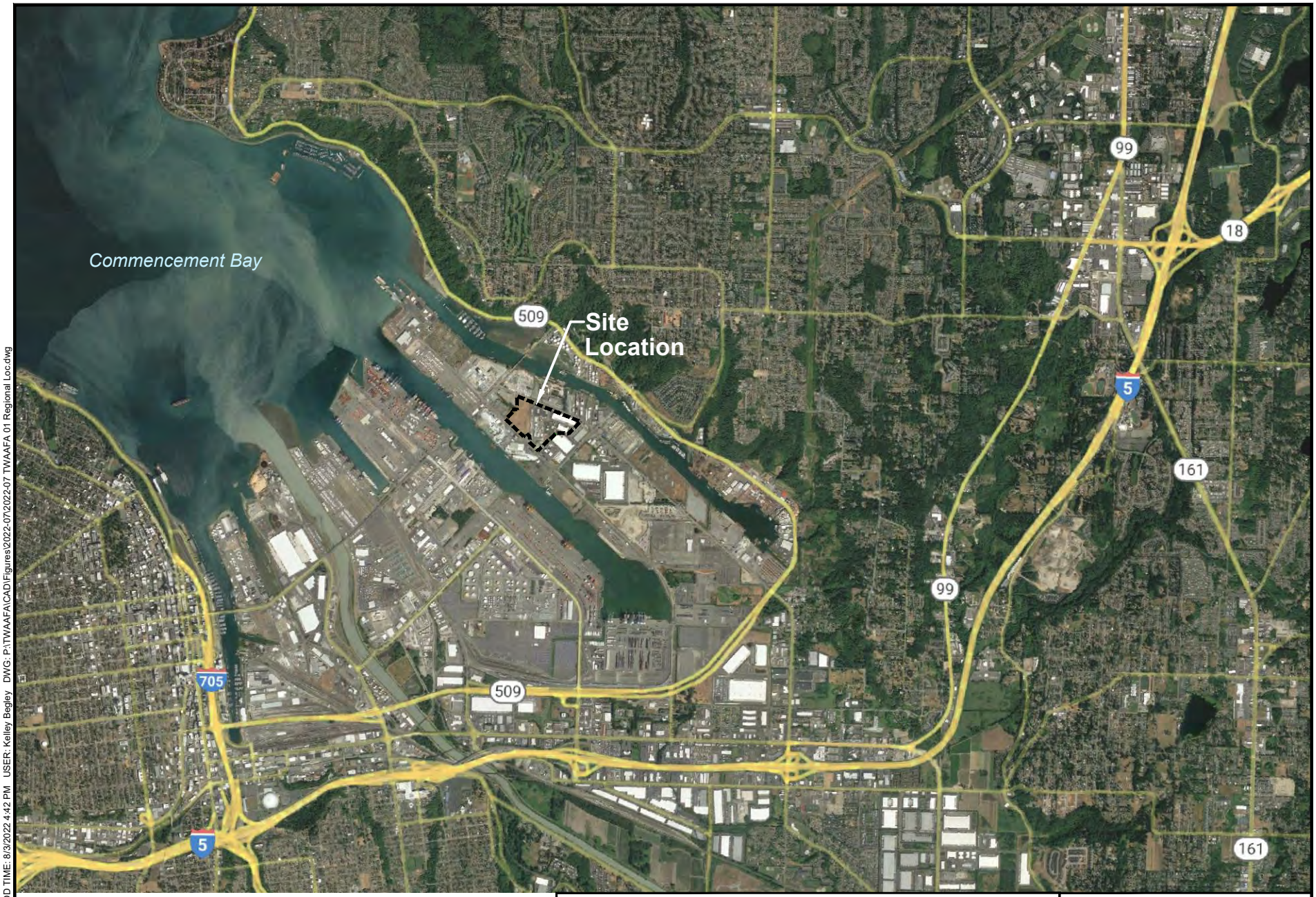
Table 7
Groundwater Analytical Results - Polychlorinated Biphenyls
Second Quarter 2022 Groundwater Analysis Report
TWAAFA Site
Tacoma, Washington

PCBs	DGWP Screening Level	MTCA A/B Screening Level	CCW-1A	CCW-1B	CCW-1C	CCW-2A	CCW-2B	CCW-2B (Duplicate)	CCW-2C	CCW-3A	CCW-3B	CCW-3C	CCW-4C	CCW-5B	CCW-5C	CCW-6B	CCW-6C	CCW-7B
		Date Sampled	5/4/2022	5/4/2022	5/4/2022	5/5/2022	5/5/2022	5/5/2022	5/5/2022	5/9/2022	5/9/2022	5/9/2022	5/5/2022	5/6/2022	5/6/2022	5/3/2022	5/3/2022	5/3/2022
PCB-aroclor 1016	NA	1.1	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1221	NA	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1232	NA	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1242	0.65	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0048 U	**0.059 J**	0.0035 U	**0.004**	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1248	NA	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1254	1.3	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	**0.0095 J**	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1260	0.00607	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1262	NA	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-
PCB-aroclor 1268	NA	--	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	R	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 UJ-

PCBs	DGWP Screening Level	MTCA A/B Screening Level	CCW-7C	CCW-8B	MW-1	MW-1 (Duplicate)	MW-4	SB-1A	SB-2A	SB-3A	TWA-1	TWA-2	TWA-3	TWA-5D	TWA-6D	TWA-8D	TWA-9D	TWA-10D
		Date Sampled	5/3/2022	5/4/2022	5/4/2022	5/4/2022	5/4/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/3/2022	5/11/2022	5/5/2022	5/3/2022
PCB-aroclor 1016	NA	1.1	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1221	NA	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1232	NA	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1242	0.65	--	0.0035 U	**0.004**	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1248	NA	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	**0.039**	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1254	1.3	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	**0.029**	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1260	0.00607	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	**0.023**	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1262	NA	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U
PCB-aroclor 1268	NA	--	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ-	R	0.0035 U

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
J = Result is estimated
NA = Screening Level not available
R = Rejected during validation due to low surrogate recoveries
U = Result is non-detect at the method reporting limit (MRL)
UJ = result restated as undetected at value shown
UJ- = undetected with an associated negative bias
-- = MTCA Screening Level not available

Figures



Source: Aerial Photography-Google Earth Pro, 08/14/2020.

0 4500

Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

Regional Location Map

DOF DALTON OLMSTED FUGLEVAND

FIGURE 1

08/04/2022

Legend

TWAAFA Site Boundary

Parcel Boundary

0 350

Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

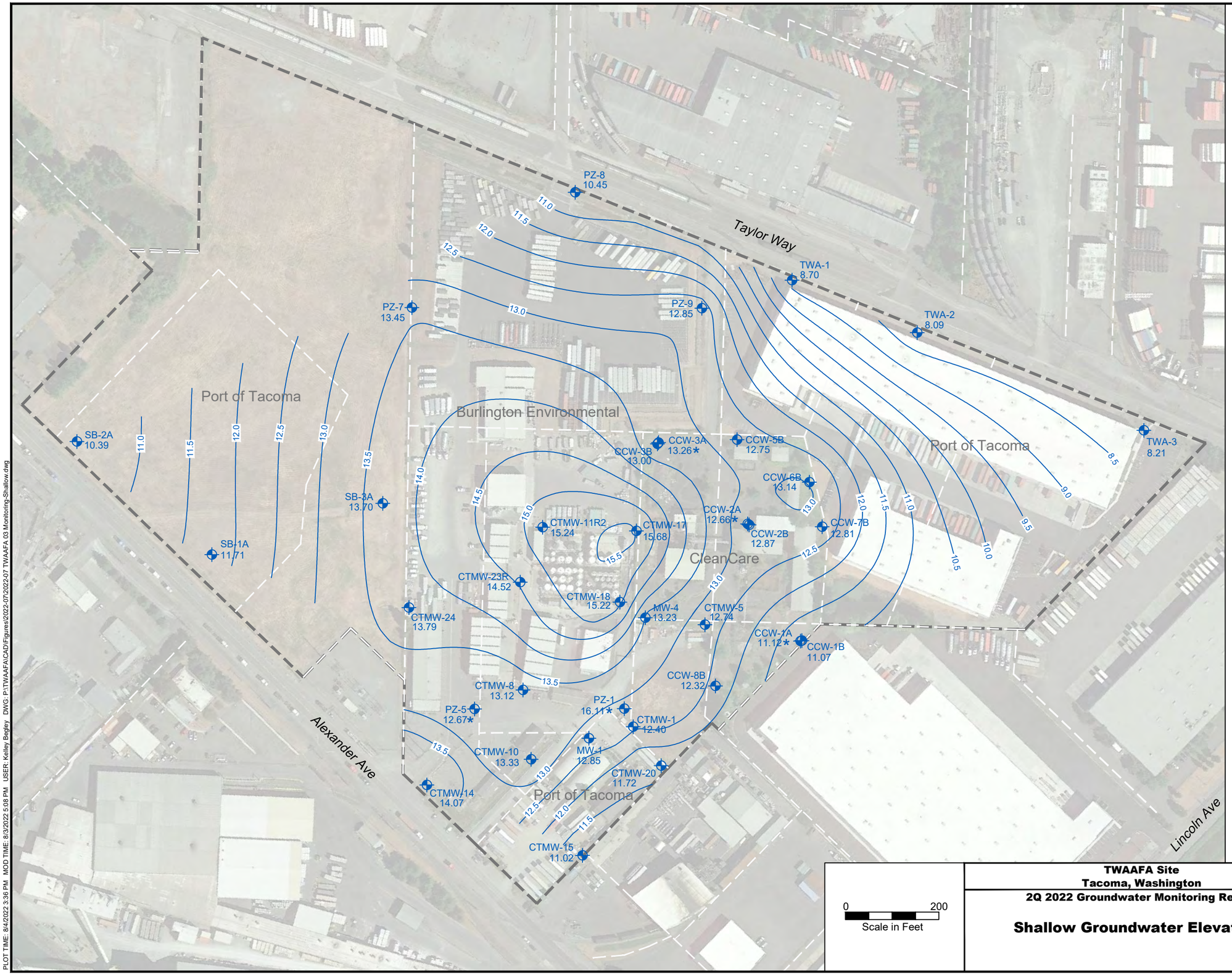
Site Location Map

DALTON OLMSTED FUGLEVAND

FIGURE 2

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/3/2022 4:50 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 02 Site Loc.dwg



State of Washington
Hydrogeologist
1600
Licensed Geologist
David G. Cooper

Legend

- Shallow Aquifer Monitoring Well/Piezometer with Groundwater Elevation (feet)
- Groundwater Elevation Contour Contour Interval = 0.5 (feet) Datum: NAVD88
- TWAAFA Site Boundary
- Parcel Boundary

Notes:
1. Water levels measured on 5/2/2022.
2. Wells on properties owned by Port of Tacoma measured by the Port's consultant.

* Water levels not used for contouring as discussed in 2Q22 GW Analysis Report.

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

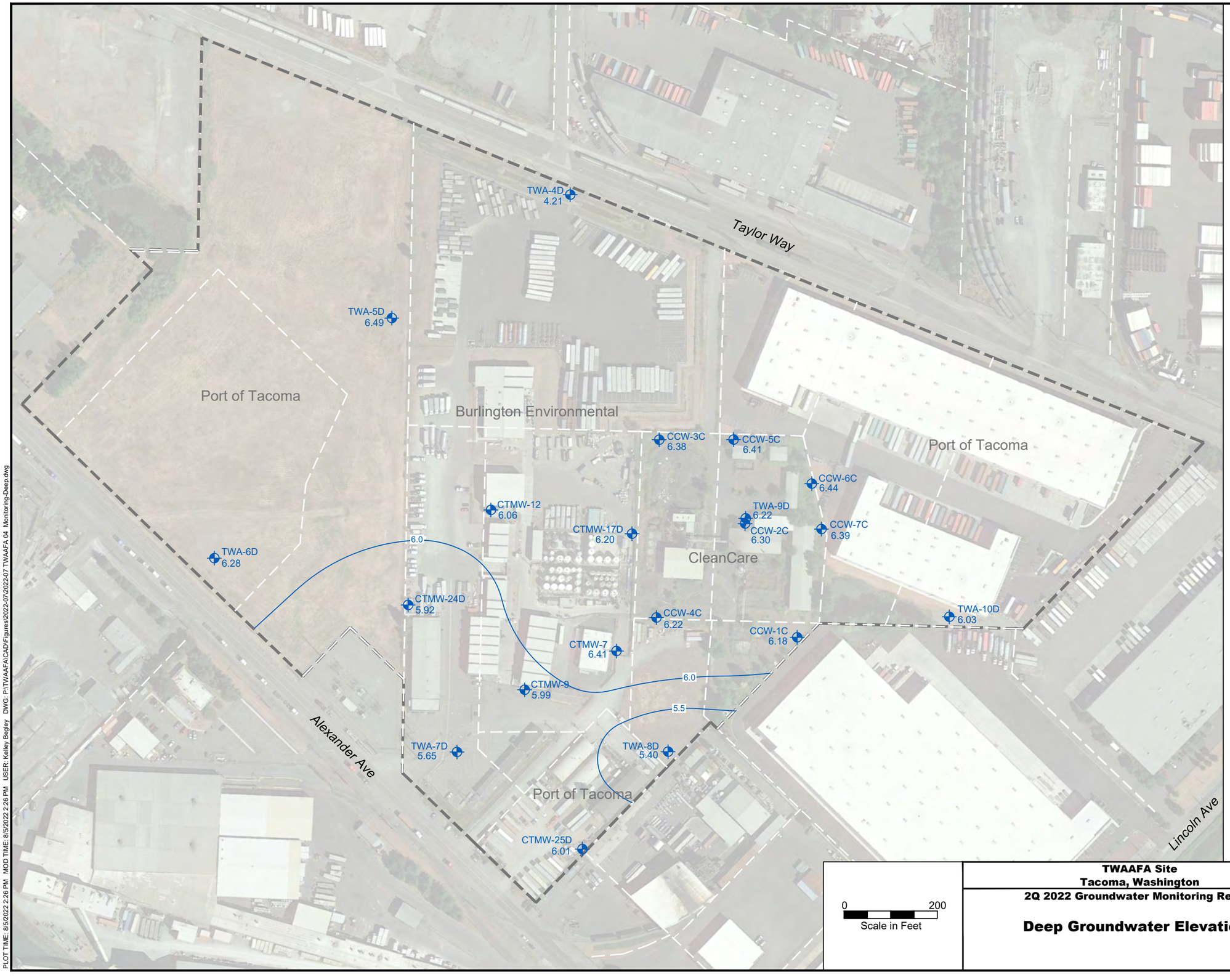
Shallow Groundwater Elevations

DALTON OLMSTED FUGLEVAND

FIGURE 3

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/3/2022 5:08 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 03 Monitoring-Shallow.dwg



State of Washington
Licensed Geologist
Hydrogeologist
1600
David G. Cooper

Legend

- Deep Aquifer Monitoring Well/Piezometer with Groundwater Elevation (feet)
- Groundwater Elevation Contour
  Contour Interval = 0.5 (feet)
  Datum: NAVD88
- TWAAFA Site Boundary
- Parcel Boundary

Notes:
1. Water levels measured on 5/2/2022.
2. Wells on properties owned by Port of Tacoma measured by the Port's consultant.

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

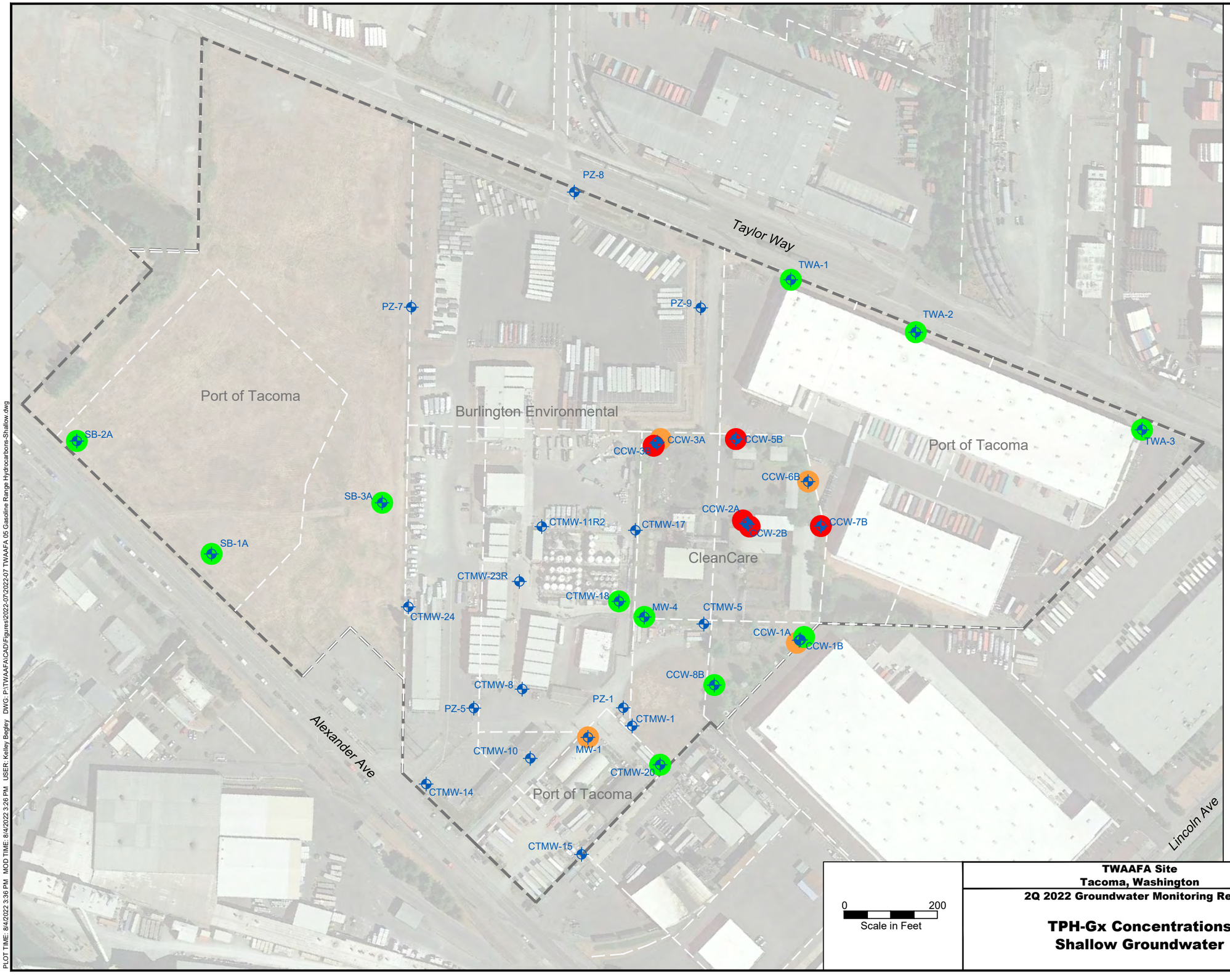
Deep Groundwater Elevations

DALTON OLMSTED FUGLEVAND

FIGURE 4

08/04/2022

PLOT TIME: 8/5/2022 2:26 PM MOD TIME: 8/5/2022 2:26 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 04 Monitoring-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=800 μg/L
- Detected Above SL from DGWP SL=800 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

TPH-Gx = Total Petroleum Hydrocarbons - Gasoline Range

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

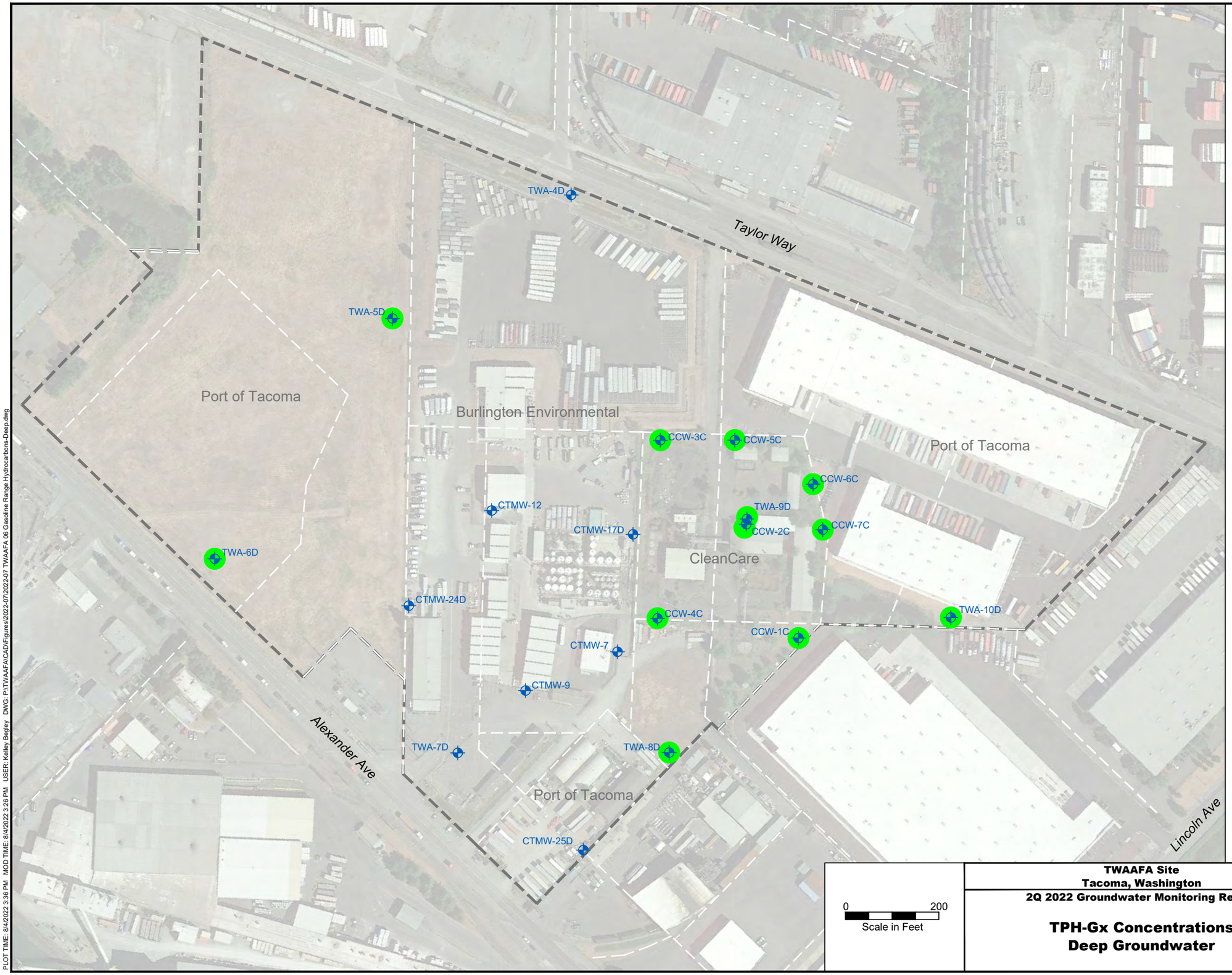
TPH-Gx Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 5

08/04/2022

PLOT TIME: 8/4/2022 3:35 PM MOD TIME: 8/4/2022 3:26 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 05 Gasoline Range Hydrocarbons-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=800 μg/L
- Detected Above SL from DGWP SL=800 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

TPH-Gx = Total Petroleum Hydrocarbons - Gasoline Range

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

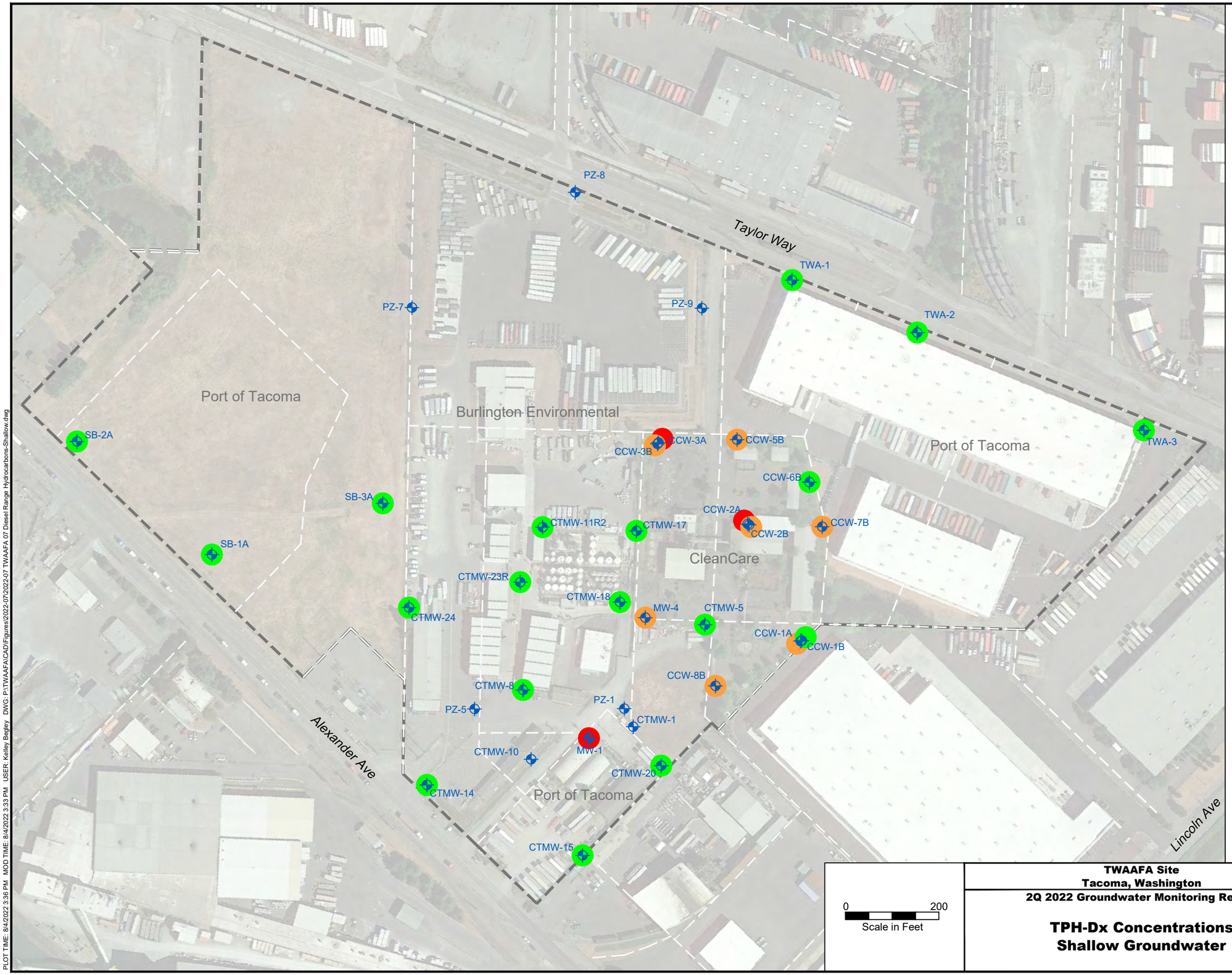
TPH-Gx Concentrations Deep Groundwater

DOF DALTON OLMSTED FUGLEVAND

FIGURE 6

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:26 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 06 Gasoline Range Hydrocarbons-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=500 μg/L
- Detected Above SL from DGWP SL=500 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

TPH-Dx = Total Petroleum Hydrocarbons - Diesel Range

Note:
TPH-Dx analysis prepared with silica gel cleanup.

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

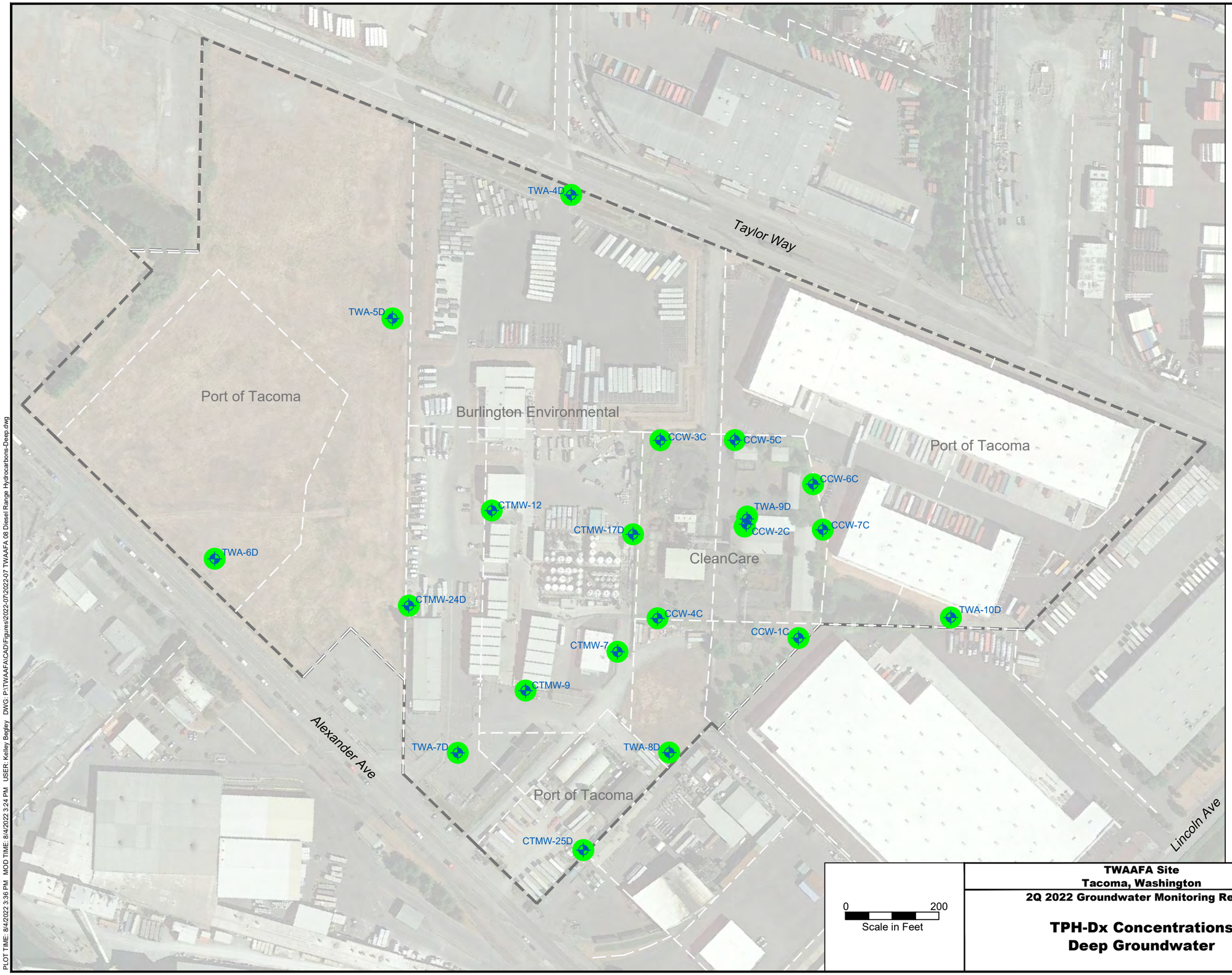
TPH-Dx Concentrations Shallow Groundwater

DOF DALTON OLMSTED FUGLEVAND

FIGURE 7

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:33 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 07 Diesel Range Hydrocarbons-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=500 μg/L
- Detected Above SL from DGWP SL=500 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

TPH-Dx = Total Petroleum Hydrocarbons - Diesel Range

Note:
TPH-Dx analysis prepared with silica gel cleanup.

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

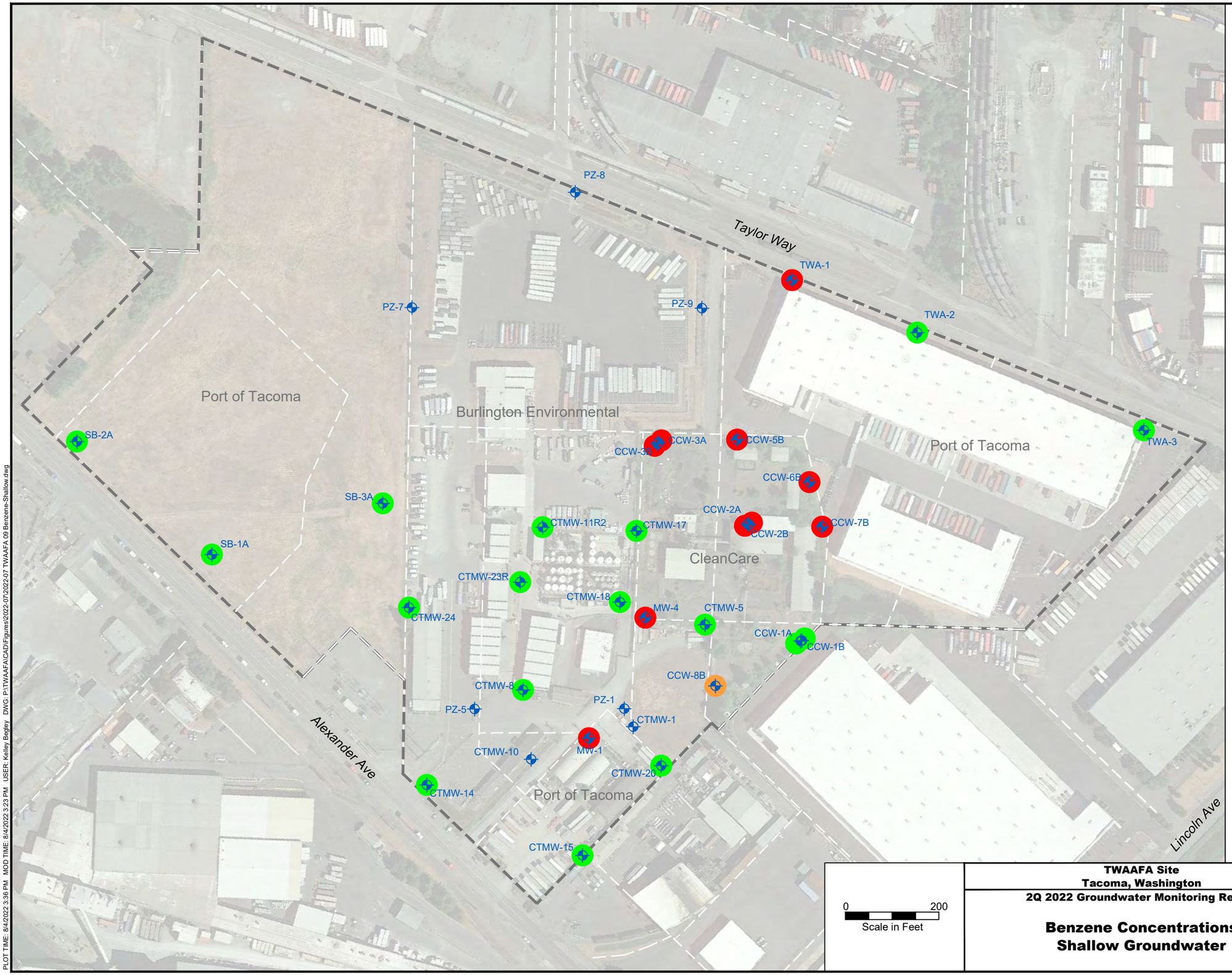
TPH-Dx Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 8

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:24 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 08 Diesel Range Hydrocarbons-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=1.6 μg/L
- Detected Above SL from DGWP SL=1.6 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200

Scale in Feet

TWAAFA Site
Tacoma, Washington

2Q 2022 Groundwater Monitoring Report

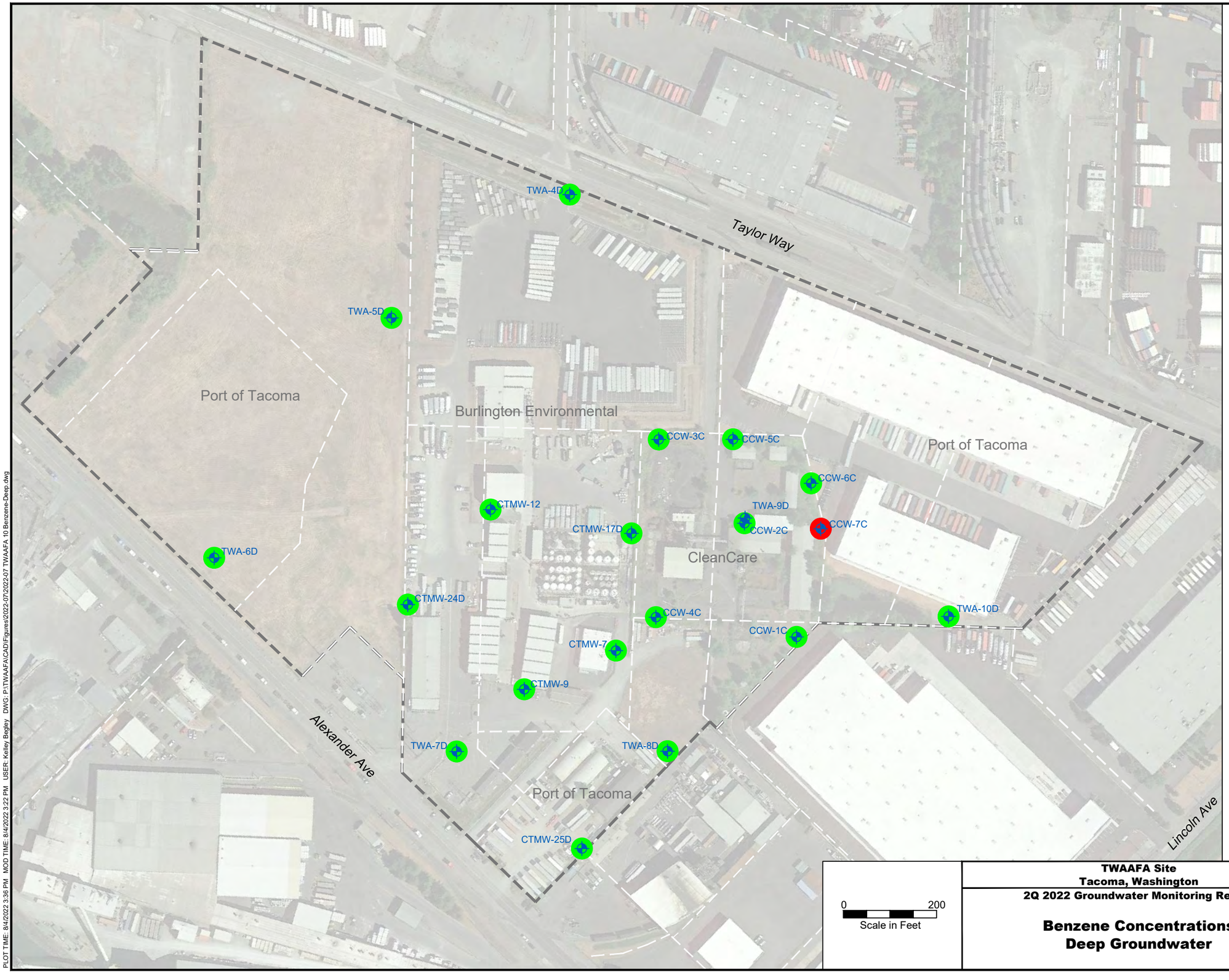
Benzene Concentrations Shallow Groundwater

DOF DALTON OLMSTED FUGLEVAND

FIGURE 9

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:23 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 09 Benzene-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=1.6 μg/L
- Detected Above SL from DGWP SL=1.6 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

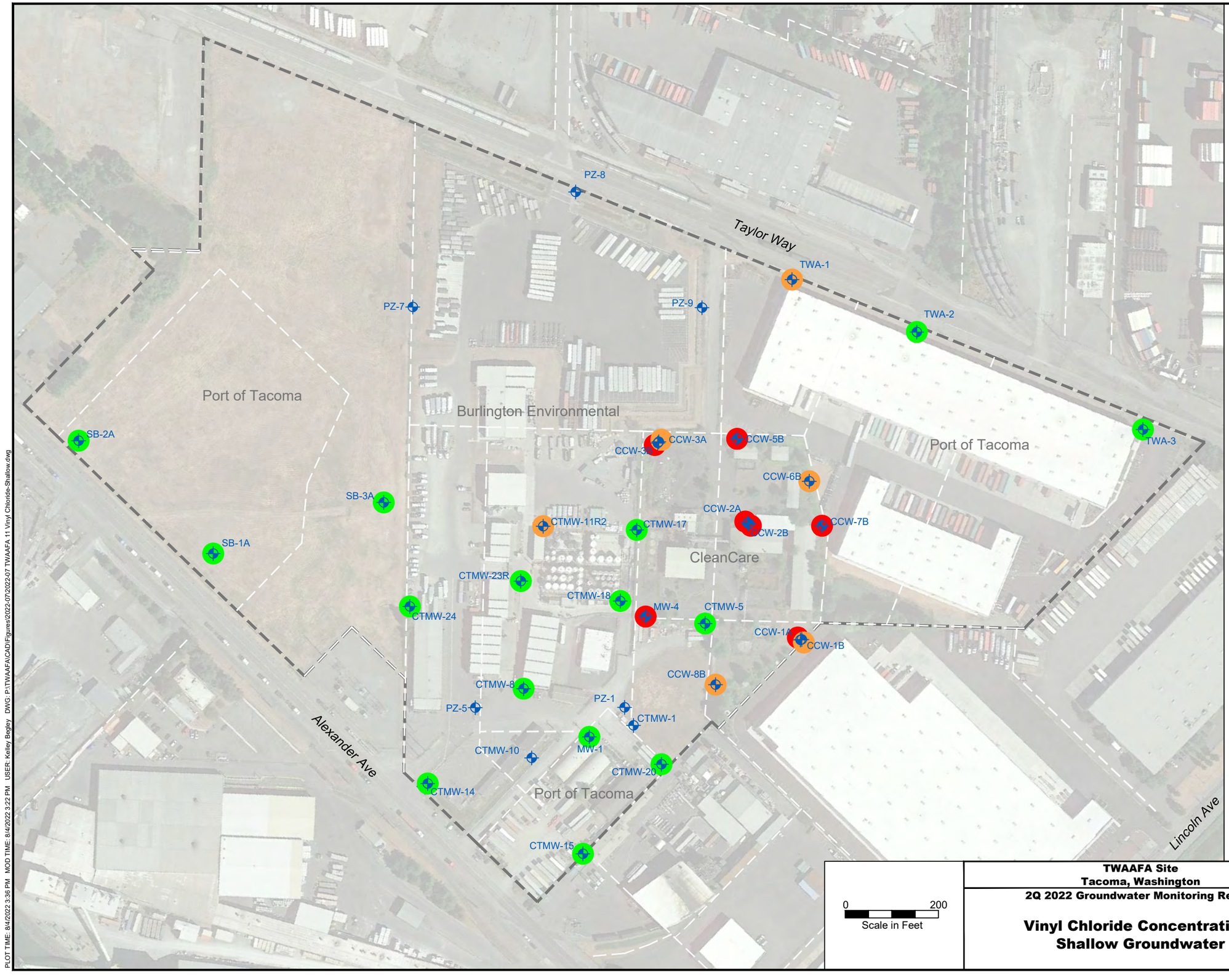
Benzene Concentrations
Deep Groundwater

DOF DALTON OLMSTED FUGLEVAND

FIGURE 10

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:22 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 10 Benzene-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=1.8 μg/L
- Detected Above SL from DGWP SL=1.8 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

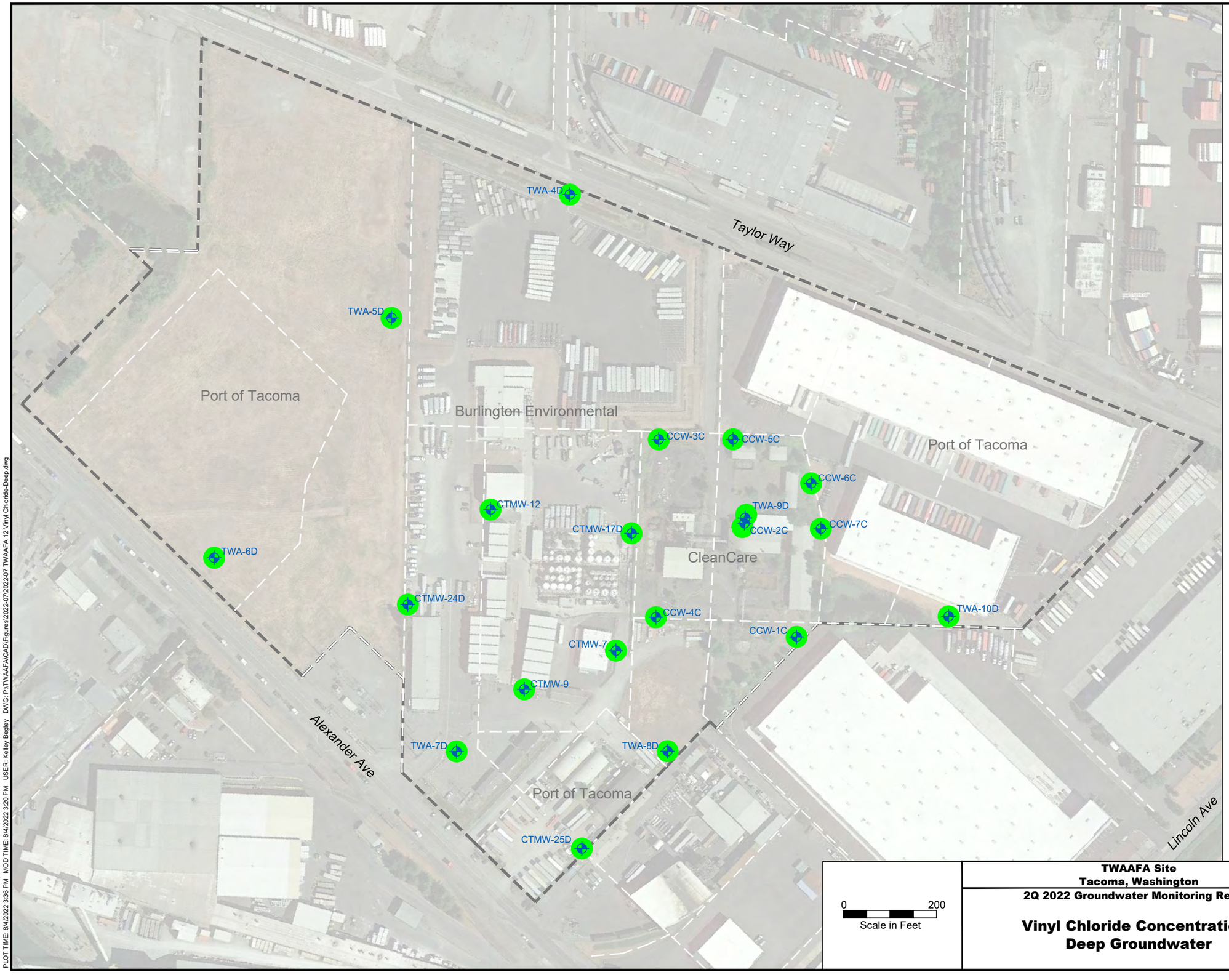
Vinyl Chloride Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 11

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:22 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 11 Vinyl Chloride-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=1.8 μg/L
- Detected Above SL from DGWP SL=1.8 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200

Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

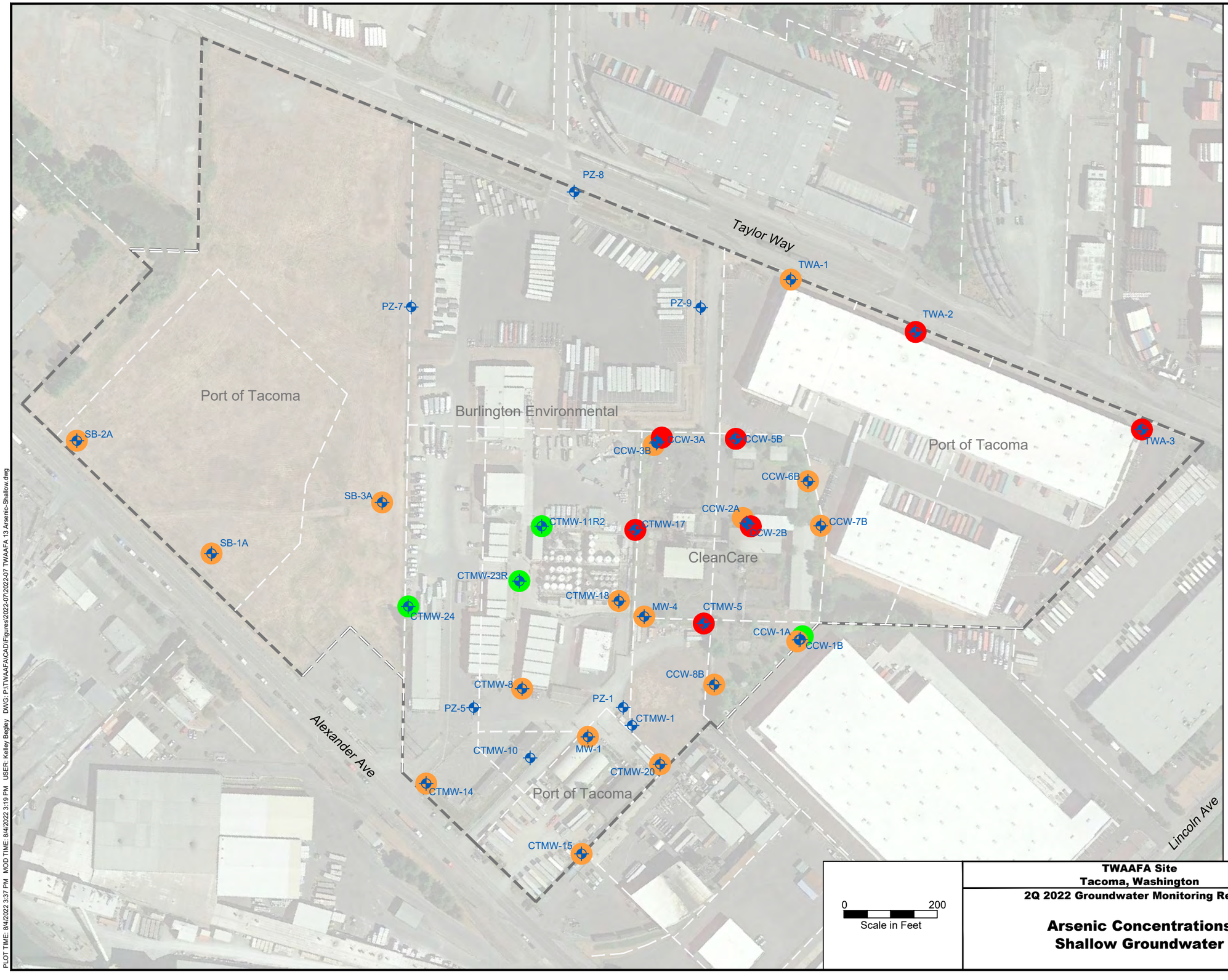
Vinyl Chloride Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 12

08/04/2022

PLOT TIME: 8/4/2022 3:36 PM MOD TIME: 8/4/2022 3:20 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 12 Vinyl Chloride-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=5 μg/L
- Detected Above SL from DGWP SL=5 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

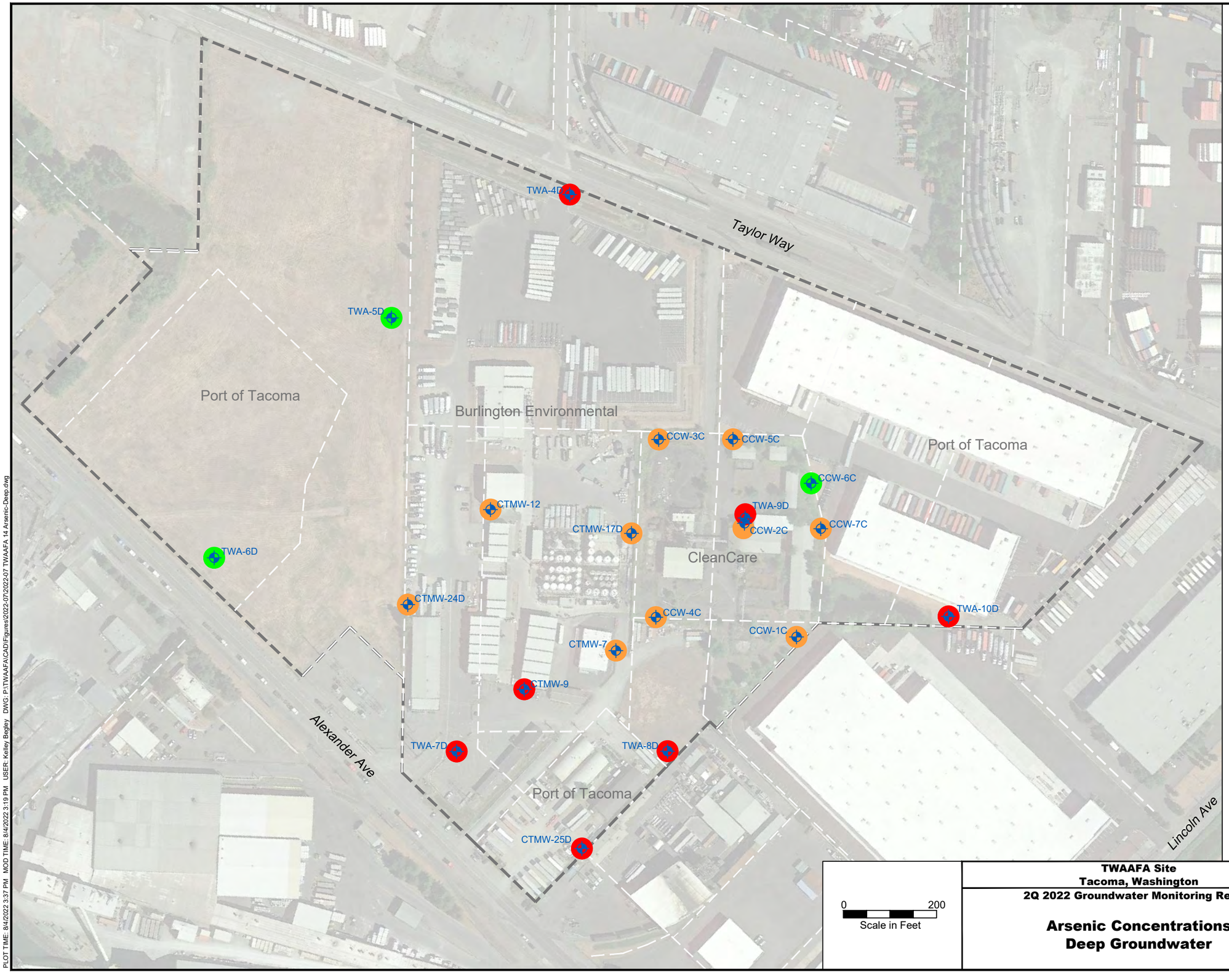
Arsenic Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 13

08/04/2022

PLOT TIME: 8/4/2022 3:37 PM MOD TIME: 8/4/2022 3:19 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 13 Arsenic-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=5 μg/L
- Detected Above SL from DGWP SL=5 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

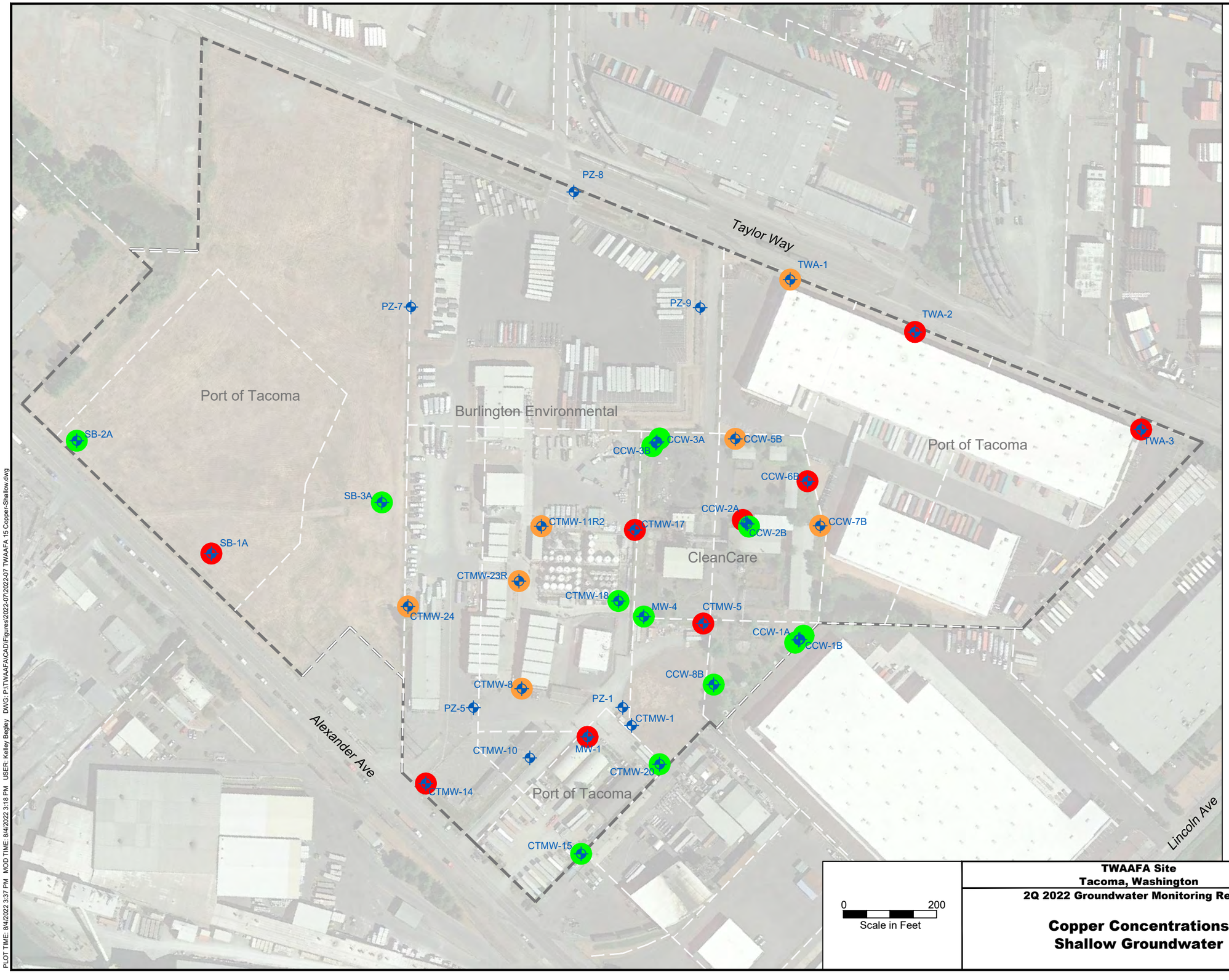
Arsenic Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 14

08/04/2022

PLOT TIME: 8/4/2022 3:37 PM MOD TIME: 8/4/2022 3:19 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 14 Arsenic-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=2.4 μg/L
- Detected Above SL from DGWP SL=2.4 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

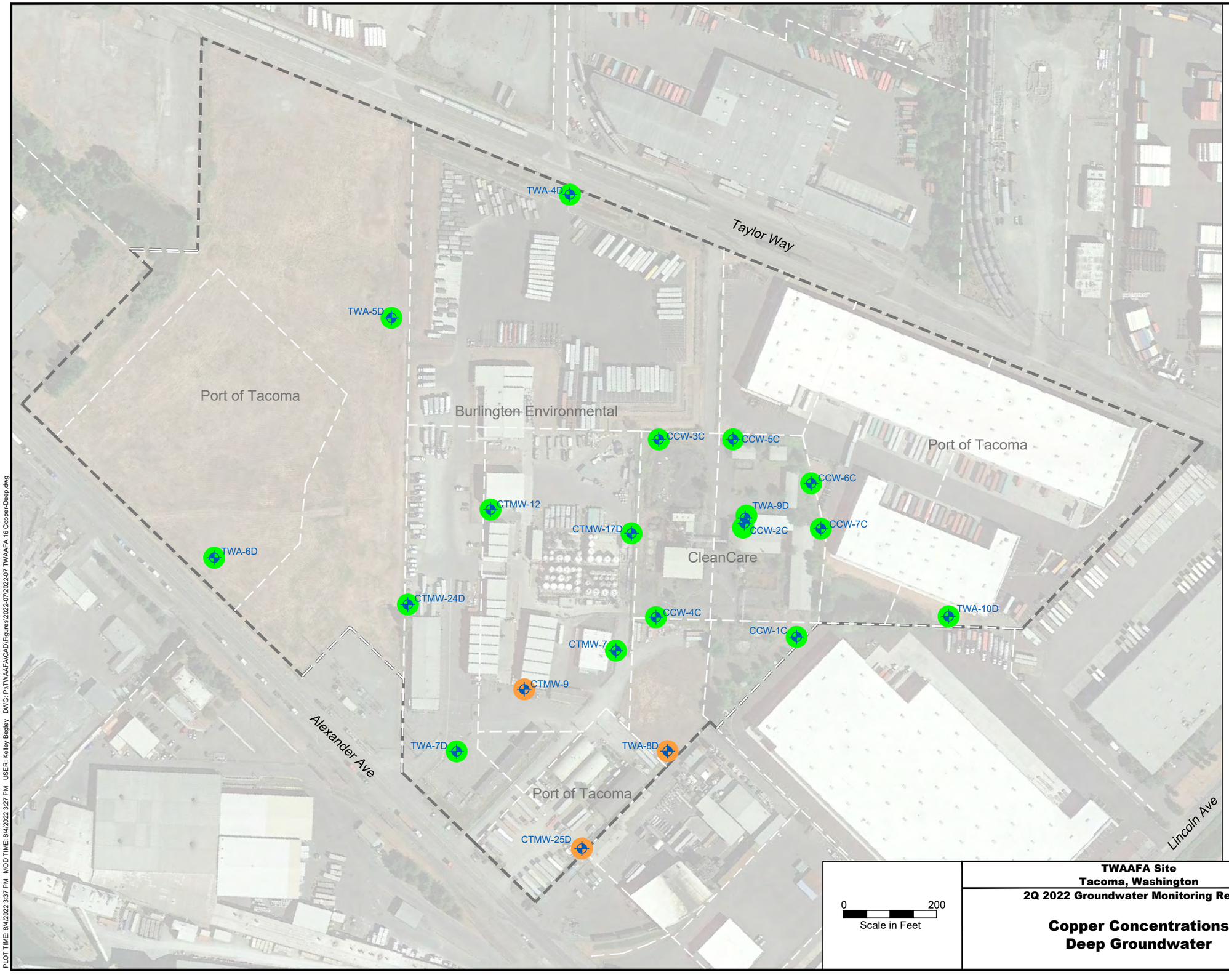
Copper Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 15

08/04/2022

PLOT TIME: 8/4/2022 3:37 PM MOD TIME: 8/4/2022 3:18 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 15 Copper-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=2.4 μg/L
- Detected Above SL from DGWP SL=2.4 μg/L

Abbreviations:

SL = Screening Level

DGWP = Data Gaps Work Plan (DOF, 2020)

μg/L = micrograms/liter

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
2Q 2022 Groundwater Monitoring Report

Copper Concentrations
Deep Groundwater

DOF DALTON OLMSTED FUGLEVAND

FIGURE 16

08/04/2022

PLOT TIME: 8/4/2022 3:37 PM MOD TIME: 8/4/2022 3:27 PM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-07\2022-07 TWAAFA 16 Copper-Deep.dwg

Appendix A

Groundwater Sampling Field Sheets

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-9
Facility: Cleen Earth - Tacoma

Date: 5/12/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 11.62
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quadro Pump - E/S master flex
Turb - LaMotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 11.68
Well Volume = ~3.1 gal
Pump Intake Depth (ft.BTOC): ~25'

Purge start time: 1126
Purge stop time: 1205
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1128	11.68	400	8.67	3968	13.8	1.73	30.4	6.05
1131	11.68	"	7.78	4051	13.6	0.58	33.6	6.96
1134	11.68	"	7.31	4035	13.6	~~0.47~~ NW 0.49	28.8	5.73
1137	11.68	"	7.13	4021	13.9	0.37	22.4	5.30
1140	11.68	"	7.05	4011	13.9	0.36	16.8	5.10
1143	11.68	"	6.97	4011	13.8	0.34	4.9	5.97
1146	11.68	"	6.95	4014	13.8	0.34	1.4	5.75
1149	11.68	"	6.93	4005	13.8	0.32	-3.9	5.94
	All Parameters		Stable					
1150	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-9-0522
Date: 05/12/2022
Time: 1150

Notes: Small, low density black particles seen in water
Water clear
3 gallons + sample not purged.

Bottles and Analyses: (collected in order below)

(6) 6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1) 1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) – x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) – x 1000 mL unpreserved AG 8082A PCBs
(1) 1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 8 = Total Bottles

Screen = 18' - 28.5'
TD = 30'
In take set 5' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-8
Facility: Clean Earth - Tacoma
Date: 5/12/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 4.78
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 6.53
Well Volume = ~0.9 gal
Pump Intake Depth (ft.BTOC): ~7.5'
Purge start time: 1044
Purge stop time: 1114
Initial Flow Rate: ~~200~~ 300
Final Flow Rate: 150
Flow cell disconnected prior to sampling : ☐

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1047	5.67	~~200~~ 300	11.68	6457	12.6	0.75	-55.5	28.4
1050	5.96	200	11.84	6519	12.6	0.75	-68.5	18.2
1053	6.10	200	12.04	6466	12.7	0.64	-83.1	8.90
1056	6.29	200	12.19	6457	12.7	0.54	-90.9	6.43
1059	6.33	150	12.28	6624	12.7	0.54	-95.2	6.32
1102	6.35	150	12.34	6699	12.6	0.51	-97.2	6.18
1105	6.39	150	12.36	6720	12.6	0.52	-98.1	6.01
	All Parameters Stable							
1110	Collect NW sample	time.						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-8-0522
Date: 05/12/2022
Time: 1110

Notes: Water Clear w/ Cloudy White Particles
1 gallon + Sample Vol.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	8	= Total Bottles

screen: 3'-9.8'
TD: 10'
Intake set ~2.5' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-14
Facility: Clean Earth - Tacoma

Date: 5/12/22
Sampling Method: LF Peri
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Intial-Water Level before purge (ft. BTOC) 4.21
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - ES Masterflex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume = ~1 gal
End-Water Level post purge/sample with pump on (ft. BTOC):
Pump Intake Depth (ft.BTOC): ~8.5

Purge start time: 0953
Purge stop time: 1027
Initial Flow Rate: 100
Final Flow Rate:
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0956	4.38	100	~~8.10~~ NW	421.2	12.6	5.43	-24.5	6.94
0959	4.41	"	7.93	370.6	12.6	4.04	-19.1	4.26
1002	4.46	"	7.67	270.1	12.6	3.70	-9.3	3.02
1005	~~4.79~~ NW 4.61	"	7.44	260.8	12.5	3.75	2.8	2.84
1008	4.71	"	7.38	260.7	12.5	3.76	3.5	2.72
1011	4.71	"	7.35	259.9	12.5	3.80	5.8	2.28
	7 1 well vol. purged							
1012	~1.25 gallons							
	All Parameters		except	WL Stable				
1015	Sample time.							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-14-0522
Date: 05/12/2022
Time: 1015

Notes: 2.5 gallons + sample vol. in bucket

Bottles and Analyses: (collected in order below)

(6) 6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1) 1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) 2 x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) — x 1000 mL unpreserved AG 8082A PCBs
(1) 1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 10 = Total Bottles

Screened: 4.9-9.4
TD = 10.5
Intake set ~2.5 from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-4D
Facility: Clear Earth - Tacoma

Date: 05/12/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF peri.
Intial-Water Level before purge (ft. BTOC) 10.17
Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 11.81
Well Volume = ~8.13 gal
Pump Intake Depth (ft.BTOC): ~~56~~ ~55' NW

Purge start time: 0850
Purge stop time: 0931
Initial Flow Rate: 200
Final Flow Rate: 200
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0853	10.97	200	7.56	8537	13.2	0.45	86.5	6.69
0856	11.30	"	7.59	8582	13.2	0.38	82.5	6.76
0859	11.42	"	7.62	8636	13.2	0.39	73.9	4.40
0902	11.50	"	7.64	8623	13.2	0.30	66.8	3.44
0905	11.56	"	7.65	8622	13.1	0.33	55.7	2.92
0908	11.56	"	7.66	8616	13.1	0.31	43.4	3.31
0911	11.56	"	7.66	8611	13.1	0.32	35.6	3.84
0914 0913 MW	11.56	"	~~7.67~~ 7.67 MW	8616	13.1	0.29	25.5	3.92
	Redox is w/ in +/- 20 equipment accuracy							
	All other parameters Stable							
0920	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: TWA-4D-0522
Date: 05/12/2022
Time: 0920

Notes: 2.5 gallons + sample vol. purged. Add security bolt. (1x)

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	—	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	10	= Total Bottles	

screened: 52.4-57.4
TD = 58.0'
Intake set ~~2~~ 3' NW from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. Field Blank #2

Facility: Clean Earth Tacoma

Date: ~~05~~ NW 05/11/22

Sampling Personnel: NW/MW

Initial Headspace (ppm)

Sampling Method: ~~De~~ NW Decanting

Intial-Water Level before purge (ft. BTOC)

Equipment Used:

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC):

WL - PID -

WQ - Pump -

Turb -

Well Volume =

Pump Intake Depth (ft.BTOC):

Purge start time: 1517

Initial Flow Rate:

Flow cell disconnected prior to sampling : ☐

Purge stop time:

Final Flow Rate:

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU

Project: TWAAFA
Sampler: NW/MW
Sample ID: Field Blank#2-0522
Date: 05/11/2022
Time: 1520

Notes:

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-240
Facility: Clean Earth - Tacoma

Date: 05/11/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 13.92
Equipment Used:
WL - Aeron PID - MiniRAE
WQ - YSI 9 vertex Pump - B/S Monsoon
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume =
End-Water Level post purge/sample with pump on (ft. BTOC): 13.93
Pump Intake Depth (ft.BTOC):

Purge start time:	1427	Initial Flow Rate:	400	Flow cell disconnected prior to sampling: ☑
Purge stop time:	1506	Final Flow Rate:	400	

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1430	13.93	400	6.48	2838	13.1	1.38	56.5	4.31
1433	13.93	"	6.54	2855	13.0	0.83	46.2	3.90
1436	13.93	"	6.56	2849	13.0	0.60	+34.7	3.43
1439	13.93	"	6.57	2830	13.0	0.54	23.8	2.64
1442	13.93	"	6.56	2829	13.1	0.52	18.0	2.62
1445	13.93	"	6.56	2828	13.1	0.51	14.4	2.78
	All parameters	stable						
1450	sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-24D-0522
Date: 05/11/2022
Time: 1450

Notes: 2.75 gallons + Sample tbg. purged

Bottles and Analyses: (collected in order below)

(6) 6+6+6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1) 1+1+1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) — x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) — x 1000 mL unpreserved AG 8082A PCBs
(1) 1+1+1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 24 = Total Bottles

(8+8+8)
*MS/MSD

Screen - 19' - 23.8'
TD = 24.5'
Intake set ~3' from bottom
Stick up ≈ 2.5'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-24

Facility: CleanEarth - Tacoma

Date: 5/11/22

Sampling Personnel: NW/MW

Sampling Method: LF peri

Initial Headspace (ppm) 0.0

Intial-Water Level before purge (ft. BTOC) 6.08

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Quatro Pump - E/S Masterflex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

Well Volume =

End-Water Level post purge/sample with pump on (ft. BTOC): 6.72

Pump Intake Depth (ft.BTOC):

Purge start time: 1325

Purge stop time: 1405

Initial Flow Rate: 200

Final Flow Rate: 200

Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU **or** < 10% if >5 NTU
1327	6.32	200	7.78	178.5	11.3	2.60	-22.5	5.89
1330	6.42	"	7.17	148.1	11.2	1.64	-18.3	4.45
1333	6.53	"	6.50	141.2	11.2	1.17	-5.7	3.74
1336	6.60	"	6.30	140.5	11.3	1.13	-3.3	4.00
1339	6.62	"	6.21	139.7	11.3	0.96	0.5	3.40
1342	6.62	"	6.12	140.7	11.3	0.89	2.4	3.12
1345	6.65	"	6.07	141.0	11.3	0.80	3.4	3.26
1348	6.66	"	6.04	~~141.58~~ 141.8	11.3	0.77	4.5	3.20
	All Parameters		Stable					
1350	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-24-0522
Date: 05/11/2022
Time: 1350

Notes: 1.5 gallons total sample purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	~~8~~ 10	MW = Total Bottles

Screen ~ 5.5' - 10.3'
TD = 11.0'
Stick up = ~2.25'
Intake set 2' above bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-8D

Facility: Clean Earth - Tacoma / Parcel A

Date: 5/11/22

Sampling Personnel: NW/MW

Initial Headspace (ppm) 0.0

Sampling Method: LF Peri

Intial-Water Level before purge (ft. BTOC) 9.72

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 12.10

Well Volume = ~7.86 gal.

Pump Intake Depth (ft.BTOC): ~53'

Purge start time: 1142

Purge stop time: ~~1241~~ 1241

Initial Flow Rate: 200

Final Flow Rate: 200

Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1145	10.42	200	7.03	11469	13.5	0.85	109.1	3.40
1148	10.73	"	7.44	11546	13.4	0.49	91.5	3.23
1151	11.21	"	7.59	11548	13.3	0.38	67.2	3.28
1154	11.47	"	7.62	11560	13.3	0.36	58.8	3.04
1157	11.61	"	7.63	11661	13.5	0.31	49.2	2.39
1200	11.77	"	7.63	11851	13.6	0.30	38.4	2.78
1203	11.82	"	7.62	12026	13.5	0.28	30.7	2.74
1206	11.83	"	7.60	12132	13.4	0.25	23.3	2.97
1209	11.83	"	7.59	12185	13.5	0.24	15.9	2.44
1212	11.83	"	7.56	12262	13.5	0.24	7.1	2.64
	Redox w/ in	+- 20	mV equipment accuracy					
	All other parameters Stable							
1215	Sample time.							

Project: TWAAFA
Sampler: NW/MW
Sample ID: TWA-8D-0522
Date: 05/11/2022
Time: 1215

Notes: 2 gallons + sample vol. security belt installed.

Bottles and Analyses: (collected in order below)

(6) 6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ ~~1,4~~ Dioxane ☑ ~~NWTPH-Gx~~

(1) 1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup

(2) 2 x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs

(2) 2 x 1000 mL unpreserved AG 8082A PCBs

(1) 1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

(12) 12 = Total Bottles

screen – 50.2 – 55.2
TD – 55.95' NW
Intake ~2.5' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-5
Facility: Clean Earth - Tacoma

Date: SAMPLED 5/11/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: Bladder Pump
Intial-Water Level before purge (ft. BTOC) 4.14
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Quatro Pump - QED
Turb - Lamotte well wizard
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 4.22
Well Volume =
Pump Intake Depth (ft.BTOC):

Purge start time: 1044
Purge stop time: 1111
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1047	4.25	400	~~6.33~~ NM 5.75	197.9	11.5	1.03	38.8	4.15
1050	4.18	"	5.69	195.1	11.6	0.94	39.0	5.81
1053	4.19	"	5.62	190.8	11.8	0.62	40.4	5.66
1056	4.21	"	5.59	191.4	11.7	0.51	42.0	4.56
1059	4.21	"	5.57	192.7	11.7	0.46	42.6	3.86
1102	4.22	"	5.56	192.0	11.7	0.41	42.7	3.58
	All Parameters		Stable					
1105	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-5-0522
Date: 05/11/2022
Time: 1105

Notes: Strong odor in water, clear, replace lock
2.5 gallons + sample vol. purged

Bottles and Analyses: (collected in order below)

(6) 6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1) 1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) — x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) — x 1000 mL unpreserved AG 8082A PCBs
(1) 1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 8 = Total Bottles

screen = 3' - 9.5'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-7

Facility:

Date: 5/11/22

Sampling Personnel: NW/MW

Initial Headspace (ppm) 0.0

Sampling Method: LFPeri

Intial-Water Level before purge (ft. BTOC) 12.02

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - ES master flex
Turb - LaMotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 12.03

Well Volume = ~2.9 gal

Pump Intake Depth (ft.BTOC): ~24'

Purge start time: 0938

Purge stop time: 1027

Initial Flow Rate: 400

Final Flow Rate: 400

Flow cell disconnected prior to sampling : ☐

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0942	12.03	400	6.52	2570	14.4	1.12	93.7	4.44
0945	12.03	"	6.62	2566	14.3	0.63	72.7	4.60
0948	12.03	"	6.62	2564	14.3	0.53	51.5	4.20
0951	12.03	"	6.61	~~277~~ NW 2570	14.3	0.49	38.5	4.95
0954	12.03	"	6.61	2570	14.3	0.38	20.8	~~3.59~~ NW 3.59
0957	12.03	"	6.61	2571	14.3	0.35	7.4	3.74
1000	12.03	"	6.61	2578	14.3	0.34	-6.1	2.99
1003	12.03	"	6.61	2577	14.4	0.32	-6.0	4.65
	All Parameters		Stable,	redox w/	in +/- 20	mv equipment	accuracy	
1005	Sample	time						
1010	duplicate	sample	time					

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-7-0522
Date: 05/11/2022
Time: 1005

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-9-7-0522
Date: 05/11/2022
Time: 1010 *duplicate*

Notes: water is effervescent.
5 gallons + sample vol. purged

Bottles and Analyses: (collected in order below)

(6)	6+6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1+1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2+2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	—	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1+1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	20	= Total Bottles	

screen - 18.5' - 28.5'
~~ID~~ = NW
Intake @ ~4' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-18

Facility: Clean Earth - Tacoma

Date: 05/11/22

Sampling Personnel: NW/MW

Initial Headspace (ppm) 0.0

Sampling Method: LF-Peri

Intial-Water Level before purge (ft. BTOC) 7.16

Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 7.70

Well Volume = ~1.33 gal

Pump Intake Depth (ft.BTOC): ~11'

Purge start time: 0848

Purge stop time: 0916

Initial Flow Rate: 200

Final Flow Rate: 200

Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0850	7.64	200	6.00	972	12.5	1.32	22.5	8.00
0853	7.70	"	6.08	971	12.5	0.75	20.0	5.54
0856	7.70	"	6.08	918	12.5	0.70	15.7	4.99
0859	7.70	"	6.08	895	12.6	0.57	14.3	3.30
0902	7.70	"	6.08	885	12.5	0.56	13.0	2.92
0905	7.70	"	6.09	872	12.5	0.50	11.2	2.72
	All parameters		Stable					
0910	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-18-0522
Date: 05/11/2022
Time: 0910

Notes: 1.25 gallons of sample vol. Purged

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	—	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	8	= Total Bottles	

screen = 4.8 - 13.0
Intake ~1.5' from bottom
stick up ≈ 2'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-12
Facility: Clean Earth - Tacoma

Date: 5/10/2022
Sampling Method: LF-Peri
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Intial-Water Level before purge (ft. BTOC) 15.52
End-Water Level post purge/sample with pump on (ft. BTOC): 15.55

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)
Well Volume = ~2.7 gal
Pump Intake Depth (ft.BTOC): ~31 NW ~27'

Purge start time: 1503
Purge stop time: 1531
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1506	15.55	400	~~7.35~~ NW 6.69	~~7.0~~ NW 1802	~~16.5~~ NW 14.8	0.63	21.9	4.57
1509	15.55	"	6.60	1866	14.6	0.52	23.0	5.61
1512	15.55	"	6.57	1857	14.6	0.50	1.4	2.58
1515	15.55	"	6.55	1849	14.6	0.45	-12.1	3.10
1518	15.55	"	6.56	1847	14.6	0.40	-19.7	2.51
1521	15.55	"	10 <5	1846	14.6	0.39	-23.1	3.21
	Redox	is within	+/- NW 20 MV	equipment	accuracy			
	All other	Parameters	Stable					
1525	sample	time.						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-12-0522
Date: 05/10/2022
Time: 1525

Notes: * flow cell hooked up backwards for ~~first~~ NW first readings crossed out
water is effervescent.
2.75 gallons + sample vol. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	10	= Total Bottles

screen - ~21'-31'
TD = ~~35.5'~~ 31.5'?
Intake set @ 4' above bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-17
Facility: Clean Earth - Tacoma

Date: 05/10/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 6.28
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 6.99
Well Volume = ~1.5 gal
Pump Intake Depth (ft.BTOC): ~13.5'

Purge start time: 1336
Purge stop time: ~~1440~~ 1430
Initial Flow Rate: 200
Final Flow Rate: 200
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1339	6.74	200	~~7.66~~ NW 8.21	~~8.8~~ NW 12.1	12.0 C	0.60	74.1	4.71
1342	6.89	"	8.75	1109	12.0	0.51	73.5	4.50
1345	6.94	"	8.76	1110	~~12.8~~ NW 12.1	0.47	67.4	4.51
1348	6.94	"	8.80	1118	11.6	0.43	55.5	4.63
1351	6.94	"	8.75	1092	11.5	0.38	47.3	4.94
1354	6.99	"	8.58	1083	12.0	0.37	37.3	4.59
1357	7.00	"	8.40	1041	11.7	0.31	31.0	5.65
1400	7.00	"	8.31	993	11.7	0.36	18.4	5.87
1403	7.00	"	8.25	957	11.8	0.34	6.0	5.66
1406	7.00	"	8.22	954	11.9	0.34	2.1	5.28
1409		"	8.54	1036	12.0	0.51	-10.1	7.83
	>1 well	Vol. Purged.		~1.75 gal @	1411	pH, turbidity,	Redox, Cond	Not Stable
1415	Sample	time						
1420							Metals Sample	4.83
1424								4.95

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-17-0522
Date: 05/10/2022
Time: 1415

Notes: Initial purge water dark in color, slight odor in water, ~~blo~~ NW small diameter, low density, black particles seen in water

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	8	= Total Bottles

screen - 4.5-15'?
TD = 15.50'
Intake 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-17D

Facility: Clean Earth - Tacoma

Date: 5/10/22

Sampling Personnel: NW - MW

Initial Headspace (ppm) 0.0

Sampling Method: LFPesi

Intial-Water Level before purge (ft. BTOC) 13.68

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - ES monsoon flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 13.73

Well Volume = ~3.03 gallons
1234

Pump Intake Depth (ft.BTOC): ~28.5

Purge start time: ~~1227~~ NW 1251 MW

Initial Flow Rate: 400

Flow cell disconnected prior to sampling: ☑

Purge stop time: 1308

Final Flow Rate: 400

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1235 ~~1233~~ MW	13.72	400	9.73	4316	13.3	1.00	-73.2	3.41
1238	13.72	"	8.41	2017	13.3	1.31	-76.5	3.00
1241	13.72	"	7.43	1633	13.2	1.27	-93.9	2.81
1244	13.72	"	6.95	1714	13.2	1.15	-94.2	2.54
1247	13.72	"	6.72	1736	13.2	1.07	-91.3	2.93
1250	13.73	"	6.65	1727	13.2	0.92	-87.9	2.43
1253	13.73	"	6.63	1705	13.4	0.87	-84.1	3.27
	All Parameters Stable							
1255	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-17D-0522
Date: 05/10/2022
Time: 1255

Notes: Replace silicon portion of tubing, water is cloudy, white in color in intial 1-2 readings, water clears up by 3rd 3 gallons in purge bucket + sample bot. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	8	= Total Bottles

Screen - 25.5' - 30.5
TD = 31.50'
Intake ~2.5' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-11R2
Facility: Clean Earth - Tacoma

Date: 5/10/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Perf
Intial-Water Level before purge (ft. BTOC) 5.56
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 7.01
Well Volume = ~1.75 gal.
Pump Intake Depth (ft.BTOC):

Purge start time: 1117
Purge stop time: 1157
Initial Flow Rate: 300
Final Flow Rate: 200
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1119	6.21	300	12.16	9469	11.8	1.19	-125.8	4.23
1122	6.28 NW 9	11	12.34	9518	11.7	0.89	-148.6	4.81
1125	6.46	11	12.45	9536	11.7	0.67	-151.9	4.98
1128	6.52	11	12.50	9541	11.7	0.59	-145.0	4.29
1131	6.63 NW 6.63	250	12.56	9535	11.8	0.53	-136.7	4.30
1134	6.76	250	12.60	9567	11.6	0.53	-129.8 NW 9	3.49
1137	6.79	200	12.63	9566	11.5	0.48	-124.0	3.31
1140	6.82	200	12.64	9573	11.4	0.49	-121.2	4.07
1143	6.82	11	12.65	9556	11.7	0.43	-117.7	3.91
1146	6.82	11	12.65	9581	11.7	0.45	-116.0	3.09
	All Parameters	Stable,						
1150	Sample	time.						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-11R2-0522
Date: 05/10/2022
Time: 1150

Notes: Install new 1/4" HDPE tubing
2 gallons + Sample tbg. Purged. Security bolt installed.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	8	= Total Bottles

Screen - 5.5' - 15.5'
TD = 15.9'
Intake set 4' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CTMW-23R
Facility: Clean Earth Tacoma

Date: 5/10/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) ~~0.0~~ NW 5.21
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S Monsoon flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume = ~1.5 gallons
End-Water Level post purge/sample with pump on (ft. BTOC): 6.01
Pump Intake Depth (ft.BTOC): ~10'

Purge start time: 0953
Purge stop time: 1038
Initial Flow Rate: 300
Final Flow Rate: 200
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0955	5.30	300	6.61	500.4	13.3	1.85	33.0	6.82
0958	5.60	"	6.77	482.9	13.0	0.89	22.4	~~5.25~~ NW 5.25
1001	5.72	200	6.87	478.6	13.0	0.74	15.3	5.14
1004	5.81	200	6.93	477.1	13.2	0.61	12.0	3.04
1007	5.84	"	7.01	479.9	13.0	0.57	7.8	2.90
1010	5.89	"	7.06	479.3	12.9	0.52	6.0	2.57
1013	5.92	"	7.11	477.0	12.9	0.61	4.4	2.64
1016	5.93	"	7.14	475.1	12.9	0.56	3.4	2.72
1019	5.95	"	7.32	475.2	12.8	0.43	1.0	2.47
1022	5.96	"	8.19	471.5	12.8	0.39	-4.5	2.64
1025	5.96	"	8.49	~~476~~ NW 469.8	12.8	0.37	-7.3	2.39
	pH not Stable, - 1.75 gallons Purged (>1 well Vol.)							
	All other parameters Stable							
1030	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CTMW-23R-0522
Date: 05/10/2022
Time: 1030

Notes: 1/4" HDPE NW Tubing installed. Calibrated pH 7, see Cal book. (Prior to start) 2.25 gallons + Sample Vol. Purged. Add Security bolt (X1)

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	—	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	—	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	8	= Total Bottles

Screen - ~~13~~ NW 3.5' - 13.5'
TD = 13.9'
Intake set 4' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-7D

Facility: Clean Earth - Tacoma

Date: 05/09/22

Sampling Personnel: NW/MW

Initial Headspace (ppm) 0.0

Sampling Method: LF Peri

Intial-Water Level before purge (ft. BTOC) 9.66

Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 12.02

Well Volume = ~8.5 gallons

Pump Intake Depth (ft.BTOC): ~57.4

Purge start time: ~~1313~~ 1315

Purge stop time: 1410

Initial Flow Rate: 400-500

Final Flow Rate: 200

Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1317	10.94	~~400~~500	7.69	6137	14.2	1.24	40.2	8.17
1320	12.10	400	7.78	6078	14.1	0.72	5.1	9.35
1323	12.74	400	7.78	6178	14.1	0.37	-27.5	7.62
1326	12.91	"	7.77	6249	14.2	0.34	-60.4	6.86
1329	13.42	"	7.76	6356	14.2	0.30	-88.8	5.88
1332	~~13.~~ NW 12.93	200	7.73	6488	14.3	0.26	-97.1	8.26
1335	12.76	200	7.73	6558	14.3	0.25	-99.3	4.91
1338	12.52	"	7.73	6643	14.2	0.26	-105.7	4.64
1341	12.25	"	7.72	6630	14.4	0.22	-114.4	4.68
1344	12.13	"	7.73	6624	14.4	0.21	-119.2	4.29
1347	12.09	"	7.74	6594	14.4	0.24	-122.4	4.45
1350	12.05	"	7.75	6582	14.2	0.21	-125.2	4.63
	parameters Stable							
1355	Sample Time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: TWA-7D-0522
Date: 05/09/2022
Time: 1355

Notes: Water is effervescent.
3.5 gallons in bucket + sample vol. Purged

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	—	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	10	= Total Bottles	

Screened - ~~54.~~ NW 54.4 - 59.4
Intake @ 2' above bottom,
Total depth = 60.5'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-3C
Facility: Clean Care

Date: 05/09/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LFPerf
Intial-Water Level before purge (ft. BTOC) 12.36
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSi Quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 12.42
Well Volume =
Pump Intake Depth (ft.BTOC):

Purge start time: 1155
Purge stop time: 1232
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1200 ~~1158~~	12.41	400	6.52	1356	13.7	0.88	-18.0	5.71
1203	12.41	"	6.50	~~137~~ NW/1355	13.6	0.83	-20.7	8.05
1206	12.42	"	6.46	1363	13.7	0.62	-24.0	6.21
1209	12.42	"	6.47	1365	13.6	0.30	-27.2	6.91
1212	12.42	"	6.46	~~136~~ NW/1368	13.5	0.27	-28.4	6.59
1215	12.42	"	6.46	1371	13.5	0.20	-29.3	6.43
	All Parameters Stable							
1220	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-3C-0522
Date: 05/09/2022
Time: 1220

Notes: 2.75 gallons + Sample vol. Purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

Screened 23' - 28'

Intake set @ 2' ~~A~~ NW above bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-3A
Facility: Clean Care

Date: 5/9/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.4
Sampling Method: Lit Peri
Intial-Water Level before purge (ft. BTOC) 3.37
Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI Quatro Pump - ES Master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume =
End-Water Level post purge/sample with pump on (ft. BTOC): 3.64
Pump Intake Depth (ft.BTOC):

Purge start time: 1105
Purge stop time: 1147
Initial Flow Rate: 200
Final Flow Rate: 200
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1106	3.57	200	6.53	1425	11.8	0.64	-4.5	6.58
1111	3.62	11	6.51	1426	11.6	~~0.55~~ NW 0.45	-12.9	6.67
1114	3.63	11	6.48	1431	11.8	0.43	-31.6	5.07
1117	3.63	11	6.46	1432	11.9	0.34	-51.6	~~4.98~~ NW 4.90
1120	3.63	11	6.46	1432	12.0	0.32	-54.6	4.24
1123	3.63	11	6.46	1434	11.9	0.28	-51.8	4.70
	All Para meters		Stable					
1125	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-3A-0522
Date: 05/09/2022
Time: 1125

Notes: Effervescent water noticed in VOAs
2 gallons + Sample tbg. purged

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

Screen 4.0' - 5.8'
Approx 1-2' stick up
Intake set 1' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-3A ~~3A~~ 3B
Facility: Clean Care

Date: 05/09/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 3.79
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S Masterflex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 4.29
Well Volume =
Pump Intake Depth (ft.BTOC): ~9.5'

Purge start time: 1000
Purge stop time: 1050
Initial Flow Rate: 300
Final Flow Rate: 250
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1011	4.22	300	6.38	1342	11.4	0.65	13.7	11.1
1014	4.24	"	6.43	1348	11.4	0.58	8.4	8.48
1017	4.28	"	6.47	1353	11.7	0.52	-3.4	7.22
1020	4.25	↑ NW 250	6.48	1350	11.8	0.46	-10.4	7.41
1023	4.23	250	6.49	1352	11.9	0.40	-15.3	6.79
	All NW	Decr	within	+/-	20 mV	equipment	accuracy	
1025	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-3B-0522
Date: 05/09/2022
Time: 1025

Notes: 2.25 gal of sample tbl. purged

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screen - 9.0' - 10.8'
Approx - 1' stick up
intake set 1' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-5C
Facility: clean camp

Date: 5/6/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.6
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 8.98
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S mastflex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 9.08
Well Volume = ~2.55 gal.
Pump Intake Depth (ft.BTOC): ~22'

Purge start time: 1148
Purge stop time: 1220
Initial Flow Rate: 300
Final Flow Rate: 300
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1151	9.06	300	6.35	1389	12.7	0.57	34.1	8.10
1154	9.06	"	6.40	1436	12.8	0.35	11.3	5.41
1157	9.06	"	6.40	1438	12.8	0.34	-0.5	3.64
1200	9.06	"	6.41	1437	12.8	~~0.32~~ 0.31	-13.4	3.21
1203	9.06	"	6.41	1437	12.8	0.29	-17.3	3.62
	Redox within +/- 20 mv, good to sample							
	All other parameters stable							
1205	sample time.							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-5C-0522
Date: 05/06/2022
Time: 1205

Notes: 2.5 gallons in bucket + sample Vol = total Purge

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screened 19' - 24'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-5B
Facility: Cleancure

Date: 5/6/22
Sampling Personnel: NW/MW
Sampling Method: LF Peri
Initial Headspace (ppm) 0.6
Intial-Water Level before purge (ft, BTOC) ~~2.89~~ MW 2.79
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI Forbow Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 2.82
Well Volume = ~1.3 gal
Pump Intake Depth (ft.BTOC): ~8'

Purge start time: 1059
Purge stop time: 1139
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1102	2.82	400	6.32	1019	11.0	1.32	15.4	12.8
1105	2.82	11	6.28	963	11.0	0.77	3.6	15.0
1108	2.82	11	6.28	926	10.9	0.57	-5.1	8.20
1111	2.82	11	6.28	893	10.7	0.52	-9.9	6.51
1114 ~~MW~~	2.82	11	6.27	845	10.9	0.39	-13.4	6.43
1117	2.82	11	6.26	808	10.9	0.40	-16.2	6.21
1120	2.82	11	6.26	780	10.9	0.37	-18.2	5.98
1122	3 gal.	Purged. All other	Conductivity not stable; parameters stable.			DI well	Vol Purged	
1125	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-5B-0522
Date: 05/06/2022
Time: 1125

Notes: 3.5 gal + sample Vol Purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screen 5'-10'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-4C
Facility: Clear Cove

Date: 5/6/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 10.49
Equipment Used:
WL - Heron
WQ - YSI Quatro
Turb - Lamotte
PID - Mini RAE
Pump - ES Master Flex
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 10.52
Well Volume = ~2 gal
Pump Intake Depth (ft BTOC): 22'

Purge start time: 1012
Purge stop time: 1037
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1015	10.52	400	6.46	2253	13.1	0.66	7.0	5.40
1018	10.52	"	6.55	2225	13.0	0.66	-4.7	4.34
1021	10.52	"	6.66	2127	13.1	1.02	-31.9	3.98
1024	10.52	"	6.68	2120	13.1	0.87	-42.6	3.80
1027	10.52	"	6.70	2113	13.1	0.82	-49.5	4.81
1030	10.52	"	6.70	2120	13.1	0.72	-54.8	4.34
	Redox	within	+/- 20 mV	accuracy	of equipment,			
	All other	Parameters	Stable					
1035	Sample	time.						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-4C-0522
Date: 05/06/2022
Time: 1035

Notes: Continuation from 5/5/22.

Bottles and Analyses: (collected in order below)

(6) — x 40 mL HCl VOA ☐ 8260/8260 SIM dual acquisition ☐ 1,4 Dioxane ☐ NWTPH-Gx
(1) — x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) — x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) 2 x 1000 mL unpreserved AG 8082A PCBs
(1) — x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 2x1L AG = Total Bottles

Screen 19'-24'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-9D
Facility: clean cove

Date: 5/5/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 9.78
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI EXO1D Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume = 8.5 gal
End-Water Level post purge/sample with pump on (ft. BTOC): 10.32
Pump Intake Depth (ft,BTOC): ~58'

Purge start time: 1356
Purge stop time: 1521
Initial Flow Rate: 300
Final Flow Rate: 300
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1354	~~10.20~~ NW	300	7.54	14557	12.9	3.94	34.6	2.69
1402	~~10.20~~ NW	"	7.65	14340	12.9	4.08	11.2	3.49
1405	10.02	"	7.75	13307	12.9	3.21	-11.9	2.85
1408	10.02	"	7.80	12540	12.9	2.00	-36.5	2.15
1411	10.02	"	7.88	11545	12.9	2.66	-54.4	2.08
1414	10.09	"	7.91	11096	12.8	1.42	-68.5	1.90
1416	10.09	"	7.92	10953	12.9	1.37	-74.8	2.04
1419	10.09	"	7.92	10755	12.9	1.20	-79.8	1.88
1422	10.09	"	7.93	10688	12.9	1.28	-81.6	1.85
	All Parameters		Stable					
1425	Sample time							

WL = lower
" = lower

Project: TWAAFA
Sampler: NW/MW
Sample ID: TWA-9D-0522
Date: 05/05/2022
Time: 1425

Notes: Strong odor from initial purge water & MS/MSD taken.
3.5 gallons + sample + MS/MSD vol.

Bottles and Analyses: (collected in order below)

(6)	6+6+6	x 40 mL HCl VOA ☐ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1+1+1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2+2+2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2+2+2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1+1+1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	36	= Total Bottles

screen - 54.8' - 59.8'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2C
Facility: Clean Care

Date: 5/5/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri p
Intial-Water Level before purge (ft. BTOC) 8.79
Equipment Used:
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 8.83
WL - Heron PID - MiniRAE
WQ - ysi quatro Pump - E/S master flex
Turb - Lamotte
Well Volume = 2.25 gal.
Pump Intake Depth (ft.BTOC): ~22'

Purge start time: 1300
Purge stop time: 1335
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	+/- 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1303	8.83	400	6.93	1739	12.7	1.28	29.2	2.37
1306	8.83	"	6.83	1760	12.6	1.02	9.1	3.27
1309	8.83	"	6.78	1758	12.7	0.74	-9.4	3.20
1312	8.83	"	6.76	1751	12.7	0.65	-19.9	2.42
1315	8.83	"	6.75	1762	12.8	0.60	-27.7	1.98
	All parameters	Stable	except	redox (fails	within	+/- 20 mV	accuracy)	
1320	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-2C-0522
Date: 05/05/2022
Time: 1320

Notes: 3.25 gallons + sample vol. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☒ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

Screen 19' - 24'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. Field Blank #1
Facility: Clean Care

Date: 05/05/2022
Sampling Method: decanting
Equipment Used:
WL - PID -
WQ - Pump -
Turb -

Sampling Personnel: NW/MW

Well volume = 0.17 * (total well depth - water level)

Well Volume =

Initial Headspace (ppm)
Intial-Water Level before purge (ft. BTOC)
End-Water Level post purge/sample with pump on (ft. BTOC):
Pump Intake Depth (ft.BTOC):

Purge start time:
Purge stop time:
Initial Flow Rate:
Final Flow Rate:
Flow cell disconnected prior to sampling : ☐

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU

Project: TWAAFA
Sampler: NW/MW
Sample ID: **Field Blank#1-0522**
Date: 05/05/2022
Time: 1230

Notes: taken @ same time as CCW-2B

Bottles and Analyses: (collected in order below)

(6) 6 x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☐ ~~1,4 Dioxane~~ ☐ ~~NWTPH-Gx~~
(1) 1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2) 2 x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2) 2 x 1000 mL unpreserved AG 8082A PCBs
(1) 1 x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12) 12 = Total Bottles

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2B
Facility: Clean Care

Date: 5-05-22
Sampling Personnel: MW / NW
Initial Headspace (ppm) 0.2
Sampling Method: LFPERI
Intial-Water Level before purge (ft. BTOC) 2.38
Equipment Used:
WL - HERON PID - Mini RAE
WQ - YSI QUATRO Pump - E/S MASTER FLEX
Turb - LAMOTTE
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 5.03
Well Volume =
Pump Intake Depth (ft.BTOC): ~12'

Purge start time: 1136
Purge stop time: 1247
Initial Flow Rate: 300
Final Flow Rate: 150
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1141	2.88	200	7.35	1696	10.7	1.54	-48.1	7.95
1144	3.30	"	7.04	2022	10.8	0.52	-32.9	7.31
1147	3.37	"	6.93	2107	10.8	0.34	-34.8	4.10
1150	3.37	150	6.92	2123	10.9	0.39	-39.0	3.80
1153	3.37	150	6.92	2130	10.9	0.33	-42.4	3.13
1156	~~1156~~ 3.41	150	6.91	2132	10.9	0.34	-45.1	3.40
	All parameters		Stable					
1200	Sample time.							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-2B-0522
Date: 05/05/2022
Time: 1200

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-9-2B-0522
Date: 05/05/2022
Time: 1205 ~~Duplicate~~

Notes: 1 gallon + Sample + duplicate vol.

Bottles and Analyses: (collected in order below)

(6)	6+6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition	☑ 1,4 Dioxane	☑ NWTPH-Gx
(1)	1+1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup			
(2)	2+2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs			
(2)	2+2	x 1000 mL unpreserved AG 8082A PCBs			
(1)	1+1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)			
(12)	24	= Total Bottles			

Screened 11' - 12.8

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2A

Facility: CleanCare

Date: 05/05/2022

Sampling Personnel: NW/MW

Initial Headspace (ppm) ~~5.3~~ NW 5.3

Sampling Method: LF Perl

Intial-Water Level before purge (ft. BTOC) 2.72

Equipment Used:
WL - Heron PID - miniRAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)

End-Water Level post purge/sample with pump on (ft. BTOC): 2.80

Well Volume = ~0.53 gal

Pump Intake Depth (ft.BTOC): ~4.8'

Purge start time: 1020

Purge stop time: 1105

Initial Flow Rate: 400

Final Flow Rate: 400

Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1023	~~3.80~~ NW	400	12.05	5662	9.5	0.56	-114.8	11.8
1026	2.80	"	11.80	3649	9.6	0.48	-110.2	64.1
1029	2.80	"	11.54	2814	9.5	0.40	-101.3	159
1032	2.80	"	9.82	1488	9.5	0.37	-60.8	155
1035	2.80	"	9.31	1225	9.5	0.31	-57.2	44.5
1038	2.80	"	8.96	1159	9.5	0.29	-87.0	6.18
1041	2.80	"	8.63	1097	9.5	0.32	-126.5	4.40
	pH, Conductivity, Redox and turbidity not stable, 71 well vol purged 2.75 gal							
1045	Sample time							Purged @ 1045
1048								4.50
1051								4.03
1054								3.55

2.80 NW

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-2A-0522
Date: 05/05/2022
Time: 1045

Notes: Water extremely cloudy + white in ~~clear~~ NW color.
3.5 gallons + sample vol purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☐ ~~8260~~/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screen 4.0' - 5.8'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-4C
Facility: Clean Care

Date: 5/5/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF-Peri
Intial-Water Level before purge (ft. BTOC) 10.53
Equipment Used:
WL - Heron PID - Mini RAE
WQ - ysi quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 10.54
Well Volume = ~2.29 gal
Pump Intake Depth (ft.BTOC): 22'

Purge start time: 0917
Purge stop time: 1000
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
0920	10.54	400	6.16	2210	13.0	1.03	-3.9	6.28
0923	10.54	"	6.33	2222	13.0	0.65	-14.7	10.28
0926	10.54	"	6.50	2132	12.7	0.56	-34.8	5.77
0929	10.54	"	6.53	2110	12.9	0.43	-41.5	4.56
0932	10.54	"	6.54	2121	12.9	0.48	-45.6	2.97
0935	10.54	"	6.55	2119	12.9	0.48	-48.0	4.99
	All parameters stable							
0940	Sample time.							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-4C-0522
Date: 05/05/2022
Time: 0940

Notes: Slight suspended white fibrous material seen in water.
3.25 gal + sample vol. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screened 19'-24'
Intake 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. MW-4
Facility: Clean Cove
Date: 05/04/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.4
Sampling Method: LF-Peri
Intial-Water Level before purge (ft. BTOC) 6.09
Equipment Used:
WL - Heron PID - mini RAE
WQ - YSI Glodtr Pump - E/S portable
Turb - Lamotte sampler
Well volume = 0.17 * (total well depth - water level)
Well Volume = ~1.2 gal
End-Water Level post purge/sample with pump on (ft. BTOC): 5.44
Pump Intake Depth (ft.BTOC): 2' from bottom
Purge start time: 1435
Purge stop time: 1551
Initial Flow Rate: ~~150~~ 200
Final Flow Rate: 150
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1438	7.02	~~150~~ 200	7.34	2495	13.0	0.80	-83.8	8.27
1441	7.20	200	7.38	2500	13.2	0.63	-96.4	7.89
1444	7.22	150	7.38	2484	13.7	0.59	-105.9	8.96
1447	~~7.18~~ 7.20 NW	150	7.30	2479	13.6	0.46	-117.8	9.45
1450	7.20	150	7.32	2418	14.1	0.40	-110.10	7.97
1453	7.18	150	7.05	2328	14.1	0.43	-98.7	6.88
1456	7.15	150	7.00	2309	13.8	0.44	-95.3	6.13
1459 ~~15~~ NW	7.15	150	6.98	2279	14.0	0.41	-92.8	5.20
	Parameters	Stable	except	turbidity	take	dissolved/	filtered	6.75
1505	Sample	time.					Sample	
1527	Turbidity	Sample	taken	between	bottles			7.07
1538								5.59
1540								4.15
1542								4.75
1546								3.68

Project: TWAAFA
Sampler: NW/MW
Sample ID: MW-4-0522
Date: 05/04/2022
Time: 1505

1.5 gallons + NW water # Sample Vol

* Filter allowed to flow for 2 minutes before sample taken

Notes: Low density black particles seen in water.
NAPL encountered @ 7.22 feet BTOC on WL interface prob.
1444 Wiped off probe w/ clean paper towel., Slight odor from water.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	2	x 1000 mL unpreserved AG 8082A PCBs	
(1)	2	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	13	= Total Bottles	

Screened 4.5' - 10'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-8B
Facility: Clean Care

Date: 05/04/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 4.21 @ 1327
Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI Quatro Pump - E/S Masterflex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume = 0.89
End-Water Level post purge/sample with pump on (ft. BTOC): 4.21
Pump Intake Depth (ft.BTOC): 9

Purge start time: 1325
Purge stop time: 1410
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1327	4.21	400	6.41	414.7	11.9	0.74	-38.3	16.5
1330	4.21	"	6.40	413.0	11.8	0.63	-41.9	16.1
1333	4.21	"	6.40	437.6	11.9	0.53	-47.6	10.88
1336	4.21	"	6.38	464.6	11.9	0.49	-55.7	8.90
1339	4.21	"	6.39	492.8	11.8	0.38	-61.7	7.96
1342	4.21	"	6.35	517.0	11.9	0.39	-67.1	7.38
1345	4.21	"	6.39	507.5	12.0	0.36	-71.8	4.46
1348	4.21	"	6.37	537.6	12.0	0.32	-74.2	4.75
1351	4.21	"	6.36	551.8	12.0	0.31	-78.2	3.72
1354	+1 well	tbl. purged						
	EE MW	conductivity not	stable	but >	1 well	tbl. purged		
1355	Sample	time.						
1414 MW								

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-8B-0522
Date: 05/04/2022
Time: 1355

Notes: missed WL before purge, flow cell fell off table @ start 3.5 gallons + MW sample tbl. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☐ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screen 6'-11'
Intake 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-1C
Facility: Clean Care

Date: 5-4-22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF PERT
Intial-Water Level before purge (ft. BTOC) 10.03
Equipment Used:
WL - HEREN PID - Mini RAE
WQ - YSI QuantaPump - ES MASTER Flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
Well Volume = ~2.2 gal
End-Water Level post purge/sample with pump on (ft. BTOC): 10.07
Pump Intake Depth (ft.BTOC): 21'

Purge start time: 1216
Purge stop time: 1300
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1216	10.07	400						
1219	10.07	400	6.78	~~761.4~~ NW	13.5	0.39	-120.6	4.96
1221	10.07	400	6.77	~~762.0~~ NW	13.5	0.38	-124.7	3.39
1224	10.07	400	6.75	2309	13.5	0.37	-127.2	3.27
1227	10.07	400	6.74	2286	13.5	0.32	-124.3	4.47
1230	10.07	400	6.74	2290	13.5	0.30	-119.1	3.30
1233	10.07	400	6.74	2291	13.5	0.32	-114.2	2.60
1236	10.07	400	6.74	2292	13.5	0.29	-113.2	2.63
	All	Parameters Stable						
1240	Sample	time.						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-1C-0522
Date: 05/04/2022
Time: 1240

Notes: 2.75 gal Purged + sample collected

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	2	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	12	= Total Bottles	

Screened 18'-23'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-1B
Facility: Clean Care

Date: 5/4/22
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 4.25
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 4.68
Well Volume = ~1.5 gal
Pump Intake Depth (ft.BTOC): 7.66

Purge start time: 1105
Purge stop time: 1144
Initial Flow Rate: 400 400
Final Flow Rate: 300
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1106	4.56	400	6.10	631.9	11.9	0.35	24.6	13.8
1107	4.57	300	6.12	629.1	11.9	0.32	17.4	9.08
1109	4.56	300	6.13	629.1	11.8	0.30	8.9	7.60
1112	4.60	300	6.11	627.1	11.9	0.27	6.4	9.02
1115	4.59	300	6.11	626.3	11.8	0.26	2.9	8.12
1118	4.60	300	6.10	624.3	11.8	0.27	-1.5	7.37
1121	4.60	300	6.10	625.1	11.9	0.25	-7.8	7.72
1124	Pause meters		Stable, Redox		Stable to	+/- 20 mV,	Proceed	Sampling
1125	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-1B-0522
Date: 05/04/2022
Time: 1125

Notes: 2.75 gallons purged & sample vol.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	2	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)	12	= Total Bottles	

Screened 7.8'-9.6'
1Q22 TD = 9.66'

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-1A
Facility: Clean Care

Date: 05/04/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 4.71
Equipment Used:
WL - Heron PID - MiniRAE
WQ - YSI quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 4.85
Well Volume = ~0.2 gal
Pump Intake Depth (ft.BTOC): 4.90

Purge start time: 0938
Purge stop time: 1043
Initial Flow Rate: 300
Final Flow Rate: 180
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
0938	4.71	300	6.45	705	11.6	0.80	2.0	5.40
0941	4.87	200	establishing Flow Rate					
0943	4.87	180	"		"			
0945	4.86	180	6.45	700	11.6	0.59	-0.8	3.56
0948	4.84	180	6.45	699	11.6	0.56	-2.3	2.95
0951	4.84	180	6.44	695	11.6	0.55	-4.4	2.32
0953	4.84	180	6.43	694	11.5	0.55	-18.9	2.02
0956	4.84	180	6.42	694	11.5	0.55	-39.9	1.94
0959	4.84	180	6.41	695	11.6	0.54	-48.1	2.04
1002	4.84	180	6.41	695	11.6	0.53	-59.1	1.85
1005	All Para	meters	considered	Stable.	Redox	within +/-	20 mV	equipment accuracy
1005	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-1A-0522
Date: 05/04/2022
Time: 1005

Notes: 1 gallon + sample vol. purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup	
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs	
(2)	2	x 1000 mL unpreserved AG 8082A PCBs	
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)	
(12)		= Total Bottles	

Screened 4'-5.8'
Intake set ~~0.5' from bottom~~ 1' NW
TD = 5.01' (1Q22)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-7C
Facility: Clean Care

Date: 05/03/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 9.02
Equipment Used:
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 9.09
WL - Heron PID - Mini RAE
WQ - YSI quatro Pump - F/S master flex
Turb - Lamotte
Well Volume = ~2.7 gal
Pump Intake Depth (ft.BTOC): 24'

Purge start time: 1408
Purge stop time: 1450
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1417	9.06	400ml	6.35	~~7.77~~ 16012.8		1.50	69.7	7.99
1415	9.06	"	6.48	16.65	12.8	0.94	18.2	7.69
1419	9.08	"	6.49	16.59	12.9	0.97	6.4	6.10
1421	9.08	"	6.51	16.60	12.8	0.91	8.4	2.97
1424	9.08	"	6.51	16.63	12.8	0.89	-23.4	2.61
1427	9.08	"	6.51	16.60	12.8	0.79	-27.2	2.29
1430	9.08	"	6.51	16.64	12.8	0.72	-29.6	2.31
1433	9.08	"	6.51	16.69	12.8	0.69	-33.0	2.27
	All	Parameters	Stable					
1435	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-7C-0522
Date: 05/03/2022
Time: 1435

Notes: 3 gallons + sample volume purged

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

Screened 21'-26'
Intake set 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-7B
Facility: Clean Care

Date: 05/03/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 2.28
Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 2.28
Well Volume = ~1.15 gal
Pump Intake Depth (ft.BTOC): 7'

Purge start time: 1306
Purge stop time: 1355
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1309	2.28	400	5.81	514.3	10.3	1.38	12.4	10.63
1312	2.28	"	5.66	469.1	10.2	0.90	20.9	4.49
1315	2.28	"	5.60	443.8	10.2	0.78	22.0	3.92
1318	2.28	"	5.60	428.3	10.3	0.57	14.0	4.15
1321	2.28	"	5.61	430.2	10.3	0.55	7.0	4.11
1324	2.28	"	5.63	429.4	10.3	0.48	-1.8	4.77
1327	2.28	"	5.63	443.0	10.3	0.47	-9.8	4.69
1330	2.28	"	5.64	446.4	10.3	0.44	-20.2	4.52
1333	2.28	"	5.69	448.2	10.3	0.42	-22.3	4.68
1336	2.29	"	5.65	449.1	10.3	0.41	-38.3	3.72
	Parameters		Stable.	ORP accuracy +/-		20 mV per	PSC-124-	7.2.2
1340	Sample time							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-7B-0522
Date: 05/03/2022
Time: 1340

Notes: 5gallons + Sample volume purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ 1,4 Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

Screened 4'-9'
Intake 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-6C
Facility: Clean Care

Date: 05/03/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF Peri
Intial-Water Level before purge (ft. BTOC) 9.03

Equipment Used:
WL - Heron PID - Mini RAE
WQ - YSI Quatro Pump - E/S master flex
Turb - Lamotte

Well volume = 0.17 * (total well depth - water level)
Well Volume = 2.4 gal
End-Water Level post purge/sample with pump on (ft. BTOC): 9.36
Pump Intake Depth (ft.BTOC): 21'

Purge start time: 1125
Purge stop time: 1211
Initial Flow Rate: 400 mL/min
Final Flow Rate: 400
Flow cell disconnected prior to sampling: ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	(3 readings) < 5 NTU or < 10% if >5 NTU
1128	9.31	400	6.22	4420	12.2	0.69	~~-0.7~~ NW	22.8
1131	9.32	"	6.27	4432	12.2	0.41	~~-1.6~~ NW	21.6
1134	9.32	"	6.28	4432	12.2	0.41	~~-2.0~~ NW	16.2
1137	9.32	"	6.28	4434	12.2	0.42	~~-2.1~~ NW	14.8
1140	9.33	"	6.28	4433	12.3	0.39	-38.5	12.53
1143	9.33	"	6.28	4435	12.2	0.36	-42.9	8.49
1146	9.33	"	6.29	4432	12.2	0.37	-47.8	9.19
1149	9.33	"	6.29	4433	12.2	0.36	-51.3	9.21
	All Parameters		Stable					
1155	Sample	time						

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-6C-0522
Date: 05/03/2022
Time: 1155

Notes: *First 4 values of Redox were the wrong valve

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA ☑ 8260/8260 SIM dual acquisition ☑ ~~1,4~~ Dioxane ☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
(2)	2	x 1000 mL unpreserved AG 8082A PCBs
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
(12)	12	= Total Bottles

screened 18'-23'
Intake 2' from bottom

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-6B
Facility: Cleancare

Date: 05/03/2022
Sampling Personnel: NW/MW
Initial Headspace (ppm) 0.0
Sampling Method: LF-Reg
Intial-Water Level before purge (ft. BTOC) 2.34
Equipment Used:
WL - Geotech Heron PID - MiniRAE-3000
WQ - YSI ProPlus Pump - E/S master flex
Turb - Lamotte
Well volume = 0.17 * (total well depth - water level)
End-Water Level post purge/sample with pump on (ft. BTOC): 2.34
Well Volume = ~6.2 gal
Pump Intake Depth (ft.BTOC): ~6.5'

Purge start time: 1005
Purge stop time: 1058
Initial Flow Rate: 400
Final Flow Rate: 400
Flow cell disconnected prior to sampling : ☑

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissoved Oxygen	Redox Potential	Turbidity
(military)	ft	(mL/min)	pH Units	uS/cm	°C	mg/L	mV	(NTU)
	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	{3 readings} < 5 NTU or < 10% if >5 NTU
1008	2.34	400	5.28	557.5	10.0	0.57	10.5	23.7
1011	2.34	400	5.29	557.3	10.0	0.55	9.6	18.1
1014	2.34	"	5.33	559.8	10.0	0.51	-1.2	9.36
1017	2.34	"	5.37	558.9	10.0	0.48	-7.7	7.76
1020	2.34	"	5.42	559.0	10.0	0.33	-19.2	6.32
1023	2.34	"	5.45	557.2	10.0	0.45	-27.7	6.06
1026	2.34	"	5.47	558.4	10.0	0.40	-34.9	5.53
1029	2.34	"	5.50	555.4	10.0	0.43	-43.0	5.58
1032 (sw 1027)	2.34	"	5.52	555.5	10.0	0.36	-48.3	5.07
1035	2.34	"	5.53	553.9	10.0	0.31	-51.2	4.97
1038	2.34	"	5.54	553.0	10.0	0.32	-57.6	5.04
	All parameters		stable					
1040	Sample	time						
1058	Stop	purge						
	5 gallons + sample Vol Purge							

Project: TWAAFA
Sampler: NW/MW
Sample ID: CCW-6B-0522
Date: 05/03/2022
Time: 1040

Notes: 5 gallons + Sample Vol. Purged.

Bottles and Analyses: (collected in order below)

(6)	6	x 40 mL HCl VOA	☑ 8260/8260 SIM dual acquisition	☑ 1,4 Dioxane	☑ NWTPH-Gx
(1)	1	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup			
(2)	2	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs			
(2)	2	x 1000 mL unpreserved AG 8082A PCBs			
(1)	1	x 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)			
(12)	12	= Total Bottles			

Screened 3.5'-8.5'
Intake 2' from bottom

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	MW-1
Project #	0615.20.04	**Sampling Date**	05/04/2022
Project Name	TWAAFA GW Sampling	**Sampler**	S. Maloney
Sampling Event	May 2022	**Sample Name**	MW-1-0522
Sub Area	Potter Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	5.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	1:05 PM	8.32	--	1.22	--	7.10	1.16

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 10:10 AM								
10:13 AM	2.89	0.2	6.93	10.5	205.2	3.77	-31.1	108.0
10:19 AM	2.76	0.2	6.77	10.8	183.4	1.29	-53.9	81.0
10:21 AM	2.71	0.2	6.75	10.8	182.2	1.13	-56.3	61.1
10:24 AM	2.64	0.2	6.72	10.7	181.1	1.00	-57.1	57.0
10:27 AM	2.67	0.2	6.70	10.7	181.0	0.89	-56.9	49.1
10:30 AM	2.68	0.2	6.69	10.7	181.3	0.80	-56.7	45.9
10:33 AM	2.67	0.2	6.68	10.7	181.3	0.74	-56.3	40.9
10:36 AM	2.67	0.2	6.68	10.7	181.7	0.67	-55.3	44.6
10:39 AM	2.66	0.2	6.68	10.7	182.9	0.65	-55.4	43.9
10:42 AM	2.67	0.2	6.68	10.8	183.2	0.63	-55.3	45.1

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	MW-1
Project #	0615.20.04	**Sampling Date**	05/04/2022

Water Quality Observations:

Gray; brown flakes present; strong blocky sheen; slight petroleum-like odor.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	9:20 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Duplicate sample MW-9-1-0522 collected here.

Total purge volume prior to sampling: 1.7 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-1
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	D. Heitz / S. Maloney
Sampling Event	May 2022	**Sample Name**	TWA-1-0522
Sub Area	Taylor Way Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	9.7
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	9:50 AM	13.51	--	6.08	--	7.43	1.21

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 8:03 AM								
8:05 AM	5.61	0.1	6.64	10.6	1204	20.95	35.6	37.6
8:08 AM	5.63	0.1	6.66	10.7	908	3.90	7.8	32.6
8:11 AM	5.68	0.1	6.68	10.7	847	2.73	-2.1	24.9
8:14 AM	5.71	0.1	6.70	10.7	819	2.32	-7.4	22.9
8:17 AM	5.72	0.1	6.71	10.8	785	1.84	-13.3	18.8
8:20 AM	5.74	0.1	6.72	10.8	767	1.51	-20.5	--
8:23 AM	5.74	0.1	6.72	10.8	774	1.35	-23.9	13.9
8:26 AM	5.77	0.1	6.72	10.8	784	1.19	-28.0	11.3
8:29 AM	5.77	0.1	6.72	10.8	798	1.14	-30.8	11.8
8:32 AM	5.79	0.1	6.72	10.8	767	1.11	-33.4	9.79
8:35 AM	5.79	0.1	6.73	10.9	734	1.07	-35.0	9.34
8:38 AM	5.79	0.1	6.72	10.9	717	1.10	-36.9	10.6
8:41 AM	5.79	0.1	6.73	10.9	714	1.04	-38.8	9.97
8:43 AM	5.80	0.1	6.73	10.9	716	0.96	-40.4	8.61
8:46 AM	5.80	0.1	6.72	10.9	715	0.93	-42.2	--
8:49 AM	5.81	0.1	6.72	10.9	710	1.21	-43.4	--
8:56 AM	5.81	0.1	6.72	10.9	711	1.18	-43.7	--
8:59 AM	5.80	0.1	6.72	11.0	710	1.16	-44.3	--
9:02 AM	5.81	0.1	6.72	11.1	710	1.01	-45.4	24.4
9:05 AM	5.81	0.1	6.72	11.1	711	0.98	-45.8	22.2
9:08 AM	5.81	0.1	6.73	11.1	712	0.93	-46.4	19.8
9:11 AM	5.81	0.1	6.72	11.0	710	0.90	-46.7	23.9
9:14 AM	5.81	0.1	6.72	11.0	711	0.81	-47.9	18.4
9:17 AM	5.82	0.1	6.73	11.0	712	0.85	-48.2	17.5
9:20 AM	5.81	0.1	6.72	11.0	710	0.85	-48.4	17.4

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-1
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; colorless; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	9:30 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Total purge volume prior to sampling: 1.2 gal

Turbidimeter had battery issues during sampling which prevented collection of every turbidity reading during purging.

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-2
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	TWA-2-0522
Sub Area	Taylor Way Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	6.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	9:51 AM	9.10	--	3.60	--	5.50	0.90

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 8:22 AM								
8:25 AM	3.97	0.3	7.51	11.2	1111	1.94	-35.0	7.37
8:28 AM	3.97	0.3	7.25	11.1	1104	1.59	-54.5	6.14
8:31 AM	4.05	0.3	7.21	11.0	1100	0.82	-55.0	5.43
8:34 AM	4.07	0.3	7.18	11.0	1098	0.60	-55.8	4.58
8:37 AM	4.06	0.3	7.16	11.0	1094	0.44	-56.6	2.50
8:40 AM	4.06	0.3	7.15	11.0	1092	0.40	-56.4	2.42
8:43 AM	4.06	0.3	7.14	11.0	1082	0.37	-55.2	2.30
8:46 AM	4.06	0.3	7.14	11.0	1089	0.36	-54.6	1.73

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-2
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; colorless; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	8:50 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Total purge volume prior to sampling: 1.9 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-3
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	D. Heitz / S. Maloney
Sampling Event	May 2022	**Sample Name**	TWA-3-0522
Sub Area	Taylor Way Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	8.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:01 AM	9.75	--	7.27	--	2.48	0.40

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 10:18 AM								
10:22 AM	7.41	0.4	6.87	11.3	5577	1.95	40.6	10.9
10:25 AM	7.41	0.4	6.91	11.3	5283	0.87	28.6	4.51
10:28 AM	7.42	0.4	6.91	11.3	5266	0.84	27.8	4.04
10:31 AM	7.42	0.4	6.91	11.3	5218	0.74	23.3	4.29
10:34 AM	7.43	0.4	6.91	11.3	5201	0.68	18.8	3.91
10:37 AM	7.42	0.4	6.90	11.3	5199	0.65	16.8	3.43
10:40 AM	7.43	0.4	6.91	11.3	5202	0.59	12.9	4.09
10:43 AM	7.42	0.4	6.91	11.3	5200	0.58	10.7	3.83
10:46 AM	7.42	0.4	6.90	11.3	5198	0.61	9.3	4.01

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-3
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; slight green tint; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	11:00 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Total purge volume prior to sampling: 3.0 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-10D
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	TWA-10D-0522
Sub Area	Taylor Way Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	54.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:05 AM	58.65	--	9.94	--	48.71	7.94

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 10:10 AM								
10:12 AM	10.33	0.2	7.84	13.0	5769	3.82	-40.8	6.27
10:15 AM	10.33	0.2	8.07	13.0	6485	0.58	-164.7	6.99
10:18 AM	10.33	0.3	8.08	13.0	6610	0.47	-171.7	2.73
10:21 AM	10.33	0.3	8.09	13.0	6716	0.35	-177.9	2.57
10:24 AM	10.33	0.3	8.11	12.9	7267	0.33	-184.5	4.30
10:27 AM	10.33	0.3	8.11	12.9	7325	0.32	-188.3	2.72
10:30 AM	10.32	0.3	8.12	12.9	7374	0.32	-191.0	2.37
10:33 AM	10.32	0.3	8.13	12.9	7448	0.24	-193.6	2.31
10:36 AM	10.32	0.3	8.13	12.9	7474	0.25	-194.9	1.92
10:39 AM	10.34	0.3	8.13	12.9	7528	0.24	-195.8	2.17
10:42 AM	10.34	0.3	8.13	13.0	7564	0.24	-195.8	1.45
10:45 AM	10.35	0.3	8.14	13.0	7605	0.25	-196.2	3.54
10:48 AM	10.35	0.3	8.13	13.0	7630	0.24	-196.8	1.44
10:51 AM	10.36	0.3	8.15	12.9	7655	0.24	-197.3	3.03
10:54 AM	10.36	0.3	8.15	13.0	7679	0.23	-198.1	1.75
10:57 AM	10.36	0.3	8.14	13.0	7687	0.21	-198.2	2.15
11:00 AM	10.37	0.3	8.15	13.0	7713	0.21	-198.2	0.99
11:04 AM	10.37	0.3	8.15	13.0	7726	0.21	-198.4	0.78
11:07 AM	10.38	0.3	8.15	13.0	7749	0.18	-198.6	0.75
11:10 AM	10.38	0.3	8.16	13.0	7779	0.17	-198.9	0.75
11:13 AM	10.38	0.3	8.16	13.0	7798	0.17	-198.2	0.81
11:16 AM	10.38	0.3	8.15	13.0	7794	0.20	-198.4	0.75
11:19 AM	10.38	0.3	8.16	13.0	7799	0.18	-199.0	0.68
11:22 AM	10.39	0.3	8.16	13.0	7825	0.17	-199.3	0.59
11:25 AM	10.39	0.3	8.16	13.0	7827	0.17	-199.4	0.73

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-10D
Project #	0615.20.04	Sampling Date	05/03/2022

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
11:28 AM	10.40	0.3	8.17	13.0	7832	0.18	-199.7	0.80
11:31 AM	10.40	0.3	8.16	13.0	7844	0.18	-199.8	0.59
11:34 AM	10.40	0.3	8.17	13.0	7862	0.17	-200.0	1.08
11:37 AM	10.40	0.3	8.17	13.0	7854	0.17	-200.2	0.72

Water Quality Observations:

Clear; pale yellow tint; slight rotten egg-like odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	11:40 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Total purge volume prior to sampling: 6.75 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	SB-1A
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	S. Maloney / D. Heitz
Sampling Event	May 2022	**Sample Name**	SB-1A-0522
Sub Area	Hylebos Marsh Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	7.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:24 AM	11.5	--	3.75	--	7.75	1.26

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 12:15 PM								
12:20 PM	3.97	0.4	7.33	11.5	525.7	1.52	-22.4	20.3
12:23 PM	3.97	0.4	7.34	11.5	514.0	1.28	-22.6	12.2
12:26 PM	3.97	0.4	7.34	11.4	500.3	1.23	-23.1	12.3
12:29 PM	3.97	0.4	7.34	11.4	480.0	1.40	-24.6	12.5
12:32 PM	4.01	0.4	7.34	11.5	462.8	1.71	-28.1	9.42
12:35 PM	3.99	0.4	7.35	11.4	458.8	1.81	-29.4	6.62
12:38 PM	3.99	0.4	7.35	11.4	457.6	1.81	-30.0	7.23
12:41 PM	3.98	0.4	7.36	11.4	451.9	1.96	-31.5	5.20
12:44 PM	3.98	0.4	7.36	11.4	450.9	1.94	-32.2	5.99
12:47 PM	3.97	0.4	7.36	11.4	449.0	1.96	-32.9	4.72

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	SB-1A
Project #	0615.20.04	**Sampling Date**	05/03/2022

Water Quality Observations:

Clear; light yellow tint; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	12:55 PM	VOA-Glass	12	No
			Amber Glass	12	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	2	No
			Red Dissolved Poly		
			Total Bottles	26	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Extra volume collected for matrix spike / matrix spike duplicate.

Total purge volume prior to sampling: 3.4 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	SB-2A
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	SB-2A-0522
Sub Area	Hylebos Marsh Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	8.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:40 AM	12.65	--	4.64	--	8.01	1.30

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 12:53 PM								
12:55 PM	4.62	0.3	7.83	11.6	690	0.92	-60.2	28.4
12:58 PM	4.84	0.3	7.50	11.4	593.4	0.45	-67.0	7.58
1:01 PM	4.84	0.3	7.35	11.4	858.2	0.29	-66.6	5.58
1:04 PM	4.85	0.3	7.28	11.4	580.1	0.26	-66.4	4.31
1:07 PM	4.85	0.3	7.25	11.5	577.8	0.23	-66.6	3.75
1:10 PM	4.88	0.3	7.22	11.5	572.5	0.22	-67.1	3.79
1:13 PM	4.90	0.3	7.20	11.6	570.2	0.20	-67.6	4.42
1:16 PM	5.23	0.3	7.20	11.6	568.1	0.21	-67.9	3.27
1:19 PM	5.22	0.2	7.17	12.1	568	0.20	-68.2	4.27
1:23 PM	5.22	0.1	7.18	12.1	566.3	0.21	-67.3	4.01
1:26 PM	5.21	0.1	7.19	12.2	564.6	0.21	-67.4	4.02

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	SB-2A
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; colorless; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	1:30 PM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Collected Field Blank #1-0522 here at 1:35 PM.

Reduced flow rate at 1:19 PM to prevent further drawdown past 0.33 feet. Water level did not drawdown further; therefore, sample was collected due to stabilized parameters.

Total purge volume prior to sampling: 2.2 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	SB-3A
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	SB-3A-0522
Sub Area	Hylebos Marsh Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	8.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	11:02 AM	12.75	--	3.0	--	9.75	1.59

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 3:27 PM								
3:37 PM	3.40	--	--	--	--	--	--	--
3:40 PM	3.40	0.2	7.44	11.5	897	3.19	-82.0	3.87
3:43 PM	3.44	0.2	7.38	11.3	886	0.47	-111.8	3.96
3:46 PM	3.43	0.2	7.35	11.2	878	0.34	-115.6	3.03
3:49 PM	3.43	0.2	7.32	11.2	870	0.27	-118.6	3.10
3:52 PM	3.61	0.2	7.29	11.1	858	0.24	-120.1	2.34
3:55 PM	3.59	0.1	7.28	11.2	852	0.23	-121.0	3.48
3:58 PM	5.68	0.1	7.27	11.2	845	0.22	-121.9	4.09
4:01 PM	3.41	0.1	7.26	11.2	837	0.22	-122.8	1.96

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	SB-3A
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear, containing particulates with initial purge; colorless; slight rotten egg-like odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	4:04 PM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Waited 10 minutes following beginning of purge to hook up YSI due to suspended particulates in purge water.

Total purge volume prior to sampling: 2.6 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-5D
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	S. Maloney / D. Heitz
Sampling Event	May 2022	**Sample Name**	TWA-5D-0522
Sub Area	Hylebos Marsh Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	27.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:40 AM	33.10	--	11.65	--	21.45	3.50

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 2:25 PM								
2:30 PM	12.13	0.4	7.59	13.6	3071	0.85	62.7	6.69
2:33 PM	12.13	0.4	7.56	13.6	3082	0.83	45.5	5.57
2:36 PM	12.13	0.4	7.55	13.5	3083	0.75	31.3	5.19
2:39 PM	12.14	0.4	7.54	13.5	3084	0.70	21.3	5.16
2:42 PM	12.13	0.4	7.54	13.6	3082	0.68	13.2	4.49
2:45 PM	12.13	0.4	7.53	13.6	3081	0.63	3.6	4.92
2:48 PM	12.13	0.4	7.53	13.6	3081	0.61	-3.2	4.59

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-5D
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; light yellowish brown tint; no odor; no sheen; effervesces in HCl.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	2:55 PM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Total purge volume prior to sampling: 2.4 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	TWA-6D
Project #	0615.20.04	**Sampling Date**	05/03/2022
Project Name	TWAAFA GW Sampling	**Sampler**	S. Maloney
Sampling Event	May 2022	**Sample Name**	TWA-6D-0522
Sub Area	Hylebos Marsh Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	27.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	10:54 AM	33.83	--	11.37	--	22.46	3.66

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 3:55 PM								
4:00 PM	13.03	0.2	7.15	12.6	2966	2.02	18.8	6.54
4:03 PM	13.06	0.2	7.13	12.6	2983	1.43	15.1	4.93
4:09 PM	13.06	0.3	7.12	12.6	3009	0.99	8.9	5.22
4:12 PM	13.09	0.3	7.12	12.7	3027	0.79	3.5	4.18
4:15 PM	13.10	0.3	7.12	12.6	3053	0.70	-0.4	4.65
4:18 PM	13.11	0.3	7.12	12.6	3081	0.65	-3.5	5.45
4:21 PM	13.11	0.3	7.12	12.6	3107	0.64	-6.8	5.45
4:24 PM	13.12	0.3	7.12	12.6	3141	0.60	-10.8	5.22
4:27 PM	13.12	0.3	7.12	12.6	3160	0.56	-13.6	5.31
4:30 PM	13.12	0.3	7.12	12.6	3165	0.55	-15.9	5.59

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	TWA-6D
Project #	0615.20.04	Sampling Date	05/03/2022

Water Quality Observations:

Clear; orange-brown tint; no odor; slight blocky sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	4:30 PM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Total purge volume prior to sampling: 2.5 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	CTMW-15
Project #	0615.20.04	**Sampling Date**	05/04/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	CTMW-15-0522
Sub Area	Potter Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	7
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	11:20 AM	10.46	--	5.38	--	5.08	0.83

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 10:10 AM								
10:15 AM	5.92	0.3	7.11	12.4	419.0	3.10	34.1	49.4
10:18 AM	8.65	0.3	6.92	12.4	404.2	1.59	22.3	24.6
10:21 AM	8.64	0.2	6.84	12.5	346.2	0.37	-15.4	3.02
10:23 AM	8.64	0.2	6.80	12.4	341.0	0.31	-32.7	1.91
10:26 AM	8.68	0.1	6.79	12.5	337.5	0.27	-40.8	1.33
10:30 AM	Pump turned off to allow recharge above top of screen.							
11:10 AM	Resume purging. Water level at 7.33 feet below top of casing.							
11:13 AM	8.33	0.1	6.82	13.1	348.9	0.34	-67.1	2.38

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	CTMW-15
Project #	0615.20.04	Sampling Date	05/04/2022

Water Quality Observations:

Contains orange particulates; pale yellow tint; no odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	11:15 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: GeoTech Water Level Meter

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

During purging, the drawdown observed at 10:30 was determined to not meet minimum sampling requirements; therefore, field personnel turned off pump to allow for adequate recharge volume to collect sample above pump intake.

Total purge volume prior to sampling: 1.2 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	CTMW-20
Project #	0615.20.04	**Sampling Date**	05/04/2022
Project Name	TWAAFA GW Sampling	**Sampler**	S. Maloney
Sampling Event	May 2022	**Sample Name**	CTMW-20-0522
Sub Area	Potter Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	7.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	11:23 AM	10.59	--	2.43	--	8.16	1.33

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 8:35 AM								
8:37 AM	2.08	0.3	6.77	10.2	1612	31.40	36.3	15.8
8:40 AM	2.06	0.3	6.96	10.1	964	5.69	2.7	9.86
8:43 AM	2.06	0.3	7.02	10.1	831	3.25	-12.1	8.46
8:46 AM	2.07	0.3	7.07	10.2	744	2.01	-22.5	7.61
8:49 AM	2.07	0.3	7.09	10.2	708	1.34	-31.0	8.22
8:52 AM	2.07	0.3	7.11	10.2	685.5	1.12	-38.2	5.73
8:55 AM	2.08	0.3	7.12	10.2	675.4	1.03	-42.0	6.60
8:58 AM	2.08	0.3	7.13	10.1	656.4	0.93	-47.1	5.69
9:01 AM	2.08	0.3	7.13	10.2	649.5	0.86	-50.2	4.91
9:04 AM	2.08	0.3	7.14	10.2	641.5	0.83	-53.8	5.86
9:07 AM	2.08	0.3	7.16	10.2	633.5	0.76	-59.3	4.53
9:10 AM	2.08	0.3	7.16	10.2	627.6	0.73	-62.5	4.70
9:13 AM	2.08	0.3	7.16	10.2	623.3	0.74	-63.7	4.74

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	CTMW-20
Project #	0615.20.04	Sampling Date	05/04/2022

Water Quality Observations:

Clear; slight greenish-gray tint; slight petroleum-like odor; no sheen.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	9:20 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: Solinst Model 101-P7

Water Quality Meter: YSI ProPlus #19K102418

Turbidity Meter: HACH 2100Q #994

Total purge volume prior to sampling: 1.2 gal

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	**Sampling Location**	CTMW-25D
Project #	0615.20.04	**Sampling Date**	05/04/2022
Project Name	TWAAFA GW Sampling	**Sampler**	E. Lundeen
Sampling Event	May 2022	**Sample Name**	CTMW-25D-0522
Sub Area	Potter Property		
FSDS QA	E. Lundeen 5/15/2022	**Sample Depth**	17.5
Hydrology/Level Measurements		**Purge Method**	Peristaltic pump

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Pore Volume
05/02/2022	11:09 AM	22.81	--	10.17	--	12.64	2.06

All depths measured from top of casing of monitoring well.

(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

Time	Water Level	Flowrate L/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	ORP	Turbidity
BEGAN PURGE AT: 8:35 AM								
8:40 AM	10.72	0.4	7.08	13.1	2614	1.57	-109.9	14.3
8:43 AM	10.72	0.4	7.07	13.0	2604	0.83	-113.3	19.6
8:46 AM	10.73	0.4	7.05	13.0	2597	0.49	-115.7	29.4
8:49 AM	10.73	0.4	7.04	13.0	2600	0.30	-117.1	20.8
8:52 AM	10.73	0.3	7.03	13.0	2614	0.26	-118.2	15.1
8:55 AM	10.72	0.3	7.02	13.0	2617	0.23	-119.5	15.7
8:58 AM	10.72	0.3	7.02	12.9	2618	0.20	-120.3	17.7
9:01 AM	10.72	0.2	7.02	12.9	2630	0.21	-121.0	13.9
9:04 AM	10.72	0.2	7.02	13.0	2625	0.19	-121.7	15.4
9:07 AM	10.72	0.2	7.01	12.9	2617	0.20	-121.8	16.3
9:10 AM	10.72	0.2	7.01	12.9	2623	0.21	-119.6	17.9
9:13 AM	10.72	0.2	7.01	12.9	2631	0.20	-120.7	19.3
9:16 AM	10.72	0.2	7.01	12.9	2627	0.20	-122.1	17.8
9:19 AM	10.73	0.2	7.00	12.9	2618	0.21	-122.5	13.5
9:21 AM	10.73	0.2	7.00	12.9	2622	0.19	-122.5	20.6
9:24 AM	10.72	0.2	7.01	12.9	2616	0.20	-122.7	16.3

Water Field Sampling Data Sheet
TWAAFA Groundwater Sampling
Port of Tacoma

MAUL FOSTER ALONGI

Client Name	Port of Tacoma	Sampling Location	CTMW-25D
Project #	0615.20.04	Sampling Date	05/04/2022

Water Quality Observations:

Brown tint with orange particulates; no odor; slight blocky sheen; effervesces in HCl.

Sample Information:

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
Peristaltic pump	Groundwater	9:25 AM	VOA-Glass	6	No
			Amber Glass	5	No
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	12	

General Sampling Comments:

Equipment Used:

Water Level Meter: GeoTech Water Level Meter

Water Quality Meter: YSI ProPlus

Turbidity Meter: HACH 2100Q

Total purge volume prior to sampling: 3.6 gal

Appendix B

Analytical Laboratory Reports and Data Validation Review Reports

QA/QC SOLUTIONS, LLC

James J. Mc Ateer, Jr., BS, MRSC
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July 21, 2022

Tasya Gray, LG
DOF Dalton, Olmsted & Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, Washington 98134

Subject: Taylor Way and Alexander Ave Fill Area (TWAAFA) Site -2nd Q 2022 Groundwater Sampling Data Validation Summary
Client Project No., Task Order No.: Not Specified, Task No. 3
QA/QC Solutions, LLC Project No.: 070522.1

Dear Tasya:

This letter documents the results of the data validation summary of selected organic compounds and elements completed on groundwater samples associated with Taylor Way and Alexander Ave Fill Area (TWAAFA) Site – Second Quarter 2022 Sampling event located in Tacoma, Washington.

The available data were validated to verify applicable laboratory quality assurance and quality control (QA/QC) measurements were reported, documented, and of sufficient quality to support its intended purpose(s). A summary of the overall assessment of data quality, the data set, a summary of the analytical methods used to complete the chemical analyses, a summary of the data validation procedures used, and a summary of the reasons why data were qualified (including other items noted during data validation) is presented below.

Overall Assessment of Data Quality

Overall, the data reported are of good quality (with the exception of data that were rejected) and the results for the applicable QA/QC measurements that were used by the laboratories during the analysis of the samples were generally acceptable. Some sample results required qualification during data validation because method-specific QA/QC criteria were not met; results maybe qualified for more than one reason. During data validation the following actions were taken:

- A total of 4 results reported as detected required qualification as estimated and were assigned a *J* data validation qualifier.
    - A total of 3 results reported as detected required qualification as estimated with an associated positive bias and were assigned a *J*+ data validation qualifier.
- A total of 32 results reported as detected required qualification as estimated with an associated negative bias and were assigned a *J*- data validation qualifier.

- A total of 64 results reported as detected required qualification as tentatively identified and estimated and were assigned a *NJ* data validation qualifier.
- One reported as undetected (*U*) required qualification as estimated and were assigned a *UJ* data validation qualifier,
- A total of 260 results reported as undetected and 1 result that was restated as detected required qualification as estimated with an associated negative bias and were assigned a *UJ-* data validation qualifier,
- A total of 44 results reported as detected required restatement as undetected and were assigned a *U* data validation qualifier,
- A total of 27 results reported as undetected required rejection and were assigned a *R* data validation qualifier,

Analytical data that did not meet method- and/or laboratory-established control limits for applicable quality control measurements were qualified as estimated (*J, J+, J-, NJ, UJ, or UJ-*) by the laboratory or during data validation. These qualified data are usable and represent data of good quality and reasonable confidence and have an acceptable degree of uncertainty (i.e., may be less precise or less accurate than unqualified data). Sample results that were rejected (*R*) may not be usable for their intended purpose.

Data Set

The data set consisted of 35 groundwater samples, 2 field duplicates, 2 field blanks, and 8 trip blanks that were collected on in May 2022. A summary of the samples collected and analyses completed in summarized in Table 1.

Analyses were completed by Friedman & Bruya, Inc. Environmental Chemists located in Seattle, Washington. The laboratory submitted eight (8) data summary packages and electronic data deliverable (EDDs).

Analytical Methods

The analytical methods used to complete the chemical analyses are listed as follows and are also listed in Table 1.

- Gasoline-range petroleum hydrocarbons by purge and trap and analysis by gas chromatography/flame ionization detection (GC/FID) using the Washington Department of Ecology NWTPH-Gx method (Ecology 1997).
- Diesel- and oil-range petroleum hydrocarbons by extraction and analysis by GC/FID using the Washington Department of Ecology NWTPH-Dx (extended) method (Ecology 1997). All samples were analyzed with and without silica gel cleanup.
- Total metals (arsenic, cadmium, chromium, copper, lead, manganese, nickel, and zinc) by digestion and analysis by inductively coupled plasma-mass spectrometry (ICP-MS) EPA Method 6020B (U.S. EPA 2022).
- Total mercury by oxidation, purge and trap, and Cold Vapor Atomic Fluorescence Spectrometry by Method 1631, Revision E (U.S. EPA 2002a).
- Volatile organic compounds (VOCs) for 63 target analytes (including co-eluting VOCs) by purge and trap and analysis by GC/MS using U.S. EPA SW-846 Method 8260D, respectively (U.S. EPA 2022).

- 1,4- by purge and trap and analysis by GC/MS operated in the selected ion monitoring mode (SIM) using U.S. EPA SW-846 Method 8260D (U.S. EPA 2022).
- Semivolatile organic compounds (SVOCs) for 66 target analytes (including co-eluting SVOCs) and/or for 7 carcinogenic polycyclic aromatic hydrocarbons (PAHs) by extraction and analysis by gas chromatography/mass spectrometry (GC/MS) using U.S. EPA SW-846 Method 8270E (U.S. EPA 2022). Samples were filtered at the laboratory prior to extraction.
- Polychlorinated biphenyls (PCBs) for nine Aroclors® mixtures by extraction and analysis by gas chromatography/electron capture detection (GC/ECD) using U.S. EPA SW-846 method 8082A (U.S. EPA 2022).

Data Validation Procedures

Data validation procedures included evaluating a summary of the sample results and applicable quality control results reported by the laboratory; this level of validation is also referred to as an abbreviated data review (equivalent to "Stage 2A/2B" review per U.S. EPA 2009. The analytical data were validated generally following the applicable guidance and requirements:

- Method-specific and laboratory-established quality control requirements, as applicable.
- Guidance on Environmental Data Verification and Validation (U.S. EPA 2002b)
- Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. OSWER No. 9200.1-85. EPA 540-R-08-005. (U.S. EPA 2009).
- National Functional Guidelines for Organic Superfund Methods Data Review. OLEM 9240.0-51 EPA 540-R-20-005 November 2020 OLEM 9355.0-136. USEPA-540-R-2017-002. June 2017. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020a).
- National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006 November 2020. U.S. Environmental Protection Agency (EPA), Office of Superfund Remediation and Technology Innovation (OSRTI), Washington, DC. (U.S. EPA 2020b).

The laboratory data deliverables that were validated and available for review included the following:

- Case narratives discussing analytical problems (if any) and procedures.
- Chain-of-custody documentation to verify completeness of the data set.
- Sample preparation logs or laboratory summary result forms to verify analytical holding times were met.
- Results for applicable method blanks, field blanks, and trip blanks to determine whether an analyte that may have been reported as detected in a sample was the result of possible contamination introduced at the laboratory, during sampling, and/or during transport of samples, respectively.

- Results for applicable surrogate compound, laboratory control sample (LCS) (i.e., blank spike), duplicate LCS, matrix spike (MS), and matrix spike duplicate (MSD) recoveries to assess analytical accuracy.
- Results for applicable laboratory duplicate sample, duplicate LCS, and MSD analyses to assess analytical precision as are applicable.
- Results for the field duplicate samples to provide additional information.
- Laboratory summaries of analytical results reported for the analyses competed.

Verification and validation of 100-percent of all applicable laboratory calculations, transcriptions, review of instrument printouts, and review of bench sheets were not completed during the data validation review. There may be analytical problems that could only be identified by reviewing every instrument printout and associated analytical quality control results. Verification of all possible factors that could result in the degradation of data quality was not completed nor should be inferred at this time. The laboratory case narratives did not indicate any significant problems with data that were not reviewed during data validation. The adequacy of the sampling procedures was not completed during the data validation.

Performance based control limits established by the laboratory, applicable control limits specified in the analytical methods, and best professional judgement were used to evaluate data quality and to determine if specific data required qualification. Data qualifiers were assigned during data validation following guidance specified by U.S. EPA (2002b, 2020a, and 2020b) to the EDD when applicable QC measurement criteria were not met and qualification of the data was warranted.

Reasons for Data Qualification

The reasons for qualification of sample results are summarized in Table 2 (Summary of Qualified Data).

General Comments:

- Data users should refer to the laboratory data packages for complete information pertinent to the analyses completed.
- Results were reported as a non-detect were at the applicable reporting limit.
- Some sample results were reported from a dilution analysis that was required. In these instances, all other sample results were reported from the undiluted analysis.
- Trip blanks were not always requested for analysis of 1,4-Dioxane on the chain-of-custody.
- In some instances, continuing calibration QC limits were not met. Qualification of associated sample results was not required because the exceedances were due to an increase of instrument sensitivity and the applicable target compound was not detected.
- For the analysis of SVOCs, some MS/MSD recoveries and/or RPDs between the MS and MSD were outside applicable control limits. In these instances, sample results were not qualified because these data alone cannot be used to evaluate the precision and accuracy of individual samples, which are assessed by other quality control measurement (e.g., surrogate and LCS recoveries).

- Batch QC data (e.g., MS/MSDs) were associated with several data packages. Results from batch QC samples are not used to determine whether sample data require qualification.
- Two results reported as detected for gasoline range hydrocarbons were qualified as estimated (*J*) because surrogate recovery data could be reported and outside control limit due to matrix effects per laboratory.
- Several results reported as detected for diesel- and motor oil-range petroleum hydrocarbons were qualified as tentatively identified and estimated (*NJ*) because the sample chromatographic pattern does not resemble the fuel standard used for quantitation. This was applicable to samples subjected to cleanup with and without silica gel.
- For the analysis of PCBs, there is an apparent negative bias associated with the recovery the surrogate compound for 7 samples. Affected results required qualification as *UJ*- if undetected and with an associated negative bias or rejection (*R*).
- Selected results reported as detected for chromium, copper, Aroclor® 1242, methylene chloride, and bis(2-ethylhexyl) phthalate were restated as undetected (*U*) due to detections in the associated method blank, trip blank, and/or field blank.
- For the analysis of VOCs, selected results reported as detected in one sample required qualification as estimated with a positive bias (*J*+) because the recovery of 1 of the 3 surrogate compounds was above the upper control limit.
    - For the analysis of VOCs, one compound reported as detected in one sample required qualification as estimated with a negative bias (*J*+) because the recovery of 1 of the 3 surrogate compounds was below the negative control limit.
- For the analysis of SVOCs, there is an apparent systematic negative bias associated with several target compounds as exhibited by LCS recoveries below the lower control limit.
- In one sample analyzed for SVOCs, selected results required qualification because the control limit of the internal standard response was not met.
- One sample reported as detected for 1,4-Dioxane was completed 21days past 14-day method-specified holding time constraint. This result was qualified as estimated with a negative bias (*J*-).

This concludes the data validation review. Should you have any questions regarding the information presented herein, please contact me by telephone at 503.763.6948 or by e-mail at jjmcateer@msn.com.

Cordially,

James J. Mc Ateer, Jr., BS, MRSC
Managing Member

cc: Trevor Louviere, DOF Dalton, Olmsted & Fuglevand, Inc.

Attachments

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U.S. EPA 2022. SW-846 on-line. Test methods for evaluating solid wastes, physical/chemical methods. https://www.epa.gov/hw-sw846/sw-846-compendium (last updated on June 15, 2022). U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC.

Table 1. Summary of Samples Collected and Analyses Completed

Sample Number	Laboratory ID	Date Collected	Time Collected	Range Hydrocarbons by WDOE NWTPH-Gx	Diesel- and Oil-Range Hydrocarbons by WDOE NWTPH-Dx, ext. w/ and/or w/o silica gel	Metals by SW-846 6020B	Total Mercury by 1631E	VOCs by SW-846 8260D	1,4-Dioxane by SW-846 8260D-SIM	SVOCs by SW-846 8270E*	PCBs by SW-846 8082A
Trip Blank 1-0522	2050036-01	5/3/22	1035	✓	-	-	-	✓	-	-	-
CCW-6B-0522	2050036-02	5/3/22	1040	✓	✓	✓	✓	✓	✓	✓	✓
CCW-6C-0522	2050036-03	5/3/22	1155	✓	✓	✓	✓	✓	✓	✓	✓
CCW-7B-0522	2050036-04	5/3/22	1340	✓	✓	✓	✓	✓	✓	✓	✓
CCW-7C-0522	2050036-05	5/3/22	1435	✓	✓	✓	✓	✓	✓	✓	✓
Trip Blank 2-0522	205061-01	5/4/22	1000	✓	-	-	-	✓	-	-	-
CCW-1A-0522	205061-02	5/4/22	1005	✓	✓	✓	✓	✓	✓	✓	✓
CCW-1B-0522	205061-03	5/4/22	1125	✓	✓	✓	✓	✓	✓	✓	✓
CCW-1C-0522	205061-04	5/4/22	1240	✓	✓	✓	✓	✓	✓	✓	✓
Trip Blank 3-0522	205088-09	5/4/22	1350	✓	-	-	-	✓	-	-	-
CCW-8B-0522	205088-01	5/4/22	1355	✓	✓	✓	✓	✓	✓	✓	✓
MW-4-0522	205088-02	5/4/22	1505	✓	✓	✓	✓	✓	✓	✓	✓
CCW-4C-0522	205088-03	5/5/22	0940	✓	✓	✓	✓	✓	✓	✓	
CCW-2A-0522	205088-04	5/5/22	1045	✓	✓	✓	✓	✓	✓	✓	✓
CCW-2B-0522	205088-05	5/5/22	1200	✓	✓	✓	✓	✓	✓	✓	✓
CCW-9-2B-0522	205088-06	5/5/22	1205	✓	✓	✓	✓	✓	✓	✓	✓
Field Blank 1-0522	205088-07	5/5/22	1230	✓	✓	✓	✓	✓	✓	✓	✓
CCW-2C-0522	205088-08	5/5/22	1320	✓	✓	✓	✓	✓	✓	✓	✓
Trip Blank 4-0522	205112-01	5/5/22	1420	✓	-	-	-	✓	-	-	-
TWA-9D-0522	205112-02	5/5/22	1425	✓	✓	✓	✓	✓	✓	✓	✓
CCW-4C-0522	205112-03	5/6/22	1035	✓							✓
CCW-5B-0522	205112-04	5/6/22	1125	✓	✓	✓	✓	✓	✓	✓	✓
CCW-5C-0522	205112-05	5/6/22	1205	✓	✓	✓	✓	✓	✓	✓	✓
Trip Blank 5-0522	205140-01	5/9/22	1020	✓	-	-	-	✓	-	-	-
CCW-3B-0522	205140-02	5/9/22	1025	✓	✓	✓	✓	✓	✓	✓	✓
CCW-3A-0522	205140-03	5/9/22	1125	✓	✓	✓	✓	✓	✓	✓	✓
CCW-3C-0522	205140-04	5/9/22	1220	✓	✓	✓	✓	✓	✓	✓	✓
TWA-7D-0522	205140-05	5/9/22	1355	-	✓	✓	✓	✓	✓	✓	-
Trip Blank 6-0522	205172-01	5/10/22	1025	-	-	-	-	✓	-	-	-
CTMW-23R-0522	205172-02	5/10/22	1030	-	✓	✓	✓	✓	-	-	-
CTMW-11R2-0522	205172-03	5/10/22	1150	-	✓	✓	✓	✓	-	-	-
CTMW-17D-0522	205172-04	5/10/22	1255	-	✓	✓	✓	✓	-	-	-
CTMW-17-0522	205172-05	5/10/22	1415	-	✓	✓	✓	✓	✓	-	-
CTMW-12-0522	205172-06	5/10/22	1525	-	✓	✓	✓	✓	-	✓	-
Trip Blank 7-0522	205192-01	5/11/22	0905	✓	-	-	-	✓	✓	-	-
CTMW-18-0522	205192-02	5/11/22	0910	✓	✓	✓	✓	✓	-	-	-
CTMW-7-0522	205192-03	5/11/22	1005	-	✓	✓	✓	✓	✓	✓	-
CTMW-9-7-0522	205192-04	5/11/22	1010	-	✓	✓	✓	✓	✓	✓	-
CTMW-5-0522	205192-05	5/11/22	1105	-	✓	✓	✓	✓	-	-	-
TWA-8D-0522	205192-06	5/11/22	1215	✓	✓	✓	✓	✓	✓	✓	✓
CTMW-24-0522	205192-07	5/11/22	1350	-	✓	✓	✓	✓	-	✓	-
CTMW-24D-0522	205192-08	5/11/22	1450	-	✓	✓	✓	✓	-	-	-
Field Blank 2-0522	205192-09	5/11/22	1820	✓	✓	✓	✓	✓	✓	✓	✓
Trip Blank 8-0522	205220-01	5/12/22	0915	-	-	-	-	✓	✓	-	-
TWA-4D-0522	205220-02	5/12/22	0920	-	✓	✓	✓	✓	✓	✓	-
CTMW-14-0522	205220-03	5/12/22	1015	-	✓	✓	✓	✓	-	✓	-
CTMW-8-0522	205220-04	5/12/22	1110	-	✓	✓	✓	✓	-	-	-
CTMW-9-0522	205220-05	5/12/22	1150	-	✓	✓	✓	✓	✓	-	-
				31	39	39	39	47	31	30	23

Notes on next page

Notes

Dx - diesel-range and oil-range hydrocarbons

Gx - gasoline-range hydrocarbons
NWTPH - Northwest Total Petroleum Hydrocarbons
PCBs - polychlorinated biphenyls
SIM - selected ion monitoring
SVOC - semivolatile organic compound
VOC - volatile organic compound
WDOE - Washington Department of Ecology
w/ SG = with silica gel cleanup
w/o SG = without silica gel cleanup
* - samples for 8270E analyses were filtered at the laboratory

Table 2. Summary of Qualified Data

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
Gasoline-Range Extended Hydrocarbons									
CCW-2B-0522		Gasoline Range Organics	3900	ug/L	100	17		J	Surrogate recovery not reported and was outside applicable control limit
CCW-9-2B-0522		Gasoline Range Organics	3900	ug/L	100	17		J	Surrogate recovery not reported and was outside applicable control limit
Diesel-Range Extended Hydrocarbons									
CCW-1A-0522		Diesel Range Organics w/o SGT	420	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-1B-0522		Diesel Range Organics w/o SGT	240	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-1C-0522		Diesel Range Organics w/o SGT	1000	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	340	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-2A-0522		Diesel Range Organics w/o SGT	3300	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	700	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-2B-0522		Diesel Range Organics w/o SGT	2200	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	650	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-9-2B-0522		Diesel Range Organics w/o SGT	2400	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	710	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-2C-0522		Diesel Range Organics w/o SGT	400	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-3A-0522		Diesel Range Organics w/o SGT	11000	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	4800	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-3B-0522		Diesel Range Organics w/o SGT	2500	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	1000	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-3C-0522		Diesel Range Organics w/o SGT	650	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	380	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-4C-0522		Diesel Range Organics w/o SGT	1200	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	470	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-5B-0522		Diesel Range Organics w/o SGT	2900	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	770	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-5C-0522		Diesel Range Organics w/o SGT	1700	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	470	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-6B-0522		Diesel Range Organics w/o SGT	880	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	410	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-6C-0522		Diesel Range Organics w/o SGT	990	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	430	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-7B-0522		Diesel Range Organics w/o SGT	1600	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	540	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-7C-0522		Diesel Range Organics w/o SGT	670	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	470	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-8B-0522		Diesel Range Organics w/o SGT	3700	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	570	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-11R2-0522		Diesel Range Organics w/o SGT	570	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
CTMW-12-0522		Diesel Range Organics w/o SGT	800	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	330	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-17-0522		Diesel Range Organics w/o SGT	930	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	650	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-17D-0522		Diesel Range Organics w/o SGT	830	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	350	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-18-0522		Diesel Range Organics w/o SGT	200	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-23R-0522		Diesel Range Organics w/o SGT	79	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-24D-0522		Diesel Range Organics w/o SGT	620	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	430	ug/L	250	28	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-5-0522		Diesel Range Organics w/o SGT	59	ug/L	60	18	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-7-0522		Diesel Range Organics w/o SGT	1200	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	910	ug/L	250	28	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-9-7-0522		Diesel Range Organics w/o SGT	1300	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	980	ug/L	250	28	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CTMW-9-0522		Diesel Range Organics w/o SGT	2600	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	1600	ug/L	250	28	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
Field Blank 1-0522		Diesel Range Organics w/o SGT	80	ug/L	60	12	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-4-0522		Diesel Range Organics w/o SGT	7700	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
		Lube Oil w/o SGT	3400	ug/L	250	38	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
TWA-7D-0522		Diesel Range Organics w/o SGT	210	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
TWA-8D-0522		Diesel Range Organics w/o SGT	98	ug/L	50	15	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
TWA-9D-0522		Diesel Range Organics w/o SGT	96	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-1A-0522		Diesel Range Organics w/ SGT	100	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-2A-0522		Diesel Range Organics w/ SGT	1000	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-2B-0522		Diesel Range Organics w/ SGT	220	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-3A-0522		Diesel Range Organics w/ SGT	310	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-5B-0522		Diesel Range Organics w/ SGT	320	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
CCW-9-2B-0522		Diesel Range Organics w/ SGT	210	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
MW-4-0522		Diesel Range Organics w/ SGT	260	ug/L	50	10	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation
Metals									
CCW-2A-0522		Copper	4.2	ug/L	1	0.16		U	Detected in associated field blank at 1.44 ug/L
CCW-4C-0522		Chromium	3.17	ug/L	1	0.28		U	Detected in associated field blank at 1.18ug/L
MW-4-0522		Chromium	1.18	ug/L	1	0.28		U	Detected in associated field blank at 1.18ug/L

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
TWA-9D-0522		Lead	1	ug/L	1	0.057	U	UJ	Sample MSD recovery at 264% (above upper control limit of 125%) and RPD between MS and MSD at 104
Polychlorinated Biphenyls									
CCW-2C-0522		PCB-Aroclor 1242	0.0048	ug/L	0.0035	0.0025		U	Detected in associated field blank at 0.0036 ug/L (sample and field blank extracted on same day, so possible lab contamination)
CCW-3A-0522		PCB-Aroclor 1242	0.059	ug/L	0.0035	0.0025		J	Likely chromatographic peak overlap due to PCB congeners similar to both Aroclor® mixtures
		PCB-Aroclor 1254	0.0095	ug/L	0.0035	0.0035		J	Likely chromatographic peak overlap due to PCB congeners similar to both Aroclor® mixtures
CCW-5B-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
CCW-5C-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
CCW-7B-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
TWA-9D-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
TWA-8D-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	UJ-	Surrogate recovery below lower control limit
Field Blank 2-0522		PCB-Aroclor 1221	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1232	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1016	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1242	0.0035	ug/L	0.0035	0.0025	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1248	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1254	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1260	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1262	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
		PCB-Aroclor 1268	0.0035	ug/L	0.0035	0.0012	U	R	Surrogate recovery <10 percent
Volatile Organic Compounds									
CCW-1A-0522		Methylene chloride	8	ug/L	5	1.8		U	Detected in associated trip blank at 7.1 ug/L
CCW-1B-0522		Methylene chloride	9.9	ug/L	5	1.8		U	Detected in associated trip blank at 7.1 ug/L
CCW-1C-0522		Methylene chloride	7.9	ug/L	5	1.8		U	Detected in associated trip blank at 7.1 ug/L
CCW-2A-0522		Tetrachloroethene	1900	ug/L	100	2.3		J+	Recovery of 1 of 3 surrogates above upper control limit in dilution from which this result is reported
		cis-1,2-Dichloroethene	720	ug/L	100	1.5		J+	Recovery of 1 of 3 surrogates above upper control limit in dilution from which this result is reported
		Trichloroethene	550	ug/L	50	3.2		J+	Recovery of 1 of 3 surrogates above upper control limit in dilution from which this result is reported
		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CCW-2B-0522		Chlorobenzene	330	ug/L	100	4.2		J-	Recovery of 1 of 3 surrogates below lower control limit in dilution from which this result is reported
		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CCW-9-2B-0522		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CCW-2C-0522		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CCW-3A-0522		Methylene chloride	9.6	ug/L	5	2.6		U	Detected in associated trip blank at 7.0 ug/L
CCW-3B-0522		Methylene chloride	10	ug/L	5	2.6		U	Detected in associated trip blank at 7.0 ug/L
CCW-3C-0522		Methylene chloride	9.9	ug/L	5	1.8		U	Detected in associated trip blank at 7.0 ug/L
CCW-4C-0522		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CCW-6B-0522		Methylene chloride	11	ug/L	5	1.8		U	Detected in associated trip blank at 8.2 ug/L
CCW-6C-0522		Methylene chloride	13	ug/L	5	1.8		U	Detected in associated trip blank at 8.2 ug/L
CCW-7B-0522		Methylene chloride	13	ug/L	5	1.8		U	Detected in associated trip blank at 8.2 ug/L
CCW-7C-0522		Methylene chloride	12	ug/L	5	1.8		U	Detected in associated trip blank at 8.2 ug/L
CCW-8B-0522		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
CTMW-7-0522		Methylene chloride	9.9	ug/L	5	1.8		U	Detected in associated field blank at 9.9 ug/L
MW-4-0522		Methylene chloride	20	ug/L	5	1.8		U	Detected in associated field blank at 20 ug/L and trip blank at 6.6 ug/L (highest concentration
TWA-7D-0522		Methylene chloride	12	ug/L	5	2.6		U	Detected in associated trip blank at 7.0 ug/L
Semivolatile Organic Compounds									
CCW-1A-0522		Bis(2-ethylhexyl) phthalate	2.3	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-1B-0522		Bis(2-ethylhexyl) phthalate	2.7	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	0.26	ug/L	0.01	0.0046		UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.062	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-1C-0522		Phenanthrene	0.04	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.4	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	0.16	ug/L	0.01	0.0046		UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-2A-0522		Acenaphthene	4.9	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	2.5	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-2B-0522		Acenaphthene	0.36	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
CCW-9-2B-0522		Acenaphthene	0.88	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.12	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-2C-0522		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-3A-0522 f		Acenaphthene	0.27	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		Diethyl phthalate	1.2	ug/L	1	0.075		J-	Recovery of this SVOC in associated LCS below lower control limit
		Fluorene	0.23	ug/L	0.01	0.0032		J-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.29	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		Carbazole	0.33	ug/L	0.1	0.022		J-	Recovery of this SVOC in associated LCS below lower control limit
		Naphthalene	1.8	ug/L	0.1	0.0048		J-	Recovery of this SVOC in associated LCS below lower control limit
		Fluoranthene	0.026	ug/L	0.01	0.007		J-	Recovery of this SVOC in associated LCS below lower control limit
		Pyrene	0.038	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		2-Methylnaphthalene	0.75	ug/L	0.1	0.0047		J-	Recovery of this SVOC in associated LCS below lower control limit
		1-Methylnaphthalene	0.61	ug/L	0.1	0.0035		J-	Recovery of this SVOC in associated LCS below lower control limit
		1,3-Dichlorobenzene	0.1	ug/L	0.1	0.02	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,4-Dichlorobenzene	0.1	ug/L	0.1	0.021	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2-Dichlorobenzene	0.1	ug/L	0.1	0.025	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	0.02	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	0.015	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	0.012	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	0.065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Isophorone	0.1	ug/L	0.1	0.013	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Anthracene	0.01	ug/L	0.01	0.003	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Chrysene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	1.4	ug/L	1.6	0.31		UJ-	Detected in associated method blank at 1. 1 ug/L
		Benzo(a)pyrene	0.01	ug/L	0.01	0.0027	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		2-Chloronaphthalene	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		Benzo(k)fluoranthene	0.01	ug/L	0.01	0.0034	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		Dimethyl phthalate	1	ug/L	1	0.1	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		2,6-Dinitrotoluene	0.5	ug/L	0.5	0.08	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Di-n-octyl phthalate	1	ug/L	1	0.18	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
		Benzo(b)fluoranthene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit and control limit of associated internal standard was not met
CCW-3B-0522 f		Acenaphthene	0.56	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		1,3-Dichlorobenzene	0.28	ug/L	0.1	0.02		J-	Recovery of this SVOC in associated LCS below lower control limit
		1,4-Dichlorobenzene	0.16	ug/L	0.1	0.021		J-	Recovery of this SVOC in associated LCS below lower control limit
		Fluorene	0.67	ug/L	0.01	0.0032		J-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.32	ug/L	0.01	0.0065		J-	Recovery of this SVOC in associated LCS below lower control limit
		Anthracene	0.023	ug/L	0.01	0.003		J-	Recovery of this SVOC in associated LCS below lower control limit
		Carbazole	0.28	ug/L	0.1	0.022		J-	Recovery of this SVOC in associated LCS below lower control limit
		Naphthalene	2.4	ug/L	0.1	0.0048		J-	Recovery of this SVOC in associated LCS below lower control limit
		2-Methylnaphthalene	2.2	ug/L	0.1	0.0047		J-	Recovery of this SVOC in associated LCS below lower control limit
		1-Methylnaphthalene	2.9	ug/L	0.1	0.0035		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	1.5	ug/L	1.6	0.31		U	Detected in associated method blank at 1. 1 ug/L
		2,6-Dinitrotoluene	0.5	ug/L	0.5	0.08	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2-Dichlorobenzene	0.1	ug/L	0.1	0.025	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Diethyl phthalate	1	ug/L	1	0.075	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	0.02	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	0.015	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	0.012	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	0.065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Isophorone	0.1	ug/L	0.1	0.013	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Fluoranthene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Pyrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Chrysene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	0.0027	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2-Chloronaphthalene	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	0.0034	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dimethyl phthalate	1	ug/L	1	0.1	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-3C-0522 f		Bis(2-ethylhexyl) phthalate	1.2	ug/L	1.6	0.31		U	Detected in associated method blank at 1. 1 ug/L
		2,6-Dinitrotoluene	0.5	ug/L	0.5	0.08	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,3-Dichlorobenzene	0.1	ug/L	0.1	0.02	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		1,4-Dichlorobenzene	0.1	ug/L	0.1	0.021	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2-Dichlorobenzene	0.1	ug/L	0.1	0.025	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Diethyl phthalate	1	ug/L	1	0.075	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Fluorene	0.01	ug/L	0.01	0.0032	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	0.02	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	0.015	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	0.012	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	0.065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Isophorone	0.1	ug/L	0.1	0.013	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Anthracene	0.01	ug/L	0.01	0.003	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Carbazole	0.1	ug/L	0.1	0.022	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Naphthalene	0.1	ug/L	0.1	0.0048	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Fluoranthene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Pyrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2-Methylnaphthalene	0.1	ug/L	0.1	0.0047	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Chrysene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		1-Methylnaphthalene	0.1	ug/L	0.1	0.0035	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	0.0027	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2-Chloronaphthalene	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	0.0034	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dimethyl phthalate	1	ug/L	1	0.1	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-4C-0522		Acenaphthene	0.027	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-5B-0522		Bis(2-ethylhexyl) phthalate	1.4	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	1.4	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.24	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
CCW-5C-0522		Bis(2-ethylhexyl) phthalate	1.4	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.015	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CCW-6B-0522		Bis(2-ethylhexyl) phthalate	2.2	ug/L	1.6	0.31		U	Detected in associated method blank at 1.0 ug/L
CCW-6C-0522		Bis(2-ethylhexyl) phthalate	1.7	ug/L	1.6	0.31		U	Detected in associated method blank at 1.0 ug/L
CCW-7B-0522		Bis(2-ethylhexyl) phthalate	1.6	ug/L	1.6	0.31		U	Detected in associated method blank at 1.0 ug/L
CCW-7C-0522		Bis(2-ethylhexyl) phthalate	1.9	ug/L	1.6	0.31		U	Detected in associated method blank at 1.0 ug/L
CCW-8B-0522		Acenaphthene	0.92	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
CTMW-12-0522		Benz[a]anthracene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Chrysene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	0.0027	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	0.0034	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
Field Blank 1-0522		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
MW-4-0522		Acenaphthene	0.17	ug/L	0.01	0.0046		J-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.61	ug/L	0.1	0.018		J-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-ethylhexyl) phthalate	2.5	ug/L	1.6	0.31		U	Detected in associated field blank at 2.5 ug/L and method blank at 0.97 ug/L (highest concentration used)
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit

Table 2. Summary of Qualified Data, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	DL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
TWA-7D-0522 f		Benz[a]anthracene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Chrysene	0.01	ug/L	0.01	0.004	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	0.0027	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	0.0034	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
TWA-9D-0522		Bis(2-ethylhexyl) phthalate	1.1	ug/L	1.6	0.31		U	Detected in associated method blank at 0.97 ug/L
		Acenaphthene	0.01	ug/L	0.01	0.0046	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	0.033	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	0.018	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	0.016	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Phenanthrene	0.01	ug/L	0.01	0.0065	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	0.019	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	0.0055	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	0.0039	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	0.007	U	UJ-	Recovery of this SVOC in associated LCS below lower control limit
TWA-8D-0522		Bis(2-ethylhexyl) phthalate	1.8	ug/L	1.6	0.31		U	Detected in associated field blank at 1.0 ug/L
1,4-Dioxane									
CTMW-17-0522		1,4-Dioxane	1.2	ug/L	0.4	0.12		J-	Sample analyzed 21 days past recommended 14-day holding time constraint

Data Validation Assigned Data Qualifiers and Definitions

DL = detection limit
J = estimated
J= = estimated with positive bias
J- = estimated with negative bias
MS = matrix spike
MSD = matrix spike Duplicate
LCS = laboratory control sample
NJ = tentatively identified and estimated
R = rejected
RPD = relative percent difference
RL = reporting limit
UJ = result restated as undetected at value shown
UJ- = undetected at value shown and estimated with negative bias
w/ SG = with silica gel cleanup
w/o SG = without silica gel cleanup
x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation

Total results qualified "J" =	4
Total results qualified "J+" =	3
Total results qualified "J-" =	32
Total results qualified "NJ"	64
Total results qualified "UJ"	1
Total results qualified "UJ-"	260
Total results qualified "U"	43
Total results qualified "R"	27

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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May 31, 2022

Trevor Louviere, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

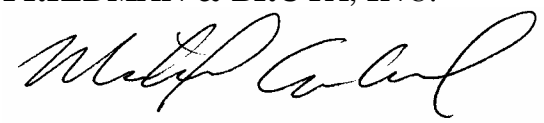
Dear Mr Louviere:

Included are the results from the testing of material submitted on May 3, 2022 from the TWAAFA-001, F&BI 205036 project. There are 45 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Anthony Cerruti, Tasya Gray
DOF0531R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 3, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205036 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205036 -01	Trip Blank 1-0522
205036 -02	CCW-6B-0522
205036 -03	CCW-6C-0522
205036 -04	CCW-7B-0522
205036 -05	CCW-7C-0522

The 6020B sample CCW-6C-0522 was analyzed at a dilution due to matrix interferences.

Methylene chloride was detected in the 8260D samples. The data were flagged as due to laboratory contamination.

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

The 1631E mercury matrix spike and matrix spike duplicate failed the relative percent difference. The laboratory control sample duplicate passed the acceptance criteria, therefore the results were acceptable.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

The 8270E samples were filtered at the laboratory prior to analysis. The data were qualified accordingly.

The 8270E calibration standard failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

Several 8270E compounds failed below the acceptance criteria in the matrix spike samples, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

Several compounds in the 8270E laboratory control sample exceeded the acceptance criteria. The compounds were not detected, therefore the data were acceptable.

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

All other quality control requirements were acceptable.

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036
Date Extracted: 05/06/22
Date Analyzed: 05/06/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
Trip Blank 1-0522 205036-01	<100	67
CCW-6B-0522 205036-02	170	84
CCW-6C-0522 205036-03	<100	60
CCW-7B-0522 205036-04	890	98
CCW-7C-0522 205036-05	<100	68
Method Blank 02-907 MB	<100	67

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036
Date Extracted: 05/09/22
Date Analyzed: 05/09/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-6B-0522 205036-02	<50	<250	115
CCW-6C-0522 205036-03	<50	<250	119
CCW-7B-0522 205036-04	460	<250	129
CCW-7C-0522 205036-05	<50	<250	126
Method Blank 02-1065 MB	<50	<250	110

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036
Date Extracted: 05/05/22
Date Analyzed: 05/05/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-6B-0522 205036-02	880 x	410 x	115
CCW-6C-0522 205036-03	990 x	430 x	127
CCW-7B-0522 205036-04	1,600 x	540 x	142
CCW-7C-0522 205036-05	670 x	470 x	123
Method Blank 02-1065 MB	<50	<250	119

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-6B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	205036-02
Date Analyzed:	05/11/22	Data File:	205036-02.150
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.46
Cadmium	<1
Chromium	1.70
Copper	10.6
Lead	43.6
Manganese	690
Nickel	4.62
Zinc	88.8

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-6C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	205036-03
Date Analyzed:	05/11/22	Data File:	205036-03.151
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-6C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	205036-03 x10
Date Analyzed:	05/11/22	Data File:	205036-03 x10.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<10
Cadmium	<10
Chromium	23.7
Copper	<2
Manganese	258
Nickel	<10
Zinc	<50

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-7B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	205036-04
Date Analyzed:	05/11/22	Data File:	205036-04.152
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.99
Cadmium	<1
Chromium	1.39
Copper	1.29
Lead	3.77
Manganese	739
Nickel	2.11
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-7C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	205036-05
Date Analyzed:	05/11/22	Data File:	205036-05.153
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.67
Cadmium	<1
Chromium	6.72
Copper	<1
Lead	<1
Manganese	161
Nickel	1.46
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/11/22	Lab ID:	I2-345 mb
Date Analyzed:	05/11/22	Data File:	I2-345 mb.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<0.2
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
CCW-6B-0522 205036-02	<0.02
CCW-6C-0522 205036-03	<0.02
CCW-7B-0522 205036-04	<0.02
CCW-7C-0522 205036-05	<0.02
Method Blank i2-380 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	205036-01
Date Analyzed:	05/16/22	Data File:	051543.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	8.2 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-6B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	205036-02
Date Analyzed:	05/16/22	Data File:	051566.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	92	73	128
4-Bromofluorobenzene	94	57	146

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.18	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	14
Trichlorofluoromethane	<1	Ethylbenzene	12
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	3.0
Methylene chloride	11 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	1.7
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	1.7
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	11	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	1.7
Dibromomethane	<1	1,2-Dichlorobenzene	2.0
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	3.1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	3.6
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-6C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	205036-03
Date Analyzed:	05/16/22	Data File:	051567.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	84	84	120
Toluene-d8	101	73	128
4-Bromofluorobenzene	101	57	146

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	13 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-7B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	205036-04
Date Analyzed:	05/16/22	Data File:	051568.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	84	120
Toluene-d8	98	73	128
4-Bromofluorobenzene	98	57	146

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.22	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	44
Trichlorofluoromethane	<1	Ethylbenzene	69
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	6.0
Hexane	<5	o-Xylene	12
Methylene chloride	13 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	7.6
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	13
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	2.1
Benzene	18	sec-Butylbenzene	2.1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	4.2
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	12
Dibromomethane	<1	1,2-Dichlorobenzene	12
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	20	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	64
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-7C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	205036-05
Date Analyzed:	05/16/22	Data File:	051569.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	84	120
Toluene-d8	102	73	128
4-Bromofluorobenzene	90	57	146

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	12 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	2.2	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/15/22	Lab ID:	02-1100 mb
Date Analyzed:	05/15/22	Data File:	051534.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-6B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/12/22	Lab ID:	205036-02
Date Analyzed:	05/12/22	Data File:	051208.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-6C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/12/22	Lab ID:	205036-03
Date Analyzed:	05/12/22	Data File:	051209.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	6.6

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-7B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/12/22	Lab ID:	205036-04
Date Analyzed:	05/12/22	Data File:	051210.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-7C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/12/22	Lab ID:	205036-05
Date Analyzed:	05/12/22	Data File:	051211.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	5.6

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/12/22	Lab ID:	02-1092 mb
Date Analyzed:	05/12/22	Data File:	051207.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	89	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-6B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	205036-02 1/0.5
Date Analyzed:	05/10/22	Data File:	051010.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	10	60
Phenol-d6	31	10	49
Nitrobenzene-d5	81	15	144
2-Fluorobiphenyl	82	25	128
2,4,6-Tribromophenol	100	10	142
Terphenyl-d14	102	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	1.3
1,3-Dichlorobenzene	0.26	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.63	Dibenzofuran	0.40
1,2-Dichlorobenzene	0.83	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	1.2
2-Methylphenol	<1	Fluorene	0.52
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.027
2,4-Dichlorophenol	<1	Carbazole	0.37
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.6
Naphthalene	2.2	Fluoranthene	0.021
Hexachlorobutadiene	<0.1	Pyrene	0.017
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	1.3	Bis(2-ethylhexyl) phthalate	2.2 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-6C-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	205036-03 1/0.5
Date Analyzed:	05/10/22	Data File:	051011.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	31	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	76	15	144
2-Fluorobiphenyl	77	25	128
2,4,6-Tribromophenol	102	10	142
Terphenyl-d14	98	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.7 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-7B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	205036-04 1/0.5
Date Analyzed:	05/10/22	Data File:	051012.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	82	15	144
2-Fluorobiphenyl	78	25	128
2,4,6-Tribromophenol	98	10	142
Terphenyl-d14	100	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	18
1,3-Dichlorobenzene	1.6	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	4.5	Dibenzofuran	10
1,2-Dichlorobenzene	4.9	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	12
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.88
Bis(2-chloroethoxy)methane	<0.1	Anthracene	1.2
2,4-Dichlorophenol	<1	Carbazole	7.3
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	31 ve	Fluoranthene	1.7
Hexachlorobutadiene	<0.1	Pyrene	0.95
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.043
2-Methylnaphthalene	1.7	Chrysene	0.039
1-Methylnaphthalene	24 ve	Bis(2-ethylhexyl) phthalate	1.6 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-7B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	205036-04 1/5
Date Analyzed:	05/12/22	Data File:	051219.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30 d	10	60
Phenol-d6	23 d	10	49
Nitrobenzene-d5	87 d	15	144
2-Fluorobiphenyl	81 d	25	128
2,4,6-Tribromophenol	109 d	10	142
Terphenyl-d14	98 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	18
1,3-Dichlorobenzene	1.4	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	4.6	Dibenzofuran	12
1,2-Dichlorobenzene	4.9	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	12
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1	4-Bromophenyl phenyl ether	<1
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50	Phenanthrene	0.85
Bis(2-chloroethoxy)methane	<1	Anthracene	1.3
2,4-Dichlorophenol	<10	Carbazole	7.1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	31	Fluoranthene	1.8
Hexachlorobutadiene	<1	Pyrene	0.92
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	1.6	Chrysene	<0.1
1-Methylnaphthalene	22	Bis(2-ethylhexyl) phthalate	3.7 j fb
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1	Benzo(k)fluoranthene	<0.1
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1
Dimethyl phthalate	<10	Dibenz(a,h)anthracene	<0.1
Acenaphthylene	<0.1	Benzo(g,h,i)perylene	<0.2

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-7C-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	205036-05 1/0.5
Date Analyzed:	05/10/22	Data File:	051013.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	36	10	60
Phenol-d6	29	10	49
Nitrobenzene-d5	82	15	144
2-Fluorobiphenyl	66	25	128
2,4,6-Tribromophenol	88	10	142
Terphenyl-d14	101	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.010
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.9
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/05/22	Lab ID:	02-1070 mb 1/0.5
Date Analyzed:	05/05/22	Data File:	050517.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	43	10	60
Phenol-d6	30	10	49
Nitrobenzene-d5	85	15	144
2-Fluorobiphenyl	78	25	128
2,4,6-Tribromophenol	93	10	142
Terphenyl-d14	95	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1 jl	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.0 j lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-6B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/06/22	Lab ID:	205036-02 1/0.25
Date Analyzed:	05/10/22	Data File:	051009.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	27	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-6C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/06/22	Lab ID:	205036-03 1/0.25
Date Analyzed:	05/10/22	Data File:	051010.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	25	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-7B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/06/22	Lab ID:	205036-04 1/0.25
Date Analyzed:	05/10/22	Data File:	051011.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	23 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-7C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/03/22	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/06/22	Lab ID:	205036-05 1/0.25
Date Analyzed:	05/10/22	Data File:	051012.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	32	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205036
Date Extracted:	05/06/22	Lab ID:	02-1072 mb 1/0.25
Date Analyzed:	05/10/22	Data File:	051007.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205037-06 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	98	96	53-117	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	106	69-134

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	128	132	50-150	3

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	112	63-142

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	138	145	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	63-142

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	1.08	95	96	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	96	75-125	0
Chromium	ug/L (ppb)	20	<1	106	104	75-125	2
Copper	ug/L (ppb)	20	2.85	98	97	75-125	1
Lead	ug/L (ppb)	10	<1	95	94	75-125	1
Manganese	ug/L (ppb)	20	169	103	87	75-125	17
Nickel	ug/L (ppb)	20	4.19	100	99	75-125	1
Zinc	ug/L (ppb)	50	<5	96	96	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	95	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	100	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	96	80-120
Nickel	ug/L (ppb)	20	100	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	111	83	71-125	29 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	91	78-125

Date of Report: 05/31/22
Date Received: 05/03/22
Project: TWAAFA-001, F&BI 205036

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	102	98	50-150	4
Chloromethane	ug/L (ppb)	10	<10	108	98	50-150	10
Vinyl chloride	ug/L (ppb)	10	<0.02	109	96	16-176	13
Bromomethane	ug/L (ppb)	10	<5	117	110	10-193	6
Chloroethane	ug/L (ppb)	10	<1	110	103	50-150	7
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	107	50-150	1
Acetone	ug/L (ppb)	50	<50	104	93	15-179	11
1,1-Dichloroethene	ug/L (ppb)	10	<1	104	95	50-150	9
Hexane	ug/L (ppb)	10	<5	84	87	49-161	4
Methylene chloride	ug/L (ppb)	10	11	74 b	54 b	40-143	31 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	95	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	92	50-150	6
1,1-Dichloroethane	ug/L (ppb)	10	<1	96	95	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	91	88	10-335	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	94	95	50-150	1
Chloroform	ug/L (ppb)	10	<1	97	98	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	83	88	34-168	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	97	97	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	98	50-150	2
1,1-Dichloropropene	ug/L (ppb)	10	<1	87	95	50-150	9
Carbon tetrachloride	ug/L (ppb)	10	<0.5	92	97	50-150	5
Benzene	ug/L (ppb)	10	<0.35	91	95	50-150	4
Trichloroethene	ug/L (ppb)	10	<0.5	84	85	43-133	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	92	90	50-150	2
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	94	50-150	3
Dibromomethane	ug/L (ppb)	10	<1	89	98	50-150	10
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	81	90	50-150	11
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	87	83	48-145	5
Toluene	ug/L (ppb)	10	<1	95	93	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	85	94	37-152	10
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	93	92	50-150	1
2-Hexanone	ug/L (ppb)	50	<10	85	97	50-150	13
1,3-Dichloropropane	ug/L (ppb)	10	<1	99	96	50-150	3
Tetrachloroethene	ug/L (ppb)	10	<1	101	94	50-150	7
Dibromochloromethane	ug/L (ppb)	10	<0.5	97	97	33-164	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	98	98	50-150	0
Chlorobenzene	ug/L (ppb)	10	<1	94	96	50-150	2
Ethylbenzene	ug/L (ppb)	10	<1	99	97	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	99	97	50-150	2
m,p-Xylene	ug/L (ppb)	20	<2	99	96	50-150	3
o-Xylene	ug/L (ppb)	10	<1	102	98	50-150	4
Styrene	ug/L (ppb)	10	<1	94	89	50-150	5
Isopropylbenzene	ug/L (ppb)	10	<1	100	96	50-150	4
Bromoform	ug/L (ppb)	10	<5	97	94	23-161	3
n-Propylbenzene	ug/L (ppb)	10	<1	96	95	50-150	1
Bromobenzene	ug/L (ppb)	10	<1	96	93	50-150	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	98	96	50-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	115	116	10-235	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	88	98	33-151	11
2-Chlorotoluene	ug/L (ppb)	10	<1	97	95	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	94	95	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	95	96	50-150	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	95	93	50-150	2
sec-Butylbenzene	ug/L (ppb)	10	<1	97	96	46-139	1
p-Isopropyltoluene	ug/L (ppb)	10	<1	97	95	46-140	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	96	50-150	1
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	98	97	50-150	1
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	101	100	50-150	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	104	100	50-150	4
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	100	93	50-150	7
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	104	95	42-150	9
Naphthalene	ug/L (ppb)	10	<1	100	93	50-150	7
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	99	96	44-155	3

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	106	100	70-130	6
Chloromethane	ug/L (ppb)	10	88	106	70-130	19
Vinyl chloride	ug/L (ppb)	10	93	101	70-130	8
Bromomethane	ug/L (ppb)	10	100	108	28-182	8
Chloroethane	ug/L (ppb)	10	94	102	70-130	8
Trichlorofluoromethane	ug/L (ppb)	10	92	102	70-130	10
Acetone	ug/L (ppb)	50	85	89	42-155	5
1,1-Dichloroethene	ug/L (ppb)	10	97	97	70-130	0
Hexane	ug/L (ppb)	10	108	123	50-161	13
Methylene chloride	ug/L (ppb)	10	92	105	29-192	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	93	96	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	96	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	91	94	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	158 vo	166 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	99	70-130	6
Chloroform	ug/L (ppb)	10	88	93	70-130	6
2-Butanone (MEK)	ug/L (ppb)	50	93	89	50-157	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	98	98	70-130	0
1,1-Dichloropropene	ug/L (ppb)	10	90	90	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	92	97	70-130	5
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	85	86	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	95	93	70-130	2
Bromodichloromethane	ug/L (ppb)	10	93	92	70-130	1
Dibromomethane	ug/L (ppb)	10	90	96	70-130	6
4-Methyl-2-pentanone	ug/L (ppb)	50	102	92	70-130	10
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	101	70-130	9
Toluene	ug/L (ppb)	10	93	96	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	104	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	91	93	70-130	2
2-Hexanone	ug/L (ppb)	50	93	89	69-130	4
1,3-Dichloropropane	ug/L (ppb)	10	91	88	70-130	3
Tetrachloroethene	ug/L (ppb)	10	101	103	70-130	2
Dibromochloromethane	ug/L (ppb)	10	95	90	63-142	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	97	70-130	1
Chlorobenzene	ug/L (ppb)	10	92	93	70-130	1
Ethylbenzene	ug/L (ppb)	10	96	98	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	93	95	70-130	2
m,p-Xylene	ug/L (ppb)	20	97	99	70-130	2
o-Xylene	ug/L (ppb)	10	96	99	70-130	3
Styrene	ug/L (ppb)	10	92	91	70-130	1
Isopropylbenzene	ug/L (ppb)	10	94	99	70-130	5
Bromoform	ug/L (ppb)	10	93	94	50-157	1
n-Propylbenzene	ug/L (ppb)	10	95	105	70-130	10
Bromobenzene	ug/L (ppb)	10	90	101	70-130	12
1,3,5-Trimethylbenzene	ug/L (ppb)	10	97	106	52-150	9
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	110	124	70-130	12
1,2,3-Trichloropropane	ug/L (ppb)	10	92	95	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	89	100	70-130	12
4-Chlorotoluene	ug/L (ppb)	10	93	104	70-130	11
tert-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	106	70-130	11
sec-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
p-Isopropyltoluene	ug/L (ppb)	10	99	109	70-130	10
1,3-Dichlorobenzene	ug/L (ppb)	10	94	101	70-130	7
1,4-Dichlorobenzene	ug/L (ppb)	10	94	108	70-130	14
1,2-Dichlorobenzene	ug/L (ppb)	10	97	105	70-130	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	110	70-130	13
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	109	70-130	11
Hexachlorobutadiene	ug/L (ppb)	10	107	115	70-130	7
Naphthalene	ug/L (ppb)	10	93	101	70-130	8
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	104	69-143	7

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	1.4	91	81 b	50-150	12 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	95	88	70-130	8

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205037-06 f 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	<1	40 vo	25 vo	50-150	46 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	71	60	50-150	17
2-Chlorophenol	ug/L (ppb)	2.5	<1	69	58	50-150	17
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	58	50-150	13
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	65	60	50-150	8
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	67	63	50-150	6
Benzyl alcohol	ug/L (ppb)	13	<1	70	60	50-150	15
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	71	64	50-150	10
2-Methylphenol	ug/L (ppb)	2.5	<1	67	55	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	62	59	50-150	5
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	90	81	50-150	11
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	63	53	50-150	17
Nitrobenzene	ug/L (ppb)	2.5	<0.1	84	75	50-150	11
Isophorone	ug/L (ppb)	2.5	<0.1	92	85	50-150	8
2-Nitrophenol	ug/L (ppb)	2.5	<1	83	74	50-150	11
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	81	75	50-150	8
Benzoic acid	ug/L (ppb)	20	<5	40 vo	34 vo	50-150	16
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	77	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	80	70	50-150	13
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	72	67	50-150	7
Naphthalene	ug/L (ppb)	2.5	<0.1	72	66	50-150	9
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	74	63	50-150	16
4-Chloroaniline	ug/L (ppb)	13	<10	67	59	50-150	13
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	94	89	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	73	50-150	4
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	74	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	89	86	50-150	3
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	96	86	50-150	11
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	97	91	50-150	6
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	79	75	50-150	5
2-Nitroaniline	ug/L (ppb)	13	<0.5	90	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	93	92	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	85	81	50-150	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	92	94	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	72	73	50-150	1
Acenaphthene	ug/L (ppb)	2.5	<0.01	81	77	50-150	5
2,4-Dinitrophenol	ug/L (ppb)	5	<3	114	114	50-150	0
Dibenzofuran	ug/L (ppb)	2.5	<0.1	94	90	50-150	4
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	94	92	50-150	2
4-Nitrophenol	ug/L (ppb)	5	<3	44 vo	38 vo	50-150	15
Diethyl phthalate	ug/L (ppb)	2.5	<1	97	117	50-150	19
Fluorene	ug/L (ppb)	2.5	<0.01	86	85	50-150	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	89	86	50-150	3
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	91	84	50-150	8
4-Nitroaniline	ug/L (ppb)	13	<10	77	80	50-150	4
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	140	126	50-150	11
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	90	86	50-150	5
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	89	79	50-150	12
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	127	122	50-150	4
Phenanthrene	ug/L (ppb)	2.5	<0.01	89	83	50-150	7
Anthracene	ug/L (ppb)	2.5	<0.01	91	85	50-150	7
Carbazole	ug/L (ppb)	2.5	<0.1	103	102	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	114	91	50-150	22 vo
Fluoranthene	ug/L (ppb)	2.5	<0.01	99	95	50-150	4
Pyrene	ug/L (ppb)	2.5	<0.01	96	88	50-150	9
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	113	121	50-150	7
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	93	93	50-150	0
Chrysene	ug/L (ppb)	2.5	<0.01	90	88	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	1.9	80 b	66 b	50-150	19 b
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	117	115	50-150	2
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	98	94	50-150	4
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	98	95	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	95	91	50-150	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	97	88	50-150	10
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	92	85	50-150	8
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	88	81	50-150	8

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample f 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	2.5	29 vo	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	71	44-118
2-Chlorophenol	ug/L (ppb)	2.5	73	33-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	72	55-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	71	56-92
1,2-Dichlorobenzene	ug/L (ppb)	2.5	71	58-92
Benzyl alcohol	ug/L (ppb)	13	72	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	76	66-88
2-Methylphenol	ug/L (ppb)	2.5	73 vo	28-65
Hexachloroethane	ug/L (ppb)	2.5	71	54-94
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	87	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	67 vo	23-55
Nitrobenzene	ug/L (ppb)	2.5	86	65-103
Isophorone	ug/L (ppb)	2.5	93	67-114
2-Nitrophenol	ug/L (ppb)	2.5	89	45-115
2,4-Dimethylphenol	ug/L (ppb)	2.5	82	23-105
Benzoic acid	ug/L (ppb)	20	31 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	90	70-130
2,4-Dichlorophenol	ug/L (ppb)	2.5	90	46-105
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	62-94
Naphthalene	ug/L (ppb)	2.5	80	66-94
Hexachlorobutadiene	ug/L (ppb)	2.5	76	57-93
4-Chloroaniline	ug/L (ppb)	13	86	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	99 vo	50-98
2-Methylnaphthalene	ug/L (ppb)	2.5	87	68-98
1-Methylnaphthalene	ug/L (ppb)	2.5	87	67-97
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	89	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	99	34-119
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	99	45-115
2-Chloronaphthalene	ug/L (ppb)	2.5	85	70-130
2-Nitroaniline	ug/L (ppb)	13	91	51-146
Dimethyl phthalate	ug/L (ppb)	2.5	92	70-130
Acenaphthylene	ug/L (ppb)	2.5	91	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	99	70-130
3-Nitroaniline	ug/L (ppb)	13	99	42-134
Acenaphthene	ug/L (ppb)	2.5	86	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	115	10-171
Dibenzofuran	ug/L (ppb)	2.5	100	60-115
2,4-Dinitrotoluene	ug/L (ppb)	2.5	97	70-134
4-Nitrophenol	ug/L (ppb)	5	43	10-46
Diethyl phthalate	ug/L (ppb)	2.5	93	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	94	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	92	70-130
4-Nitroaniline	ug/L (ppb)	13	98	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	126	22-141
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	89	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	86	70-130
Pentachlorophenol	ug/L (ppb)	2.5	119	28-130
Phenanthrene	ug/L (ppb)	2.5	88	70-130
Anthracene	ug/L (ppb)	2.5	92	70-130
Carbazole	ug/L (ppb)	2.5	99	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	86	49-130
Fluoranthene	ug/L (ppb)	2.5	100	70-130
Pyrene	ug/L (ppb)	2.5	90	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	100	61-124
Benz(a)anthracene	ug/L (ppb)	2.5	92	70-130
Chrysene	ug/L (ppb)	2.5	89	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	91	57-124
Di-n-octyl phthalate	ug/L (ppb)	2.5	108	45-135
Benzo(a)pyrene	ug/L (ppb)	2.5	97	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	96	62-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	96	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	93	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	89	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	86	70-130

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205037-06 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.0035	54	48 vo	50-150	12
Aroclor 1260	ug/L (ppb)	0.25	<0.0035	64	58	50-150	10

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	54	25-111
Aroclor 1260	ug/L (ppb)	0.25	50	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205034
~~205032~~ NP

SAMPLE CHAIN OF CUSTODY

05/03/22 E03/AI3/VW14

Page # _____ of _____

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (*signature*)

PROJECT NAME: TWAAFA

PO # TWAAFA-001

REMARKS: SVOCs lab filtered at 0.7 micron before analysis

Project Specific RLs - (Yes) / No

INVOICE TO: DOF

TURNAROUND TIME
X Standard Turnaround
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes * SVOC full suite includes cPAH
Trip Blank #1-0522	01 A-L	5/3/22	1035	W	3	X	X	X									X - per AC
CCW-6B-0522	02		1040		12	X	X	X	X	X	X	X	X	X	X		6
CCW-6C-0522	03		1155		12	X	X	X	X	X	X	X	X	X	X		2
CCW-7B-0522	04		1340		12	X	X	X	X	X	X	X	X	X	X		
CCW-7C-0522	05		1435		12	X	X	X	X	X	X	X	X	X	X		

Samples received at 4 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Noah Weiss	DOF	05/03/22	1505
Received by:		Khoi Hoang	FBT	05/03/22	1505
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029 NP
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

May 31, 2022

Trevor Louviere, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

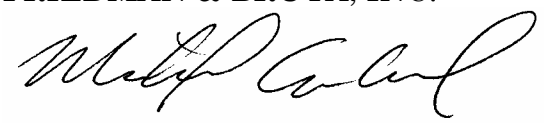
Dear Mr Louviere:

Included are the results from the testing of material submitted on May 4, 2022 from the TWAAFA-001, F&BI 205061 project. There are 44 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Anthony Cerruti, Tasya Gray
DOF0531R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 4, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205061 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205061 -01	Trip Blank 2-0522
205061 -02	CCW-1A-0522
205061 -03	CCW-1B-0522
205061 -04	CCW-1C-0522

Lead in the 6020B matrix spike duplicate and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

Methylene chloride was detected in the 8260D samples. The data were flagged as due to laboratory contamination.

The 8260D calibration standard failed the acceptance criteria for several analytes in the method blank. The data were flagged accordingly.

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The laboratory control sample passed the acceptance criteria, therefore the results were acceptable.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

The 8270E calibration standard failed the acceptance criteria for several compounds. The data were flagged accordingly.

Several 8270E compounds failed below the acceptance criteria in the original extraction of the matrix spike samples and the laboratory control sample. The data were flagged accordingly. The samples were reextracted and reanalyzed outside of the holding time. The subsequent laboratory control sample and laboratory control sample duplicate reextraction exceeded the acceptance criteria for several analytes. The compounds were not detected, therefore the data were acceptable. Both data sets were reported.

Phenol in the 8270E laboratory control sample failed below the acceptance criteria. The data were flagged accordingly. Several other compounds excceded the acceptance criteria, but were not detected. Therefore the data were acceptable.

CASE NARRATIVE (continued)

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

The 8270E samples were filtered at the laboratory prior to analysis. The data were qualified accordingly.

All other quality control requirements were acceptable.

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061
Date Extracted: 05/11/22
Date Analyzed: 05/11/22 and 05/12/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
Trip Blank 2-0522 205061-01	<100	77
CCW-1A-0522 205061-02	180	100
CCW-1B-0522 205061-03	<100	80
CCW-1C-0522 205061-04	<100	80
Method Blank 02-1109 MB	<100	84

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061
Date Extracted: 05/09/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-1A-0522 205061-02	100 x	<250	143
CCW-1B-0522 205061-03	<50	<250	136
CCW-1C-0522 205061-04	<50	<250	138
Method Blank 02-1084 MB	<50	<250	140

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061
Date Extracted: 05/09/22
Date Analyzed: 05/10/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-1A-0522 205061-02	420 x	<250	121
CCW-1B-0522 205061-03	240 x	<250	112
CCW-1C-0522 205061-04	1,000 x	340 x	138
Method Blank 02-1084 MB	<50	<250	140

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/12/22	Lab ID:	205061-02
Date Analyzed:	05/12/22	Data File:	205061-02.147
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.07
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	179
Nickel	5.45
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/12/22	Lab ID:	205061-03
Date Analyzed:	05/12/22	Data File:	205061-03.148
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	2.43
Lead	<1
Manganese	479
Nickel	3.34
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/12/22	Lab ID:	205061-04
Date Analyzed:	05/12/22	Data File:	205061-04.149
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.03
Cadmium	<1
Chromium	4.47
Copper	<1
Lead	<1
Manganese	288
Nickel	4.92
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/12/22	Lab ID:	I2-348 mb
Date Analyzed:	05/12/22	Data File:	I2-348 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061
Date Extracted: 05/13/22
Date Analyzed: 05/16/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
CCW-1A-0522 205061-02	<0.02
CCW-1B-0522 205061-03	<0.02
CCW-1C-0522 205061-04	<0.02
Method Blank i2-356 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 2-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/15/22	Lab ID:	205061-01
Date Analyzed:	05/16/22	Data File:	051545.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	106	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.1 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-1A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/15/22	Lab ID:	205061-02
Date Analyzed:	05/16/22	Data File:	051548.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	21
Vinyl chloride	0.61	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	8.0 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	2.0	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	26	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	24	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-1B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/15/22	Lab ID:	205061-03
Date Analyzed:	05/16/22	Data File:	051549.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.026	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	9.9 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-1C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/15/22	Lab ID:	205061-04
Date Analyzed:	05/16/22	Data File:	051550.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	104	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.9 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	1.1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/15/22	Lab ID:	02-1096 mb
Date Analyzed:	05/16/22	Data File:	051535.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 ca	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/11/22	Lab ID:	205061-02
Date Analyzed:	05/12/22	Data File:	051141.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/11/22	Lab ID:	205061-03
Date Analyzed:	05/12/22	Data File:	051142.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	3.7

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/11/22	Lab ID:	205061-04
Date Analyzed:	05/12/22	Data File:	051143.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	20

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/11/22	Lab ID:	02-1091 mb
Date Analyzed:	05/11/22	Data File:	051123.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1A-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/10/22	Lab ID:	205061-02 1/0.5
Date Analyzed:	05/11/22	Data File:	051114.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	80	15	144
2-Fluorobiphenyl	83	25	128
2,4,6-Tribromophenol	107	10	142
Terphenyl-d14	109	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1A-0522 f ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/18/22	Lab ID:	205061-02 1/0.5
Date Analyzed:	05/19/22	Data File:	051909.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	10	60
Phenol-d6	13	10	49
Nitrobenzene-d5	32	15	144
2-Fluorobiphenyl	39	25	128
2,4,6-Tribromophenol	53	10	142
Terphenyl-d14	49	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.5 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/10/22	Lab ID:	205061-03 1/0.5
Date Analyzed:	05/11/22	Data File:	051115.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	26	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	71	15	144
2-Fluorobiphenyl	64	25	128
2,4,6-Tribromophenol	88	10	142
Terphenyl-d14	111	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.26 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.049
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.062 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.014
Hexachlorobutadiene	<0.1	Pyrene	0.011
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.7 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1B-0522 f ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/18/22	Lab ID:	205061-03 1/0.5
Date Analyzed:	05/19/22	Data File:	051910.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	17	10	60
Phenol-d6	14	10	49
Nitrobenzene-d5	37	15	144
2-Fluorobiphenyl	34	25	128
2,4,6-Tribromophenol	50	10	142
Terphenyl-d14	53	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.14
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.032
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	0.034
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1C-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/10/22	Lab ID:	205061-04 1/0.5
Date Analyzed:	05/11/22	Data File:	051116.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	10	60
Phenol-d6	27	10	49
Nitrobenzene-d5	72	15	144
2-Fluorobiphenyl	71	25	128
2,4,6-Tribromophenol	97	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.16 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.031
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.040 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-1C-0522 f ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/18/22	Lab ID:	205061-04 1/0.5
Date Analyzed:	05/19/22	Data File:	051911.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	10	60
Phenol-d6	12	10	49
Nitrobenzene-d5	31	15	144
2-Fluorobiphenyl	33	25	128
2,4,6-Tribromophenol	47	10	142
Terphenyl-d14	51	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/10/22	Lab ID:	02-1101 mb2 1/0.5
Date Analyzed:	05/10/22	Data File:	051019.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	87	10	142
Terphenyl-d14	93	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.97 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/18/22	Lab ID:	02-1245 mb 1/0.5
Date Analyzed:	05/19/22	Data File:	051908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	10	60
Phenol-d6	14	10	49
Nitrobenzene-d5	39	15	144
2-Fluorobiphenyl	41	25	128
2,4,6-Tribromophenol	56	10	142
Terphenyl-d14	57	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.7 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-1A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/06/22	Lab ID:	205061-02 1/0.25
Date Analyzed:	05/10/22	Data File:	051028.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	38	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-1B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/06/22	Lab ID:	205061-03 1/0.25
Date Analyzed:	05/10/22	Data File:	051029.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	32	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-1C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/04/22	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/06/22	Lab ID:	205061-04 1/0.25
Date Analyzed:	05/10/22	Data File:	051030.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	26	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205061
Date Extracted:	05/06/22	Lab ID:	02-1072 mb 1/0.25
Date Analyzed:	05/10/22	Data File:	051007.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205112-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	110	107	53-117	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	107	69-134

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	112	132	50-150	16

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	120	120	50-150	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	104	63-142

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205112-02 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.6	79	75	75-125	5
Cadmium	ug/L (ppb)	5	<10	96	90	75-125	6
Chromium	ug/L (ppb)	20	<10	105	99	75-125	6
Copper	ug/L (ppb)	20	<10	91	87	75-125	4
Lead	ug/L (ppb)	10	<10	83	264 vo	75-125	104 vo
Manganese	ug/L (ppb)	20	85.3	91	75	75-125	19
Nickel	ug/L (ppb)	20	<10	99	93	75-125	6
Zinc	ug/L (ppb)	50	<50	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	100	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	112	102	71-125	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	100	103	78-125	3

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	117	104	50-150	12
Chloromethane	ug/L (ppb)	10	<10	118	88	50-150	29 vo
Vinyl chloride	ug/L (ppb)	10	<0.02	121	90	16-176	29 vo
Bromomethane	ug/L (ppb)	10	<5	126	105	10-193	18
Chloroethane	ug/L (ppb)	10	<1	119	94	50-150	23 vo
Trichlorofluoromethane	ug/L (ppb)	10	<1	115	111	50-150	4
Acetone	ug/L (ppb)	50	<50	106	97	15-179	9
1,1-Dichloroethene	ug/L (ppb)	10	<1	120	101	50-150	17
Hexane	ug/L (ppb)	10	<5	124	112	49-161	10
Methylene chloride	ug/L (ppb)	10	7.7	210 b	177 b	40-143	17 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	109	98	50-150	11
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	98	50-150	12
1,1-Dichloroethane	ug/L (ppb)	10	<1	100	94	50-150	6
2,2-Dichloropropane	ug/L (ppb)	10	<1	203	169	10-335	18
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	101	50-150	1
Chloroform	ug/L (ppb)	10	<1	99	99	50-150	0
2-Butanone (MEK)	ug/L (ppb)	50	<20	83	85	34-168	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	102	50-150	4
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	109	104	50-150	5
1,1-Dichloropropene	ug/L (ppb)	10	<1	98	102	50-150	4
Carbon tetrachloride	ug/L (ppb)	10	<0.5	112	106	50-150	6
Benzene	ug/L (ppb)	10	<0.35	97	94	50-150	3
Trichloroethene	ug/L (ppb)	10	<0.5	93	89	43-133	4
1,2-Dichloropropane	ug/L (ppb)	10	<1	98	97	50-150	1
Bromodichloromethane	ug/L (ppb)	10	<0.5	94	90	50-150	4
Dibromomethane	ug/L (ppb)	10	<1	99	98	50-150	1
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	106	108	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	98	98	48-145	0
Toluene	ug/L (ppb)	10	<1	93	96	50-150	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	106	37-152	3
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	88	92	50-150	4
2-Hexanone	ug/L (ppb)	50	<10	90	92	50-150	2
1,3-Dichloropropane	ug/L (ppb)	10	<1	93	89	50-150	4
Tetrachloroethene	ug/L (ppb)	10	<1	107	109	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	101	96	33-164	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	99	50-150	4
Chlorobenzene	ug/L (ppb)	10	<1	95	96	50-150	1
Ethylbenzene	ug/L (ppb)	10	<1	96	99	50-150	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	103	50-150	3
m,p-Xylene	ug/L (ppb)	20	<2	97	100	50-150	3
o-Xylene	ug/L (ppb)	10	<1	99	100	50-150	1
Styrene	ug/L (ppb)	10	<1	92	95	50-150	3
Isopropylbenzene	ug/L (ppb)	10	<1	100	100	50-150	0
Bromoform	ug/L (ppb)	10	<5	99	103	23-161	4
n-Propylbenzene	ug/L (ppb)	10	<1	93	99	50-150	6
Bromobenzene	ug/L (ppb)	10	<1	92	92	50-150	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	111	10-235	6
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	95	94	33-151	1
2-Chlorotoluene	ug/L (ppb)	10	<1	93	96	50-150	3
4-Chlorotoluene	ug/L (ppb)	10	<1	92	97	50-150	5
tert-Butylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	99	99	50-150	0
sec-Butylbenzene	ug/L (ppb)	10	<1	99	100	46-139	1
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	103	46-140	3
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	99	50-150	2
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	99	101	50-150	2
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	102	50-150	6
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	101	101	50-150	0
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	109	108	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	116	118	42-150	2
Naphthalene	ug/L (ppb)	10	<1	99	103	50-150	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	108	109	44-155	1

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	106	100	70-130	6
Chloromethane	ug/L (ppb)	10	88	106	70-130	19
Vinyl chloride	ug/L (ppb)	10	93	101	70-130	8
Bromomethane	ug/L (ppb)	10	100	108	28-182	8
Chloroethane	ug/L (ppb)	10	94	102	70-130	8
Trichlorofluoromethane	ug/L (ppb)	10	92	102	70-130	10
Acetone	ug/L (ppb)	50	85	89	42-155	5
1,1-Dichloroethene	ug/L (ppb)	10	97	97	70-130	0
Hexane	ug/L (ppb)	10	108	123	50-161	13
Methylene chloride	ug/L (ppb)	10	92	105	29-192	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	93	96	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	96	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	91	94	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	158 vo	166 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	99	70-130	6
Chloroform	ug/L (ppb)	10	88	93	70-130	6
2-Butanone (MEK)	ug/L (ppb)	50	93	89	50-157	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	98	98	70-130	0
1,1-Dichloropropene	ug/L (ppb)	10	90	90	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	92	97	70-130	5
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	85	86	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	95	93	70-130	2
Bromodichloromethane	ug/L (ppb)	10	93	92	70-130	1
Dibromomethane	ug/L (ppb)	10	90	96	70-130	6
4-Methyl-2-pentanone	ug/L (ppb)	50	102	92	70-130	10
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	101	70-130	9
Toluene	ug/L (ppb)	10	93	96	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	104	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	91	93	70-130	2
2-Hexanone	ug/L (ppb)	50	93	89	69-130	4
1,3-Dichloropropane	ug/L (ppb)	10	91	88	70-130	3
Tetrachloroethene	ug/L (ppb)	10	101	103	70-130	2
Dibromochloromethane	ug/L (ppb)	10	95	90	63-142	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	97	70-130	1
Chlorobenzene	ug/L (ppb)	10	92	93	70-130	1
Ethylbenzene	ug/L (ppb)	10	96	98	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	93	95	70-130	2
m,p-Xylene	ug/L (ppb)	20	97	99	70-130	2
o-Xylene	ug/L (ppb)	10	96	99	70-130	3
Styrene	ug/L (ppb)	10	92	91	70-130	1
Isopropylbenzene	ug/L (ppb)	10	94	99	70-130	5
Bromoform	ug/L (ppb)	10	93	94	50-157	1
n-Propylbenzene	ug/L (ppb)	10	95	105	70-130	10
Bromobenzene	ug/L (ppb)	10	90	101	70-130	12
1,3,5-Trimethylbenzene	ug/L (ppb)	10	97	106	52-150	9
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	110	124	70-130	12
1,2,3-Trichloropropane	ug/L (ppb)	10	92	95	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	89	100	70-130	12
4-Chlorotoluene	ug/L (ppb)	10	93	104	70-130	11
tert-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	106	70-130	11
sec-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
p-Isopropyltoluene	ug/L (ppb)	10	99	109	70-130	10
1,3-Dichlorobenzene	ug/L (ppb)	10	94	101	70-130	7
1,4-Dichlorobenzene	ug/L (ppb)	10	94	108	70-130	14
1,2-Dichlorobenzene	ug/L (ppb)	10	97	105	70-130	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	110	70-130	13
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	109	70-130	11
Hexachlorobutadiene	ug/L (ppb)	10	107	115	70-130	7
Naphthalene	ug/L (ppb)	10	93	101	70-130	8
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	104	69-143	7

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	<0.4	97	92	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	102	90	70-130	12

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205112-02 f 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	<1	47 vo	29 vo	50-150	47 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	62	53	50-150	16
2-Chlorophenol	ug/L (ppb)	2.5	<1	72	55	50-150	27 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	48 vo	50-150	37 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	67	48 vo	50-150	33 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	53	50-150	25 vo
Benzyl alcohol	ug/L (ppb)	13	<1	72	53	50-150	30 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	71	54	50-150	27 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	76	57	50-150	29 vo
Hexachloroethane	ug/L (ppb)	2.5	<0.1	69	49 vo	50-150	34 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	86	63	50-150	31 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	71	56	50-150	24 vo
Nitrobenzene	ug/L (ppb)	2.5	<0.1	73	59	50-150	21 vo
Isophorone	ug/L (ppb)	2.5	<0.1	88	67	50-150	27 vo
2-Nitrophenol	ug/L (ppb)	2.5	<1	81	63	50-150	25 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	85	62	50-150	31 vo
Benzoic acid	ug/L (ppb)	20	<5	46 vo	18 vo	50-150	87 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	61	50-150	27 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	85	63	50-150	30 vo
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	70	56	50-150	22 vo
Naphthalene	ug/L (ppb)	2.5	<0.1	72	56	50-150	25 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	55	50-150	25 vo
4-Chloroaniline	ug/L (ppb)	13	<10	53	35 vo	50-150	41 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	103	79	50-150	26 vo
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	78	60	50-150	26 vo
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	78	60	50-150	26 vo
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	90	69	50-150	26 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	103	71	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	100	72	50-150	33 vo
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	83	61	50-150	31 vo
2-Nitroaniline	ug/L (ppb)	13	<0.5	89	70	50-150	24 vo
Dimethyl phthalate	ug/L (ppb)	2.5	<1	96	73	50-150	27 vo
Acenaphthylene	ug/L (ppb)	2.5	<0.01	88	66	50-150	29 vo
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	107	79	50-150	30 vo
3-Nitroaniline	ug/L (ppb)	13	<10	61	44 vo	50-150	32 vo
Acenaphthene	ug/L (ppb)	2.5	<0.01	83	63	50-150	27 vo
2,4-Dinitrophenol	ug/L (ppb)	5	<3	109	79	50-150	32 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	86	65	50-150	28 vo
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	96	76	50-150	23 vo
4-Nitrophenol	ug/L (ppb)	5	<3	58	43 vo	50-150	30 vo
Diethyl phthalate	ug/L (ppb)	2.5	<1	99	75	50-150	28 vo
Fluorene	ug/L (ppb)	2.5	<0.01	91	68	50-150	29 vo
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	93	68	50-150	31 vo
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	88	74	50-150	17
4-Nitroaniline	ug/L (ppb)	13	<10	72	61	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	131	102	50-150	25 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	86	75	50-150	14
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	125	92	50-150	30 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	86	71	50-150	19
Anthracene	ug/L (ppb)	2.5	<0.01	89	71	50-150	22 vo
Carbazole	ug/L (ppb)	2.5	<0.1	96	79	50-150	19
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	104	81	50-150	25 vo
Fluoranthene	ug/L (ppb)	2.5	<0.01	96	78	50-150	21 vo
Pyrene	ug/L (ppb)	2.5	<0.01	94	75	50-150	22 vo
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	114	92	50-150	21 vo
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	93	75	50-150	21 vo
Chrysene	ug/L (ppb)	2.5	<0.01	88	71	50-150	21 vo
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	112	102	50-150	9
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	133	113	50-150	16
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	94	78	50-150	19
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	109	93	50-150	16
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	95	79	50-150	18
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	82	65	50-150	23 vo
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	62	50-150	25 vo
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	74	58	50-150	24 vo

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample f 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	2.5	24	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	61	44-118
2-Chlorophenol	ug/L (ppb)	2.5	63	21-97
1,3-Dichlorobenzene	ug/L (ppb)	2.5	58	50-95
1,4-Dichlorobenzene	ug/L (ppb)	2.5	57	53-94
1,2-Dichlorobenzene	ug/L (ppb)	2.5	60	54-96
Benzyl alcohol	ug/L (ppb)	13	56	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	62 vo	63-101
2-Methylphenol	ug/L (ppb)	2.5	59	19.74
Hexachloroethane	ug/L (ppb)	2.5	61	52-96
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	71	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	57	16-60
Nitrobenzene	ug/L (ppb)	2.5	67	63-109
Isophorone	ug/L (ppb)	2.5	71	67-114
2-Nitrophenol	ug/L (ppb)	2.5	73	41-117
2,4-Dimethylphenol	ug/L (ppb)	2.5	64	23-105
Benzoic acid	ug/L (ppb)	20	29 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	62 vo	67-130
2,4-Dichlorophenol	ug/L (ppb)	2.5	69	34-113
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	65	58-97
Naphthalene	ug/L (ppb)	2.5	62	60-97
Hexachlorobutadiene	ug/L (ppb)	2.5	61	51-100
4-Chloroaniline	ug/L (ppb)	13	55	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	34-111
2-Methylnaphthalene	ug/L (ppb)	2.5	67	63-103
1-Methylnaphthalene	ug/L (ppb)	2.5	66	64-101
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	78	28-125
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	79	39-120
2-Chloronaphthalene	ug/L (ppb)	2.5	69	65-130
2-Nitroaniline	ug/L (ppb)	13	70	51-146
Dimethyl phthalate	ug/L (ppb)	2.5	72	70-130
Acenaphthylene	ug/L (ppb)	2.5	69 vo	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	74	70-130
3-Nitroaniline	ug/L (ppb)	13	64	42-134
Acenaphthene	ug/L (ppb)	2.5	65 vo	66-130
2,4-Dinitrophenol	ug/L (ppb)	5	80	10-171
Dibenzofuran	ug/L (ppb)	2.5	67	56-114
2,4-Dinitrotoluene	ug/L (ppb)	2.5	83	63-127
4-Nitrophenol	ug/L (ppb)	5	33	10-46
Diethyl phthalate	ug/L (ppb)	2.5	73	70-130
Fluorene	ug/L (ppb)	2.5	70	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	71	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	68 vo	70-130
4-Nitroaniline	ug/L (ppb)	13	73	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	98	13-148
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	69 vo	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	67	67-130
Pentachlorophenol	ug/L (ppb)	2.5	76	13-133
Phenanthrene	ug/L (ppb)	2.5	66 vo	70-130
Anthracene	ug/L (ppb)	2.5	70	70-130
Carbazole	ug/L (ppb)	2.5	75	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	68	43-133
Fluoranthene	ug/L (ppb)	2.5	75	70-130
Pyrene	ug/L (ppb)	2.5	71	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	84	56-128
Benz(a)anthracene	ug/L (ppb)	2.5	73	70-130
Chrysene	ug/L (ppb)	2.5	71	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	73	57-124
Di-n-octyl phthalate	ug/L (ppb)	2.5	100	43-132
Benzo(a)pyrene	ug/L (ppb)	2.5	77	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	79	62-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	76	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	67 vo	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	64 vo	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	61 vo	67-124

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample f 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	28 vo	30 vo	10-27	7
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	72	78	44-118	8
2-Chlorophenol	ug/L (ppb)	2.5	68	73	21-97	7
1,3-Dichlorobenzene	ug/L (ppb)	2.5	69	73	50-95	6
1,4-Dichlorobenzene	ug/L (ppb)	2.5	66	75	53-94	13
1,2-Dichlorobenzene	ug/L (ppb)	2.5	73	80	54-96	9
Benzyl alcohol	ug/L (ppb)	13	65	68	14-82	5
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	78	84	63-101	7
2-Methylphenol	ug/L (ppb)	2.5	67	76 vo	19-74	13
Hexachloroethane	ug/L (ppb)	2.5	69	75	52-96	8
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	89	89	70-130	0
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	63 vo	63 vo	16-60	0
Nitrobenzene	ug/L (ppb)	2.5	73	84	63-109	14
Isophorone	ug/L (ppb)	2.5	91	92	67-114	1
2-Nitrophenol	ug/L (ppb)	2.5	77	80	41-117	4
2,4-Dimethylphenol	ug/L (ppb)	2.5	80	80	23-105	0
Benzoic acid	ug/L (ppb)	20	16	17	10-21	6
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	81	87	67-130	7
2,4-Dichlorophenol	ug/L (ppb)	2.5	84	88	34-113	5
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	77	80	58-97	4
Naphthalene	ug/L (ppb)	2.5	77	83	60-97	7
Hexachlorobutadiene	ug/L (ppb)	2.5	76	81	51-100	6
4-Chloroaniline	ug/L (ppb)	13	87	87	40-141	0
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	82	82	34-111	0
2-Methylnaphthalene	ug/L (ppb)	2.5	88	93	63-103	6
1-Methylnaphthalene	ug/L (ppb)	2.5	86	91	64-101	6
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	83	89	34-126	7
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	87	89	28-125	2
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	93	98	39-120	5
2-Chloronaphthalene	ug/L (ppb)	2.5	87	88	65-130	1
2-Nitroaniline	ug/L (ppb)	13	102	101	51-146	1
Dimethyl phthalate	ug/L (ppb)	2.5	104	102	70-130	2
Acenaphthylene	ug/L (ppb)	2.5	95	96	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	101	97	70-130	4
3-Nitroaniline	ug/L (ppb)	13	98	100	42-134	2
Acenaphthene	ug/L (ppb)	2.5	89	91	66-130	2
2,4-Dinitrophenol	ug/L (ppb)	5	115	110	10-171	4
Dibenzofuran	ug/L (ppb)	2.5	91	92	56-114	1
2,4-Dinitrotoluene	ug/L (ppb)	2.5	87	79	63-127	10
4-Nitrophenol	ug/L (ppb)	5	38	33	10-46	14
Diethyl phthalate	ug/L (ppb)	2.5	105	99	70-130	6
Fluorene	ug/L (ppb)	2.5	101	101	70-130	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	99	101	70-130	2
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	94	101	70-130	7
4-Nitroaniline	ug/L (ppb)	13	93	90	42-150	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	108	110	13-148	2
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	92	103	70-130	11
Hexachlorobenzene	ug/L (ppb)	2.5	93	101	67-130	8
Pentachlorophenol	ug/L (ppb)	2.5	103	101	13-133	2
Phenanthrene	ug/L (ppb)	2.5	94	101	70-130	7
Anthracene	ug/L (ppb)	2.5	100	103	70-130	3
Carbazole	ug/L (ppb)	2.5	103	101	70-130	2
Di-n-butyl phthalate	ug/L (ppb)	2.5	51	22 vo	43-133	79 vo
Fluoranthene	ug/L (ppb)	2.5	104	97	70-130	7
Pyrene	ug/L (ppb)	2.5	101	111	70-130	9
Benzyl butyl phthalate	ug/L (ppb)	2.5	104	109	56-128	5
Benz(a)anthracene	ug/L (ppb)	2.5	98	103	70-130	5
Chrysene	ug/L (ppb)	2.5	96	102	70-130	6
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	95	103	57-124	8
Di-n-octyl phthalate	ug/L (ppb)	2.5	93	96	43-132	3
Benzo(a)pyrene	ug/L (ppb)	2.5	102	104	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	2.5	101	103	62-130	2
Benzo(k)fluoranthene	ug/L (ppb)	2.5	97	100	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	120	115	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	122	111	70-130	9
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	121	115	67-124	5

Date of Report: 05/31/22
Date Received: 05/04/22
Project: TWAAFA-001, F&BI 205061

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205037-06 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.0035	54	48 vo	50-150	12
Aroclor 1260	ug/L (ppb)	0.25	<0.0035	64	58	50-150	10

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	54	25-111
Aroclor 1260	ug/L (ppb)	0.25	50	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205061

SAMPLE CHAIN OF CUSTODY

05-04-22 VW4/E04/1 AI2

Page # 1 of 1

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (*signature*) N. Weiss M. Wright

PROJECT NAME: TWAAFA

PO # TWAAFA-001

REMARKS: SVOCs lab filtered at 0.7 micron before analysis

Project Specific RLs - (Yes) / No

INVOICE TO: DOF

TURNAROUND TIME
(X) Standard Turnaround
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes
Trip Blank #2-0522	01 A-C	05/4/22	1000	W	3	X		X									* - per AC 2/5/31
CCW-1A-0522	02 A-L		1005		12	X	X	X	X	X	X	X	X	X	X		
CCW-1B-0522	03		1125		12	X	X	X	X	X	X	X	X	X	X		
CCW-1C-~~0255~~ 0522 (NP)	04		1240		12	X	X	X	X	X	X	X	X	X	X		

Samples received at 4 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Mark Weiss	DOF	5/4/22	1403
Received by:		Eric Young	FCB	5/4/22	1405
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
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Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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www.friedmanandbruya.com

June 3, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included are the results from the testing of material submitted on May 5, 2022 from the TWAAFA-001, F&BI 205088 project. There are 79 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0603R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 5, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205088 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205088 -01	CCW-8B-0522
205088 -02	MW-4-0522
205088 -03	CCW-4C-0522
205088 -04	CCW-2A-0522
205088 -05	CCW-2B-0522
205088 -06	CCW-9-2B-0522
205088 -07	Field Blank 1-0522
205088 -08	CCW-2C-0522
205088 -09	Trip Blank 3-0522

Lead in the 6020B matrix spike duplicate and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

The 1631E mercury matrix spike and matrix spike duplicate relative percent difference did not meet the acceptance criteria. Mercury was not detected in the samples, therefore the data were acceptable.

Methylene chloride was detected in the 8260D samples. The data were flagged as due to laboratory contamination.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

The 8260D dilutions of samples CCW-2A-0522, CCW-2B-0522, and CCW-9-2B-0522 were analyzed outside of the 12 hour analytical shift. There was insufficient holding time remaining to perform reanalysis, therefore the data were reported.

The 8260D calibration standard exceeded the acceptance criteria for hexachlorobutadiene. The detections were flagged accordingly.

The 8260D surrogate toluene-d8 did not pass the laboratory acceptance criteria in the dilutions of samples CCW-2A-0522 and CCW-2B-0522. The affected analytes were flagged accordingly.

CASE NARRATIVE (continued)

The 8260D SIM 1,4-dioxane samples CCW-2A-0522, CCW-2B-0522, and CCW-9-2B-0522 were analyzed outside of the 12 hour analytical shift. There was insufficient holding time remaining to perform reanalysis, therefore the data were reported.

The 8270E calibration standard failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

Several 8270E compounds failed below the acceptance criteria in the original extraction of the matrix spike samples and the laboratory control sample. The data were flagged accordingly. Samples CCW-8B-0522 and MW-4-0522 were reextracted and reanalyzed outside of the holding time. The data were included. Samples CCW-4C-0522, CCW-2A-0522, CCW-2B-0522, CCW-9-2B-0522, Field Blank 1-0522, and CCW-2C-0522 were reextracted with similar failing results, therefore that data was not included in the final report.

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

Several compounds in the 8270E laboratory control sample failed below the acceptance criteria. The data were flagged accordingly. Several other compounds exceeded the acceptance criteria, but were not detected. Therefore the data were acceptable.

The 8270E samples were filtered at the laboratory prior to extraction. The data were qualified accordingly.

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088
Date Extracted: 05/11/22
Date Analyzed: 05/11/22 and 05/12/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
CCW-8B-0522 205088-01	<100	134
MW-4-0522 205088-02	<100	115
CCW-4C-0522 205088-03	<100	102
CCW-2A-0522 205088-04	5,400	123
CCW-2B-0522 205088-05	3,900	ip
CCW-9-2B-0522 205088-06	3,900	ip
Field Blank 1-0522 205088-07	<100	104
CCW-2C-0522 205088-08	<100	98
Trip Blank 3-0522 205088-09	<100	100
Method Blank 02-1109 MB	<100	84

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088
Date Extracted: 05/09/22
Date Analyzed: 05/19/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-8B-0522 205088-01	160	<250	119
MW-4-0522 205088-02	260 x	470	ip
CCW-4C-0522 205088-03	<50	<250	131
CCW-2A-0522 205088-04	1,000 x	<250	138
CCW-2B-0522 205088-05	220 x	<250	119
CCW-9-2B-0522 205088-06	210 x	<250	132
Field Blank 1-0522 205088-07 1/1.2	<60	<300	134
CCW-2C-0522 205088-08	<50	<250	116
Method Blank 02-1084 MB	<50	<250	140

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088
Date Extracted: 05/09/22
Date Analyzed: 05/10/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-8B-0522 205088-01	3,700 x	570 x	141
MW-4-0522 205088-02	7,700 x	3,400 x	ip
CCW-4C-0522 205088-03	1,200 x	470 x	125
CCW-2A-0522 205088-04	3,300 x	700 x	ip
CCW-2B-0522 205088-05	2,200 x	650 x	117
CCW-9-2B-0522 205088-06	2,400 x	710 x	131
Field Blank 1-0522 205088-07	80 x	<300	133
CCW-2C-0522 205088-08	400 x	<250	116
Method Blank 02-1084 MB	<50	<250	140

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-02
Date Analyzed:	05/12/22	Data File:	205088-02.150
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.45
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	688
Nickel	5.39
Zinc	<5

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	I2-348 mb
Date Analyzed:	05/12/22	Data File:	I2-348 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-8B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-01
Date Analyzed:	05/12/22	Data File:	205088-01.151
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.47
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	412
Nickel	2.50
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-02
Date Analyzed:	05/12/22	Data File:	205088-02.152
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.72
Cadmium	<1
Chromium	1.01
Copper	1.26
Lead	2.66
Manganese	729
Nickel	7.14
Zinc	13.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-4C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-03
Date Analyzed:	05/12/22	Data File:	205088-03.153
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.11
Cadmium	<1
Chromium	3.17
Copper	<1
Lead	<1
Manganese	507
Nickel	6.87
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-04
Date Analyzed:	05/12/22	Data File:	205088-04.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.24
Cadmium	<1
Chromium	<1
Copper	4.20
Lead	3.93
Manganese	828
Nickel	5.77
Zinc	5.48

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-05
Date Analyzed:	05/12/22	Data File:	205088-05.158
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	263
Nickel	9.66
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-05 x5
Date Analyzed:	05/12/22	Data File:	205088-05 x5.126
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1,070

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-06
Date Analyzed:	05/12/22	Data File:	205088-06.159
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	271
Nickel	9.81
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-06 x5
Date Analyzed:	05/12/22	Data File:	205088-06 x5.127
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1,050

Analysis For Total Metals By EPA Method 6020B

Client ID:	Field Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-07
Date Analyzed:	05/12/22	Data File:	205088-07.160
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	1.18
Copper	1.44
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-08
Date Analyzed:	05/12/22	Data File:	205088-08.161
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.34
Cadmium	<1
Chromium	1.99
Copper	<1
Lead	<1
Manganese	334
Nickel	5.00
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	I2-348 mb
Date Analyzed:	05/12/22	Data File:	I2-348 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
CCW-8B-0522 205088-01	<0.02
MW-4-0522 205088-02	<0.02
CCW-4C-0522 205088-03	<0.02
CCW-2A-0522 205088-04	<0.02
CCW-2B-0522 205088-05	<0.02
CCW-9-2B-0522 205088-06	<0.02
Field Blank 1-0522 205088-07	<0.02
CCW-2C-0522 205088-08	<0.02
Method Blank i2-380 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-8B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-01
Date Analyzed:	05/16/22	Data File:	051551.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.036	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	2.7
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	14 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	1.9
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	2.0
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	1.1	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	1.0
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-02
Date Analyzed:	05/16/22	Data File:	051617.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	71	132
Toluene-d8	108	68	139
4-Bromofluorobenzene	95	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.59	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	1.6
Trichlorofluoromethane	<1	Ethylbenzene	2.1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	2.2
Hexane	<5	o-Xylene	3.9
Methylene chloride	12 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	4.2	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	3.5	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-4C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-03
Date Analyzed:	05/16/22	Data File:	051553.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	122	68	139
4-Bromofluorobenzene	90	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	15 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	5.6	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-04
Date Analyzed:	05/17/22	Data File:	051622.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	94	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	1,800 ve
Vinyl chloride	47	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	53
Trichlorofluoromethane	<1	Ethylbenzene	73
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	3.0	m,p-Xylene	58
Hexane	<5	o-Xylene	44
Methylene chloride	7.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	7.0
trans-1,2-Dichloroethene	45	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	12
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	490 ve	1,3,5-Trimethylbenzene	5.9
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	2.0
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	40
Benzene	44	sec-Butylbenzene	2.9
Trichloroethene	480 ve	p-Isopropyltoluene	4.9
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	1.8
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	4.7
Dibromomethane	<1	1,2-Dichlorobenzene	13
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	71	Hexachlorobutadiene	0.82 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	55
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-04 1/100
Date Analyzed:	05/16/22	Data File:	051554.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	147 vo	68	139
4-Bromofluorobenzene	118	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	1,900 js
Vinyl chloride	91	Dibromochloromethane	<50
Bromomethane	<500	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	<100
Trichlorofluoromethane	<100	Ethylbenzene	<100
Acetone	<5,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Hexane	<500	o-Xylene	<100
Methylene chloride	<500	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<500
1,1-Dichloroethane	<100	n-Propylbenzene	<100
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	720	1,3,5-Trimethylbenzene	<100
Chloroform	<100	1,1,2,2-Tetrachloroethane	<20
2-Butanone (MEK)	<2,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<20	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<50	1,2,4-Trimethylbenzene	<100
Benzene	50	sec-Butylbenzene	<100
Trichloroethene	550	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<50	1,4-Dichlorobenzene	<100
Dibromomethane	<100	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<40	1,2,4-Trichlorobenzene	<100
Toluene	<100	Hexachlorobutadiene	<50
trans-1,3-Dichloropropene	<40	Naphthalene	<100
1,1,2-Trichloroethane	<50	1,2,3-Trichlorobenzene	<100
2-Hexanone	<1,000		

Note: The sample was analyzed outside of the 12 hour shift.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-05
Date Analyzed:	05/17/22	Data File:	051620.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	95	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.1	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	1.4	Chlorobenzene	640 ve
Trichlorofluoromethane	<1	Ethylbenzene	28
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	68
Hexane	<5	o-Xylene	47
Methylene chloride	8.0 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	3.1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	2.4	n-Propylbenzene	4.9
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	12
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	10
1,1,1-Trichloroethane	<1	4-Chlorotoluene	2.0
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	82
Benzene	58	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	1.9
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	8.9
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	63
Dibromomethane	<1	1,2-Dichlorobenzene	4.9
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	130	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	41
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-05 1/100
Date Analyzed:	05/16/22	Data File:	051555.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	63 vo	68	139
4-Bromofluorobenzene	114	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100 js
Chloromethane	<1,000	Tetrachloroethene	<100 js
Vinyl chloride	<2	Dibromochloromethane	<50 js
Bromomethane	<500	1,2-Dibromoethane (EDB)	<100 js
Chloroethane	<100	Chlorobenzene	330 js
Trichlorofluoromethane	<100	Ethylbenzene	<100 js
Acetone	<5,000	1,1,1,2-Tetrachloroethane	<100 js
1,1-Dichloroethene	<100	m,p-Xylene	<200 js
Hexane	<500	o-Xylene	<100 js
Methylene chloride	<500	Styrene	<100 js
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100 js
trans-1,2-Dichloroethene	<100	Bromoform	<500
1,1-Dichloroethane	<100	n-Propylbenzene	<100
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	<100	1,3,5-Trimethylbenzene	<100
Chloroform	<100	1,1,2,2-Tetrachloroethane	<20
2-Butanone (MEK)	<2,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<20	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<50	1,2,4-Trimethylbenzene	<100
Benzene	<35	sec-Butylbenzene	<100
Trichloroethene	<50	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<50	1,4-Dichlorobenzene	<100
Dibromomethane	<100 js	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000 js	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<40 js	1,2,4-Trichlorobenzene	<100
Toluene	<100 js	Hexachlorobutadiene	<50
trans-1,3-Dichloropropene	<40 js	Naphthalene	<100
1,1,2-Trichloroethane	<50 js	1,2,3-Trichlorobenzene	<100
2-Hexanone	<1,000 js		

Note: The sample was analyzed outside of the 12 hour shift.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-06
Date Analyzed:	05/17/22	Data File:	051621.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.2	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	1.4	Chlorobenzene	660 ve
Trichlorofluoromethane	<1	Ethylbenzene	30
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	79
Hexane	<5	o-Xylene	53
Methylene chloride	6.8 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	3.7
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	2.4	n-Propylbenzene	6.1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.0	1,3,5-Trimethylbenzene	15
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	12
1,1,1-Trichloroethane	<1	4-Chlorotoluene	2.7
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	100
Benzene	62	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	2.3
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	11
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	74
Dibromomethane	<1	1,2-Dichlorobenzene	5.6
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	140	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	51
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-06 1/100
Date Analyzed:	05/16/22	Data File:	051556.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	91	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<100	1,3-Dichloropropane	<100
Chloromethane	<1,000	Tetrachloroethene	<100
Vinyl chloride	<2	Dibromochloromethane	<50
Bromomethane	<500	1,2-Dibromoethane (EDB)	<100
Chloroethane	<100	Chlorobenzene	300
Trichlorofluoromethane	<100	Ethylbenzene	<100
Acetone	<5,000	1,1,1,2-Tetrachloroethane	<100
1,1-Dichloroethene	<100	m,p-Xylene	<200
Hexane	<500	o-Xylene	<100
Methylene chloride	<500	Styrene	<100
Methyl t-butyl ether (MTBE)	<100	Isopropylbenzene	<100
trans-1,2-Dichloroethene	<100	Bromoform	<500
1,1-Dichloroethane	<100	n-Propylbenzene	<100
2,2-Dichloropropane	<100	Bromobenzene	<100
cis-1,2-Dichloroethene	<100	1,3,5-Trimethylbenzene	<100
Chloroform	<100	1,1,2,2-Tetrachloroethane	<20
2-Butanone (MEK)	<2,000	1,2,3-Trichloropropane	<100
1,2-Dichloroethane (EDC)	<20	2-Chlorotoluene	<100
1,1,1-Trichloroethane	<100	4-Chlorotoluene	<100
1,1-Dichloropropene	<100	tert-Butylbenzene	<100
Carbon tetrachloride	<50	1,2,4-Trimethylbenzene	<100
Benzene	<35	sec-Butylbenzene	<100
Trichloroethene	<50	p-Isopropyltoluene	<100
1,2-Dichloropropane	<100	1,3-Dichlorobenzene	<100
Bromodichloromethane	<50	1,4-Dichlorobenzene	<100
Dibromomethane	<100	1,2-Dichlorobenzene	<100
4-Methyl-2-pentanone	<1,000	1,2-Dibromo-3-chloropropane	<1,000
cis-1,3-Dichloropropene	<40	1,2,4-Trichlorobenzene	<100
Toluene	<100	Hexachlorobutadiene	<50
trans-1,3-Dichloropropene	<40	Naphthalene	<100
1,1,2-Trichloroethane	<50	1,2,3-Trichlorobenzene	<100
2-Hexanone	<1,000		

Note: The sample was analyzed outside of the 12 hour shift.

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Field Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-07
Date Analyzed:	05/16/22	Data File:	051618.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	20 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	205088-08
Date Analyzed:	05/16/22	Data File:	051619.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	9.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 3-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/13/22	Lab ID:	205088-09
Date Analyzed:	05/16/22	Data File:	051544.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	71	132
Toluene-d8	105	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	6.6 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/15/22	Lab ID:	02-1100 mb
Date Analyzed:	05/15/22	Data File:	051534.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-8B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-01
Date Analyzed:	05/12/22	Data File:	051238.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	86	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-02
Date Analyzed:	05/12/22	Data File:	051239.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	88	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	3.0

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-4C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-03
Date Analyzed:	05/12/22	Data File:	051240.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	89	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	19

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-04
Date Analyzed:	05/13/22	Data File:	051256.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	107	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Note: The sample was analyzed outside of 12 hr shift.

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-05
Date Analyzed:	05/13/22	Data File:	051254.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.2

Note: The sample was analyzed outside of 12 hr shift.

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-06
Date Analyzed:	05/13/22	Data File:	051255.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.1

Note: The sample was analyzed outside of 12 hr shift.

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Field Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-07
Date Analyzed:	05/12/22	Data File:	051212.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-2C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	205088-08
Date Analyzed:	05/12/22	Data File:	051213.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	2.2

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/12/22	Lab ID:	02-1092 mb
Date Analyzed:	05/12/22	Data File:	051207.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	89	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-8B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-01 1/0.5
Date Analyzed:	05/10/22	Data File:	051024.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	65	15	144
2-Fluorobiphenyl	50	25	128
2,4,6-Tribromophenol	70	10	142
Terphenyl-d14	103	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.92 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	0.32	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.17
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.073
Hexachlorobutadiene	<0.1	Pyrene	0.071
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	1.1	Chrysene	<0.01
1-Methylnaphthalene	3.9	Bis(2-ethylhexyl) phthalate	1.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-8B-0522 ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/18/22	Lab ID:	205088-01 1/0.5
Date Analyzed:	05/19/22	Data File:	051912.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	26	10	60
Phenol-d6	24	10	49
Nitrobenzene-d5	64	15	144
2-Fluorobiphenyl	50	25	128
2,4,6-Tribromophenol	74	10	142
Terphenyl-d14	100	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.54
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	0.21	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.052
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	0.016
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	0.051
Hexachlorobutadiene	<0.1	Pyrene	0.062
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	0.26	Bis(2-ethylhexyl) phthalate	1.1 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-02 1/0.5
Date Analyzed:	05/10/22	Data File:	051025.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	28	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	65	25	128
2,4,6-Tribromophenol	84	10	142
Terphenyl-d14	99	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.17 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	0.12	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.13
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	0.61 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	0.28
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	0.10	Fluoranthene	0.022
Hexachlorobutadiene	<0.1	Pyrene	0.046
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.3 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-4-0522 ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/18/22	Lab ID:	205088-02 1/0.5
Date Analyzed:	05/19/22	Data File:	051913.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	26	10	60
Phenol-d6	21	10	49
Nitrobenzene-d5	57	15	144
2-Fluorobiphenyl	62	25	128
2,4,6-Tribromophenol	91	10	142
Terphenyl-d14	93	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.34
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.054
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	0.32
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	0.019
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.026
2,4-Dichlorophenol	<1	Carbazole	0.26
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	0.015
Hexachlorobutadiene	<0.1	Pyrene	0.034
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.98 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-4C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-03 1/0.5
Date Analyzed:	05/11/22	Data File:	051108.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	10	60
Phenol-d6	31	10	49
Nitrobenzene-d5	87	15	144
2-Fluorobiphenyl	86	25	128
2,4,6-Tribromophenol	104	10	142
Terphenyl-d14	117	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.027 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.010
Hexachlorobutadiene	<0.1	Pyrene	0.011
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-04 1/0.5
Date Analyzed:	05/11/22	Data File:	051109.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	10	60
Phenol-d6	25	10	49
Nitrobenzene-d5	79	15	144
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	94	10	142
Terphenyl-d14	111	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	5.4	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	4.9 jl
1,3-Dichlorobenzene	0.72	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	1.7	Dibenzofuran	2.4
1,2-Dichlorobenzene	5.0	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	5.1	Fluorene	4.3
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	13 ve	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	11	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	2.5 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	0.33
2,4-Dichlorophenol	<1	Carbazole	3.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	31 ve	Fluoranthene	0.36
Hexachlorobutadiene	0.21	Pyrene	0.24
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.020
2-Methylnaphthalene	19 ve	Chrysene	0.015
1-Methylnaphthalene	19 ve	Bis(2-ethylhexyl) phthalate	1.8 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-04 1/5
Date Analyzed:	05/13/22	Data File:	051322.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	29 d	10	60
Phenol-d6	23 d	10	49
Nitrobenzene-d5	73 d	15	144
2-Fluorobiphenyl	69 d	25	128
2,4,6-Tribromophenol	132 d	10	142
Terphenyl-d14	89 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	4.6 jl
1,3-Dichlorobenzene	<1	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	1.5	Dibenzofuran	2.3
1,2-Dichlorobenzene	4.9	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1 jl	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	4.1
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1 jl
3-Methylphenol + 4-Methylphenol	12	4-Nitroaniline	<100
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1	4-Bromophenyl phenyl ether	<1 jl
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50 ca	Phenanthrene	2.3 jl
Bis(2-chloroethoxy)methane	<1 jl	Anthracene	0.34
2,4-Dichlorophenol	<10	Carbazole	3.0
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	27	Fluoranthene	0.36
Hexachlorobutadiene	<1	Pyrene	0.19
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	17	Chrysene	<0.1
1-Methylnaphthalene	17	Bis(2-ethylhexyl) phthalate	3.7 fb
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1	Benzo(k)fluoranthene	<0.1
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1 jl
Dimethyl phthalate	<10	Dibenz(a,h)anthracene	<0.1 jl
Acenaphthylene	<0.1 jl	Benzo(g,h,i)perylene	<0.2 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-05 1/0.5
Date Analyzed:	05/13/22	Data File:	051321.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	28	10	60
Phenol-d6	22	10	49
Nitrobenzene-d5	61	15	144
2-Fluorobiphenyl	67	25	128
2,4,6-Tribromophenol	90	10	142
Terphenyl-d14	85	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.36 jl
1,3-Dichlorobenzene	2.9	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	19 ve	Dibenzofuran	0.11
1,2-Dichlorobenzene	1.4	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.097
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	0.19
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	0.63	Fluoranthene	0.077
Hexachlorobutadiene	<0.1	Pyrene	0.069
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	0.37	Chrysene	<0.01
1-Methylnaphthalene	0.14	Bis(2-ethylhexyl) phthalate	2.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-05 1/5
Date Analyzed:	05/13/22	Data File:	051323.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	26 d	10	60
Phenol-d6	23 d	10	49
Nitrobenzene-d5	66 d	15	144
2-Fluorobiphenyl	56 d	25	128
2,4,6-Tribromophenol	102 d	10	142
Terphenyl-d14	85 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	0.33 jl
1,3-Dichlorobenzene	2.7	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	19	Dibenzofuran	<1
1,2-Dichlorobenzene	1.3	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1 jl	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	0.10
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1 jl
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1	4-Bromophenyl phenyl ether	<1 jl
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50 ca	Phenanthrene	<0.1 jl
Bis(2-chloroethoxy)methane	<1 jl	Anthracene	<0.1
2,4-Dichlorophenol	<10	Carbazole	<1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	<1	Fluoranthene	<0.1
Hexachlorobutadiene	<1	Pyrene	<0.1
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	<1	Chrysene	<0.1
1-Methylnaphthalene	<1	Bis(2-ethylhexyl) phthalate	4.5 fb j
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1	Benzo(k)fluoranthene	<0.1
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1 jl
Dimethyl phthalate	<10	Dibenz(a,h)anthracene	<0.1 jl
Acenaphthylene	<0.1 jl	Benzo(g,h,i)perylene	<0.2 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-06 1/0.5
Date Analyzed:	05/11/22	Data File:	051111.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	27	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	69	15	144
2-Fluorobiphenyl	76	25	128
2,4,6-Tribromophenol	99	10	142
Terphenyl-d14	98	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.88 jl
1,3-Dichlorobenzene	3.5	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	24 ve	Dibenzofuran	0.29
1,2-Dichlorobenzene	1.9	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.41
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.12 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	0.089
2,4-Dichlorophenol	<1	Carbazole	0.36
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	4.3	Fluoranthene	0.14
Hexachlorobutadiene	<0.1	Pyrene	0.11
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	0.18	Chrysene	<0.01
1-Methylnaphthalene	1.3	Bis(2-ethylhexyl) phthalate	1.9 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-06 1/5
Date Analyzed:	05/14/22	Data File:	051324.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	23 d	10	60
Phenol-d6	22 d	10	49
Nitrobenzene-d5	66 d	15	144
2-Fluorobiphenyl	62 d	25	128
2,4,6-Tribromophenol	107 d	10	142
Terphenyl-d14	87 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	0.72 jl
1,3-Dichlorobenzene	3.5	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	23	Dibenzofuran	<1
1,2-Dichlorobenzene	1.8	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1 jl	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	0.30
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1 jl
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1	4-Bromophenyl phenyl ether	<1 jl
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50 ca	Phenanthrene	<0.1 jl
Bis(2-chloroethoxy)methane	<1 jl	Anthracene	<0.1
2,4-Dichlorophenol	<10	Carbazole	<1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	4.2	Fluoranthene	0.13
Hexachlorobutadiene	<1	Pyrene	<0.1
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	<1	Chrysene	<0.1
1-Methylnaphthalene	1.3	Bis(2-ethylhexyl) phthalate	4.0 fb j
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1	Benzo(k)fluoranthene	<0.1
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1 jl
Dimethyl phthalate	<10	Dibenz(a,h)anthracene	<0.1 jl
Acenaphthylene	<0.1 jl	Benzo(g,h,i)perylene	<0.2 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Field Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-07 1/0.5
Date Analyzed:	05/11/22	Data File:	051112.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	83	15	144
2-Fluorobiphenyl	89	25	128
2,4,6-Tribromophenol	95	10	142
Terphenyl-d14	113	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.5 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	205088-08 1/0.5
Date Analyzed:	05/11/22	Data File:	051113.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	29	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	73	15	144
2-Fluorobiphenyl	59	25	128
2,4,6-Tribromophenol	83	10	142
Terphenyl-d14	110	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/10/22	Lab ID:	02-1101 mb2 1/0.5
Date Analyzed:	05/10/22	Data File:	051019.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	87	10	142
Terphenyl-d14	93	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.97 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/18/22	Lab ID:	02-1245 mb 1/0.5
Date Analyzed:	05/19/22	Data File:	051908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	10	60
Phenol-d6	14	10	49
Nitrobenzene-d5	39	15	144
2-Fluorobiphenyl	41	25	128
2,4,6-Tribromophenol	56	10	142
Terphenyl-d14	57	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.7 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-8B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-01 1/0.25
Date Analyzed:	05/19/22	Data File:	051905.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	47	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.0040
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-02 1/0.25
Date Analyzed:	05/19/22	Data File:	051906.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	41	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	0.039
Aroclor 1254	0.029
Aroclor 1260	0.023
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-4C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-03 1/0.25
Date Analyzed:	05/19/22	Data File:	051907.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	36	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-2A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-04 1/0.25
Date Analyzed:	05/19/22	Data File:	051908.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	139	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-05 1/0.25
Date Analyzed:	05/19/22	Data File:	051909.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	45	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-9-2B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-06 1/0.25
Date Analyzed:	05/19/22	Data File:	051910.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	50	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Field Blank 1-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-07 1/0.25
Date Analyzed:	05/19/22	Data File:	051911.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	38	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.0036
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-2C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/05/22	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	205088-08 1/0.25
Date Analyzed:	05/19/22	Data File:	051912.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	39	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.0048
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205088
Date Extracted:	05/17/22	Lab ID:	02-1250 mb 1/0.25
Date Analyzed:	05/20/22	Data File:	052016.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205112-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	110	107	53-117	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	107	69-134

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	112	132	50-150	16

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	120	120	50-150	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	104	63-142

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED METALS USING EPA METHOD 6020B

Laboratory Code: 205112-02 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.6	79	75	75-125	5
Cadmium	ug/L (ppb)	5	<10	96	90	75-125	6
Chromium	ug/L (ppb)	20	<10	105	99	75-125	6
Copper	ug/L (ppb)	20	<10	91	87	75-125	4
Lead	ug/L (ppb)	10	<10	83	264 vo	75-125	104 vo
Manganese	ug/L (ppb)	20	85.3	91	75	75-125	19
Nickel	ug/L (ppb)	20	<10	99	93	75-125	6
Zinc	ug/L (ppb)	50	<50	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	100	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205112-02 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.6	79	75	75-125	5
Cadmium	ug/L (ppb)	5	<10	96	90	75-125	6
Chromium	ug/L (ppb)	20	<10	105	99	75-125	6
Copper	ug/L (ppb)	20	<10	91	87	75-125	4
Lead	ug/L (ppb)	10	<10	83	264 vo	75-125	104 vo
Manganese	ug/L (ppb)	20	85.3	91	75	75-125	19
Nickel	ug/L (ppb)	20	<10	99	93	75-125	6
Zinc	ug/L (ppb)	50	<50	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	100	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	111	83	71-125	29 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	91	78-125

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	102	98	50-150	4
Chloromethane	ug/L (ppb)	10	<10	108	98	50-150	10
Vinyl chloride	ug/L (ppb)	10	<0.02	109	96	16-176	13
Bromomethane	ug/L (ppb)	10	<5	117	110	10-193	6
Chloroethane	ug/L (ppb)	10	<1	110	103	50-150	7
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	107	50-150	1
Acetone	ug/L (ppb)	50	<50	104	93	15-179	11
1,1-Dichloroethene	ug/L (ppb)	10	<1	104	95	50-150	9
Hexane	ug/L (ppb)	10	<5	84	87	49-161	4
Methylene chloride	ug/L (ppb)	10	11	74 b	54 b	40-143	31 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	95	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	92	50-150	6
1,1-Dichloroethane	ug/L (ppb)	10	<1	96	95	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	91	88	10-335	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	94	95	50-150	1
Chloroform	ug/L (ppb)	10	<1	97	98	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	83	88	34-168	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	97	97	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	98	50-150	2
1,1-Dichloropropene	ug/L (ppb)	10	<1	87	95	50-150	9
Carbon tetrachloride	ug/L (ppb)	10	<0.5	92	97	50-150	5
Benzene	ug/L (ppb)	10	<0.35	91	95	50-150	4
Trichloroethene	ug/L (ppb)	10	<0.5	84	85	43-133	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	92	90	50-150	2
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	94	50-150	3
Dibromomethane	ug/L (ppb)	10	<1	89	98	50-150	10
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	81	90	50-150	11
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	87	83	48-145	5
Toluene	ug/L (ppb)	10	<1	95	93	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	85	94	37-152	10
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	93	92	50-150	1
2-Hexanone	ug/L (ppb)	50	<10	85	97	50-150	13
1,3-Dichloropropane	ug/L (ppb)	10	<1	99	96	50-150	3
Tetrachloroethene	ug/L (ppb)	10	<1	101	94	50-150	7
Dibromochloromethane	ug/L (ppb)	10	<0.5	97	97	33-164	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	98	98	50-150	0
Chlorobenzene	ug/L (ppb)	10	<1	94	96	50-150	2
Ethylbenzene	ug/L (ppb)	10	<1	99	97	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	99	97	50-150	2
m,p-Xylene	ug/L (ppb)	20	<2	99	96	50-150	3
o-Xylene	ug/L (ppb)	10	<1	102	98	50-150	4
Styrene	ug/L (ppb)	10	<1	94	89	50-150	5
Isopropylbenzene	ug/L (ppb)	10	<1	100	96	50-150	4
Bromoform	ug/L (ppb)	10	<5	97	94	23-161	3
n-Propylbenzene	ug/L (ppb)	10	<1	96	95	50-150	1
Bromobenzene	ug/L (ppb)	10	<1	96	93	50-150	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	98	96	50-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	115	116	10-235	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	88	98	33-151	11
2-Chlorotoluene	ug/L (ppb)	10	<1	97	95	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	94	95	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	95	96	50-150	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	95	93	50-150	2
sec-Butylbenzene	ug/L (ppb)	10	<1	97	96	46-139	1
p-Isopropyltoluene	ug/L (ppb)	10	<1	97	95	46-140	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	96	50-150	1
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	98	97	50-150	1
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	101	100	50-150	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	104	100	50-150	4
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	100	93	50-150	7
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	104	95	42-150	9
Naphthalene	ug/L (ppb)	10	<1	100	93	50-150	7
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	99	96	44-155	3

Date of Report: 06/03/22
Date Received: 05/05/22
Project: TWAAFA-001, F&BI 205088

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	106	100	70-130	6
Chloromethane	ug/L (ppb)	10	88	106	70-130	19
Vinyl chloride	ug/L (ppb)	10	93	101	70-130	8
Bromomethane	ug/L (ppb)	10	100	108	28-182	8
Chloroethane	ug/L (ppb)	10	94	102	70-130	8
Trichlorofluoromethane	ug/L (ppb)	10	92	102	70-130	10
Acetone	ug/L (ppb)	50	85	89	42-155	5
1,1-Dichloroethene	ug/L (ppb)	10	97	97	70-130	0
Hexane	ug/L (ppb)	10	108	123	50-161	13
Methylene chloride	ug/L (ppb)	10	92	105	29-192	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	93	96	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	96	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	91	94	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	158 vo	166 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	99	70-130	6
Chloroform	ug/L (ppb)	10	88	93	70-130	6
2-Butanone (MEK)	ug/L (ppb)	50	93	89	50-157	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	98	98	70-130	0
1,1-Dichloropropene	ug/L (ppb)	10	90	90	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	92	97	70-130	5
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	85	86	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	95	93	70-130	2
Bromodichloromethane	ug/L (ppb)	10	93	92	70-130	1
Dibromomethane	ug/L (ppb)	10	90	96	70-130	6
4-Methyl-2-pentanone	ug/L (ppb)	50	102	92	70-130	10
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	101	70-130	9
Toluene	ug/L (ppb)	10	93	96	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	104	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	91	93	70-130	2
2-Hexanone	ug/L (ppb)	50	93	89	69-130	4
1,3-Dichloropropane	ug/L (ppb)	10	91	88	70-130	3
Tetrachloroethene	ug/L (ppb)	10	101	103	70-130	2
Dibromochloromethane	ug/L (ppb)	10	95	90	63-142	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	97	70-130	1
Chlorobenzene	ug/L (ppb)	10	92	93	70-130	1
Ethylbenzene	ug/L (ppb)	10	96	98	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	93	95	70-130	2
m,p-Xylene	ug/L (ppb)	20	97	99	70-130	2
o-Xylene	ug/L (ppb)	10	96	99	70-130	3
Styrene	ug/L (ppb)	10	92	91	70-130	1
Isopropylbenzene	ug/L (ppb)	10	94	99	70-130	5
Bromoform	ug/L (ppb)	10	93	94	50-157	1
n-Propylbenzene	ug/L (ppb)	10	95	105	70-130	10
Bromobenzene	ug/L (ppb)	10	90	101	70-130	12
1,3,5-Trimethylbenzene	ug/L (ppb)	10	97	106	52-150	9
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	110	124	70-130	12
1,2,3-Trichloropropane	ug/L (ppb)	10	92	95	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	89	100	70-130	12
4-Chlorotoluene	ug/L (ppb)	10	93	104	70-130	11
tert-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	106	70-130	11
sec-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
p-Isopropyltoluene	ug/L (ppb)	10	99	109	70-130	10
1,3-Dichlorobenzene	ug/L (ppb)	10	94	101	70-130	7
1,4-Dichlorobenzene	ug/L (ppb)	10	94	108	70-130	14
1,2-Dichlorobenzene	ug/L (ppb)	10	97	105	70-130	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	110	70-130	13
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	109	70-130	11
Hexachlorobutadiene	ug/L (ppb)	10	107	115	70-130	7
Naphthalene	ug/L (ppb)	10	93	101	70-130	8
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	104	69-143	7

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	1.4	91	81 b	50-150	12 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	95	88	70-130	8

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205112-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	<1	47 vo	29 vo	50-150	47 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	62	53	50-150	16
2-Chlorophenol	ug/L (ppb)	2.5	<1	72	55	50-150	27 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	48 vo	50-150	37 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	67	48 vo	50-150	33 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	53	50-150	25 vo
Benzyl alcohol	ug/L (ppb)	13	<1	72	53	50-150	30 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	71	54	50-150	27 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	76	57	50-150	29 vo
Hexachloroethane	ug/L (ppb)	2.5	<0.1	69	49 vo	50-150	34 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	86	63	50-150	31 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	71	56	50-150	24 vo
Nitrobenzene	ug/L (ppb)	2.5	<0.1	73	59	50-150	21 vo
Isophorone	ug/L (ppb)	2.5	<0.1	88	67	50-150	27 vo
2-Nitrophenol	ug/L (ppb)	2.5	<1	81	63	50-150	25 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	85	62	50-150	31 vo
Benzoic acid	ug/L (ppb)	20	<5	46 vo	18 vo	50-150	87 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	61	50-150	27 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	85	63	50-150	30 vo
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	70	56	50-150	22 vo
Naphthalene	ug/L (ppb)	2.5	<0.1	72	56	50-150	25 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	55	50-150	25 vo
4-Chloroaniline	ug/L (ppb)	13	<10	53	35 vo	50-150	41 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	103	79	50-150	26 vo
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	78	60	50-150	26 vo
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	78	60	50-150	26 vo
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	90	69	50-150	26 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	103	71	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	100	72	50-150	33 vo
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	83	61	50-150	31 vo
2-Nitroaniline	ug/L (ppb)	13	<0.5	89	70	50-150	24 vo
Dimethyl phthalate	ug/L (ppb)	2.5	<1	96	73	50-150	27 vo
Acenaphthylene	ug/L (ppb)	2.5	<0.01	88	66	50-150	29 vo
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	107	79	50-150	30 vo
3-Nitroaniline	ug/L (ppb)	13	<10	61	44 vo	50-150	32 vo
Acenaphthene	ug/L (ppb)	2.5	<0.01	83	63	50-150	27 vo
2,4-Dinitrophenol	ug/L (ppb)	5	<3	109	79	50-150	32 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	86	65	50-150	28 vo
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	96	76	50-150	23 vo
4-Nitrophenol	ug/L (ppb)	5	<3	58	43 vo	50-150	30 vo
Diethyl phthalate	ug/L (ppb)	2.5	<1	99	75	50-150	28 vo
Fluorene	ug/L (ppb)	2.5	<0.01	91	68	50-150	29 vo
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	93	68	50-150	31 vo
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	88	74	50-150	17
4-Nitroaniline	ug/L (ppb)	13	<10	72	61	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	131	102	50-150	25 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	86	75	50-150	14
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	125	92	50-150	30 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	86	71	50-150	19
Anthracene	ug/L (ppb)	2.5	<0.01	89	71	50-150	22 vo
Carbazole	ug/L (ppb)	2.5	<0.1	96	79	50-150	19
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	104	81	50-150	25 vo
Fluoranthene	ug/L (ppb)	2.5	<0.01	96	78	50-150	21 vo
Pyrene	ug/L (ppb)	2.5	<0.01	94	75	50-150	22 vo
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	114	92	50-150	21 vo
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	93	75	50-150	21 vo
Chrysene	ug/L (ppb)	2.5	<0.01	88	71	50-150	21 vo
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	112	102	50-150	9
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	133	113	50-150	16
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	94	78	50-150	19
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	109	93	50-150	16
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	95	79	50-150	18
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	82	65	50-150	23 vo
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	62	50-150	25 vo
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	74	58	50-150	24 vo

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	2.5	24	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	61	44-118
2-Chlorophenol	ug/L (ppb)	2.5	63	21-97
1,3-Dichlorobenzene	ug/L (ppb)	2.5	58	50-95
1,4-Dichlorobenzene	ug/L (ppb)	2.5	57	53-94
1,2-Dichlorobenzene	ug/L (ppb)	2.5	60	54-96
Benzyl alcohol	ug/L (ppb)	13	56	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	62 vo	63-101
2-Methylphenol	ug/L (ppb)	2.5	59	19.74
Hexachloroethane	ug/L (ppb)	2.5	61	52-96
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	71	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	57	16-60
Nitrobenzene	ug/L (ppb)	2.5	67	63-109
Isophorone	ug/L (ppb)	2.5	71	67-114
2-Nitrophenol	ug/L (ppb)	2.5	73	41-117
2,4-Dimethylphenol	ug/L (ppb)	2.5	64	23-105
Benzoic acid	ug/L (ppb)	20	29 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	62 vo	67-130
2,4-Dichlorophenol	ug/L (ppb)	2.5	69	34-113
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	65	58-97
Naphthalene	ug/L (ppb)	2.5	62	60-97
Hexachlorobutadiene	ug/L (ppb)	2.5	61	51-100
4-Chloroaniline	ug/L (ppb)	13	55	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	76	34-111
2-Methylnaphthalene	ug/L (ppb)	2.5	67	63-103
1-Methylnaphthalene	ug/L (ppb)	2.5	66	64-101
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	79	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	78	28-125
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	79	39-120
2-Chloronaphthalene	ug/L (ppb)	2.5	69	65-130
2-Nitroaniline	ug/L (ppb)	13	70	51-146
Dimethyl phthalate	ug/L (ppb)	2.5	72	70-130
Acenaphthylene	ug/L (ppb)	2.5	69 vo	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	74	70-130
3-Nitroaniline	ug/L (ppb)	13	64	42-134
Acenaphthene	ug/L (ppb)	2.5	65 vo	66-130
2,4-Dinitrophenol	ug/L (ppb)	5	80	10-171
Dibenzofuran	ug/L (ppb)	2.5	67	56-114
2,4-Dinitrotoluene	ug/L (ppb)	2.5	83	63-127
4-Nitrophenol	ug/L (ppb)	5	33	10-46
Diethyl phthalate	ug/L (ppb)	2.5	73	70-130
Fluorene	ug/L (ppb)	2.5	70	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	71	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	68 vo	70-130
4-Nitroaniline	ug/L (ppb)	13	73	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	98	13-148
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	69 vo	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	67	67-130
Pentachlorophenol	ug/L (ppb)	2.5	76	13-133
Phenanthrene	ug/L (ppb)	2.5	66 vo	70-130
Anthracene	ug/L (ppb)	2.5	70	70-130
Carbazole	ug/L (ppb)	2.5	75	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	68	43-133
Fluoranthene	ug/L (ppb)	2.5	75	70-130
Pyrene	ug/L (ppb)	2.5	71	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	84	56-128
Benz(a)anthracene	ug/L (ppb)	2.5	73	70-130
Chrysene	ug/L (ppb)	2.5	71	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	73	57-124
Di-n-octyl phthalate	ug/L (ppb)	2.5	100	43-132
Benzo(a)pyrene	ug/L (ppb)	2.5	77	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	79	62-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	76	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	67 vo	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	64 vo	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	61 vo	67-124

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	28 vo	30 vo	10-27	7
Bis(2-chloroethyl) ether	ug/L (ppb)	5	72	78	44-118	8
2-Chlorophenol	ug/L (ppb)	5	68	73	21-97	7
1,3-Dichlorobenzene	ug/L (ppb)	5	69	73	50-95	6
1,4-Dichlorobenzene	ug/L (ppb)	5	66	75	53-94	13
1,2-Dichlorobenzene	ug/L (ppb)	5	73	80	54-96	9
Benzyl alcohol	ug/L (ppb)	25	65	68	14-82	5
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	78	84	63-101	7
2-Methylphenol	ug/L (ppb)	5	67	76 vo	19-74	13
Hexachloroethane	ug/L (ppb)	5	69	75	52-96	8
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	89	89	70-130	0
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	63 vo	63 vo	16-60	0
Nitrobenzene	ug/L (ppb)	5	73	84	63-109	14
Isophorone	ug/L (ppb)	5	91	92	67-114	1
2-Nitrophenol	ug/L (ppb)	5	77	80	41-117	4
2,4-Dimethylphenol	ug/L (ppb)	5	80	80	23-105	0
Benzoic acid	ug/L (ppb)	40	16	17	10-21	6
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	81	87	67-130	7
2,4-Dichlorophenol	ug/L (ppb)	5	84	88	34-113	5
1,2,4-Trichlorobenzene	ug/L (ppb)	5	77	80	58-97	4
Naphthalene	ug/L (ppb)	5	77	83	60-97	7
Hexachlorobutadiene	ug/L (ppb)	5	76	81	51-100	6
4-Chloroaniline	ug/L (ppb)	25	87	87	40-141	0
4-Chloro-3-methylphenol	ug/L (ppb)	5	82	82	34-111	0
2-Methylnaphthalene	ug/L (ppb)	5	88	93	63-103	6
1-Methylnaphthalene	ug/L (ppb)	5	86	91	64-101	6
Hexachlorocyclopentadiene	ug/L (ppb)	5	83	89	34-126	7
2,4,6-Trichlorophenol	ug/L (ppb)	5	87	89	28-125	2
2,4,5-Trichlorophenol	ug/L (ppb)	5	93	98	39-120	5
2-Chloronaphthalene	ug/L (ppb)	5	87	88	65-130	1
2-Nitroaniline	ug/L (ppb)	25	102	101	51-146	1
Dimethyl phthalate	ug/L (ppb)	5	104	102	70-130	2
Acenaphthylene	ug/L (ppb)	5	95	96	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	5	101	97	70-130	4
3-Nitroaniline	ug/L (ppb)	25	98	100	42-134	2
Acenaphthene	ug/L (ppb)	5	89	91	66-130	2
2,4-Dinitrophenol	ug/L (ppb)	10	115	110	10-171	4
Dibenzofuran	ug/L (ppb)	5	91	92	56-114	1
2,4-Dinitrotoluene	ug/L (ppb)	5	87	79	63-127	10
4-Nitrophenol	ug/L (ppb)	10	38	33	10-46	14
Diethyl phthalate	ug/L (ppb)	5	105	99	70-130	6
Fluorene	ug/L (ppb)	5	101	101	70-130	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	99	101	70-130	2
N-Nitrosodiphenylamine	ug/L (ppb)	5	94	101	70-130	7
4-Nitroaniline	ug/L (ppb)	25	93	90	42-150	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	108	110	13-148	2
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	103	70-130	11
Hexachlorobenzene	ug/L (ppb)	5	93	101	67-130	8
Pentachlorophenol	ug/L (ppb)	5	103	101	13-133	2
Phenanthrene	ug/L (ppb)	5	94	101	70-130	7
Anthracene	ug/L (ppb)	5	100	103	70-130	3
Carbazole	ug/L (ppb)	5	103	101	70-130	2
Di-n-butyl phthalate	ug/L (ppb)	5	51	22 vo	43-133	79 vo
Fluoranthene	ug/L (ppb)	5	104	97	70-130	7
Pyrene	ug/L (ppb)	5	101	111	70-130	9
Benzyl butyl phthalate	ug/L (ppb)	5	104	109	56-128	5
Benz(a)anthracene	ug/L (ppb)	5	98	103	70-130	5
Chrysene	ug/L (ppb)	5	96	102	70-130	6
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	95	103	57-124	8
Di-n-octyl phthalate	ug/L (ppb)	5	93	96	43-132	3
Benzo(a)pyrene	ug/L (ppb)	5	102	104	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	101	103	62-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	97	100	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	120	115	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	122	111	70-130	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	121	115	67-124	5

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205112-02 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.005	37 vo	42 vo	50-150	13
Aroclor 1260	ug/L (ppb)	0.25	<0.005	50	56	50-150	11

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	68	25-111
Aroclor 1260	ug/L (ppb)	0.25	78	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205088

SAMPLE CHAIN OF CUSTODY

05-05-22 E04/AI4/~~E9~~ vw3

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Report To: Anthony Cerruti / Trevor Louviere
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Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (signature) N. Weiss + M. Wright

PROJECT NAME: TWAAFA

PO #: TWAAFA-001

REMARKS
SVOCs lab filtered at 0.7 micron before analysis

Project Specific RLs - (Yes) / No

INVOICE TO: DOF

TURNAROUND TIME
(X Standard Turnaround)
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes (* SVOC full suite includes cPAH)
CCW-8B-0522	01A-L	05/04/22	1355	W	12	X	X	X	X	X	X	X	X	X	X		~~Dissolved metals bottle 0.45 field filt~~ MW
MW-4-0522	02A-M	05/04/22	1605		13	X	X	X	X	X	X	X	X	X	X		Dissolved Metals bottle 0.45 field filtered
CCW-4C-0522	03A-J	05/05/22	0940		12	X	X	X	X	X	X	X	Ø	X	X		10 recd 2-14
CCW-2A-0522	04A-L	05/05/22	1045		12	X	X	X	X	X	X	X	X	X	X		
CCW-2B-0522	05	05/05/22	1200		12	X	X	X	X	X	X	X	X	X	X		Ø - PCB
CCW-9-2B-0522	06	05/05/22	1205		12	X	X	X	X	X	X	X	X	X	X		analysis cancelled due to insufficient vol.
Field Blank #1-0522	07	05/05/22	1230		12	X	X	X	X	X	X	X	X	X	X		[initials] 5/12
CCW-2C-0522	08	05/05/22	1320		12	X	X	X	X	X	X	X	X	X	X		
Trip Blank #3-0522	09A-C	05/04/22	1350		3	X	X										

Samples received at 4 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Noah Weiss	DOF	05/05/22	1510
Received by:	[signature]	[illegible]	FBI	5/05/22	1510
Relinquished by:					
Received by:					

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 9, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included are the results from the testing of material submitted on May 6, 2022 from the TWAAFA-001, F&BI 205112 project. There are 42 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0609R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 6, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205112 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205112 -01	Trip Blank 4-0522
205112 -02	TWA-9D-0522
205112 -03	CCW-4C-0522
205112 -04	CCW-5B-0522
205112 -05	CCW-5C-0522

The 8260D calibration standard failed the acceptance criteria for several analytes. The data were flagged accordingly.

Lead in the 6020B matrix spike duplicate and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

The 1631E matrix spike and matrix spike duplicate failed the relative percent difference for mercury. Mercury was not detected therefore the data were acceptable.

Methylene chloride was detected in the 8260D analysis of samples TWA-9D-0522, CCW-5B-0522, and CCW-5C-0522. The data were flagged as due to laboratory contamination.

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The laboratory control sample and laboratory control sample duplicate relative percent difference passed the acceptance criteria, therefore the results were likely due to matrix interference.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

Several 8270E compounds failed below the acceptance criteria in the original extraction of the matrix spike samples and the laboratory control sample. The data were flagged accordingly. The samples were reextracted with similar failing results, therefore that data was not included in the final report.

CASE NARRATIVE (continued)

The 8270E samples were filtered at the laboratory prior to extraction. The data were qualified accordingly.

The 8270E calibration standard failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112
Date Extracted: 05/11/22
Date Analyzed: 05/11/22 and 05/12/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
Trip Blank 4-0522 205112-01	<100	96
TWA-9D-0522 205112-02	<100	90
CCW-5B-0522 205112-04	880	88
CCW-5C-0522 205112-05	<100	111
Method Blank 02-1109 MB	<100	84

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112
Date Extracted: 05/09/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
TWA-9D-0522 205112-02	<50	<250	117
CCW-5B-0522 205112-04	320 x	<250	126
CCW-5C-0522 205112-05	<50	<250	130
Method Blank 02-1084 MB	<50	<250	140

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112
Date Extracted: 05/09/22
Date Analyzed: 05/10/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
TWA-9D-0522 205112-02	96 x	<250	109
CCW-5B-0522 205112-04	2,900 x	770 x	128
CCW-5C-0522 205112-05	1,700 x	470 x	114
Method Blank 02-1084 MB	<50	<250	140

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-02
Date Analyzed:	05/12/22	Data File:	205112-02.138
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-02 x5
Date Analyzed:	05/12/22	Data File:	205112-02 x5.137
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	12.7
Cadmium	<5
Chromium	9.21
Copper	<1.5
Manganese	85.1
Nickel	<5
Zinc	<25

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-5B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-04
Date Analyzed:	05/12/22	Data File:	205112-04.145
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<1
Chromium	<1
Copper	2.31
Lead	34.8
Manganese	646
Nickel	4.17
Zinc	17.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-5B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-04 x5
Date Analyzed:	05/12/22	Data File:	205112-04 x5.113
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1,170

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-5C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-05
Date Analyzed:	05/12/22	Data File:	205112-05.146
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.07
Cadmium	<1
Chromium	3.12
Copper	<0.3
Lead	<1
Manganese	912
Nickel	2.70
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	I2-348 mb
Date Analyzed:	05/12/22	Data File:	I2-348 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<0.3
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
TWA-9D-0522 205112-02	<0.02
CCW-5B-0522 205112-04	<0.02
CCW-5C-0522 205112-05	<0.02
Method Blank i2-380 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 4-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-01
Date Analyzed:	05/13/22	Data File:	051251.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	83	84	115
4-Bromofluorobenzene	91	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1 ca
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5 ca
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1 ca
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5 ca	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1 ca	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4 ca	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-9D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/15/22	Lab ID:	205112-02
Date Analyzed:	05/16/22	Data File:	051537.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	92	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.7 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-5B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/15/22	Lab ID:	205112-04
Date Analyzed:	05/16/22	Data File:	051546.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	105	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.5	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	5.0	Chlorobenzene	69
Trichlorofluoromethane	<1	Ethylbenzene	52
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	11
Hexane	<5	o-Xylene	19
Methylene chloride	11 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	7.3
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	15
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.5	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	0.92	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	8.2
Benzene	39	sec-Butylbenzene	2.0
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	1.3
Dibromomethane	<1	1,2-Dichlorobenzene	1.6
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	16	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	9.1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-5C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/15/22	Lab ID:	205112-05
Date Analyzed:	05/16/22	Data File:	051547.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	13 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	1.4	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/15/22	Lab ID:	02-1096 mb
Date Analyzed:	05/16/22	Data File:	051535.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-9D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-02
Date Analyzed:	05/12/22	Data File:	051214.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-5B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-04
Date Analyzed:	05/12/22	Data File:	051216.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	2.3

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-5C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	205112-05
Date Analyzed:	05/12/22	Data File:	051215.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	6.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/12/22	Lab ID:	02-1092 mb
Date Analyzed:	05/12/22	Data File:	051207.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	89	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-9D-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/10/22	Lab ID:	205112-02 1/0.5
Date Analyzed:	05/10/22	Data File:	051021.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	40	10	60
Phenol-d6	31	10	49
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	81	25	128
2,4,6-Tribromophenol	89	10	142
Terphenyl-d14	91	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.1 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-5B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/10/22	Lab ID:	205112-04 1/0.5
Date Analyzed:	05/10/22	Data File:	051022.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	40	10	60
Phenol-d6	33	10	49
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	73	25	128
2,4,6-Tribromophenol	90	10	142
Terphenyl-d14	114	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	1.5	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	1.4 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.55	Dibenzofuran	0.38
1,2-Dichlorobenzene	0.83	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.78
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.24 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	0.054
2,4-Dichlorophenol	<1	Carbazole	0.62
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	5.2	Fluoranthene	0.018
Hexachlorobutadiene	<0.1	Pyrene	0.016
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	3.3	Chrysene	<0.01
1-Methylnaphthalene	12 ve	Bis(2-ethylhexyl) phthalate	1.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-5B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/10/22	Lab ID:	205112-04 1/5
Date Analyzed:	05/12/22	Data File:	051220.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39 d	10	60
Phenol-d6	25 d	10	49
Nitrobenzene-d5	76 d	15	144
2-Fluorobiphenyl	56 d	25	128
2,4,6-Tribromophenol	90 d	10	142
Terphenyl-d14	90 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	1.1 jl
1,3-Dichlorobenzene	<1	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	<1	Dibenzofuran	<1
1,2-Dichlorobenzene	<1	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1 jl	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	0.60
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1 jl
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1	4-Bromophenyl phenyl ether	<1 jl
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50 ca	Phenanthrene	0.21 jl
Bis(2-chloroethoxy)methane	<1 jl	Anthracene	<0.1
2,4-Dichlorophenol	<10	Carbazole	<1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	4.5	Fluoranthene	<0.1
Hexachlorobutadiene	<1	Pyrene	<0.1
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	2.8	Chrysene	<0.1
1-Methylnaphthalene	10	Bis(2-ethylhexyl) phthalate	3.4 fb
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1	Benzo(k)fluoranthene	<0.1
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1 jl
Dimethyl phthalate	<10	Dibenz(a,h)anthracene	<0.1 jl
Acenaphthylene	<0.1 jl	Benzo(g,h,i)perylene	<0.2 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-5C-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/10/22	Lab ID:	205112-05 1/0.5
Date Analyzed:	05/10/22	Data File:	051023.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	36	10	60
Phenol-d6	30	10	49
Nitrobenzene-d5	80	15	144
2-Fluorobiphenyl	74	25	128
2,4,6-Tribromophenol	91	10	142
Terphenyl-d14	106	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.015 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/10/22	Lab ID:	02-1101 mb2 1/0.5
Date Analyzed:	05/10/22	Data File:	051019.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	87	10	142
Terphenyl-d14	93	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	0.97 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-9D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/17/22	Lab ID:	205112-02 1/0.25
Date Analyzed:	05/20/22	Data File:	052018.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	8 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-5B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/17/22	Lab ID:	205112-04 1/0.25
Date Analyzed:	05/20/22	Data File:	052019.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	9 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-5C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/06/22	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/17/22	Lab ID:	205112-05 1/0.25
Date Analyzed:	05/20/22	Data File:	052020.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	10 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205112
Date Extracted:	05/17/22	Lab ID:	02-1250 mb 1/0.25
Date Analyzed:	05/20/22	Data File:	052016.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205112-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	110	107	53-117	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	107	69-134

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	112	132	50-150	16

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	120	120	50-150	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	104	63-142

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205112-02 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.6	79	75	75-125	5
Cadmium	ug/L (ppb)	5	<10	96	90	75-125	6
Chromium	ug/L (ppb)	20	<10	105	99	75-125	6
Copper	ug/L (ppb)	20	<10	91	87	75-125	4
Lead	ug/L (ppb)	10	<10	83	264 vo	75-125	104 vo
Manganese	ug/L (ppb)	20	85.3	91	75	75-125	19
Nickel	ug/L (ppb)	20	<10	99	93	75-125	6
Zinc	ug/L (ppb)	50	<50	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	100	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	111	83	71-125	29 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	91	78-125

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	117	104	50-150	12
Chloromethane	ug/L (ppb)	10	<10	118	88	50-150	29 vo
Vinyl chloride	ug/L (ppb)	10	<0.02	121	90	16-176	29 vo
Bromomethane	ug/L (ppb)	10	<5	126	105	10-193	18
Chloroethane	ug/L (ppb)	10	<1	119	94	50-150	23 vo
Trichlorofluoromethane	ug/L (ppb)	10	<1	115	111	50-150	4
Acetone	ug/L (ppb)	50	<50	106	97	15-179	9
1,1-Dichloroethene	ug/L (ppb)	10	<1	120	101	50-150	17
Hexane	ug/L (ppb)	10	<5	124	112	49-161	10
Methylene chloride	ug/L (ppb)	10	7.7	210 b	177 b	40-143	17 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	109	98	50-150	11
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	98	50-150	12
1,1-Dichloroethane	ug/L (ppb)	10	<1	100	94	50-150	6
2,2-Dichloropropane	ug/L (ppb)	10	<1	203	169	10-335	18
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	101	50-150	1
Chloroform	ug/L (ppb)	10	<1	99	99	50-150	0
2-Butanone (MEK)	ug/L (ppb)	50	<20	83	85	34-168	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	106	102	50-150	4
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	109	104	50-150	5
1,1-Dichloropropene	ug/L (ppb)	10	<1	98	102	50-150	4
Carbon tetrachloride	ug/L (ppb)	10	<0.5	112	106	50-150	6
Benzene	ug/L (ppb)	10	<0.35	97	94	50-150	3
Trichloroethene	ug/L (ppb)	10	<0.5	93	89	43-133	4
1,2-Dichloropropane	ug/L (ppb)	10	<1	98	97	50-150	1
Bromodichloromethane	ug/L (ppb)	10	<0.5	94	90	50-150	4
Dibromomethane	ug/L (ppb)	10	<1	99	98	50-150	1
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	106	108	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	98	98	48-145	0
Toluene	ug/L (ppb)	10	<1	93	96	50-150	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	106	37-152	3
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	88	92	50-150	4
2-Hexanone	ug/L (ppb)	50	<10	90	92	50-150	2
1,3-Dichloropropane	ug/L (ppb)	10	<1	93	89	50-150	4
Tetrachloroethene	ug/L (ppb)	10	<1	107	109	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	101	96	33-164	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	99	50-150	4
Chlorobenzene	ug/L (ppb)	10	<1	95	96	50-150	1
Ethylbenzene	ug/L (ppb)	10	<1	96	99	50-150	3
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	103	50-150	3
m,p-Xylene	ug/L (ppb)	20	<2	97	100	50-150	3
o-Xylene	ug/L (ppb)	10	<1	99	100	50-150	1
Styrene	ug/L (ppb)	10	<1	92	95	50-150	3
Isopropylbenzene	ug/L (ppb)	10	<1	100	100	50-150	0
Bromoform	ug/L (ppb)	10	<5	99	103	23-161	4
n-Propylbenzene	ug/L (ppb)	10	<1	93	99	50-150	6
Bromobenzene	ug/L (ppb)	10	<1	92	92	50-150	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	111	10-235	6
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	95	94	33-151	1
2-Chlorotoluene	ug/L (ppb)	10	<1	93	96	50-150	3
4-Chlorotoluene	ug/L (ppb)	10	<1	92	97	50-150	5
tert-Butylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	99	99	50-150	0
sec-Butylbenzene	ug/L (ppb)	10	<1	99	100	46-139	1
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	103	46-140	3
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	99	50-150	2
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	99	101	50-150	2
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	96	102	50-150	6
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	101	101	50-150	0
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	109	108	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	116	118	42-150	2
Naphthalene	ug/L (ppb)	10	<1	99	103	50-150	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	108	109	44-155	1

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Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	99	99	70-130	0
Chloromethane	ug/L (ppb)	10	90	95	70-130	5
Vinyl chloride	ug/L (ppb)	10	96	100	70-130	4
Bromomethane	ug/L (ppb)	10	113	114	28-182	1
Chloroethane	ug/L (ppb)	10	97	101	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	101	104	70-130	3
Acetone	ug/L (ppb)	50	96	106	42-155	10
1,1-Dichloroethene	ug/L (ppb)	10	94	100	70-130	6
Hexane	ug/L (ppb)	10	118	128	50-161	8
Methylene chloride	ug/L (ppb)	10	106	112	29-192	6
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	95	97	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	96	98	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	94	97	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	167 vo	159 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	94	97	70-130	3
Chloroform	ug/L (ppb)	10	91	95	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	106	93	50-157	13
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	98	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	97	100	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	98	96	70-130	2
Carbon tetrachloride	ug/L (ppb)	10	96	94	70-130	2
Benzene	ug/L (ppb)	10	94	96	70-130	2
Trichloroethene	ug/L (ppb)	10	85	88	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	91	92	70-130	1
Bromodichloromethane	ug/L (ppb)	10	95	95	70-130	0
Dibromomethane	ug/L (ppb)	10	97	100	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	88	93	70-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	104	70-130	12
Toluene	ug/L (ppb)	10	100	100	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	94	70-130	6
1,1,2-Trichloroethane	ug/L (ppb)	10	98	98	70-130	0
2-Hexanone	ug/L (ppb)	50	97	91	69-130	6
1,3-Dichloropropane	ug/L (ppb)	10	102	97	70-130	5
Tetrachloroethene	ug/L (ppb)	10	108	107	70-130	1
Dibromochloromethane	ug/L (ppb)	10	97	93	63-142	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	102	102	70-130	0
Chlorobenzene	ug/L (ppb)	10	97	96	70-130	1
Ethylbenzene	ug/L (ppb)	10	102	100	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	97	98	70-130	1
m,p-Xylene	ug/L (ppb)	20	103	101	70-130	2
o-Xylene	ug/L (ppb)	10	103	103	70-130	0
Styrene	ug/L (ppb)	10	96	100	70-130	4
Isopropylbenzene	ug/L (ppb)	10	101	102	70-130	1
Bromoform	ug/L (ppb)	10	101	99	50-157	2
n-Propylbenzene	ug/L (ppb)	10	105	102	70-130	3
Bromobenzene	ug/L (ppb)	10	97	97	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	108	102	52-150	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	119	118	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	98	94	70-130	4
2-Chlorotoluene	ug/L (ppb)	10	98	96	70-130	2
4-Chlorotoluene	ug/L (ppb)	10	103	101	70-130	2
tert-Butylbenzene	ug/L (ppb)	10	103	98	70-130	5
1,2,4-Trimethylbenzene	ug/L (ppb)	10	104	103	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	106	102	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	106	103	70-130	3
1,3-Dichlorobenzene	ug/L (ppb)	10	101	101	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	102	99	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	103	102	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	107	103	70-130	4
1,2,4-Trichlorobenzene	ug/L (ppb)	10	107	108	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	117	115	70-130	2
Naphthalene	ug/L (ppb)	10	100	96	70-130	4
1,2,3-Trichlorobenzene	ug/L (ppb)	10	105	105	69-143	0

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	1.4	91	81 b	50-150	12 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	95	88	70-130	8

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Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205112-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	<1	47 vo	29 vo	50-150	47 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	5	<0.1	62	53	50-150	16
2-Chlorophenol	ug/L (ppb)	5	<1	72	55	50-150	27 vo
1,3-Dichlorobenzene	ug/L (ppb)	5	<0.1	70	48 vo	50-150	37 vo
1,4-Dichlorobenzene	ug/L (ppb)	5	<0.1	67	48 vo	50-150	33 vo
1,2-Dichlorobenzene	ug/L (ppb)	5	<0.1	68	53	50-150	25 vo
Benzyl alcohol	ug/L (ppb)	25	<1	72	53	50-150	30 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	<0.1	71	54	50-150	27 vo
2-Methylphenol	ug/L (ppb)	5	<1	76	57	50-150	29 vo
Hexachloroethane	ug/L (ppb)	5	<0.1	69	49 vo	50-150	34 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	<0.1	86	63	50-150	31 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	<2	71	56	50-150	24 vo
Nitrobenzene	ug/L (ppb)	5	<0.1	73	59	50-150	21 vo
Isophorone	ug/L (ppb)	5	<0.1	88	67	50-150	27 vo
2-Nitrophenol	ug/L (ppb)	5	<1	81	63	50-150	25 vo
2,4-Dimethylphenol	ug/L (ppb)	5	<1	85	62	50-150	31 vo
Benzoic acid	ug/L (ppb)	40	<5	46 vo	18 vo	50-150	87 vo
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	<0.1	80	61	50-150	27 vo
2,4-Dichlorophenol	ug/L (ppb)	5	<1	85	63	50-150	30 vo
1,2,4-Trichlorobenzene	ug/L (ppb)	5	<0.1	70	56	50-150	22 vo
Naphthalene	ug/L (ppb)	5	<0.1	72	56	50-150	25 vo
Hexachlorobutadiene	ug/L (ppb)	5	<0.1	71	55	50-150	25 vo
4-Chloroaniline	ug/L (ppb)	25	<10	53	35 vo	50-150	41 vo
4-Chloro-3-methylphenol	ug/L (ppb)	5	<1	103	79	50-150	26 vo
2-Methylnaphthalene	ug/L (ppb)	5	<0.1	78	60	50-150	26 vo
1-Methylnaphthalene	ug/L (ppb)	5	<0.1	78	60	50-150	26 vo
Hexachlorocyclopentadiene	ug/L (ppb)	5	<0.3	90	69	50-150	26 vo
2,4,6-Trichlorophenol	ug/L (ppb)	5	<1	103	71	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	5	<1	100	72	50-150	33 vo
2-Chloronaphthalene	ug/L (ppb)	5	<0.1	83	61	50-150	31 vo
2-Nitroaniline	ug/L (ppb)	25	<0.5	89	70	50-150	24 vo
Dimethyl phthalate	ug/L (ppb)	5	<1	96	73	50-150	27 vo
Acenaphthylene	ug/L (ppb)	5	<0.01	88	66	50-150	29 vo
2,6-Dinitrotoluene	ug/L (ppb)	5	<0.5	107	79	50-150	30 vo
3-Nitroaniline	ug/L (ppb)	25	<10	61	44 vo	50-150	32 vo
Acenaphthene	ug/L (ppb)	5	<0.01	83	63	50-150	27 vo
2,4-Dinitrophenol	ug/L (ppb)	10	<3	109	79	50-150	32 vo
Dibenzofuran	ug/L (ppb)	5	<0.1	86	65	50-150	28 vo
2,4-Dinitrotoluene	ug/L (ppb)	5	<0.5	96	76	50-150	23 vo
4-Nitrophenol	ug/L (ppb)	10	<3	58	43 vo	50-150	30 vo
Diethyl phthalate	ug/L (ppb)	5	<1	99	75	50-150	28 vo
Fluorene	ug/L (ppb)	5	<0.01	91	68	50-150	29 vo
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	<0.1	93	68	50-150	31 vo
N-Nitrosodiphenylamine	ug/L (ppb)	5	<0.1	88	74	50-150	17
4-Nitroaniline	ug/L (ppb)	25	<10	72	61	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	<3	131	102	50-150	25 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	<0.1	86	75	50-150	14
Hexachlorobenzene	ug/L (ppb)	5	<0.1	84	69	50-150	20
Pentachlorophenol	ug/L (ppb)	5	<0.5	125	92	50-150	30 vo
Phenanthrene	ug/L (ppb)	5	<0.01	86	71	50-150	19
Anthracene	ug/L (ppb)	5	<0.01	89	71	50-150	22 vo
Carbazole	ug/L (ppb)	5	<0.1	96	79	50-150	19
Di-n-butyl phthalate	ug/L (ppb)	5	<1	104	81	50-150	25 vo
Fluoranthene	ug/L (ppb)	5	<0.01	96	78	50-150	21 vo
Pyrene	ug/L (ppb)	5	<0.01	94	75	50-150	22 vo
Benzyl butyl phthalate	ug/L (ppb)	5	<1	114	92	50-150	21 vo
Benz(a)anthracene	ug/L (ppb)	5	<0.01	93	75	50-150	21 vo
Chrysene	ug/L (ppb)	5	<0.01	88	71	50-150	21 vo
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	<1.6	112	102	50-150	9
Di-n-octyl phthalate	ug/L (ppb)	5	<1	133	113	50-150	16
Benzo(a)pyrene	ug/L (ppb)	5	<0.01	94	78	50-150	19
Benzo(b)fluoranthene	ug/L (ppb)	5	<0.01	109	93	50-150	16
Benzo(k)fluoranthene	ug/L (ppb)	5	<0.01	95	79	50-150	18
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	<0.01	82	65	50-150	23 vo
Dibenz(a,h)anthracene	ug/L (ppb)	5	<0.01	80	62	50-150	25 vo
Benzo(g,h,i)perylene	ug/L (ppb)	5	<0.02	74	58	50-150	24 vo

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	5	24	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	5	61	44-118
2-Chlorophenol	ug/L (ppb)	5	63	21-97
1,3-Dichlorobenzene	ug/L (ppb)	5	58	50-95
1,4-Dichlorobenzene	ug/L (ppb)	5	57	53-94
1,2-Dichlorobenzene	ug/L (ppb)	5	60	54-96
Benzyl alcohol	ug/L (ppb)	25	56	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	62 vo	63-101
2-Methylphenol	ug/L (ppb)	5	59	19.74
Hexachloroethane	ug/L (ppb)	5	61	52-96
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	71	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	57	16-60
Nitrobenzene	ug/L (ppb)	5	67	63-109
Isophorone	ug/L (ppb)	5	71	67-114
2-Nitrophenol	ug/L (ppb)	5	73	41-117
2,4-Dimethylphenol	ug/L (ppb)	5	64	23-105
Benzoic acid	ug/L (ppb)	40	29 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	62 vo	67-130
2,4-Dichlorophenol	ug/L (ppb)	5	69	34-113
1,2,4-Trichlorobenzene	ug/L (ppb)	5	65	58-97
Naphthalene	ug/L (ppb)	5	62	60-97
Hexachlorobutadiene	ug/L (ppb)	5	61	51-100
4-Chloroaniline	ug/L (ppb)	25	55	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	5	76	34-111
2-Methylnaphthalene	ug/L (ppb)	5	67	63-103
1-Methylnaphthalene	ug/L (ppb)	5	66	64-101
Hexachlorocyclopentadiene	ug/L (ppb)	5	79	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	5	78	28-125
2,4,5-Trichlorophenol	ug/L (ppb)	5	79	39-120
2-Chloronaphthalene	ug/L (ppb)	5	69	65-130
2-Nitroaniline	ug/L (ppb)	25	70	51-146
Dimethyl phthalate	ug/L (ppb)	5	72	70-130
Acenaphthylene	ug/L (ppb)	5	69 vo	70-130
2,6-Dinitrotoluene	ug/L (ppb)	5	74	70-130
3-Nitroaniline	ug/L (ppb)	25	64	42-134
Acenaphthene	ug/L (ppb)	5	65 vo	66-130
2,4-Dinitrophenol	ug/L (ppb)	10	80	10-171
Dibenzofuran	ug/L (ppb)	5	67	56-114
2,4-Dinitrotoluene	ug/L (ppb)	5	83	63-127
4-Nitrophenol	ug/L (ppb)	10	33	10-46
Diethyl phthalate	ug/L (ppb)	5	73	70-130
Fluorene	ug/L (ppb)	5	70	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	71	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	5	68 vo	70-130
4-Nitroaniline	ug/L (ppb)	25	73	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	98	13-148
4-Bromophenyl phenyl ether	ug/L (ppb)	5	69 vo	70-130
Hexachlorobenzene	ug/L (ppb)	5	67	67-130
Pentachlorophenol	ug/L (ppb)	5	76	13-133
Phenanthrene	ug/L (ppb)	5	66 vo	70-130
Anthracene	ug/L (ppb)	5	70	70-130
Carbazole	ug/L (ppb)	5	75	70-130
Di-n-butyl phthalate	ug/L (ppb)	5	68	43-133
Fluoranthene	ug/L (ppb)	5	75	70-130
Pyrene	ug/L (ppb)	5	71	70-130
Benzyl butyl phthalate	ug/L (ppb)	5	84	56-128
Benz(a)anthracene	ug/L (ppb)	5	73	70-130
Chrysene	ug/L (ppb)	5	71	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	73	57-124
Di-n-octyl phthalate	ug/L (ppb)	5	100	43-132
Benzo(a)pyrene	ug/L (ppb)	5	77	70-130
Benzo(b)fluoranthene	ug/L (ppb)	5	79	62-130
Benzo(k)fluoranthene	ug/L (ppb)	5	76	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	67 vo	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	5	64 vo	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	5	61 vo	67-124

Date of Report: 06/09/22
Date Received: 05/06/22
Project: TWAAFA-001, F&BI 205112

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205112-02 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.005	37 vo	42 vo	50-150	13
Aroclor 1260	ug/L (ppb)	0.25	<0.005	50	56	50-150	11

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	68	25-111
Aroclor 1260	ug/L (ppb)	0.25	78	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205112

VW5
AIS
E04

SAMPLE CHAIN OF CUSTODY 05-06-22

Page # 1 of 1

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray
Company DOF
Address 1001 SW Klickitat Way
City, State, ZIP Seattle, WA 98134
Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (signature) N. Weiss + M. Wright	
PROJECT NAME: TWAAFA	PO #: TWAAFA-001
REMARKS: SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO: DOF

TURNAROUND TIME
(X) Standard Turnaround
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisition	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes
Trip Blank #4-0522	01A-C	5/5/22	1420	W	3	X	X										
TWA-9D-0522	02A-AJ	5/5/22	1425	W	36	X	X	X	X	X	X		X	X	X	Y	*MS/MSD
CCW-4C-0522	03A-B	5/6/22	1035	W	2								X				*additional vol. for 5/5
CCW-5B-0522	04A-L	↓	1125	↓	12	X	X	X	X	X	X	NAPH	X	X	X		
CCW-5C-0522	05	↓	1205	↓	12	X	X	X	X	X	X	NAPH	X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Noah Weiss	DOF	5/6/22	1424
Received by:	Tokala Christensen	F+B	5/6/22	14:24
Relinquished by:				
Received by:		Samples received at 2 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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www.friedmanandbruya.com

June 13, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included is the amended report from the testing of material submitted on May 9, 2022 from the TWAAFA-001, F&BI 205140 project. Sample ID TWA-70-0522 has been corrected to TWA-7D-0522. The correct analyte list for this sample has been provided.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0609R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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June 9, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included are the results from the testing of material submitted on May 9, 2022 from the TWAAFA-001, F&BI 205140 project. There are 46 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0609R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 9, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205140 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205140 -01	Trip Blank 5-0522
205140 -02	CCW-3B-0522
205140 -03	CCW-3A-0522
205140 -04	CCW-3C-0522
205140 -05	TWA-7D-0522

Lead in the 6020B matrix spike duplicate and the associated relative percent difference exceeded the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were due to matrix effect.

The 1631E matrix spike and matrix spike duplicate failed the relative percent difference for mercury. Mercury was not detected therefore the data were acceptable.

Methylene chloride was detected in the 8260D analysis of the samples. The data were flagged as due to laboratory contamination.

The 8260D calibration standard exceeded the acceptance criteria for vinyl chloride and methylene chloride. The data were flagged accordingly.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

Compounds in the 8270E matrix spike, matrix spike duplicate, laboratory control sample and laboratory control sample duplicate failed the acceptance criteria. The data were flagged accordingly.

The 8270E samples were filtered at the laboratory prior to extraction. The data were qualified accordingly.

The 8270E calibration standard failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

CASE NARRATIVE (continued)

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140
Date Extracted: 05/18/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
Trip Blank 5-0522 205140-01	<100	78
CCW-3B-0522 205140-02	1,000	80
CCW-3A-0522 205140-03	460	81
CCW-3C-0522 205140-04	<100	73
Method Blank 02-1122 MB	<100	92

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140
Date Extracted: 05/12/22
Date Analyzed: 05/20/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-3B-0522 205140-02	120	<250	132
CCW-3A-0522 205140-03	310 x	510	119
CCW-3C-0522 205140-04	<50	<250	143
TWA-7D-0522 205140-05	<50	<250	132
Method Blank 02-1183 MB	<50	<250	140

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140
Date Extracted: 05/12/22
Date Analyzed: 05/12/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CCW-3B-0522 205140-02	2,500 x	1,000 x	138
CCW-3A-0522 205140-03	11,000 x	4,800 x	130
CCW-3C-0522 205140-04	650 x	380 x	131
TWA-7D-0522 205140-05	210 x	<250	133
Method Blank 02-1183 MB	<50	<250	139

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-02
Date Analyzed:	05/12/22	Data File:	205140-02.162
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.69
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Nickel	5.13
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-02 x5
Date Analyzed:	05/12/22	Data File:	205140-02 x5.133
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,250

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-03
Date Analyzed:	05/12/22	Data File:	205140-03.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	60.6
Cadmium	<1
Chromium	2.77
Copper	<1
Lead	6.03
Manganese	64.4
Nickel	160
Zinc	274

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-04
Date Analyzed:	05/12/22	Data File:	205140-04.164
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.68
Cadmium	<1
Chromium	2.18
Copper	<1
Lead	<1
Nickel	2.55
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-04 x5
Date Analyzed:	05/12/22	Data File:	205140-04 x5.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,360

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-05
Date Analyzed:	05/12/22	Data File:	205140-05.165
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	8.98
Cadmium	<1
Chromium	1.17
Copper	<1
Lead	<1
Manganese	394
Nickel	3.59
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	I2-348 mb
Date Analyzed:	05/12/22	Data File:	I2-348 mb.095
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
CCW-3B-0522 205140-02	<0.02
CCW-3A-0522 205140-03	<0.02
CCW-3C-0522 205140-04	<0.02
TWA-7D-0522 205140-05	<0.02
Method Blank i2-380 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 5-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	205140-01
Date Analyzed:	05/20/22	Data File:	050112.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	87	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.0 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-3B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	205140-02
Date Analyzed:	05/23/22	Data File:	052313.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	106	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.83 ca	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	10 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	2.9	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	6.0	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	3.8
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-3A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	205140-03
Date Analyzed:	05/23/22	Data File:	052314.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.087 ca	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	24
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	10
Hexane	<5	o-Xylene	7.2
Methylene chloride	9.6 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	1.0
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	1.2
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	1.2
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	3.6
Benzene	12	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	18	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	3.9
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-3C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	205140-04
Date Analyzed:	05/20/22	Data File:	050108.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	91	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	9.9 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-7D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	205140-05
Date Analyzed:	05/23/22	Data File:	052315.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	78	126
Toluene-d8	92	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	12 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/20/22	Lab ID:	02-1215 mb
Date Analyzed:	05/20/22	Data File:	050107.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	87	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-3B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-02
Date Analyzed:	05/13/22	Data File:	051244.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	2.0

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-3A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-03
Date Analyzed:	05/13/22	Data File:	051245.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.5

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-3C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-04
Date Analyzed:	05/13/22	Data File:	051246.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.5

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-7D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-05
Date Analyzed:	05/13/22	Data File:	051247.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	02-1097 mb
Date Analyzed:	05/12/22	Data File:	051225.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-3B-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-02 1/0.5
Date Analyzed:	05/13/22	Data File:	051316.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	43	10	60
Phenol-d6	37	10	49
Nitrobenzene-d5	106	15	144
2-Fluorobiphenyl	109	25	128
2,4,6-Tribromophenol	119	10	142
Terphenyl-d14	129	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5 jl
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.56 jl
1,3-Dichlorobenzene	0.28 jl	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.16 jl	Dibenzofuran	0.21
1,2-Dichlorobenzene	<0.1 jl	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1 jl
2-Methylphenol	<1	Fluorene	0.67 jl
Hexachloroethane	<0.1 jl	4-Chlorophenyl phenyl ether	<0.1 jl
N-Nitroso-di-n-propylamine	<0.1 jl	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1 jl	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1 jl	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1 jl
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.32 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	0.023 jl
2,4-Dichlorophenol	<1	Carbazole	0.28 jl
1,2,4-Trichlorobenzene	<0.1 jl	Di-n-butyl phthalate	1.6
Naphthalene	2.4 jl	Fluoranthene	<0.01 jl
Hexachlorobutadiene	<0.1	Pyrene	<0.01 jl
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01 jl
2-Methylnaphthalene	2.2 jl	Chrysene	<0.01 jl
1-Methylnaphthalene	2.9 jl	Bis(2-ethylhexyl) phthalate	1.5 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01 jl
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1 jl	Benzo(k)fluoranthene	<0.01 jl
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1 jl	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-3A-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-03 1/0.5
Date Analyzed:	05/13/22	Data File:	051317.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	41	10	60
Phenol-d6	38	10	49
Nitrobenzene-d5	103	15	144
2-Fluorobiphenyl	99	25	128
2,4,6-Tribromophenol	111	10	142
Terphenyl-d14	145 vo	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5 jl
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.27 jl
1,3-Dichlorobenzene	<0.1 jl	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 jl	Dibenzofuran	0.18
1,2-Dichlorobenzene	<0.1 jl	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	1.2 jl
2-Methylphenol	<1	Fluorene	0.23 jl
Hexachloroethane	<0.1 jl	4-Chlorophenyl phenyl ether	<0.1 jl
N-Nitroso-di-n-propylamine	<0.1 jl	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1 jl	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1 jl	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1 jl
2,4-Dimethylphenol	1.3	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.29 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01 jl
2,4-Dichlorophenol	<1	Carbazole	0.33 jl
1,2,4-Trichlorobenzene	<0.1 jl	Di-n-butyl phthalate	1.7
Naphthalene	1.8 jl	Fluoranthene	0.026 jl
Hexachlorobutadiene	<0.1	Pyrene	0.038 jl
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01 jl
2-Methylnaphthalene	0.75 jl	Chrysene	<0.01 jl
1-Methylnaphthalene	0.61 jl	Bis(2-ethylhexyl) phthalate	1.4 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 J
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01 J jl
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01 J
2-Chloronaphthalene	<0.1 jl	Benzo(k)fluoranthene	<0.01 J jl
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 J jl
Dimethyl phthalate	<1 jl	Dibenz(a,h)anthracene	<0.01 J jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 J jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-3A-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-03 1/5
Date Analyzed:	05/27/22	Data File:	052715.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	40 d	10	60
Phenol-d6	37 d	10	49
Nitrobenzene-d5	104 d	15	144
2-Fluorobiphenyl	99 d	25	128
2,4,6-Tribromophenol	124 d	10	142
Terphenyl-d14	118 d	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10	2,6-Dinitrotoluene	<5 jl
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	0.21 jl
1,3-Dichlorobenzene	<1 jl	2,4-Dinitrophenol	<30
1,4-Dichlorobenzene	<1 jl	Dibenzofuran	<1
1,2-Dichlorobenzene	<1 jl	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30
2,2'-Oxybis(1-chloropropane)	<1 jl	Diethyl phthalate	<10 jl
2-Methylphenol	<10	Fluorene	0.22 jl
Hexachloroethane	<1 jl	4-Chlorophenyl phenyl ether	<1 jl
N-Nitroso-di-n-propylamine	<1 jl	N-Nitrosodiphenylamine	1.1 jl
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100
Nitrobenzene	<1 jl	4,6-Dinitro-2-methylphenol	<30
Isophorone	<1 jl	4-Bromophenyl phenyl ether	<1 jl
2-Nitrophenol	<10	Hexachlorobenzene	<1 jl
2,4-Dimethylphenol	<10	Pentachlorophenol	<5
Benzoic acid	<50 ca	Phenanthrene	0.25 jl
Bis(2-chloroethoxy)methane	<1 jl	Anthracene	<0.1 jl
2,4-Dichlorophenol	<10	Carbazole	<1 jl
1,2,4-Trichlorobenzene	<1 jl	Di-n-butyl phthalate	<10
Naphthalene	1.8 jl	Fluoranthene	<0.1 jl
Hexachlorobutadiene	<1	Pyrene	<0.1 jl
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1 jl
2-Methylnaphthalene	<1 jl	Chrysene	<0.1 jl
1-Methylnaphthalene	<1 jl	Bis(2-ethylhexyl) phthalate	3 fb
Hexachlorocyclopentadiene	<3	Di-n-octyl phthalate	<10
2,4,6-Trichlorophenol	<10	Benzo(a)pyrene	<0.1 jl
2,4,5-Trichlorophenol	<10	Benzo(b)fluoranthene	<0.1
2-Chloronaphthalene	<1 jl	Benzo(k)fluoranthene	<0.1 jl
2-Nitroaniline	<5	Indeno(1,2,3-cd)pyrene	<0.1 jl
Dimethyl phthalate	<10 jl	Dibenz(a,h)anthracene	<0.1 jl
Acenaphthylene	<0.1 jl	Benzo(g,h,i)perylene	<0.2 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-3C-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-04 1/0.5
Date Analyzed:	05/13/22	Data File:	051318.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	26	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	74	15	144
2-Fluorobiphenyl	84	25	128
2,4,6-Tribromophenol	106	10	142
Terphenyl-d14	112	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5 jl
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1 jl	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 jl	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 jl	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1 jl
2-Methylphenol	<1	Fluorene	<0.01 jl
Hexachloroethane	<0.1 jl	4-Chlorophenyl phenyl ether	<0.1 jl
N-Nitroso-di-n-propylamine	<0.1 jl	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1 jl	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1 jl	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1 jl
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01 jl
2,4-Dichlorophenol	<1	Carbazole	<0.1 jl
1,2,4-Trichlorobenzene	<0.1 jl	Di-n-butyl phthalate	<1
Naphthalene	<0.1 jl	Fluoranthene	<0.01 jl
Hexachlorobutadiene	<0.1	Pyrene	<0.01 jl
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01 jl
2-Methylnaphthalene	<0.1 jl	Chrysene	<0.01 jl
1-Methylnaphthalene	<0.1 jl	Bis(2-ethylhexyl) phthalate	1.2 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01 jl
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1 jl	Benzo(k)fluoranthene	<0.01 jl
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1 jl	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-7D-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	205140-05 1/0.5
Date Analyzed:	05/13/22	Data File:	051319.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	34	10	49
Nitrobenzene-d5	91	15	144
2-Fluorobiphenyl	98	25	128
2,4,6-Tribromophenol	97	10	142
Terphenyl-d14	115	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01 jl
Chrysene	<0.01 jl
Benzo(a)pyrene	<0.01 jl
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01 jl
Indeno(1,2,3-cd)pyrene	<0.01 jl
Dibenz(a,h)anthracene	<0.01 jl

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/12/22	Lab ID:	02-1191 mb 1/0.5
Date Analyzed:	05/12/22	Data File:	051217.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	10	60
Phenol-d6	28	10	49
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	90	25	128
2,4,6-Tribromophenol	98	10	142
Terphenyl-d14	112	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5 jl
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01 jl
1,3-Dichlorobenzene	<0.1 jl	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 jl	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 jl	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 jl	Diethyl phthalate	<1 jl
2-Methylphenol	<1	Fluorene	<0.01 jl
Hexachloroethane	<0.1 jl	4-Chlorophenyl phenyl ether	<0.1 jl
N-Nitroso-di-n-propylamine	<0.1 jl	N-Nitrosodiphenylamine	<0.1 jl
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1 jl	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1 jl	4-Bromophenyl phenyl ether	<0.1 jl
2-Nitrophenol	<1	Hexachlorobenzene	<0.1 jl
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01 jl
Bis(2-chloroethoxy)methane	<0.1 jl	Anthracene	<0.01 jl
2,4-Dichlorophenol	<1	Carbazole	<0.1 jl
1,2,4-Trichlorobenzene	<0.1 jl	Di-n-butyl phthalate	<1
Naphthalene	<0.1 jl	Fluoranthene	<0.01 jl
Hexachlorobutadiene	<0.1	Pyrene	<0.01 jl
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01 jl
2-Methylnaphthalene	<0.1 jl	Chrysene	<0.01 jl
1-Methylnaphthalene	<0.1 jl	Bis(2-ethylhexyl) phthalate	1.1 lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01 jl
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1 jl	Benzo(k)fluoranthene	<0.01 jl
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01 jl
Dimethyl phthalate	<1 jl	Dibenz(a,h)anthracene	<0.01 jl
Acenaphthylene	<0.01 jl	Benzo(g,h,i)perylene	<0.02 jl

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-3B-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/17/22	Lab ID:	205140-02 1/0.25
Date Analyzed:	05/19/22	Data File:	051915.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	44	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-3A-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/17/22	Lab ID:	205140-03 1/0.25
Date Analyzed:	05/19/22	Data File:	051916.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.059
Aroclor 1248	<0.0035
Aroclor 1254	0.0095
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-3C-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/09/22	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/17/22	Lab ID:	205140-04 1/0.25
Date Analyzed:	05/19/22	Data File:	051917.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	42	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.0040
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205140
Date Extracted:	05/17/22	Lab ID:	02-1250 mb 1/0.25
Date Analyzed:	05/20/22	Data File:	052016.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205140-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	1,400	72	75	50-150	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	70-119

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	120	116	63-142	3

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	116	116	63-142	0

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205112-02 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	14.6	79	75	75-125	5
Cadmium	ug/L (ppb)	5	<10	96	90	75-125	6
Chromium	ug/L (ppb)	20	<10	105	99	75-125	6
Copper	ug/L (ppb)	20	<10	91	87	75-125	4
Lead	ug/L (ppb)	10	<10	83	264 vo	75-125	104 vo
Manganese	ug/L (ppb)	20	85.3	91	75	75-125	19
Nickel	ug/L (ppb)	20	<10	99	93	75-125	6
Zinc	ug/L (ppb)	50	<50	93	89	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	92	80-120
Cadmium	ug/L (ppb)	5	99	80-120
Chromium	ug/L (ppb)	20	100	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	99	80-120
Manganese	ug/L (ppb)	20	100	80-120
Nickel	ug/L (ppb)	20	102	80-120
Zinc	ug/L (ppb)	50	101	80-120

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	111	83	71-125	29 vo

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	91	78-125

Date of Report: 06/09/22
Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205140-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	120	50-150
Chloromethane	ug/L (ppb)	10	<10	96	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	96	16-176
Bromomethane	ug/L (ppb)	10	<5	127	10-193
Chloroethane	ug/L (ppb)	10	<1	101	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	118	50-150
Acetone	ug/L (ppb)	50	<50	89	15-179
1,1-Dichloroethene	ug/L (ppb)	10	<1	113	50-150
Hexane	ug/L (ppb)	10	<5	118	49-161
Methylene chloride	ug/L (ppb)	10	9.9	105 b	40-143
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	103	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	105	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	98	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	215	10-335
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	107	50-150
Chloroform	ug/L (ppb)	10	<1	111	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	86	34-168
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	112	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	118	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	107	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	114	50-150
Benzene	ug/L (ppb)	10	<0.35	95	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	96	43-133
1,2-Dichloropropane	ug/L (ppb)	10	<1	86	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	107	50-150
Dibromomethane	ug/L (ppb)	10	<1	104	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	113	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	94	48-145
Toluene	ug/L (ppb)	10	<1	90	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	106	37-152
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	85	50-150
2-Hexanone	ug/L (ppb)	50	<10	76	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	82	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	108	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	97	33-164
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	50-150
Chlorobenzene	ug/L (ppb)	10	<1	91	50-150
Ethylbenzene	ug/L (ppb)	10	<1	93	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	50-150
m,p-Xylene	ug/L (ppb)	20	<2	96	50-150
o-Xylene	ug/L (ppb)	10	<1	96	50-150
Styrene	ug/L (ppb)	10	<1	92	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromoform	ug/L (ppb)	10	<5	104	23-161
n-Propylbenzene	ug/L (ppb)	10	<1	88	50-150
Bromobenzene	ug/L (ppb)	10	<1	90	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	96	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	89	10-235
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	77	33-151
2-Chlorotoluene	ug/L (ppb)	10	<1	85	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	91	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	95	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	93	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	91	46-139
p-Isopropyltoluene	ug/L (ppb)	10	<1	97	46-140
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	94	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	96	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	104	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	117	42-150
Naphthalene	ug/L (ppb)	10	<1	88	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	96	44-155

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	118	113	70-130	4
Chloromethane	ug/L (ppb)	10	94	84	70-130	11
Vinyl chloride	ug/L (ppb)	10	94	95	70-130	1
Bromomethane	ug/L (ppb)	10	100	122	28-182	20
Chloroethane	ug/L (ppb)	10	99	100	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	114	110	70-130	4
Acetone	ug/L (ppb)	50	94	96	42-155	2
1,1-Dichloroethene	ug/L (ppb)	10	107	106	70-130	1
Hexane	ug/L (ppb)	10	103	94	50-161	9
Methylene chloride	ug/L (ppb)	10	115	109	29-192	5
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	100	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	100	99	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	93	93	70-130	0
2,2-Dichloropropane	ug/L (ppb)	10	212 vo	216 vo	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
Chloroform	ug/L (ppb)	10	103	102	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	85	90	50-157	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	109	109	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	114	114	70-130	0
1,1-Dichloropropene	ug/L (ppb)	10	99	96	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	109	106	70-130	3
Benzene	ug/L (ppb)	10	92	92	70-130	0
Trichloroethene	ug/L (ppb)	10	92	91	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	86	78	70-130	10
Bromodichloromethane	ug/L (ppb)	10	100	100	70-130	0
Dibromomethane	ug/L (ppb)	10	95	109	70-130	14
4-Methyl-2-pentanone	ug/L (ppb)	50	88	102	70-130	15
cis-1,3-Dichloropropene	ug/L (ppb)	10	106	93	70-130	13
Toluene	ug/L (ppb)	10	89	92	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	101	70-130	5
1,1,2-Trichloroethane	ug/L (ppb)	10	83	88	70-130	6
2-Hexanone	ug/L (ppb)	50	81	82	69-130	1
1,3-Dichloropropane	ug/L (ppb)	10	79	86	70-130	8
Tetrachloroethene	ug/L (ppb)	10	106	108	70-130	2
Dibromochloromethane	ug/L (ppb)	10	89	99	63-142	11
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	94	100	70-130	6
Chlorobenzene	ug/L (ppb)	10	92	97	70-130	5
Ethylbenzene	ug/L (ppb)	10	92	96	70-130	4
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	98	103	70-130	5
m,p-Xylene	ug/L (ppb)	20	94	98	70-130	4
o-Xylene	ug/L (ppb)	10	93	98	70-130	5
Styrene	ug/L (ppb)	10	93	92	70-130	1
Isopropylbenzene	ug/L (ppb)	10	91	96	70-130	5
Bromoform	ug/L (ppb)	10	98	109	50-157	11
n-Propylbenzene	ug/L (ppb)	10	90	83	70-130	8
Bromobenzene	ug/L (ppb)	10	94	95	70-130	1
1,3,5-Trimethylbenzene	ug/L (ppb)	10	95	90	52-150	5
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	101	94	70-130	7
1,2,3-Trichloropropane	ug/L (ppb)	10	87	80	70-130	8
2-Chlorotoluene	ug/L (ppb)	10	89	84	70-130	6
4-Chlorotoluene	ug/L (ppb)	10	90	87	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	96	89	70-130	8
1,2,4-Trimethylbenzene	ug/L (ppb)	10	96	87	70-130	10
sec-Butylbenzene	ug/L (ppb)	10	94	91	70-130	3
p-Isopropyltoluene	ug/L (ppb)	10	98	92	70-130	6
1,3-Dichlorobenzene	ug/L (ppb)	10	98	92	70-130	6
1,4-Dichlorobenzene	ug/L (ppb)	10	100	98	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	104	97	70-130	7
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	102	84	70-130	19
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	93	70-130	5
Hexachlorobutadiene	ug/L (ppb)	10	118	107	70-130	10
Naphthalene	ug/L (ppb)	10	88	82	70-130	7
1,2,3-Trichlorobenzene	ug/L (ppb)	10	98	89	69-143	10

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205192-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	22	127 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	96	70-130

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205112-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	<1	36 vo	59	50-150	48 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	5	<0.1	59	65	50-150	10
2-Chlorophenol	ug/L (ppb)	5	<1	62	67	50-150	8
1,3-Dichlorobenzene	ug/L (ppb)	5	<0.1	57	55	50-150	4
1,4-Dichlorobenzene	ug/L (ppb)	5	<0.1	57	56	50-150	2
1,2-Dichlorobenzene	ug/L (ppb)	5	<0.1	58	58	50-150	0
Benzyl alcohol	ug/L (ppb)	25	<1	65	71	50-150	9
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	<0.1	59	63	50-150	7
2-Methylphenol	ug/L (ppb)	5	<1	70	74	50-150	6
Hexachloroethane	ug/L (ppb)	5	<0.1	57	57	50-150	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	<0.1	75	86	50-150	14
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	<2	63	75	50-150	17
Nitrobenzene	ug/L (ppb)	5	<0.1	74	79	50-150	7
Isophorone	ug/L (ppb)	5	<0.1	80	89	50-150	11
2-Nitrophenol	ug/L (ppb)	5	<1	76	84	50-150	10
2,4-Dimethylphenol	ug/L (ppb)	5	<1	74	85	50-150	14
Benzoic acid	ug/L (ppb)	40	<5	42 vo	49 vo	50-150	15
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	<0.1	73	79	50-150	8
2,4-Dichlorophenol	ug/L (ppb)	5	<1	74	86	50-150	15
1,2,4-Trichlorobenzene	ug/L (ppb)	5	<0.1	63	70	50-150	11
Naphthalene	ug/L (ppb)	5	<0.1	65	70	50-150	7
Hexachlorobutadiene	ug/L (ppb)	5	<0.1	65	68	50-150	5
4-Chloroaniline	ug/L (ppb)	25	<10	56	45 vo	50-150	22 vo
4-Chloro-3-methylphenol	ug/L (ppb)	5	<1	88	100	50-150	13
2-Methylnaphthalene	ug/L (ppb)	5	<0.1	69	77	50-150	11
1-Methylnaphthalene	ug/L (ppb)	5	<0.1	69	77	50-150	11
Hexachlorocyclopentadiene	ug/L (ppb)	5	<0.3	93	99	50-150	6
2,4,6-Trichlorophenol	ug/L (ppb)	5	<1	87	100	50-150	14
2,4,5-Trichlorophenol	ug/L (ppb)	5	<1	95	100	50-150	5
2-Chloronaphthalene	ug/L (ppb)	5	<0.1	74	80	50-150	8
2-Nitroaniline	ug/L (ppb)	25	<0.5	80	113	50-150	34 vo
Dimethyl phthalate	ug/L (ppb)	5	<1	84	92	50-150	9
Acenaphthylene	ug/L (ppb)	5	<0.01	77	85	50-150	10
2,6-Dinitrotoluene	ug/L (ppb)	5	<0.5	92	106	50-150	14
3-Nitroaniline	ug/L (ppb)	25	<10	57	58	50-150	2
Acenaphthene	ug/L (ppb)	5	<0.01	74	81	50-150	9
2,4-Dinitrophenol	ug/L (ppb)	10	<3	104	108	50-150	4
Dibenzofuran	ug/L (ppb)	5	<0.1	86	95	50-150	10
2,4-Dinitrotoluene	ug/L (ppb)	5	<0.5	88	116	50-150	27 vo
4-Nitrophenol	ug/L (ppb)	10	<3	51	6 vo	50-150	158 vo
Diethyl phthalate	ug/L (ppb)	5	<1	84	95	50-150	12
Fluorene	ug/L (ppb)	5	<0.01	79	88	50-150	11
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	<0.1	82	90	50-150	9
N-Nitrosodiphenylamine	ug/L (ppb)	5	<0.1	82	86	50-150	5
4-Nitroaniline	ug/L (ppb)	25	<10	70	64	50-150	9
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	<3	134	139	50-150	4
4-Bromophenyl phenyl ether	ug/L (ppb)	5	<0.1	85	89	50-150	5
Hexachlorobenzene	ug/L (ppb)	5	<0.1	79	85	50-150	7
Pentachlorophenol	ug/L (ppb)	5	<0.5	116	114	50-150	2
Phenanthrene	ug/L (ppb)	5	<0.01	79	85	50-150	7
Anthracene	ug/L (ppb)	5	<0.01	82	87	50-150	6
Carbazole	ug/L (ppb)	5	<0.1	89	92	50-150	3
Di-n-butyl phthalate	ug/L (ppb)	5	2.6	95 b	94 b	50-150	1 b
Fluoranthene	ug/L (ppb)	5	<0.01	87	92	50-150	6
Pyrene	ug/L (ppb)	5	<0.01	84	92	50-150	9
Benzyl butyl phthalate	ug/L (ppb)	5	<1	108	110	50-150	2
Benz(a)anthracene	ug/L (ppb)	5	<0.01	84	91	50-150	8
Chrysene	ug/L (ppb)	5	<0.01	80	87	50-150	8
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	1.6	89 b	141 b	50-150	45 b
Di-n-octyl phthalate	ug/L (ppb)	5	<1	99	113	50-150	13
Benzo(a)pyrene	ug/L (ppb)	5	<0.01	87	95	50-150	9
Benzo(b)fluoranthene	ug/L (ppb)	5	<0.01	86	95	50-150	10
Benzo(k)fluoranthene	ug/L (ppb)	5	<0.01	82	93	50-150	13
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	<0.01	88	81	50-150	8
Dibenz(a,h)anthracene	ug/L (ppb)	5	<0.01	84	77	50-150	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	<0.02	76	69	50-150	10

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	5	31 vo	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	5	51	44-118
2-Chlorophenol	ug/L (ppb)	5	50	21-97
1,3-Dichlorobenzene	ug/L (ppb)	5	48 vo	50-95
1,4-Dichlorobenzene	ug/L (ppb)	5	47 vo	53-94
1,2-Dichlorobenzene	ug/L (ppb)	5	49 vo	54-96
Benzyl alcohol	ug/L (ppb)	25	47	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	49 vo	63-101
2-Methylphenol	ug/L (ppb)	5	49	19-74
Hexachloroethane	ug/L (ppb)	5	49 vo	52-96
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	60 vo	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	45	16-60
Nitrobenzene	ug/L (ppb)	5	58 vo	63-109
Isophorone	ug/L (ppb)	5	61 vo	67-114
2-Nitrophenol	ug/L (ppb)	5	56	41-117
2,4-Dimethylphenol	ug/L (ppb)	5	49	23-105
Benzoic acid	ug/L (ppb)	40	19	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	58 vo	67-130
2,4-Dichlorophenol	ug/L (ppb)	5	61	34-113
1,2,4-Trichlorobenzene	ug/L (ppb)	5	54 vo	58-97
Naphthalene	ug/L (ppb)	5	52 vo	60-97
Hexachlorobutadiene	ug/L (ppb)	5	55	51-100
4-Chloroaniline	ug/L (ppb)	25	50	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	5	66	34-111
2-Methylnaphthalene	ug/L (ppb)	5	54 vo	63-103
1-Methylnaphthalene	ug/L (ppb)	5	54 vo	64-101
Hexachlorocyclopentadiene	ug/L (ppb)	5	70	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	5	62	28-125
2,4,5-Trichlorophenol	ug/L (ppb)	5	66	39-120
2-Chloronaphthalene	ug/L (ppb)	5	57 vo	65-130
2-Nitroaniline	ug/L (ppb)	25	68	51-146
Dimethyl phthalate	ug/L (ppb)	5	61 vo	70-130
Acenaphthylene	ug/L (ppb)	5	58 vo	70-130
2,6-Dinitrotoluene	ug/L (ppb)	5	63 vo	70-130
3-Nitroaniline	ug/L (ppb)	25	58	42-134
Acenaphthene	ug/L (ppb)	5	55 vo	66-130
2,4-Dinitrophenol	ug/L (ppb)	10	62	10-171
Dibenzofuran	ug/L (ppb)	5	64	56-114
2,4-Dinitrotoluene	ug/L (ppb)	5	80	63-127
4-Nitrophenol	ug/L (ppb)	10	30	10-46
Diethyl phthalate	ug/L (ppb)	5	61 vo	70-130
Fluorene	ug/L (ppb)	5	58 vo	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	58 vo	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	5	61 vo	70-130
4-Nitroaniline	ug/L (ppb)	25	55	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	79	13-148
4-Bromophenyl phenyl ether	ug/L (ppb)	5	62 vo	70-130
Hexachlorobenzene	ug/L (ppb)	5	58 vo	67-130
Pentachlorophenol	ug/L (ppb)	5	60	13-133
Phenanthrene	ug/L (ppb)	5	56 vo	70-130
Anthracene	ug/L (ppb)	5	58 vo	70-130
Carbazole	ug/L (ppb)	5	62 vo	70-130
Di-n-butyl phthalate	ug/L (ppb)	5	61	43-133
Fluoranthene	ug/L (ppb)	5	60 vo	70-130
Pyrene	ug/L (ppb)	5	63 vo	70-130
Benzyl butyl phthalate	ug/L (ppb)	5	70	56-128
Benz(a)anthracene	ug/L (ppb)	5	62 vo	70-130
Chrysene	ug/L (ppb)	5	59 vo	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	68	57-124
Di-n-octyl phthalate	ug/L (ppb)	5	68	43-132
Benzo(a)pyrene	ug/L (ppb)	5	63 vo	70-130
Benzo(b)fluoranthene	ug/L (ppb)	5	62	62-130
Benzo(k)fluoranthene	ug/L (ppb)	5	59 vo	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	68 vo	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	5	65 vo	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	5	62 vo	67-124

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Date Received: 05/09/22
Project: TWAAFA-001, F&BI 205140

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205112-02 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.005	37 vo	42 vo	50-150	13
Aroclor 1260	ug/L (ppb)	0.25	<0.005	50	56	50-150	11

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	68	25-111
Aroclor 1260	ug/L (ppb)	0.25	78	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205140

SAMPLE CHAIN OF CUSTODY

05/09/22 VW2/EO4/AIY

Page # 1 of 1

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (*signature*) N. Weiss + M. Wright	
PROJECT NAME: TWAAFA	PO # TWAAFA-001
REMARKS: SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO: DOF

TURNAROUND TIME
X Standard Turnaround
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes
Trip Blank#5-0522	01A-C	5/9/22	1020	W	3	X	X										* SVOC full suite includes cPAH
CCW-3B-0522	02A-L		1025		12	X	X	X	X	X	X		X	X	X		
CCW-3A-0522	03		1125		12	X	X	X	X	X	X		X	X	X		
CCW-3C-0522	04		1220		12	X	X	X	X	X	X		X	X	X		
TWA-70-0522	05A-		1355		10		X	X	X	X		X		X	X		

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Noah Weiss	DOF	5/9/22	1525
Received by:			FBI	5/9/22	1540
Relinquished by:					
Received by:				Samples received at	4 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 16, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included are the additional results from the testing of material submitted on May 10, 2022 from the TWAAFA-001, F&BI 205172 project. There are 5 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0616R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 10, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205172 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205172 -01	Trip Blank 6-0522
205172 -02	CTMW-23R-0522
205172 -03	CTMW-11R2-0522
205172 -04	CTMW-17D-0522
205172 -05	CTMW-17-0522
205172 -06	CTMW-12-0522

The 8260 SIM dioxane analysis of sample CTMW-17-0522 was requested outside of the holding time. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-17-0522 ht	Client:	Dalton Olmsted Fuglevand
Date Received:	05/10/22	Project:	TWAAFA-001, F&BI 205172
Date Extracted:	06/14/22	Lab ID:	205172-05
Date Analyzed:	06/14/22	Data File:	061432.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.2

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205172
Date Extracted:	06/14/22	Lab ID:	02-1387 mb
Date Analyzed:	06/14/22	Data File:	061431.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Date of Report: 06/16/22
Date Received: 05/10/22
Project: TWAAFA-001, F&BI 205172

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205172-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	1.2	93 b	93 b	50-150	0 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	106	113	70-130	6

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205172

SAMPLE CHAIN OF COUSTODY 05-10-22

Page # 1 EO3/AI5/VW4 of ____

Report To: Anthony Cerruti / Trevor Louviere
CC: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (signature) N. Weiss + M. Wright

PROJECT NAME	PO #
TWAAFA	TWAAFA-001
REMARKS SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO DOF

TURNAROUND TIME
X Standard Turnaround (circled)
X RUSH ____
Rush charges authorized by: ____

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other ____

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes *SVOC full suite includes cPAH
Trip Blank #C-0522	01 A-C	05/10/22	1025	W	3		X										● per TL
CTMW-23R-0522	02 A-K	↓	1030	↓	8		X		X	X				X	X		6/9/22 ME
CTMW-11R2-0522	03 ↓	↓	1150	↓	8		X		X	X				X	X		
CTMW-17D-0522	04 ↓	↓	1255	↓	8		X		X	X				X	X		
CTMW-17-0522	05 ↓	↓	1415	↓	8		X	●	X	X				X	X		
CTMW-12-0522	06 A-J	↓	1525	↓	10		X		X	X		X		X	X		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Noah Weiss	DOF	5/10/22	1536
Received by:	[signature]	VINYT	FBI	5/10/22	[illegible]
Relinquished by:					
Received by:					

Samples received at 4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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June 8, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

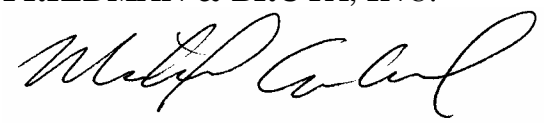
Dear Mr Cerruti:

Included are the results from the testing of material submitted on May 11, 2022 from the TWAAFA-001, F&BI 205192 project. There are 54 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0608R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 11, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205192 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205192 -01	Trip Blank 7-0522
205192 -02	CTMW-18-0522
205192 -03	CTMW-7-0522
205192 -04	CTMW-9-7-0522
205192 -05	CTMW-5-0522
205192 -06	TWA-8D-0522
205192 -07	CTMW-24-0522
205192 -08	CTMW-24D-0522
205192 -09	Field Blank 2-0522

The NWTPH-Dx silica gel treated sample TWA-4D-0522 surrogate recovery exceeded the acceptance criteria. No material was detected in the sample. The data were flagged accordingly.

The 6020B samples CTMW-7-0522, CTMW-9-7-0522, TWA-8D-0522 and CTMW-24D-0522 were analyzed at a dilution for several metals due to matrix interferences.

Methylene chloride was detected in the 8260D analysis of samples CTMW-7-0522 and Field Blank 2-0522. The data were flagged as due to laboratory contamination.

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for methylene chloride. The result is likely due to interference from ambient lab contamination.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

The 8270E calibration standard failed the acceptance criteria for 2,4-dinitrotoluene. The data were flagged accordingly.

Bis(2-ethylhexyl) phthalate was detected in samples TWA-8D-0522 and Field Blank 2-0522 at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

Several compounds in the 8270E laboratory control sample and laboratory control sample duplicate did not meet the acceptance criteria. The data were flagged accordingly.

CASE NARRATIVE

Aroclor 1016 failed below the acceptance criteria in the matrix spike sample duplicate, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

The 8082A surrogate TCMX did not pass the acceptance criteria in the samples. The affected data were flagged accordingly.

The 8270E samples were filtered prior to extraction. The data were qualified accordingly.

The 8260D Trip Blank 7-0522 was not analyzed. The vials were compromised and analysis could not be performed.

All other quality control requirements were acceptable.

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192
Date Extracted: 05/18/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
Trip Blank 7-0522 205192-01	<100	85
CTMW-18-0522 205192-02	<100	88
TWA-8D-0522 205192-06	<100	89
Field Blank 2-0522 205192-09	<100	74
Method Blank 02-1122 MB	<100	92

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192
Date Extracted: 05/16/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
CTMW-18-0522 205192-02	<50	<250	133
CTMW-7-0522 205192-03	<50	<250	127
CTMW-9-7-0522 205192-04	<50	<250	135
CTMW-5-0522 205192-05 1/1.2	<60	<300	126
TWA-8D-0522 205192-06	<50	<250	142
CTMW-24-0522 205192-07	<50	<250	145
CTMW-24D-0522 205192-08	<50	<250	124
Field Blank 2-0522 205192-09	<50	<250	141
Method Blank 02-1236 MB	<50	<250	145

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192
Date Extracted: 05/16/22
Date Analyzed: 05/16/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
CTMW-18-0522 205192-02	200 x	<250	104
CTMW-7-0522 205192-03	1,200 x	910 x	103
CTMW-9-7-0522 205192-04	1,300 x	980 x	112
CTMW-5-0522 205192-05 1/1.2	59 x	<300	93
TWA-8D-0522 205192-06	98 x	<250	110
CTMW-24-0522 205192-07	<50	<250	94
CTMW-24D-0522 205192-08	620 x	430 x	81
Field Blank 2-0522 205192-09	<50	<250	115
Method Blank 02-1236 MB	<50	<250	115

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-18-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-02
Date Analyzed:	06/02/22	Data File:	205192-02.081
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.15
Cadmium	<1
Chromium	7.54
Copper	<1
Lead	<1
Nickel	9.87
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-18-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-02 x20
Date Analyzed:	06/02/22	Data File:	205192-02 x20.079
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,670

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-03
Date Analyzed:	06/02/22	Data File:	205192-03.082
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.69
Chromium	4.11
Copper	<1
Lead	<1
Nickel	3.66
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-03 x5
Date Analyzed:	06/02/22	Data File:	205192-03 x5.061
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Manganese	402

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-9-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-04
Date Analyzed:	06/02/22	Data File:	205192-04.083
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.76
Chromium	3.95
Copper	<1
Lead	<1
Nickel	3.73
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-9-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-04 x5
Date Analyzed:	06/02/22	Data File:	205192-04 x5.062
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Manganese	421

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-5-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-05
Date Analyzed:	06/02/22	Data File:	205192-05.086
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	176
Cadmium	<1
Chromium	2.94
Copper	59.2
Lead	6.88
Manganese	114
Nickel	18.1
Zinc	186

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-06
Date Analyzed:	06/02/22	Data File:	205192-06.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.1
Chromium	1.91
Copper	1.24
Nickel	4.71
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-8D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-06 x5
Date Analyzed:	06/02/22	Data File:	205192-06 x5.064
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Lead	<5
Manganese	443

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-24-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-07
Date Analyzed:	06/02/22	Data File:	205192-07.089
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	1.67
Lead	<1
Manganese	23.4
Nickel	2.32
Zinc	8.99

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-24D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-08
Date Analyzed:	06/02/22	Data File:	205192-08.090
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.47
Chromium	6.41
Copper	<1
Lead	<1
Manganese	198
Nickel	1.29
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-24D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-08 x5
Date Analyzed:	06/02/22	Data File:	205192-08 x5.066
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Field Blank 2-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	205192-09
Date Analyzed:	06/02/22	Data File:	205192-09.093
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	06/02/22	Lab ID:	I2-393 mb
Date Analyzed:	06/02/22	Data File:	I2-393 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
CTMW-18-0522 205192-02	<0.02
CTMW-7-0522 205192-03	<0.02
CTMW-9-7-0522 205192-04	<0.02
CTMW-5-0522 205192-05	<0.02
TWA-8D-0522 205192-06	<0.02
CTMW-24-0522 205192-07	<0.02
CTMW-24D-0522 205192-08	<0.02
Field Blank 2-0522 205192-09	<0.02
Method Blank i2-382 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-18-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-02
Date Analyzed:	05/19/22	Data File:	051928.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	3.6	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	1.0	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-03
Date Analyzed:	05/19/22	Data File:	051929.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	95	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	5.4 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	2.3	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-9-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-04
Date Analyzed:	05/19/22	Data File:	051930.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	71	132
Toluene-d8	101	68	139
4-Bromofluorobenzene	100	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	2.3	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-5-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-05
Date Analyzed:	05/19/22	Data File:	051931.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	106	68	139
4-Bromofluorobenzene	93	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	1.4	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-8D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-06
Date Analyzed:	05/19/22	Data File:	051932.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	101	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-24-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-07
Date Analyzed:	05/19/22	Data File:	051933.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	114	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-24D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-08
Date Analyzed:	05/19/22	Data File:	051934.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	94	71	132
Toluene-d8	94	68	139
4-Bromofluorobenzene	92	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Field Blank 2-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	205192-09
Date Analyzed:	05/19/22	Data File:	051925.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	71	132
Toluene-d8	95	68	139
4-Bromofluorobenzene	95	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	9.9 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/19/22	Lab ID:	02-1212 mb
Date Analyzed:	05/19/22	Data File:	051907.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	123	71	132
Toluene-d8	105	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Trip Blank 7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	205192-01
Date Analyzed:	05/13/22	Data File:	051248.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	87	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	205192-03
Date Analyzed:	05/17/22	Data File:	051731.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	24

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-9-7-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	205192-04
Date Analyzed:	05/17/22	Data File:	051732.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	25

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-8D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	205192-06
Date Analyzed:	05/17/22	Data File:	051734.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Field Blank 2-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	205192-09
Date Analyzed:	05/17/22	Data File:	051735.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/12/22	Lab ID:	02-1097 mb
Date Analyzed:	05/12/22	Data File:	051225.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-7-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	205192-03 1/0.5
Date Analyzed:	05/19/22	Data File:	051914.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	10	60
Phenol-d6	25	10	49
Nitrobenzene-d5	72	15	144
2-Fluorobiphenyl	67	25	128
2,4,6-Tribromophenol	103	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-9-7-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	205192-04 1/0.5
Date Analyzed:	05/19/22	Data File:	051915.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	25	10	60
Phenol-d6	23	10	49
Nitrobenzene-d5	68	15	144
2-Fluorobiphenyl	69	25	128
2,4,6-Tribromophenol	104	10	142
Terphenyl-d14	107	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-8D-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	205192-06 1/0.5
Date Analyzed:	05/19/22	Data File:	051916.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39	10	60
Phenol-d6	33	10	49
Nitrobenzene-d5	80	15	144
2-Fluorobiphenyl	81	25	128
2,4,6-Tribromophenol	121	10	142
Terphenyl-d14	121	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	0.021
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	0.012
Hexachlorobutadiene	<0.1	Pyrene	0.012
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.8 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-24-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	205192-07 1/0.5
Date Analyzed:	05/19/22	Data File:	051917.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	73	15	144
2-Fluorobiphenyl	79	25	128
2,4,6-Tribromophenol	114	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Field Blank 2-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	205192-09 1/0.5
Date Analyzed:	05/20/22	Data File:	052007.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	10	60
Phenol-d6	29	10	49
Nitrobenzene-d5	78	15	144
2-Fluorobiphenyl	85	25	128
2,4,6-Tribromophenol	109	10	142
Terphenyl-d14	108	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.0 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/18/22	Lab ID:	02-1245 mb 1/0.5
Date Analyzed:	05/19/22	Data File:	051908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	10	60
Phenol-d6	14	10	49
Nitrobenzene-d5	39	15	144
2-Fluorobiphenyl	41	25	128
2,4,6-Tribromophenol	56	10	142
Terphenyl-d14	57	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5 ca
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1 jl
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	<1.6
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-8D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/17/22	Lab ID:	205192-06 1/0.25
Date Analyzed:	05/19/22	Data File:	051918.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	10 vo	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035 js
Aroclor 1232	<0.0035 js
Aroclor 1016	<0.0035 js
Aroclor 1242	<0.0035 js
Aroclor 1248	<0.0035 js
Aroclor 1254	<0.0035 js
Aroclor 1260	<0.0035 js
Aroclor 1262	<0.0035 js
Aroclor 1268	<0.0035 js

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Field Blank 2-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/11/22	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/17/22	Lab ID:	205192-09 1/0.25
Date Analyzed:	05/19/22	Data File:	051919.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	8 vo	25	160

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035 js
Aroclor 1232	<0.0035 js
Aroclor 1016	<0.0035 js
Aroclor 1242	<0.0035 js
Aroclor 1248	<0.0035 js
Aroclor 1254	<0.0035 js
Aroclor 1260	<0.0035 js
Aroclor 1262	<0.0035 js
Aroclor 1268	<0.0035 js

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205192
Date Extracted:	05/17/22	Lab ID:	02-1250 mb 1/0.25
Date Analyzed:	05/20/22	Data File:	052016.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	10 vo	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035 js
Aroclor 1232	<0.0035 js
Aroclor 1016	<0.0035 js
Aroclor 1242	<0.0035 js
Aroclor 1248	<0.0035 js
Aroclor 1254	<0.0035 js
Aroclor 1260	<0.0035 js
Aroclor 1262	<0.0035 js
Aroclor 1268	<0.0035 js

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205140-02 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	1,400	72	75	50-150	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	95	70-119

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205192-08 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	132	120	50-150	10

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	930	80 b	138 b	64-141	53 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	61-133

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205192-08 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	99	98	75-125	1
Cadmium	ug/L (ppb)	5	<10	95	98	75-125	3
Chromium	ug/L (ppb)	20	<10	94	99	75-125	5
Copper	ug/L (ppb)	20	<10	92	92	75-125	0
Lead	ug/L (ppb)	10	<10	86	88	75-125	2
Manganese	ug/L (ppb)	20	232	34 b	59 b	75-125	54 b
Nickel	ug/L (ppb)	20	<10	97	99	75-125	2
Zinc	ug/L (ppb)	50	<50	94	98	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	101	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	101	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	97	80-120
Manganese	ug/L (ppb)	20	104	80-120
Nickel	ug/L (ppb)	20	103	80-120
Zinc	ug/L (ppb)	50	100	80-120

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	91	79	71-125	14

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	92	78-125

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	122	115	50-150	6
Chloromethane	ug/L (ppb)	10	<10	89	92	50-150	3
Vinyl chloride	ug/L (ppb)	10	<0.02	93	89	16-176	4
Bromomethane	ug/L (ppb)	10	<5	122	114	10-193	7
Chloroethane	ug/L (ppb)	10	<1	96	93	50-150	3
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	108	50-150	1
Acetone	ug/L (ppb)	50	<50	89	92	15-179	3
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	101	50-150	2
Hexane	ug/L (ppb)	10	<5	103	117	49-161	13
Methylene chloride	ug/L (ppb)	10	<5	92	60	40-143	42 vo
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	104	105	50-150	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	100	50-150	0
1,1-Dichloroethane	ug/L (ppb)	10	<1	93	94	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	188	194	10-335	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	103	50-150	0
Chloroform	ug/L (ppb)	10	<1	95	91	50-150	4
2-Butanone (MEK)	ug/L (ppb)	50	<20	82	92	34-168	11
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	109	108	50-150	1
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	113	112	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	102	98	50-150	4
Carbon tetrachloride	ug/L (ppb)	10	<0.5	113	111	50-150	2
Benzene	ug/L (ppb)	10	<0.35	91	92	50-150	1
Trichloroethene	ug/L (ppb)	10	<0.5	92	92	43-133	0
1,2-Dichloropropane	ug/L (ppb)	10	<1	89	77	50-150	14
Bromodichloromethane	ug/L (ppb)	10	<0.5	101	99	50-150	2
Dibromomethane	ug/L (ppb)	10	<1	100	106	50-150	6
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	98	100	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	90	101	48-145	12
Toluene	ug/L (ppb)	10	<1	91	86	50-150	6
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	107	99	37-152	8
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	85	83	50-150	2
2-Hexanone	ug/L (ppb)	50	<10	82	80	50-150	2
1,3-Dichloropropane	ug/L (ppb)	10	<1	83	82	50-150	1
Tetrachloroethene	ug/L (ppb)	10	<1	110	108	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	96	94	33-164	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	92	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	95	92	50-150	3
Ethylbenzene	ug/L (ppb)	10	<1	92	90	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	103	99	50-150	4
m,p-Xylene	ug/L (ppb)	20	<2	95	92	50-150	3
o-Xylene	ug/L (ppb)	10	<1	95	92	50-150	3
Styrene	ug/L (ppb)	10	<1	89	88	50-150	1
Isopropylbenzene	ug/L (ppb)	10	<1	98	90	50-150	9
Bromoform	ug/L (ppb)	10	<5	104	98	23-161	6
n-Propylbenzene	ug/L (ppb)	10	<1	90	86	50-150	5
Bromobenzene	ug/L (ppb)	10	<1	88	91	50-150	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	95	94	50-150	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	93	10-235	3
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	83	80	33-151	4
2-Chlorotoluene	ug/L (ppb)	10	<1	90	87	50-150	3
4-Chlorotoluene	ug/L (ppb)	10	<1	89	89	50-150	0
tert-Butylbenzene	ug/L (ppb)	10	<1	97	92	50-150	5
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	92	89	50-150	3
sec-Butylbenzene	ug/L (ppb)	10	<1	93	93	46-139	0
p-Isopropyltoluene	ug/L (ppb)	10	<1	96	96	46-140	0
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	98	93	50-150	5
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	98	50-150	1
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	101	97	50-150	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	100	84	50-150	17
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	103	102	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	120	116	42-150	3
Naphthalene	ug/L (ppb)	10	<1	92	92	50-150	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	104	100	44-155	4

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Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	108	103	70-130	5
Chloromethane	ug/L (ppb)	10	90	98	70-130	9
Vinyl chloride	ug/L (ppb)	10	94	95	70-130	1
Bromomethane	ug/L (ppb)	10	108	114	28-182	5
Chloroethane	ug/L (ppb)	10	101	101	70-130	0
Trichlorofluoromethane	ug/L (ppb)	10	110	113	70-130	3
Acetone	ug/L (ppb)	50	98	117	42-155	18
1,1-Dichloroethene	ug/L (ppb)	10	105	110	70-130	5
Hexane	ug/L (ppb)	10	98	103	50-161	5
Methylene chloride	ug/L (ppb)	10	113	120	29-192	6
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	100	103	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	101	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	94	96	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	206 vo	207 vo	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	104	70-130	2
Chloroform	ug/L (ppb)	10	101	105	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	92	92	50-157	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	107	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	110	113	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	95	94	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	107	111	70-130	4
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	88	91	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	80	83	70-130	4
Bromodichloromethane	ug/L (ppb)	10	94	96	70-130	2
Dibromomethane	ug/L (ppb)	10	100	96	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	106	113	70-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	91	99	70-130	8
Toluene	ug/L (ppb)	10	96	99	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	104	113	70-130	8
1,1,2-Trichloroethane	ug/L (ppb)	10	87	93	70-130	7
2-Hexanone	ug/L (ppb)	50	84	93	69-130	10
1,3-Dichloropropane	ug/L (ppb)	10	84	85	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	111	70-130	3
Dibromochloromethane	ug/L (ppb)	10	103	105	63-142	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	98	102	70-130	4
Chlorobenzene	ug/L (ppb)	10	93	97	70-130	4
Ethylbenzene	ug/L (ppb)	10	96	101	70-130	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	111	110	70-130	1
m,p-Xylene	ug/L (ppb)	20	97	103	70-130	6
o-Xylene	ug/L (ppb)	10	98	103	70-130	5
Styrene	ug/L (ppb)	10	87	97	70-130	11
Isopropylbenzene	ug/L (ppb)	10	99	104	70-130	5
Bromoform	ug/L (ppb)	10	98	112	50-157	13
n-Propylbenzene	ug/L (ppb)	10	92	92	70-130	0
Bromobenzene	ug/L (ppb)	10	95	93	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	96	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	108	104	70-130	4
1,2,3-Trichloropropane	ug/L (ppb)	10	84	86	70-130	2
2-Chlorotoluene	ug/L (ppb)	10	88	87	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	91	95	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	96	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	92	96	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	97	98	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	96	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	98	97	70-130	1
1,2-Dichlorobenzene	ug/L (ppb)	10	97	98	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	105	104	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	111	111	70-130	0
Naphthalene	ug/L (ppb)	10	92	89	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	103	69-143	6

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Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205192-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	22	127 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	96	70-130

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	5	28 vo	30 vo	10-27	7
Bis(2-chloroethyl) ether	ug/L (ppb)	5	72	78	44-118	8
2-Chlorophenol	ug/L (ppb)	5	68	73	21-97	7
1,3-Dichlorobenzene	ug/L (ppb)	5	69	73	50-95	6
1,4-Dichlorobenzene	ug/L (ppb)	5	66	75	53-94	13
1,2-Dichlorobenzene	ug/L (ppb)	5	73	80	54-96	9
Benzyl alcohol	ug/L (ppb)	25	65	68	14-82	5
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	78	84	63-101	7
2-Methylphenol	ug/L (ppb)	5	67	76 vo	19-74	13
Hexachloroethane	ug/L (ppb)	5	69	75	52-96	8
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	89	89	70-130	0
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	63 vo	63 vo	16-60	0
Nitrobenzene	ug/L (ppb)	5	73	84	63-109	14
Isophorone	ug/L (ppb)	5	91	92	67-114	1
2-Nitrophenol	ug/L (ppb)	5	77	80	41-117	4
2,4-Dimethylphenol	ug/L (ppb)	5	80	80	23-105	0
Benzoic acid	ug/L (ppb)	40	16	17	10-21	6
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	81	87	67-130	7
2,4-Dichlorophenol	ug/L (ppb)	5	84	88	34-113	5
1,2,4-Trichlorobenzene	ug/L (ppb)	5	77	80	58-97	4
Naphthalene	ug/L (ppb)	5	77	83	60-97	7
Hexachlorobutadiene	ug/L (ppb)	5	76	81	51-100	6
4-Chloroaniline	ug/L (ppb)	25	87	87	40-141	0
4-Chloro-3-methylphenol	ug/L (ppb)	5	82	82	34-111	0
2-Methylnaphthalene	ug/L (ppb)	5	88	93	63-103	6
1-Methylnaphthalene	ug/L (ppb)	5	86	91	64-101	6
Hexachlorocyclopentadiene	ug/L (ppb)	5	83	89	34-126	7
2,4,6-Trichlorophenol	ug/L (ppb)	5	87	89	28-125	2
2,4,5-Trichlorophenol	ug/L (ppb)	5	93	98	39-120	5
2-Chloronaphthalene	ug/L (ppb)	5	87	88	65-130	1
2-Nitroaniline	ug/L (ppb)	25	102	101	51-146	1
Dimethyl phthalate	ug/L (ppb)	5	104	102	70-130	2
Acenaphthylene	ug/L (ppb)	5	95	96	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	5	101	97	70-130	4
3-Nitroaniline	ug/L (ppb)	25	98	100	42-134	2
Acenaphthene	ug/L (ppb)	5	89	91	66-130	2
2,4-Dinitrophenol	ug/L (ppb)	10	115	110	10-171	4
Dibenzofuran	ug/L (ppb)	5	91	92	56-114	1
2,4-Dinitrotoluene	ug/L (ppb)	5	87	79	63-127	10
4-Nitrophenol	ug/L (ppb)	10	38	33	10-46	14
Diethyl phthalate	ug/L (ppb)	5	105	99	70-130	6
Fluorene	ug/L (ppb)	5	101	101	70-130	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	99	101	70-130	2
N-Nitrosodiphenylamine	ug/L (ppb)	5	94	101	70-130	7
4-Nitroaniline	ug/L (ppb)	25	93	90	42-150	3
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	108	110	13-148	2
4-Bromophenyl phenyl ether	ug/L (ppb)	5	92	103	70-130	11
Hexachlorobenzene	ug/L (ppb)	5	93	101	67-130	8
Pentachlorophenol	ug/L (ppb)	5	103	101	13-133	2
Phenanthrene	ug/L (ppb)	5	94	101	70-130	7
Anthracene	ug/L (ppb)	5	100	103	70-130	3
Carbazole	ug/L (ppb)	5	103	101	70-130	2
Di-n-butyl phthalate	ug/L (ppb)	5	51	22 vo	43-133	79 vo
Fluoranthene	ug/L (ppb)	5	104	97	70-130	7
Pyrene	ug/L (ppb)	5	101	111	70-130	9
Benzyl butyl phthalate	ug/L (ppb)	5	104	109	56-128	5
Benz(a)anthracene	ug/L (ppb)	5	98	103	70-130	5
Chrysene	ug/L (ppb)	5	96	102	70-130	6
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	95	103	57-124	8
Di-n-octyl phthalate	ug/L (ppb)	5	93	96	43-132	3
Benzo(a)pyrene	ug/L (ppb)	5	102	104	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	101	103	62-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	97	100	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	120	115	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	122	111	70-130	9
Benzo(g,h,i)perylene	ug/L (ppb)	5	121	115	67-124	5

Date of Report: 06/08/22
Date Received: 05/11/22
Project: TWAAFA-001, F&BI 205192

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205112-02 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.005	37 vo	42 vo	50-150	13
Aroclor 1260	ug/L (ppb)	0.25	<0.005	50	56	50-150	11

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	68	25-111
Aroclor 1260	ug/L (ppb)	0.25	78	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205192

SAMPLE CHAIN OF CUSTODY

05-11-22 VNH/AIH/EOH

Page # ____ of ____

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (*signature*) N. Weiss + M. Wright		TURNAROUND TIME (X Standard Turnaround) X RUSH ____ Rush charges authorized by: ____
PROJECT NAME TWAAFA	PO # TWAAFA-001	
REMARKS SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO DOF	SAMPLE DISPOSAL Dispose after 30 days Archive Samples Other ____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes
						ANALYSES REQUESTED											* SVOC full suite includes cPAH
Trip Blank#7-0522	01A 01B	05/11/22	0805	W	3	X	X	X									
CTMW-18-0522	02A-N	"	0910	"	8	X	X		X	X				X	X		
CTMW-7-0522	03A		1005		10		X	X	X	X		X		X	X		
CTMW-9-7-0522	04		1010		10		X	X	X	X		X		X	X		
CTMW-5-0522	05A		1105		8		X		X	X				X	X		
TWA-8D-0522	06A		1215		12	X	X	X	X	X	X	X	X	X	X		
CTMW-24-0522	07A		1350		10		X		X	X		X		X	X		
CTMW-24D-0522	08A-X		1450		24		X		X	X				X	X	Y	CTMW-24D-0522 MS/MSD
Field Blank#2-0522	09A 09B		1520		12 11	X	X	X	X	X	X		X	X	X		
					(NP)												

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Friedman & Bruya, Inc.	Relinquished by:	Noah Weiss	DOF	05/11/22	1535
3012 16th Avenue West	Received by:	VNH	FBI	05/11/22	1535
Seattle, WA 98119-2029	Relinquished by:				
Ph. (206) 285-8282	Received by:		Samples received at		4 °C

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 9, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included is the amended report from the testing of material submitted on May 12, 2022 from the TWAAFA-001, F&BI 205220 project. The mercury reporting limits have been raised.

We apologize for the inconvenience and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0608R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 8, 2022

Anthony Cerruti, Project Manager
Dalton Olmsted Fuglevand
1001 SW Klickitat Way, Suite 200B
Seattle, WA 98134

Dear Mr Cerruti:

Included are the results from the testing of material submitted on May 12, 2022 from the TWAAFA-001, F&BI 205220 project. There are 34 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Trevor Louviere, Tasya Gray
DOF0608R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 12, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 205220 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
205220 -01	Trip Blank 8-0522
205220 -02	TWA-4D-0522
205220 -03	CTMW-14-0522
205220 -04	CTMW-8-0522
205220 -05	CTMW-9-0522

The NWTPH-Dx silica gel treated sample TWA-4D-0522 exceeded the acceptance criteria. No material was detected in the sample. The data were flagged accordingly.

The 6020B samples TWA-4D-0522, CTMW-8-0522, and CTMW-9-0522 were analyzed at a dilution for several metals due to matrix interferences.

Methylene chloride was detected in the 8260D analysis of samples TWA-4D-0522, CTMW-14-0522, and CTMW-8-0522 . The data were flagged as due to laboratory contamination.

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for methylene chloride. The result is likely due to interference from ambient lab contamination.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220
Date Extracted: 05/16/22
Date Analyzed: 05/18/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
TWA-4D-0522 205220-02	<50	<250	158 vo
CTMW-14-0522 205220-03	<50	<250	145
CTMW-8-0522 205220-04	<50	<250	121
CTMW-9-0522 205220-05	<50	<250	137
Method Blank 02-1236 MB	<50	<250	145

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220
Date Extracted: 05/16/22
Date Analyzed: 05/16/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
TWA-4D-0522 205220-02	<50	<250	119
CTMW-14-0522 205220-03	<50	<250	117
CTMW-8-0522 205220-04	<50	<250	102
CTMW-9-0522 205220-05	2,600 x	1,600 x	117
Method Blank 02-1236 MB	<50	<250	115

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-02
Date Analyzed:	06/02/22	Data File:	205220-02.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	7.58
Chromium	2.49
Copper	<1
Nickel	3.92
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-02 x5
Date Analyzed:	06/02/22	Data File:	205220-02 x5.075
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Lead	<5
Manganese	534

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-14-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-03
Date Analyzed:	06/02/22	Data File:	205220-03.097
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.34
Cadmium	<1
Chromium	<1
Copper	4.66
Lead	<1
Manganese	1.05
Nickel	1.85
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-8-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-04
Date Analyzed:	06/02/22	Data File:	205220-04.098
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.22
Chromium	<1
Copper	1.13
Lead	<1
Manganese	<1
Nickel	31.2
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-8-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-04 x5
Date Analyzed:	06/02/22	Data File:	205220-04 x5.077
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-9-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-05
Date Analyzed:	06/02/22	Data File:	205220-05.099
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.0
Chromium	7.29
Copper	1.31
Lead	<1
Nickel	8.60
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-9-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	205220-05 x5
Date Analyzed:	06/02/22	Data File:	205220-05 x5.078
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Manganese	466

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	06/02/22	Lab ID:	I2-393 mb
Date Analyzed:	06/02/22	Data File:	I2-393 mb.038
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<1
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220
Date Extracted: 05/25/22
Date Analyzed: 05/26/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
TWA-4D-0522 205220-02	<0.02
CTMW-14-0522 205220-03	<0.02
CTMW-8-0522 205220-04	<0.02
CTMW-9-0522 205220-05	<0.02
Method Blank i2-382 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Trip Blank 8-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/12/22	Lab ID:	205220-01
Date Analyzed:	05/17/22	Data File:	051736.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-4D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/12/22	Lab ID:	205220-02
Date Analyzed:	05/17/22	Data File:	051737.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-9-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/12/22	Lab ID:	205220-05
Date Analyzed:	05/17/22	Data File:	051738.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	35

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/12/22	Lab ID:	02-1097 mb
Date Analyzed:	05/12/22	Data File:	051225.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	91	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 8-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	205220-01
Date Analyzed:	05/19/22	Data File:	051924.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	95	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-4D-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	205220-02
Date Analyzed:	05/19/22	Data File:	051940.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	91	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	5.7 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-14-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	205220-03
Date Analyzed:	05/19/22	Data File:	051941.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	6.8 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-8-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	205220-04
Date Analyzed:	05/20/22	Data File:	051942.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	120	71	132
Toluene-d8	108	68	139
4-Bromofluorobenzene	92	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-9-0522	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	205220-05
Date Analyzed:	05/20/22	Data File:	050117.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	91	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/19/22	Lab ID:	02-1212 mb
Date Analyzed:	05/19/22	Data File:	051907.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	123	71	132
Toluene-d8	105	68	139
4-Bromofluorobenzene	97	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-4D-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/18/22	Lab ID:	205220-02 1/0.5
Date Analyzed:	05/20/22	Data File:	052008.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	33	10	60
Phenol-d6	30	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	80	25	128
2,4,6-Tribromophenol	110	10	142
Terphenyl-d14	110	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-14-0522 f	Client:	Dalton Olmsted Fuglevand
Date Received:	05/12/22	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/18/22	Lab ID:	205220-03 1/0.5
Date Analyzed:	05/20/22	Data File:	052009.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	31	10	60
Phenol-d6	27	10	49
Nitrobenzene-d5	73	15	144
2-Fluorobiphenyl	83	25	128
2,4,6-Tribromophenol	115	10	142
Terphenyl-d14	116	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank f	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 205220
Date Extracted:	05/18/22	Lab ID:	02-1245 mb 1/0.5
Date Analyzed:	05/19/22	Data File:	051908.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	18	10	60
Phenol-d6	14	10	49
Nitrobenzene-d5	39	15	144
2-Fluorobiphenyl	41	25	128
2,4,6-Tribromophenol	56	10	142
Terphenyl-d14	57	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205192-08 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	132	120	50-150	10

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	930	80 b	138 b	64-141	53 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	61-133

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205192-08 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	<10	99	98	75-125	1
Cadmium	ug/L (ppb)	5	<10	95	98	75-125	3
Chromium	ug/L (ppb)	20	<10	94	99	75-125	5
Copper	ug/L (ppb)	20	<10	92	92	75-125	0
Lead	ug/L (ppb)	10	<10	86	88	75-125	2
Manganese	ug/L (ppb)	20	232	34 b	59 b	75-125	54 b
Nickel	ug/L (ppb)	20	<10	97	99	75-125	2
Zinc	ug/L (ppb)	50	<50	94	98	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	101	80-120
Cadmium	ug/L (ppb)	5	98	80-120
Chromium	ug/L (ppb)	20	101	80-120
Copper	ug/L (ppb)	20	103	80-120
Lead	ug/L (ppb)	10	97	80-120
Manganese	ug/L (ppb)	20	104	80-120
Nickel	ug/L (ppb)	20	103	80-120
Zinc	ug/L (ppb)	50	100	80-120

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	91	79	71-125	14

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.01	92	78-125

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205192-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	22	127 b	50-150

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	96	70-130

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205192-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	122	115	50-150	6
Chloromethane	ug/L (ppb)	10	<10	89	92	50-150	3
Vinyl chloride	ug/L (ppb)	10	<0.02	93	89	16-176	4
Bromomethane	ug/L (ppb)	10	<5	122	114	10-193	7
Chloroethane	ug/L (ppb)	10	<1	96	93	50-150	3
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	108	50-150	1
Acetone	ug/L (ppb)	50	<50	89	92	15-179	3
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	101	50-150	2
Hexane	ug/L (ppb)	10	<5	103	117	49-161	13
Methylene chloride	ug/L (ppb)	10	<5	92	60	40-143	42 vo
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	104	105	50-150	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	100	50-150	0
1,1-Dichloroethane	ug/L (ppb)	10	<1	93	94	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	188	194	10-335	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	103	50-150	0
Chloroform	ug/L (ppb)	10	<1	95	91	50-150	4
2-Butanone (MEK)	ug/L (ppb)	50	<20	82	92	34-168	11
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	109	108	50-150	1
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	113	112	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	102	98	50-150	4
Carbon tetrachloride	ug/L (ppb)	10	<0.5	113	111	50-150	2
Benzene	ug/L (ppb)	10	<0.35	91	92	50-150	1
Trichloroethene	ug/L (ppb)	10	<0.5	92	92	43-133	0
1,2-Dichloropropane	ug/L (ppb)	10	<1	89	77	50-150	14
Bromodichloromethane	ug/L (ppb)	10	<0.5	101	99	50-150	2
Dibromomethane	ug/L (ppb)	10	<1	100	106	50-150	6
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	98	100	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	90	101	48-145	12
Toluene	ug/L (ppb)	10	<1	91	86	50-150	6
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	107	99	37-152	8
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	85	83	50-150	2
2-Hexanone	ug/L (ppb)	50	<10	82	80	50-150	2
1,3-Dichloropropane	ug/L (ppb)	10	<1	83	82	50-150	1
Tetrachloroethene	ug/L (ppb)	10	<1	110	108	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	96	94	33-164	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	95	92	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	95	92	50-150	3
Ethylbenzene	ug/L (ppb)	10	<1	92	90	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	103	99	50-150	4
m,p-Xylene	ug/L (ppb)	20	<2	95	92	50-150	3
o-Xylene	ug/L (ppb)	10	<1	95	92	50-150	3
Styrene	ug/L (ppb)	10	<1	89	88	50-150	1
Isopropylbenzene	ug/L (ppb)	10	<1	98	90	50-150	9
Bromoform	ug/L (ppb)	10	<5	104	98	23-161	6
n-Propylbenzene	ug/L (ppb)	10	<1	90	86	50-150	5
Bromobenzene	ug/L (ppb)	10	<1	88	91	50-150	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	95	94	50-150	1
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	93	10-235	3
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	83	80	33-151	4
2-Chlorotoluene	ug/L (ppb)	10	<1	90	87	50-150	3
4-Chlorotoluene	ug/L (ppb)	10	<1	89	89	50-150	0
tert-Butylbenzene	ug/L (ppb)	10	<1	97	92	50-150	5
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	92	89	50-150	3
sec-Butylbenzene	ug/L (ppb)	10	<1	93	93	46-139	0
p-Isopropyltoluene	ug/L (ppb)	10	<1	96	96	46-140	0
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	98	93	50-150	5
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	98	50-150	1
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	101	97	50-150	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	100	84	50-150	17
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	103	102	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	120	116	42-150	3
Naphthalene	ug/L (ppb)	10	<1	92	92	50-150	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	104	100	44-155	4

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	108	103	70-130	5
Chloromethane	ug/L (ppb)	10	90	98	70-130	9
Vinyl chloride	ug/L (ppb)	10	94	95	70-130	1
Bromomethane	ug/L (ppb)	10	108	114	28-182	5
Chloroethane	ug/L (ppb)	10	101	101	70-130	0
Trichlorofluoromethane	ug/L (ppb)	10	110	113	70-130	3
Acetone	ug/L (ppb)	50	98	117	42-155	18
1,1-Dichloroethene	ug/L (ppb)	10	105	110	70-130	5
Hexane	ug/L (ppb)	10	98	103	50-161	5
Methylene chloride	ug/L (ppb)	10	113	120	29-192	6
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	100	103	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	101	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	94	96	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	206 vo	207 vo	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	104	70-130	2
Chloroform	ug/L (ppb)	10	101	105	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	92	92	50-157	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	107	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	110	113	70-130	3
1,1-Dichloropropene	ug/L (ppb)	10	95	94	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	107	111	70-130	4
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	88	91	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	80	83	70-130	4
Bromodichloromethane	ug/L (ppb)	10	94	96	70-130	2
Dibromomethane	ug/L (ppb)	10	100	96	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	106	113	70-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	91	99	70-130	8
Toluene	ug/L (ppb)	10	96	99	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	104	113	70-130	8
1,1,2-Trichloroethane	ug/L (ppb)	10	87	93	70-130	7
2-Hexanone	ug/L (ppb)	50	84	93	69-130	10
1,3-Dichloropropane	ug/L (ppb)	10	84	85	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	111	70-130	3
Dibromochloromethane	ug/L (ppb)	10	103	105	63-142	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	98	102	70-130	4
Chlorobenzene	ug/L (ppb)	10	93	97	70-130	4
Ethylbenzene	ug/L (ppb)	10	96	101	70-130	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	111	110	70-130	1
m,p-Xylene	ug/L (ppb)	20	97	103	70-130	6
o-Xylene	ug/L (ppb)	10	98	103	70-130	5
Styrene	ug/L (ppb)	10	87	97	70-130	11
Isopropylbenzene	ug/L (ppb)	10	99	104	70-130	5
Bromoform	ug/L (ppb)	10	98	112	50-157	13
n-Propylbenzene	ug/L (ppb)	10	92	92	70-130	0
Bromobenzene	ug/L (ppb)	10	95	93	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	96	52-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	108	104	70-130	4
1,2,3-Trichloropropane	ug/L (ppb)	10	84	86	70-130	2
2-Chlorotoluene	ug/L (ppb)	10	88	87	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	91	95	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	96	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	92	96	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	97	98	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	95	96	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	98	97	70-130	1
1,2-Dichlorobenzene	ug/L (ppb)	10	97	98	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	105	104	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	96	94	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	111	111	70-130	0
Naphthalene	ug/L (ppb)	10	92	89	70-130	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	103	69-143	6

Date of Report: 06/08/22
Date Received: 05/12/22
Project: TWAAFA-001, F&BI 205220

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Benz(a)anthracene	ug/L (ppb)	5	98	103	70-130	5
Chrysene	ug/L (ppb)	5	96	102	70-130	6
Benzo(a)pyrene	ug/L (ppb)	5	102	104	70-130	2
Benzo(b)fluoranthene	ug/L (ppb)	5	101	103	62-130	2
Benzo(k)fluoranthene	ug/L (ppb)	5	97	100	70-130	3
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	120	115	70-130	4
Dibenz(a,h)anthracene	ug/L (ppb)	5	122	111	70-130	9

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205220

SAMPLE CHAIN OF CUSTODY

05.12.22

AI4
VW4
E02

Page # 1 of 1

Report To: Anthony Cerruti / Trevor Louviere
cc: Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 215-767-7749 Email acerruti@dofnw.com

SAMPLERS (*signature*) N. Weiss + M. Wright

PROJECT NAME: TWAAFA

PO # TWAAFA-001

REMARKS
SVOCs lab filtered at 0.7 micron before analysis

Project Specific RLs - (Yes) / No

INVOICE TO: DOF

TURNAROUND TIME
(X Standard Turnaround)
X RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Gx	VOCs by EPA 8260D / SIM Dual Acquisition	1,4 Dioxane by EPA 8260D SIM	NWTPH-Dx	NWTPH-Dx w/SGC	SVOCs EPA 8270E SIM Dual Acquisiton	cPAHs by EPA 8270	LL PCBs 8082A	Total Metals 6020B (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	MS/MSD Collected? (Y/N)	Notes
TI'P Blank#8-0522	01 A-C	05/12/22	0915	W	3		X	X									
TWA-4D-0522	02 A-J		0920		10		X	X	X	X		X		X	X		
CTMW-14-0522	03 I		1015		10		X	X	X	X		X		X	X		
CTMW-8-0522	04 A-H		1110		8		X	X	X	X				X	X		
CTMW-9-0522	05 I		1150		8		X	X	X	X				X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Noah Weiss	DOF	5/12/22	1405
Received by:	Eric Yam	F+B	5/12/22	1405
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
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Seattle, WA 98119-2029
Ph. (206) 285-8282

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. M0615.20.004 | JUNE 1, 2022 | PORT OF TACOMA

Maul Foster & Alongi, Inc. (MFA), conducted an independent review of the quality of analytical results for groundwater samples and associated quality control samples collected at the Taylor Way and Alexander Avenue Fill Area in May 2022.

Friedman & Bruya, Inc. (FBI), performed the analyses. FBI report numbers 205037 and 205056 were reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Diesel- and motor oil-range hydrocarbons	NWTPH-Dx
Diesel- and motor oil-range hydrocarbons with silica-gel cleanup	NWTPH-DX-SG
1,4-Dioxane	EPA 8260D-SIM
Gasoline-range hydrocarbons	NWTPH-Gx
Polychlorinated biphenyls	EPA 8082A
Semivolatile organic compounds	EPA 8270E
Total metals	EPA 6020B
Total mercury	EPA 1631E
Volatile organic compounds	EPA 8260D
Notes EPA = U.S. Environmental Protection Agency. NWTPH = Northwest Total Petroleum Hydrocarbons. SIM = selected ion monitoring.	

Samples Analyzed		
Report 205037	**Report 205056**	
TWA-1-0522	SB-2A-0522	CTMW-20-0522
TWA-2-0522	FIELD BLANK 1-0522	CTMW-25D-0522
Trip Blank 1-0522	SB-3A-0522	MW-1-0-0522
TWA-3-0522	TWA-5D-0522	MW-9-1-0522
TWA-10D-0522	TWA-6D-0522	Trip Blank 2-0522
SB-1A-0522	CTMW-15-0522	--

DATA QUALIFICATION

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020a,b) and appropriate laboratory- and method-specific guidelines (EPA 1986; FBI 2019).

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

Based on the results of the data quality review procedures described below, the data are considered acceptable for their intended use, with the appropriate final data qualifiers assigned. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, as well as data qualifiers assigned by the reviewer during validation.

- Final data qualifiers:
  - J = result is estimated.
  - J+ = result is estimated, but the result may be biased high.
  - U = result is non-detect at the method reporting limit (MRL).
  - UJ = result is non-detect with an estimated MRL.

According to reports 205037 and 205056, all detected NWTPH-Dx diesel-range and motor oil-range hydrocarbons detected results (which were reported for samples TWA-1-0522, TWA-2-0522, TWA-3-0522, TWA-10D-0522, SB-1A-0522, SB-2A-0522, SB-3A-0522, TWA-5D-0522, TWA-6D-0522, CTMW-15-0552, CTMW-20-0522, CTMW-25D-0522, MW-1-0-0522, and MW-9-1-0522) were flagged by the laboratory because the sample chromatographic pattern did not resemble the fuel standard used for quantitation. These results were reported as diesel-range and/or motor oil-range hydrocarbons instead of specific fuel products; thus, qualification was not required. The laboratory note will be retained and provided along with the detected diesel- and motor-oil-range analytical results.

HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

According to reports 205037 and 205056, FBI filtered all samples before EPA Method 8270E extraction and analysis.

BLANKS

Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

According to reports 205037 and 205056, the EPA Method 8270E laboratory method blank had a bis(2-ethylhexyl) phthalate detection between the method detection limit (MDL) and MRL, at a concentration of 1.0 micrograms per liter (ug/L). The associated sample results that were detected between the MDL and MRL and were qualified by the reviewer with "U" as non-detect and were raised to the MRL, as provided by the laboratory in the case narrative. The associate sample results greater than the MRL and less than five times the laboratory method blank concentration were qualified with "J+" as estimated, but with a potential high bias, as shown in the table below.

Report	Sample	Component	Method Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-1-0522	Bis(2-ethylhexyl) phthalate	1.0 J	1.3 J	1.6 U
	TWA-2-0522			2.0	2.0 J+
	TWA-3-0522			1.2 J	1.6 U
	TWA-10D-0522			1.5 J	1.6 U
	SB-1A-0522			1.9	1.9 J+
205056	SB-2A-0522			1.8	1.8 J+
	Field Blank 1-0522			1.8	1.8 J+
	SB-3A-0522			3.1	3.1 J+
	TWA-5D-0522			1.7	1.7 J+
	TWA-6D-0522			1.3 J	1.6 U
	MW-1-0-0522			1.5 J	1.6 U
	MW-9-1-0522			3.0	3.0 J+

Notes
J = result is estimated
J+ = result is estimated, but the result may be biased high.
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.

All remaining laboratory method blank results were non-detect to the MRL for all target analytes.

Equipment Rinsate Blanks

Equipment rinsate blanks are used to evaluate field equipment decontamination. These blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

Trip Blanks

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

Two trip blanks (Trip Blank 1-0522 and Trip Blank 2-0522) were submitted with the sample delivery groups 205037 and 205056 for EPA Method 8260D and NWTPH-Gx analysis.

According to report 205037, the trip blank (Trip Blank 1-0522) had a methylene chloride detection above the MRL at a concentration of 7.5 ug/L. The laboratory flagged this result as likely due to laboratory contamination and as estimated due to the analyte being outside of acceptable criteria from the calibration. The associated detected sample results within five times the trip blank concentration were qualified by the reviewer with "U" as non-detect at the reported concentration, as shown in the following table. The associated samples results are qualified again in the matrix spike and matrix spike duplicate section or the continuing calibration verification results section with a final qualification of "UJ" as non-detect with an estimated reporting limit.

Report	Sample	Component	Trip Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-1-0522	Methylene chloride	7.5	6.4	6.4 UJ[(a)]
	TWA-2-0522			11	11 UJ[(a)]
	TWA-3-0522			12	12 UJ[(a)]
	TWA-10D-0522			12	12 UJ[(a)]
	SB-1A-0522			11	11 UJ[(a)]

Notes
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated reporting limit.
[(a)]results have a final qualification of "UJ" due to continuing calibration verification issue discussed below.

According to report 205056, the trip blank (Trip Blank 2-0522) had a methylene chloride detection above the MRL, at a concentration of 13 ug/L. The laboratory flagged this result as likely due to laboratory contamination. The associated detected sample results within five times the trip blank concentration were qualified by the reviewer with "U" as non-detect at the reported concentration, as shown in the following table.

Report	Sample	Component	Trip Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
205056	Field Blank 1-0522	Methylene chloride	13	10	10 U
	TWA-5D-0522			7.3	7.3 U
	TWA-6D-0522			8.3	8.3 U
	CTMW-15-0522			5.0	5.0 U
	CTMW-20-0522			7.5	7.5 U
	CTMW-25D-0522			7.5	7.5 U
	MW-1-0-0522			6.3	6.3 U
	MW-9-1-0522			6.9	6.9 U

Notes
U = result is non-detect at reported concentration.
ug/L = micrograms per liter.

The remaining trip blank was non-detect to the MRL for all target analytes.

Field Blanks

Field blanks are used to evaluate contamination from the field. According to report 205056, one field blank (Field Blank 1-0522) was submitted for analysis. The field blank is associated with the sample results provided in reports 205037 and 205056, because all aqueous samples, including the field blank sample, were collected using consistent sampling protocols.

The field blank had total chromium, total copper, methylene chloride, di-n-butyl phthalate, and bis(2-ethylhexyl) phthalate detections above the MRL, at concentrations of 1.35 ug/L, 1.40 ug/L, 10 ug/L, 1.1 ug/L, and 1.8 ug/L respectively. The detected di-n-butyl phthalate results were qualified in the continuing calibration and field duplicate sections with "J" as estimated and no further qualifications were necessary. The associated detected sample results less than five times the field blank concentration, and not previously qualified in the method blank or trip blank sections, were qualified by the reviewer with "J+" as "estimated, but the result may be biased high," as shown in the following table.

Report	Sample	Component	Field Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-3-0522	Total chromium	1.35	2.07	2.07 J+
	TWA-10D-0522			5.72	5.72 J+
	TWA-1-0522	Total copper	1.4	1.19	1.19 J+
	TWA-2-0522			4.01	4.01 J+
	TWA-3-0522			2.67	2.67 J+
	SB-1A-0522			2.85	2.85 J+
205056	MW-1-0-0522	Total chromium	1.35	1.43	1.43 J+
	MW-9-1-0522			1.36	1.36 J+
	CTMW-25D-0522	Total copper	1.4	2.31	2.31 J+
	MW-1-0-0522			4.06	4.06 J+
	MW-9-1-0522			3.67	3.67 J+
	Trip Blank 2-0522	Methylene chloride	10	13	13 J+

Notes
J+ = result is estimated, but the result may be biased high.
ug/L = micrograms per liter.

The remaining field blank results were non-detect to the MRL.

LABORATORY CONTROL SAMPLE/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. When LCSD results were not reported, batch precision and accuracy were evaluated based on

matrix spike (MS) and matrix spike duplicate (MSD) relative percent differences (RPDs). The reported LCS were extracted and analyzed at the required frequency.

According to report 205037, the EPA Method 8260D LCS and LCSD results for 2,2-dichloropropane exceeded the upper acceptance limits of 130 percent, at 158 percent and 166 percent, respectively. The associated sample results were non-detect; thus, qualification was not required.

According to reports 205037 and 205056, the EPA Method 8270E LCS results for phenol, 2-methylphenol, 3-methylphenol + 4-methylphenol, benzoic acid, and 4-chloro-3-methylphenol exceeded their respective upper percent recovery acceptance limits, ranging from 29 percent to 99 percent. The associated detected sample results were qualified with "J+" as estimated, but with a potential a high bias, as shown in the table below. Associated non-detect results did not require qualification.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205056	SB-2A-0522	Phenol	1.0	1.0 J+
	TWA-5D-0522		1.2	1.2 J+
Notes J+ = result is estimated, but the result may be biased high. ug/L = micrograms per liter.				

According to report 205056, the EPA Method 8260D LCS and LCSD had multiple exceedances above the upper percent recovery acceptance limits of 130 percent, ranging from 131 percent to 154 percent. The associated sample results were non-detect; thus, qualification was not required.

All remaining LCS and LCSD results were within acceptance limits for percent recovery and RPD.

LABORATORY DUPLICATE RESULTS

Laboratory duplicate results are used to evaluate laboratory precision. No duplicates were analyzed, and batch precision and accuracy were evaluated based on MS and MSD or LCS and LCSD RPDs.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

MS and MSD results are used to evaluate laboratory precision and accuracy as well as the effect of the sample matrix on sample preparation and analysis. All MS and MSD samples were prepared and analyzed at the required frequency.

MS and MSD percent recoveries were not evaluated when analyte concentrations were four times the spike amount for inorganic analyses and five times the spike amount for organic

analyses. Because spike concentrations could not be accurately quantified, the reviewer did not qualify the associated MS and MSD percent recovery exceedances.

In cases where the MS and MSD had been prepared by the laboratory with samples from unrelated projects, MS and MSD percent recovery and RPD control limit exceedances did not require qualification because MSs and MSDs with these sample matrices were not representative of project sample matrices.

According to report 205037, the EPA Method 8260D MS and MSD results for methylene chloride exceed the upper acceptance RPD limit of 20 percent, at 31 percent. The associated sample result from the source sample (SB-1A-0522) was previously qualified with "U" in the trip blank section, and due to the high RPD, the reviewer qualified the methylene chloride result with "UJ" as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	SB-1A-0522	Methylene chloride	11	11 UJ[(a)]

Notes
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated method reporting limit.
[(a)]result was previously qualified as non-detect at the detected concentration in the Trip Blank section and has the final qualification of "UJ" due to issue described above.

According to reports 205037 and 205056, the EPA Method 8270E MS and MSD recoveries ranged from 25 percent to 44 percent for phenol, benzoic acid, and 4-nitrophenol which were all below the lower acceptance limit of 50 percent. Additionally, the MS and MSD 20 percent RPD limit was exceeded, at 46 percent and 22 percent, respectively, for phenol and di-n-butyl phthalate. The di-n-butyl phthalate result from the source sample (SB-1A-0522) was non-detect; thus, no qualification was necessary due to RPD exceedance. The associated phenol, benzoic acid, and 4-nitrophenol results from the source were qualified with "UJ" as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	SB-1A-0522	Phenol	1 U	1 UJ
		Benzoic acid	5 U	5 UJ
		4-Nitrophenol	3 U	3 UJ

Notes
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated method reporting limit.

According to reports 205037 and 205056, the EPA Method 8082A MSD result for Aroclor 1016 was below the lower acceptance criteria of 50 percent, at 48 percent. The associated Aroclor 1016 result from the source sample (SB-1A-0522) was qualified with "UJ" as non-detect with an estimated reporting limit, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	SB-1A-0522	Aroclor 1016	0.0035 U	0.0035 UJ

Notes
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated method reporting limit.

All remaining MS and MSD results were within acceptance limits for percent recovery and RPD.

SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples. The laboratory appropriately documented and qualified surrogate outliers. The reviewer confirmed that batch quality assurance and quality control results for samples with surrogate outliers were within acceptance limits.

According to report 205056, the NWTPH-Dx surrogate compound was flagged as outside of control limits due to sample matrix effects for sample MW-1-0-0522. The associated sample results were qualified with "J" as estimated, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205056	MW-1-0-0522	Diesel-range hydrocarbons	9,900	9,900 J
		Motor oil-range hydrocarbons	2,100	2,100 J

Notes
J = result is estimated.
ug/L = micrograms per liter.

According to reports 205037 and 205056, the EPA Method 8082A surrogate compound tetrachloro-m-xylene recoveries were below the lower acceptance limit of 24 percent, at 19 percent, 14 percent, 22 percent, and 23 percent, respectively, for samples TWA-2-0522, TWA-6D-0522, MW-1-0-0522 and MW-9-1-0522. The associated Aroclor sample results were qualified with "UJ" as non-detect with an estimated reporting limit, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-2-0522	Aroclor 1221	0.0035 U	0.0035 UJ
		Aroclor 1232	0.0035 U	0.0035 UJ
		Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1242	0.0035 U	0.0035 UJ
		Aroclor 1248	0.0035 U	0.0035 UJ

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
		Aroclor 1254	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ
		Aroclor 1262	0.0035 U	0.0035 UJ
		Aroclor 1268	0.0035 U	0.0035 UJ
205056	TWA-6D-0522	Aroclor 1221	0.0035 U	0.0035 UJ
		Aroclor 1232	0.0035 U	0.0035 UJ
		Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1242	0.0035 U	0.0035 UJ
		Aroclor 1248	0.0035 U	0.0035 UJ
		Aroclor 1254	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ
		Aroclor 1262	0.0035 U	0.0035 UJ
		Aroclor 1268	0.0035 U	0.0035 UJ
	MW-1-0-0522	Aroclor 1221	0.0035 U	0.0035 UJ
		Aroclor 1232	0.0035 U	0.0035 UJ
		Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1242	0.0035 U	0.0035 UJ
		Aroclor 1248	0.0035 U	0.0035 UJ
		Aroclor 1254	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ
		Aroclor 1262	0.0035 U	0.0035 UJ
		Aroclor 1268	0.0035 U	0.0035 UJ
	MW-9-1-0522	Aroclor 1221	0.0035 U	0.0035 UJ
		Aroclor 1232	0.0035 U	0.0035 UJ
		Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1242	0.0035 U	0.0035 UJ
		Aroclor 1248	0.0035 U	0.0035 UJ
		Aroclor 1254	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ
		Aroclor 1262	0.0035 U	0.0035 UJ
		Aroclor 1268	0.0035 U	0.0035 UJ

Notes
U = result is non-detect at the reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated reporting limit.

All remaining surrogate results were within percent recovery acceptance limits.

CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not required for validation but were reviewed when provided.

According to reports 205037 and 205056, FBI flagged the EPA Method 8270E benzoic acid results from samples TWA-1-0522, TWA-2-0522, TWA-3-0522, TWA-10D-0522, SB-1A-0522, SB-2A-0522, Field Blank 1-0522, SB-3A-0522, TWA-5D-0522, TWA-6D-0522, and MW-9-1-0522; the detected di-n-butyl phthalate results from samples Field Blank 1-0522, SB-3A-0522, TWA-6D-0522, and MW-9-1-0522; and the detected pentachlorophenol result from MW-9-1-0522 because CCV results were outside acceptance criteria. The di-n-butyl phthalate, pentachlorophenol, and benzoic acid results from sample MW-9-1-0522 were reanalyzed with a different calibration; thus, no qualifications were necessary. The reanalyzed results were the reported results, while the original analysis results are not considered reportable. The reviewer qualified the benzoic acid results with "UJ" as non-detect with estimated reporting limits and the detected results with "J" as estimated, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-1-0522	Benzoic acid	5 U	5 UJ
	TWA-2-0522		5 U	5 UJ
	TWA-3-0522		5 U	5 UJ
	TWA-10D-0522		5 U	5 UJ
	SB-1A-0522		5 U	5 UJ
205056	SB-2A-0522		5 U	5 UJ
	Field Blank 1-0522		5 U	5 UJ
	SB-3A-0522		5 U	5 UJ
	TWA-5D-0522		5 U	5 UJ
	TWA-6D-0522		5 U	5 UJ
	Field Blank 1-0522	Di-n-butyl phthalate	1.1	1.1 J
	SB-3A-0522		1.6	1.6 J
	TWA-6D-0522		1.2	1.2 J

Notes
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated reporting limit.

According to report 205037, FBI flagged the EPA Method 8260D methylene chloride results from TWA-1-0522, TWA-2-0522, Trip Blank 1-0522, TWA-3-0522, TWA-10D-0522, and SB-1A-0522 because CCV results were outside acceptance criteria. The methylene chloride results from samples TWA-1-0522, TWA-2-0522, TWA-3-0522, TWA-10D-0522, and SB-1A-0522

were qualified in the trip blank section due to the trip blank sample showing potential contamination. Due to potential bias from the CCV, the reviewer qualified the results with "UJ" as non-detect with an estimated reporting limit, as shown in the table below. The methylene chloride result from Trip Blank 1-0522 was qualified with "J" as estimated, as shown in the table below.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
205037	TWA-1-0522	Methylene chloride	6.4	6.4 UJ[(a)]
	TWA-2-0522		11	11 UJ[(a)]
	Trip Blank 1-0522		7.5	7.5 J
	TWA-3-0522		12	12 UJ[(a)]
	TWA-10D-0522		12	12 UJ[(a)]
	SB-1A-0522		11	11 UJ[(a)]

Notes
J= result is estimated.
U = result is non-detect at the reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated reporting limit.
[(a)]result was previously qualified as non-detect at the detected concentration in the Trip Blank section with "U" and has a final qualification of "UJ" due to the CCV issue.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. According to report 205056, the following field duplicate and parent sample pairs were submitted for analysis (MW-1-0-0522 and MW-9-1-0522). 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. Non-detect data are not used in the evaluation of field duplicate results. Field duplicate results that exceeded the acceptance criteria were qualified with "J," as estimated. Bis(2-ethylhexyl) phthalate exceeded the 50 percent RPD limit, at 67 percent, but the sample results were previously qualified in the method blank section. Thus, no additional qualifications were necessary.

Report	Sample	Component	RPD (%)	Original Result (ug/L)	Qualified Result (ug/L)
205056	MW-1-0-0522	Dibenzofuran	52	0.51	0.51 J
	MW-9-1-0522			0.3	0.3 J
	MW-1-0-0522	Di-n-butyl phthalate	87	1.1	1.1 J
	MW-9-1-0522			2.8	2.8 J

Notes
% = percent.
J = result is estimated.
RPD = relative percent difference.
ug/L = micrograms per liter.

All remaining field duplicate results met the RPD acceptance criteria.

REPORTING LIMITS

FBI used routine MRLs for non-detect results, except for EPA Method 8270E bis(2-ethylhexyl) phthalate, which was evaluated to MDLs. Bis(2-ethylhexyl) phthalate MRLs were provided in the report case narratives. Results between the MDL and the MRL were qualified by FBI with "J" as estimated. Samples requiring dilutions because of high analyte concentrations and/or matrix interferences were reported with raised MDLs or MRLs.

The reviewer confirmed that when samples were diluted for analysis or when a higher sample volume was used for the extraction, the laboratory provided the preparation or dilution factor after the laboratory sample identification number.

DATA PACKAGE

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

Reports 205037 and 205056 were revised on June 3, 2022, as requested by the reviewer, to include the reporting limit for bis(2-ethylhexyl) phthalate in the case narrative. Report 205037 was revised to remove unnecessary qualifiers for the EPA Method 8270D compounds 2-nitrophenol, 2,4-dimethylphenol, and 2,4-dichlorophenol. Report 205056 was updated as estimated between the MDL and MRL for the bis(2-ethylhexyl) phthalate result from sample MW-1-0-0522. No additional action was required.

According to report 205037, the laboratory noted that one volatile organic analysis vial was labeled "TWA-3-0522" and three were labeled "TWA-1-0522." The reviewer confirmed that the laboratory used the collection times from the chain of custody to properly identify each sample vial. The laboratory also noted that TWA-1-0522 and TWA-2-0522 collection time was switched on the sample containers. The laboratory used the collection time on the chain of custody. No additional action was required.

According to report 2050506, TWA-6D-0522 collection time on the sample bottle did not match the chain of custody. The laboratory used the collection time on the chain of custody, and no further action was required by the reviewer.

No additional issues were found.

REFERENCES

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EPA. 2020a. *EPA contract laboratory program, national functional guidelines for inorganic Superfund methods data review*. EPA 542-R-20-006. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. November.

EPA. 2020b. *EPA contract laboratory program, 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. November.

FBI. 2019. *Quality assurance manual*. Rev. 17. Friedman & Bruya, Inc., Seattle, Washington. November 6.

FRIEDMAN & BRUYA, INC.

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June 3, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

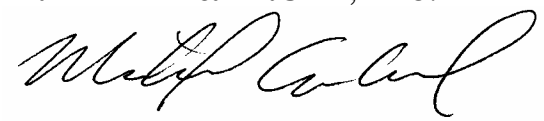
Dear Ms Hackett:

Included is the amended report from the testing of material submitted on May 4, 2022 from the TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056 project. The bis(2-ethylhexyl) phthalate reporting limit was stated in the case narrative, and a "j" qualifier added to the bis(2-ethylhexyl) phthalate result for sample MW-1-0-0522.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Carolyn Wise, Julianna Wetmore
MFA0526R.DOC

FRIEDMAN & BRUYA, INC.

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May 26, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on May 4, 2022 from the TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056 project. There are 80 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Carolyn Wise
MFA0526R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 4, 2022 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
205056 -01	SB-2A-0522
205056 -02	Field Blank 1-0522
205056 -03	SB-3A-0522
205056 -04	TWA-5D-0522
205056 -05	TWA-6D-0522
205056 -06	CTMW-15-0522
205056 -07	CTMW-20-0522
205056 -08	CTMW-25D-0522
205056 -09	MW-1-0-0522
205056 -10	MW-9-1-0522
205056 -11	Trip Blank 2-0522

Methylene chloride was detected in the 8260D analysis of samples Field Blank 1-0522, TWA-5D-0522, CTMW-15-0522, CTMW-20-0522, CTMW-25D-0522, MW-1-0-0522, MW-9-1-0522, and Trip Blank 2-0522. The data were flagged as due to laboratory contamination.

The 8260D matrix spike and matrix spike duplicate failed the relative percent difference for several compounds. The analytes were not detected therefore the data were acceptable.

The 8260D laboratory control sample exceeded the acceptance criteria for several analytes. The compounds were not detected, therefore the data were acceptable.

The 8270E calibration standard failed the acceptance criteria for several compounds. The data were flagged accordingly.

Several 8270E compounds failed below the acceptance criteria in the matrix spike samples, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

Phenol in the 8270E laboratory control sample failed below the acceptance criteria. The data were flagged accordingly. Several other compounds excceded the acceptance criteria, but were not detected. Therefore the data were acceptable.

CASE NARRATIVE (continued)

Several compounds were detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

The 6020B samples TWA-5D-0522 and TWA-6D-0522 were analyzed at a dilution due to matrix interferences.

The 8270E bis(2-ethylhexyl) phthalate reporting limit for the samples is 1.6 ug/L. The results were reported between the method detection limit and the reporting limit for samples TWA-6D-0522, MW-1-0-0522, and the method blank and flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056
Date Extracted: 05/06/22
Date Analyzed: 05/06/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
SB-2A-0522 205056-01	<100	91
Field Blank 1-0522 205056-02	<100	86
SB-3A-0522 205056-03	<100	79
TWA-5D-0522 205056-04	<100	83
TWA-6D-0522 205056-05	<100	83
CTMW-20-0522 205056-07	<100	92
MW-1-0-0522 205056-09	120	91
MW-9-1-0522 205056-10	110	95
Trip Blank 2-0522 205056-11	<100	87
Method Blank 02-907 MB	<100	67

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056
Date Extracted: 05/09/22
Date Analyzed: 05/09/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
SB-2A-0522 205056-01	<50	<250	140
Field Blank 1-0522 205056-02	<50	<250	137
SB-3A-0522 205056-03	<50	<250	140
TWA-5D-0522 205056-04	<50	<250	110
TWA-6D-0522 205056-05	<50	<250	50
CTMW-15-0522 205056-06	<50	<250	124
CTMW-20-0522 205056-07	<50	<250	112
CTMW-25D-0522 205056-08	<50	<250	119
MW-1-0-0522 205056-09	580	<250	124
MW-9-1-0522 205056-10	500	<250	105
Method Blank 02-1065 MB	<50	<250	110

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056
Date Extracted: 05/05/22
Date Analyzed: 05/05/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
SB-2A-0522 205056-01	76 x	<250	124
Field Blank 1-0522 205056-02	<50	<250	109
SB-3A-0522 205056-03	990 x	620 x	146
TWA-5D-0522 205056-04	700 x	480 x	127
TWA-6D-0522 205056-05	450 x	<250	58
CTMW-15-0522 205056-06	480 x	<250	139
CTMW-20-0522 205056-07	3,200 x	660 x	132
CTMW-25D-0522 205056-08	3,100 x	910 x	139
MW-1-0-0522 205056-09	9,900 x	2,100 x	ip
MW-9-1-0522 205056-10	9,000 x	2,000 x	149
Method Blank 02-1065 MB	<50	<250	119

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-01
Date Analyzed:	05/11/22	Data File:	205056-01.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	2.60
Barium	4.44
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Lead	<1
Manganese	454
Nickel	4.91
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	1.29
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-01 x10
Date Analyzed:	05/11/22	Data File:	205056-01 x10.127
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,720

Analysis For Total Metals By EPA Method 6020B

Client ID:	Field Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-02
Date Analyzed:	05/11/22	Data File:	205056-02.158
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	1.35
Cobalt	<1
Copper	1.40
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-03
Date Analyzed:	05/11/22	Data File:	205056-03.159
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	1.16
Barium	25.9
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Lead	<1
Manganese	241
Nickel	3.55
Selenium	3.97
Silver	<1
Thallium	<1
Vanadium	1.97
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-03 x10
Date Analyzed:	05/11/22	Data File:	205056-03 x10.132
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	3,810

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-04
Date Analyzed:	05/11/22	Data File:	205056-04.160
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1
Thallium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-04 x10
Date Analyzed:	05/11/22	Data File:	205056-04 x10.133
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Arsenic	<10
Barium	20.9
Beryllium	<10
Cadmium	<10
Chromium	<10
Cobalt	<10
Copper	<10
Iron	1,560
Manganese	152
Nickel	<10
Selenium	17.4
Silver	<10
Vanadium	18.2
Zinc	<50

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-05
Date Analyzed:	05/11/22	Data File:	205056-05.161
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<1
Thallium	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-05 x10
Date Analyzed:	05/11/22	Data File:	205056-05 x10.134
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<10
Arsenic	<10
Barium	16.3
Beryllium	<10
Cadmium	<10
Chromium	27.8
Cobalt	<10
Copper	<10
Iron	2,680
Manganese	763
Nickel	<10
Selenium	18.5
Silver	<10
Vanadium	107
Zinc	<50

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-15-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-06
Date Analyzed:	05/11/22	Data File:	205056-06.162
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	1.51
Arsenic	4.98
Barium	14.1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Lead	<1
Manganese	173
Nickel	1.90
Selenium	3.75
Silver	<1
Thallium	<1
Vanadium	2.49
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-15-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-06 x10
Date Analyzed:	05/11/22	Data File:	205056-06 x10.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	3,880

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-20-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-07
Date Analyzed:	05/11/22	Data File:	205056-07.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	2.42
Barium	7.47
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Lead	<1
Manganese	652
Nickel	3.93
Selenium	1.89
Silver	<1
Thallium	<1
Vanadium	1.66
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-20-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-07 x100
Date Analyzed:	05/12/22	Data File:	205056-07 x100.098
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	9,290

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-08
Date Analyzed:	05/11/22	Data File:	205056-08.164
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	19.7
Cobalt	<1
Copper	2.31
Lead	<1
Manganese	306
Nickel	6.43
Thallium	<1
Vanadium	79.6
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-08 x5
Date Analyzed:	05/12/22	Data File:	205056-08 x5.099
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<5
Arsenic	8.55
Barium	30.3
Beryllium	<5
Cadmium	<5
Selenium	20.2
Silver	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-08 x50
Date Analyzed:	05/11/22	Data File:	205056-08 x50.111
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	11,100

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-09
Date Analyzed:	05/11/22	Data File:	205056-09.165
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	3.18
Barium	9.49
Beryllium	<1
Cadmium	<1
Chromium	1.43
Cobalt	<1
Copper	4.06
Lead	1.05
Manganese	119
Nickel	2.28
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	3.43
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-09 x100
Date Analyzed:	05/12/22	Data File:	205056-09 x100.100
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	12,700

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-10
Date Analyzed:	05/11/22	Data File:	205056-10.166
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	3.12
Barium	9.27
Beryllium	<1
Cadmium	<1
Chromium	1.36
Cobalt	<1
Copper	3.67
Lead	<1
Manganese	113
Nickel	2.26
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	3.14
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-10 x100
Date Analyzed:	05/12/22	Data File:	205056-10 x100.101
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	12,000

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	I2-345 mb
Date Analyzed:	05/11/22	Data File:	I2-345 mb.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	<1
Zinc	<5

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056
Date Extracted: 05/13/22
Date Analyzed: 05/16/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
SB-2A-0522 205056-01	<0.02
Field Blank 1-0522 205056-02	<0.02
SB-3A-0522 205056-03	<0.02
TWA-5D-0522 205056-04	<0.02
TWA-6D-0522 205056-05	<0.02
CTMW-15-0522 205056-06	<0.02
CTMW-20-0522 205056-07	<0.02
CTMW-25D-0522 205056-08	<0.02
MW-1-0-0522 205056-09	<0.02
MW-9-1-0522 205056-10	<0.02
Method Blank i2-356 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-01
Date Analyzed:	05/16/22	Data File:	051606.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Field Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-02
Date Analyzed:	05/16/22	Data File:	051607.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	86	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	93	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	10 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-03
Date Analyzed:	05/16/22	Data File:	051608.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	93	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-04
Date Analyzed:	05/16/22	Data File:	051609.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	128	71	132
Toluene-d8	86	68	139
4-Bromofluorobenzene	87	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-05
Date Analyzed:	05/16/22	Data File:	051610.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	71	132
Toluene-d8	66 vo	68	139
4-Bromofluorobenzene	140 vo	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	8.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-15-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-06
Date Analyzed:	05/16/22	Data File:	051611.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	71	132
Toluene-d8	121	68	139
4-Bromofluorobenzene	141 vo	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	5.0 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-20-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-07
Date Analyzed:	05/16/22	Data File:	051612.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	71	132
Toluene-d8	99	68	139
4-Bromofluorobenzene	102	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.5 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-08
Date Analyzed:	05/16/22	Data File:	051613.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	114	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	94	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.5 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-09
Date Analyzed:	05/16/22	Data File:	051614.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	93	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	6.3 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	18	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-10
Date Analyzed:	05/16/22	Data File:	051615.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	6.9 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	17	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 2-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/12/22	Lab ID:	205056-11
Date Analyzed:	05/16/22	Data File:	051616.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	103	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	13 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/15/22	Lab ID:	02-1096 mb
Date Analyzed:	05/16/22	Data File:	051535.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	71	132
Toluene-d8	96	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-01
Date Analyzed:	05/11/22	Data File:	051133.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Field Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-02
Date Analyzed:	05/11/22	Data File:	051132.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-03
Date Analyzed:	05/11/22	Data File:	051134.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-04
Date Analyzed:	05/11/22	Data File:	051135.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	108	50	150
4-Bromofluorobenzene	98	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.64

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-05
Date Analyzed:	05/11/22	Data File:	051136.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	4.1

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-15-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-06
Date Analyzed:	05/11/22	Data File:	051137.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	5.1

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-08 1/10
Date Analyzed:	05/17/22	Data File:	051740.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	57

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-09
Date Analyzed:	05/17/22	Data File:	051739.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	205056-10
Date Analyzed:	05/12/22	Data File:	051140.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	90	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/11/22	Lab ID:	02-1091 mb
Date Analyzed:	05/11/22	Data File:	051123.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-01 1/0.5
Date Analyzed:	05/05/22	Data File:	050523.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	10	60
Phenol-d6	29	10	49
Nitrobenzene-d5	80	15	144
2-Fluorobiphenyl	86	25	128
2,4,6-Tribromophenol	103	10	142
Terphenyl-d14	106	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	1.0 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.011
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.8 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Field Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-02 1/0.5
Date Analyzed:	05/05/22	Data File:	050524.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	38	10	60
Phenol-d6	31	10	49
Nitrobenzene-d5	79	15	144
2-Fluorobiphenyl	78	25	128
2,4,6-Tribromophenol	93	10	142
Terphenyl-d14	102	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.1 ca
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.8 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-03 1/0.5
Date Analyzed:	05/05/22	Data File:	050525.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	45	10	60
Phenol-d6	33	10	49
Nitrobenzene-d5	90	15	144
2-Fluorobiphenyl	75	25	128
2,4,6-Tribromophenol	94	10	142
Terphenyl-d14	117	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.058
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.028
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.031
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.6 ca
Naphthalene	<0.1	Fluoranthene	0.010
Hexachlorobutadiene	<0.1	Pyrene	0.010
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	3.1 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-04 1/0.5
Date Analyzed:	05/06/22	Data File:	050526.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	20	10	60
Phenol-d6	22	10	49
Nitrobenzene-d5	49	15	144
2-Fluorobiphenyl	50	25	128
2,4,6-Tribromophenol	76	10	142
Terphenyl-d14	81	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	1.2 jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.7 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-05 1/0.5
Date Analyzed:	05/06/22	Data File:	050527.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	22	10	60
Phenol-d6	21	10	49
Nitrobenzene-d5	53	15	144
2-Fluorobiphenyl	44	25	128
2,4,6-Tribromophenol	74	10	142
Terphenyl-d14	69	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.2 ca
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.3 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-15-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-06 1/0.5
Date Analyzed:	05/06/22	Data File:	050528.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39	10	60
Phenol-d6	29	10	49
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	84	25	128
2,4,6-Tribromophenol	106	10	142
Terphenyl-d14	105	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CTMW-25D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-08 1/0.5
Date Analyzed:	05/06/22	Data File:	050529.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	34	10	60
Phenol-d6	29	10	49
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	73	25	128
2,4,6-Tribromophenol	98	10	142
Terphenyl-d14	100	41	138

Compounds:	Concentration ug/L (ppb)
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-09 1/0.5
Date Analyzed:	05/13/22	Data File:	051226.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	27	10	60
Phenol-d6	24	10	49
Nitrobenzene-d5	62	15	144
2-Fluorobiphenyl	65	25	128
2,4,6-Tribromophenol	90	10	142
Terphenyl-d14	95	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.80
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	0.51
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	1.1
2-Methylphenol	<1	Fluorene	1.1
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	0.60
Benzoic acid	<5	Phenanthrene	0.60
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.63
2,4-Dichlorophenol	<1	Carbazole	1.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	1.1
Naphthalene	<0.1	Fluoranthene	0.079
Hexachlorobutadiene	<0.1	Pyrene	0.19
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.015
2-Methylnaphthalene	<0.1	Chrysene	0.023
1-Methylnaphthalene	4.4	Bis(2-ethylhexyl) phthalate	1.5 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-10 1/0.5
Date Analyzed:	05/06/22	Data File:	050531.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	39	10	60
Phenol-d6	33	10	49
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	76	25	128
2,4,6-Tribromophenol	87	10	142
Terphenyl-d14	111	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.71
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	0.30
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	1.1
2-Methylphenol	<1	Fluorene	1.3
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	0.21
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	0.60 ca
Benzoic acid	<5 ca	Phenanthrene	1.0
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.76
2,4-Dichlorophenol	<1	Carbazole	1.2
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	2.7 ca
Naphthalene	<0.1	Fluoranthene	0.093
Hexachlorobutadiene	<0.1	Pyrene	0.24
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.018
2-Methylnaphthalene	<0.1	Chrysene	0.027
1-Methylnaphthalene	6.0	Bis(2-ethylhexyl) phthalate	3.0 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	205056-10 1/0.5
Date Analyzed:	05/13/22	Data File:	051227.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	42	10	60
Phenol-d6	34	10	49
Nitrobenzene-d5	89	15	144
2-Fluorobiphenyl	80	25	128
2,4,6-Tribromophenol	99	10	142
Terphenyl-d14	124	41	138

Compounds:	Concentration ug/L (ppb)
Benzoic acid	<5
Pentachlorophenol	0.62
Di-n-butyl phthalate	2.8

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/05/22	Lab ID:	02-1070 mb 1/0.5
Date Analyzed:	05/05/22	Data File:	050517.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	43	10	60
Phenol-d6	30	10	49
Nitrobenzene-d5	85	15	144
2-Fluorobiphenyl	78	25	128
2,4,6-Tribromophenol	93	10	142
Terphenyl-d14	95	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.0 j lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-2A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-01 1/0.25
Date Analyzed:	05/10/22	Data File:	051019.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	37	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Field Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-02 1/0.25
Date Analyzed:	05/10/22	Data File:	051020.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	40	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-3A-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-03 1/0.25
Date Analyzed:	05/10/22	Data File:	051021.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	25	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-5D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-04 1/0.25
Date Analyzed:	05/10/22	Data File:	051022.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	26	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-6D-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-05 1/0.25
Date Analyzed:	05/10/22	Data File:	051023.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	14 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-1-0-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-09 1/0.25
Date Analyzed:	05/10/22	Data File:	051026.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	22 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	MW-9-1-0522	Client:	Maul Foster Alongi
Date Received:	05/04/22	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	205056-10 1/0.25
Date Analyzed:	05/10/22	Data File:	051027.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	23 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205056
Date Extracted:	05/06/22	Lab ID:	02-1072 mb 1/0.25
Date Analyzed:	05/10/22	Data File:	051007.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205037-06 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	98	96	53-117	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	106	69-134

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	128	132	50-150	3

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	112	63-142

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	138	145	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	63-142

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	104	101	75-125	3
Arsenic	ug/L (ppb)	10	1.08	95	96	75-125	1
Barium	ug/L (ppb)	50	3.90	97	98	75-125	1
Beryllium	ug/L (ppb)	5	<1	103	102	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	96	75-125	0
Chromium	ug/L (ppb)	20	<1	106	104	75-125	2
Cobalt	ug/L (ppb)	20	<1	102	101	75-125	1
Copper	ug/L (ppb)	20	2.85	98	97	75-125	1
Iron	ug/L (ppb)	100	1,640	95	80	75-125	17
Lead	ug/L (ppb)	10	<1	95	94	75-125	1
Manganese	ug/L (ppb)	20	169	103	87	75-125	17
Nickel	ug/L (ppb)	20	4.19	100	99	75-125	1
Selenium	ug/L (ppb)	5	<1	103	101	75-125	2
Silver	ug/L (ppb)	5	<1	90	92	75-125	2
Thallium	ug/L (ppb)	5	<1	96	95	75-125	1
Vanadium	ug/L (ppb)	20	4.07	112	111	75-125	1
Zinc	ug/L (ppb)	50	<5	96	96	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	96	80-120
Arsenic	ug/L (ppb)	10	95	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	102	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	100	80-120
Iron	ug/L (ppb)	100	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	96	80-120
Nickel	ug/L (ppb)	20	100	80-120
Selenium	ug/L (ppb)	5	93	80-120
Silver	ug/L (ppb)	5	90	80-120
Thallium	ug/L (ppb)	5	94	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	97	80-120

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	112	102	71-125	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	100	103	78-125	3

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205112-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	114	98	50-150	15
Chloromethane	ug/L (ppb)	10	<10	115	93	50-150	21 vo
Vinyl chloride	ug/L (ppb)	10	<0.02	122	107	50-150	13
Bromomethane	ug/L (ppb)	10	<5	125	109	50-150	14
Chloroethane	ug/L (ppb)	10	<1	126	108	50-150	15
Trichlorofluoromethane	ug/L (ppb)	10	<1	123	103	50-150	18
Acetone	ug/L (ppb)	50	<50	103	84	50-150	20
1,1-Dichloroethene	ug/L (ppb)	10	<1	126	102	50-150	21 vo
Hexane	ug/L (ppb)	10	<5	106	92	50-150	14
Methylene chloride	ug/L (ppb)	10	<5	111	72	50-150	43 vo
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	131	107	50-150	20
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	122	99	50-150	21 vo
1,1-Dichloroethane	ug/L (ppb)	10	<1	123	104	50-150	17
2,2-Dichloropropane	ug/L (ppb)	10	<1	127	106	50-150	18
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	121	103	50-150	16
Chloroform	ug/L (ppb)	10	<1	118	101	50-150	16
2-Butanone (MEK)	ug/L (ppb)	50	<20	92	97	50-150	5
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	105	97	50-150	8
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	140	115	50-150	20
1,1-Dichloropropene	ug/L (ppb)	10	<1	108	100	50-150	8
Carbon tetrachloride	ug/L (ppb)	10	<0.5	141	117	50-150	19
Benzene	ug/L (ppb)	10	<0.35	112	101	50-150	10
Trichloroethene	ug/L (ppb)	10	<0.5	100	93	50-150	7
1,2-Dichloropropane	ug/L (ppb)	10	<1	99	91	50-150	8
Bromodichloromethane	ug/L (ppb)	10	<0.5	105	97	50-150	8
Dibromomethane	ug/L (ppb)	10	<1	104	97	50-150	7
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	116	102	50-150	13
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	87	95	50-150	9
Toluene	ug/L (ppb)	10	<1	99	92	50-150	7
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	111	114	50-150	3
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	97	92	50-150	5
2-Hexanone	ug/L (ppb)	50	<10	133	133	50-150	0
1,3-Dichloropropane	ug/L (ppb)	10	<1	106	95	50-150	11
Tetrachloroethene	ug/L (ppb)	10	<1	109	99	50-150	10
Dibromochloromethane	ug/L (ppb)	10	<0.5	110	104	50-150	6
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	107	104	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	103	98	50-150	5
Ethylbenzene	ug/L (ppb)	10	<1	111	101	50-150	9
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	133	115	50-150	15
m,p-Xylene	ug/L (ppb)	20	<2	110	100	50-150	10
o-Xylene	ug/L (ppb)	10	<1	115	100	50-150	14
Styrene	ug/L (ppb)	10	<1	105	99	50-150	6
Isopropylbenzene	ug/L (ppb)	10	<1	120	102	50-150	16
Bromoform	ug/L (ppb)	10	<5	144	130	50-150	10
n-Propylbenzene	ug/L (ppb)	10	<1	103	94	50-150	9
Bromobenzene	ug/L (ppb)	10	<1	98	97	50-150	1
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	104	94	50-150	10
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	98	50-150	7
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	103	102	50-150	1
2-Chlorotoluene	ug/L (ppb)	10	<1	104	95	50-150	9
4-Chlorotoluene	ug/L (ppb)	10	<1	98	95	50-150	3
tert-Butylbenzene	ug/L (ppb)	10	<1	102	92	50-150	10
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	91	50-150	12
sec-Butylbenzene	ug/L (ppb)	10	<1	106	93	50-150	13
p-Isopropyltoluene	ug/L (ppb)	10	<1	106	96	50-150	10
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	103	98	50-150	5
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	103	97	50-150	6
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	107	99	50-150	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	126	120	50-150	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	105	96	50-150	9
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	103	97	50-150	6
Naphthalene	ug/L (ppb)	10	<1	116	104	50-150	11
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	108	98	50-150	10

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	134	142	46-206	6
Chloromethane	ug/L (ppb)	10	130	140	70-142	7
Vinyl chloride	ug/L (ppb)	10	141 vo	150 vo	70-130	6
Bromomethane	ug/L (ppb)	10	147	151	56-197	3
Chloroethane	ug/L (ppb)	10	144 vo	154 vo	70-130	7
Trichlorofluoromethane	ug/L (ppb)	10	137 vo	141 vo	70-130	3
Acetone	ug/L (ppb)	50	112	127	10-140	13
1,1-Dichloroethene	ug/L (ppb)	10	137 vo	145 vo	70-130	6
Hexane	ug/L (ppb)	10	109	113	54-136	4
Methylene chloride	ug/L (ppb)	10	102	116	43-134	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	136 vo	145 vo	70-130	6
trans-1,2-Dichloroethene	ug/L (ppb)	10	127	135 vo	70-130	6
1,1-Dichloroethane	ug/L (ppb)	10	126	133 vo	70-130	5
2,2-Dichloropropane	ug/L (ppb)	10	141 vo	148 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	130	138 vo	70-130	6
Chloroform	ug/L (ppb)	10	120	127	70-130	6
2-Butanone (MEK)	ug/L (ppb)	50	87	90	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	99	100	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	145 vo	154 vo	70-130	6
1,1-Dichloropropene	ug/L (ppb)	10	104	108	70-130	4
Carbon tetrachloride	ug/L (ppb)	10	144 vo	149 vo	70-130	3
Benzene	ug/L (ppb)	10	109	112	70-130	3
Trichloroethene	ug/L (ppb)	10	93	93	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	100	103	70-130	3
Bromodichloromethane	ug/L (ppb)	10	99	96	70-130	3
Dibromomethane	ug/L (ppb)	10	104	97	70-130	7
4-Methyl-2-pentanone	ug/L (ppb)	50	120	120	68-130	0
cis-1,3-Dichloropropene	ug/L (ppb)	10	88	79	69-131	11
Toluene	ug/L (ppb)	10	96	100	70-130	4
trans-1,3-Dichloropropene	ug/L (ppb)	10	104	104	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	90	92	70-130	2
2-Hexanone	ug/L (ppb)	50	120	128	45-138	6
1,3-Dichloropropane	ug/L (ppb)	10	85	90	70-130	6
Tetrachloroethene	ug/L (ppb)	10	104	107	70-130	3
Dibromochloromethane	ug/L (ppb)	10	110	113	60-148	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	101	70-130	2
Chlorobenzene	ug/L (ppb)	10	98	102	70-130	4
Ethylbenzene	ug/L (ppb)	10	111	117	70-130	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	129	144 vo	70-130	11
m,p-Xylene	ug/L (ppb)	20	109	115	70-130	5
o-Xylene	ug/L (ppb)	10	116	124	70-130	7
Styrene	ug/L (ppb)	10	101	106	70-130	5
Isopropylbenzene	ug/L (ppb)	10	123	131 vo	70-130	6
Bromoform	ug/L (ppb)	10	128	143 vo	69-138	11
n-Propylbenzene	ug/L (ppb)	10	113	111	70-130	2
Bromobenzene	ug/L (ppb)	10	103	100	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	117	114	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	113	117	70-130	3
1,2,3-Trichloropropane	ug/L (ppb)	10	114	109	70-130	4
2-Chlorotoluene	ug/L (ppb)	10	113	111	70-130	2
4-Chlorotoluene	ug/L (ppb)	10	105	102	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	105	104	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	114	114	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	117	115	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	117	116	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	105	102	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	102	102	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	113	113	70-130	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	145 vo	144 vo	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	114	113	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	108	105	70-130	3
Naphthalene	ug/L (ppb)	10	124	126	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	119	117	70-130	2

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	<0.4	97	92	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	102	90	70-130	12

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QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205037-06 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	<1	40 vo	25 vo	50-150	46 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	71	60	50-150	17
2-Chlorophenol	ug/L (ppb)	2.5	<1	69	58	50-150	17
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	58	50-150	13
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	65	60	50-150	8
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	67	63	50-150	6
Benzyl alcohol	ug/L (ppb)	13	<1	70	60	50-150	15
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	71	64	50-150	10
2-Methylphenol	ug/L (ppb)	2.5	<1	67	55	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	62	59	50-150	5
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	90	81	50-150	11
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	63	53	50-150	17
Nitrobenzene	ug/L (ppb)	2.5	<0.1	84	75	50-150	11
Isophorone	ug/L (ppb)	2.5	<0.1	92	85	50-150	8
2-Nitrophenol	ug/L (ppb)	2.5	<1	83	74	50-150	11
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	81	75	50-150	8
Benzoic acid	ug/L (ppb)	20	<5	40 vo	34 vo	50-150	16
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	77	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	80	70	50-150	13
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	72	67	50-150	7
Naphthalene	ug/L (ppb)	2.5	<0.1	72	66	50-150	9
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	74	63	50-150	16
4-Chloroaniline	ug/L (ppb)	13	<10	67	59	50-150	13
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	94	89	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	73	50-150	4
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	74	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	89	86	50-150	3
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	96	86	50-150	11
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	97	91	50-150	6
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	79	75	50-150	5
2-Nitroaniline	ug/L (ppb)	13	<0.5	90	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	93	92	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	85	81	50-150	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	92	94	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	72	73	50-150	1
Acenaphthene	ug/L (ppb)	2.5	<0.01	81	77	50-150	5
2,4-Dinitrophenol	ug/L (ppb)	5	<3	114	114	50-150	0
Dibenzofuran	ug/L (ppb)	2.5	<0.1	94	90	50-150	4
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	94	92	50-150	2
4-Nitrophenol	ug/L (ppb)	5	<3	44 vo	38 vo	50-150	15
Diethyl phthalate	ug/L (ppb)	2.5	<1	97	117	50-150	19
Fluorene	ug/L (ppb)	2.5	<0.01	86	85	50-150	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	89	86	50-150	3
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	91	84	50-150	8
4-Nitroaniline	ug/L (ppb)	13	<10	77	80	50-150	4
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	140	126	50-150	11
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	90	86	50-150	5
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	89	79	50-150	12
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	127	122	50-150	4
Phenanthrene	ug/L (ppb)	2.5	<0.01	89	83	50-150	7
Anthracene	ug/L (ppb)	2.5	<0.01	91	85	50-150	7
Carbazole	ug/L (ppb)	2.5	<0.1	103	102	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	114	91	50-150	22 vo
Fluoranthene	ug/L (ppb)	2.5	<0.01	99	95	50-150	4
Pyrene	ug/L (ppb)	2.5	<0.01	96	88	50-150	9
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	113	121	50-150	7
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	93	93	50-150	0
Chrysene	ug/L (ppb)	2.5	<0.01	90	88	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	1.9	80 b	66 b	50-150	19 b
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	117	115	50-150	2
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	98	94	50-150	4
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	98	95	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	95	91	50-150	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	97	88	50-150	10
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	92	85	50-150	8
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	88	81	50-150	8

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	2.5	29 vo	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	71	44-118
2-Chlorophenol	ug/L (ppb)	2.5	73	33-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	72	55-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	71	56-92
1,2-Dichlorobenzene	ug/L (ppb)	2.5	71	58-92
Benzyl alcohol	ug/L (ppb)	13	72	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	76	66-88
2-Methylphenol	ug/L (ppb)	2.5	73 vo	28-65
Hexachloroethane	ug/L (ppb)	2.5	71	54-94
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	87	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	67 vo	23-55
Nitrobenzene	ug/L (ppb)	2.5	86	65-103
Isophorone	ug/L (ppb)	2.5	93	67-114
2-Nitrophenol	ug/L (ppb)	2.5	89	45-115
2,4-Dimethylphenol	ug/L (ppb)	2.5	82	23-105
Benzoic acid	ug/L (ppb)	20	31 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	90	70-130
2,4-Dichlorophenol	ug/L (ppb)	2.5	90	46-105
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	62-94
Naphthalene	ug/L (ppb)	2.5	80	66-94
Hexachlorobutadiene	ug/L (ppb)	2.5	76	57-93
4-Chloroaniline	ug/L (ppb)	13	86	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	99 vo	50-98
2-Methylnaphthalene	ug/L (ppb)	2.5	87	68-98
1-Methylnaphthalene	ug/L (ppb)	2.5	87	67-97
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	89	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	99	34-119
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	99	45-115
2-Chloronaphthalene	ug/L (ppb)	2.5	85	70-130
2-Nitroaniline	ug/L (ppb)	13	91	51-146
Dimethyl phthalate	ug/L (ppb)	2.5	92	70-130
Acenaphthylene	ug/L (ppb)	2.5	91	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	99	70-130
3-Nitroaniline	ug/L (ppb)	13	99	42-134
Acenaphthene	ug/L (ppb)	2.5	86	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	115	10-171
Dibenzofuran	ug/L (ppb)	2.5	100	60-115
2,4-Dinitrotoluene	ug/L (ppb)	2.5	97	70-134
4-Nitrophenol	ug/L (ppb)	5	43	10-46
Diethyl phthalate	ug/L (ppb)	2.5	93	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	94	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	92	70-130
4-Nitroaniline	ug/L (ppb)	13	98	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	126	22-141
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	89	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	86	70-130
Pentachlorophenol	ug/L (ppb)	2.5	119	28-130
Phenanthrene	ug/L (ppb)	2.5	88	70-130
Anthracene	ug/L (ppb)	2.5	92	70-130
Carbazole	ug/L (ppb)	2.5	99	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	86	49-130
Fluoranthene	ug/L (ppb)	2.5	100	70-130
Pyrene	ug/L (ppb)	2.5	90	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	100	61-124
Benz(a)anthracene	ug/L (ppb)	2.5	92	70-130
Chrysene	ug/L (ppb)	2.5	89	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	91	57-124
Di-n-octyl phthalate	ug/L (ppb)	2.5	108	45-135
Benzo(a)pyrene	ug/L (ppb)	2.5	97	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	96	62-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	96	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	93	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	89	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	86	70-130

Date of Report: 05/26/22
Date Received: 05/04/22
Project: TWAAFA Groundwater Sampling 0615.20.04-03, F&BI 205056

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205037-06 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.0035	54	48 vo	50-150	12
Aroclor 1260	ug/L (ppb)	0.25	<0.0035	64	58	50-150	10

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	54	25-111
Aroclor 1260	ug/L (ppb)	0.25	50	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

205056

SAMPLE CHAIN OF CUSTODY

05/04/22

E04

Page # 1 of 2 VW6 AE3

Report To: Audrey Hackett/Carolyn Wise

Company: Maul Foster Alongi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (*signature*)	
PROJECT NAME: TWAAFA - Groundwater Sampling	PO #: 0615.20.04-03
REMARKS: SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO: A. Hackett, MFA

TURNAROUND TIME
X :Standard Turnaround
:RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	VOCs by 8260D	1,4-Dioxane - 8260D	TPH-Diesel	TPH-Diesel w/SG	TPH-Gasoline	SVOCs by 8270E	cPAH only	Total Metals by 6020	LL PCBs by 8082	Mercury by 1613E		Notes
SB-2A-0522	01A-L	5/3/22	1330	W	12	X	X	X	X	X	X		X	X	X		
FIELD BLANK #1-0522	02		1335		12	X	X	X	X	X	X		X	X	X		
SB-3A-0522	03		1604		12	X	X	X	X	X	X		X	X	X		
TWA-6D-0522	04		1455		12	X	X	X	X	X	X		X	X	X		
TWA-6D-0522	05		1630		12	X	X	X	X	X	X		X	X	X		16:35 TWC 5/4
CTMW-15-022	06	5/4/22	1115		12	X	X	X	X	X SRM		X	X		X		
CTMW-20-0522	07		0920		12	X		X	X	X			X		X		
CTMW-25D-0522	08		0925		12	X	X	X	X			X	X		X		
MW-1-0522	09		1045		12	X	X	X	X	X	X	X SRM	X	X	X		
MW-9-1-0522	10		1045		12	X	X	X	X	X	X		X	X	X		

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Sean Maloney	MFA	5/4/22	1441
Received by:	Nham Pham	FedEx	5/4/22	1441
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

205056

SAMPLE CHAIN OF CUSTODY

05/04/22

E04

Page # 2 of 2 VW6 AB

Report To: Audrey Hackett/Carolyn Wise

Company: Maul Foster Alongi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (*signature*)	
PROJECT NAME: TWAAFA - Groundwater Sampling	PO #: 0615.20.04-03
REMARKS: SVOCs lab filtered at 0.7 micron before analysis Project Specific RLs - (Yes) / No	INVOICE TO: A. Hackett, MFA

TURNAROUND TIME
X :Standard Turnaround
:RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: VOCs by 8260D	1,4-Dioxane - 8260D	TPH-Diesel	TPH-Diesel w/SG	TPH-Gasoline	SVOCs by 8270E	cPAH only	Total Metals by 6020	LL PCBs by 8082	Mercury by 1613E		Notes
TRIP BLANK #2-0522	11 A-C			W	3	X				X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Sean Maloney	MFA	5/4/22	1441
Received by:	Nhan Phan	FCBI	5/4/22	1441
Relinquished by:				
Received by:		Samples received at		4 °C

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 205056 CLIENT MFA INITIALS/DATE: NP 5/4/22

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 4 °C

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
- ☑ Over the Counter
- ☐ Picked up by F&BI
- ☐ FedEx/UPS/GSO

Number of days samples have been sitting prior to receipt at laboratory 0-1 days

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO
*or other representative documents, letters, and/or shipping memos

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	☑ Yes ☐ No	# of Containers	☑ Yes ☐ No		
Date Sampled	☑ Yes ☐ No	Relinquished	☑ Yes ☐ No		
Time Sampled	☐ Yes ☑ No	Requested analysis	☑ Yes ☐ No		

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Air Samples: Were any additional canisters received? ☑ NA ☐ YES ☐ NO

If Yes, number of unused 1L canisters _____

number of unused 6L canisters _____

Explain "no" items from above (use the back if needed)

TWA-6D: Sample time on label does not match COC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

June 3, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included is the amended repor from the testing of material submitted on May 3, 2022 from the TWAAFA-Groundwater Sampling 0615.20.04-03, F&BI 205037 project. The bis(2-ethylhexyl) phthalate reporting limit was stated in the case narrative, and the unnecessary qualifiers for the 8270D compounds 2-nitrophenol, 2,4-dimethylphenol, and 2,4-dichlorophenol have been removed.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Carolyn Wise, Julianna Wetmore
MFA0527R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Eric Young, B.S.

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May 27, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

Dear Ms Hackett:

Included are the results from the testing of material submitted on May 3, 2022 from the TWAAFA-Groundwater Sampling 0615.20.04-03, F&BI 205037 project. There are 52 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Carolyn Wise
MFA0527R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on May 3, 2022 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-Groundwater Sampling 0615.20.04-03 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
205037 -01	TWA-1-0522
205037 -02	TWA-2-0522
205037 -03	Trip Blank 1-0522
205037 -04	TWA-3-0522
205037 -05	TWA-10D-0522
205037 -06	SB-1A-0522

Methylene chloride was detected in the 8260D analysis of samples TWA-1-0522, TWA-2-0522, Trip Blank 1-0522, TWA-3-0522, TWA-10D-0522, and SB-1A-0522. The data were flagged as due to laboratory contamination.

The 8260D laboratory control sample exceeded the acceptance criteria for 2,2-dichloropropane. The compound was not detected, therefore the data were acceptable.

The 8270E calibration standard failed the acceptance criteria for benzoic acid. The data were flagged accordingly.

Several 8270E compounds failed below the acceptance criteria in the matrix spike samples, due to the acceptance criteria being set to the method default of 50-150 percent. The laboratory control sample met the acceptance criteria, therefore the results were considered acceptable.

Phenol in the 8270E laboratory control sample failed below the acceptance criteria. The data were flagged accordingly. Several other compounds excceded the acceptance criteria, but were not detected. Therefore the data were acceptable.

Bis(2-ethylhexyl) phthalate was detected in the samples at a level less than ten times that detected in the method blank. The affected compounds were flagged accordingly.

The 6020B samples TWA-3-0522 and TWA-10D-0522 were analyzed at a dilution due to matrix interferences.

The 8270E bis(2-ethylhexyl) phthalate reporting limit for the samples is 1.6 ug/L. The results were reported between the method detection limit and the reporting limit for samples.

All other quality control requirements were acceptable.

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037
Date Extracted: 05/06/22
Date Analyzed: 05/06/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
TWA-1-0522 205037-01	<100	66
TWA-2-0522 205037-02	<100	63
Trip Blank 1-0522 205037-03	<100	61
TWA-3-0522 205037-04	<100	64
TWA-10D-0522 205037-05	<100	62
SB-1A-0522 205037-06	<100	64
Method Blank 02-907 MB	<100	67

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037
Date Extracted: 05/09/22
Date Analyzed: 05/09/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
TWA-1-0522 205037-01	<50	<250	134
TWA-2-0522 205037-02	<50	<250	129
TWA-3-0522 205037-04	<50	<250	121
TWA-10D-0522 205037-05	<50	<250	117
SB-1A-0522 205037-06 1/1.2	<60	<300	125
Method Blank 02-1065 MB	<50	<250	110

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037
Date Extracted: 05/05/22
Date Analyzed: 05/05/22

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
TWA-1-0522 205037-01	1,100 x	580 x	140
TWA-2-0522 205037-02	320 x	410 x	128
TWA-3-0522 205037-04	150 x	<250	124
TWA-10D-0522 205037-05	230 x	<250	129
SB-1A-0522 205037-06 1/1.2	110 x	<300	134
Method Blank 02-1065 MB	<50	<250	119

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-01
Date Analyzed:	05/11/22	Data File:	205037-01.140
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	3.86
Barium	189
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	1.19
Lead	<1
Nickel	3.85
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	4.81
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-01 x10
Date Analyzed:	05/11/22	Data File:	205037-01 x10.112
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	3,330

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-01 x100
Date Analyzed:	05/12/22	Data File:	205037-01 x100.102
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	23,200

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-02
Date Analyzed:	05/11/22	Data File:	205037-02.141
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	16.1
Arsenic	45.7
Barium	51.6
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	1.65
Copper	4.01
Lead	<1
Nickel	7.52
Selenium	1.63
Silver	<1
Thallium	<1
Vanadium	1.16
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-02 x10
Date Analyzed:	05/11/22	Data File:	205037-02 x10.113
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,180
Manganese	1,070

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-3-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-04 x2
Date Analyzed:	05/12/22	Data File:	205037-04 x2.110
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	12.4
Barium	56.8
Beryllium	<2
Cadmium	<2
Chromium	2.07
Cobalt	2.19
Copper	2.67
Iron	3,030
Lead	<2
Manganese	921
Nickel	6.86
Selenium	21.7
Silver	<2
Thallium	<2
Vanadium	<2
Zinc	<10

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10D-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-05 x2
Date Analyzed:	05/12/22	Data File:	205037-05 x2.111
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<2
Arsenic	11.0
Barium	40.7
Beryllium	<2
Cadmium	<2
Chromium	5.72
Cobalt	<2
Copper	<2
Iron	1,200
Lead	<2
Manganese	91.8
Nickel	3.00
Selenium	30.9
Silver	<2
Thallium	<2
Vanadium	13.9
Zinc	<10

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-06
Date Analyzed:	05/11/22	Data File:	205037-06.147
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	1.08
Barium	3.90
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	2.85
Lead	<1
Manganese	169
Nickel	4.19
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	4.07
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-06 x10
Date Analyzed:	05/11/22	Data File:	205037-06 x10.119
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Iron	1,320

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	I2-345 mb
Date Analyzed:	05/11/22	Data File:	I2-345 mb.096
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Antimony	<1
Arsenic	<1
Barium	<1
Beryllium	<1
Cadmium	<1
Chromium	<1
Cobalt	<1
Copper	<1
Iron	<50
Lead	<1
Manganese	<1
Nickel	<1
Selenium	<1
Silver	<1
Thallium	<1
Vanadium	<1
Zinc	<5

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037
Date Extracted: 05/13/22
Date Analyzed: 05/16/22

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES
FOR TOTAL MERCURY
USING EPA METHOD 1631E**

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Total Mercury
TWA-1-0522 205037-01	<0.02
TWA-2-0522 205037-02	<0.02
TWA-3-0522 205037-04	<0.02
TWA-10D-0522 205037-05	<0.02
SB-1A-0522 205037-06	<0.02
Method Blank i2-356 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-01
Date Analyzed:	05/16/22	Data File:	051538.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	92	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.10	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	6.4 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	5.7	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-02
Date Analyzed:	05/16/22	Data File:	051539.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	71	132
Toluene-d8	104	68	139
4-Bromofluorobenzene	98	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	11 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Trip Blank 1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-03
Date Analyzed:	05/16/22	Data File:	051540.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	7.5 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-3-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-04
Date Analyzed:	05/16/22	Data File:	051541.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	71	132
Toluene-d8	97	68	139
4-Bromofluorobenzene	95	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	12 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10D-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-05
Date Analyzed:	05/16/22	Data File:	051542.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	71	132
Toluene-d8	98	68	139
4-Bromofluorobenzene	99	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	12 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	205037-06
Date Analyzed:	05/16/22	Data File:	051536.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	71	132
Toluene-d8	102	68	139
4-Bromofluorobenzene	96	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	11 ca lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/13/22	Lab ID:	02-1100 mb
Date Analyzed:	05/15/22	Data File:	051534.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	71	132
Toluene-d8	100	68	139
4-Bromofluorobenzene	103	62	136

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-01
Date Analyzed:	05/11/22	Data File:	051124.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.70

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-02
Date Analyzed:	05/11/22	Data File:	051125.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.42

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-3-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-04
Date Analyzed:	05/11/22	Data File:	051126.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	92	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-10D-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-05
Date Analyzed:	05/11/22	Data File:	051127.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	205037-06
Date Analyzed:	05/11/22	Data File:	051128.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	96	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	94	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/11/22	Lab ID:	02-1091 mb
Date Analyzed:	05/11/22	Data File:	051123.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	93	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	<0.4

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	205037-01 1/0.5
Date Analyzed:	05/05/22	Data File:	050518.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	30	10	60
Phenol-d6	25	10	49
Nitrobenzene-d5	70	15	144
2-Fluorobiphenyl	69	25	128
2,4,6-Tribromophenol	94	10	142
Terphenyl-d14	102	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	1.3
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.46
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.011
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.013
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	0.38	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	0.15	Bis(2-ethylhexyl) phthalate	1.3 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	205037-02 1/0.5
Date Analyzed:	05/05/22	Data File:	050519.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	10	60
Phenol-d6	26	10	49
Nitrobenzene-d5	83	15	144
2-Fluorobiphenyl	89	25	128
2,4,6-Tribromophenol	104	10	142
Terphenyl-d14	109	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.014
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	2.0 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-3-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	205037-04 1/0.5
Date Analyzed:	05/05/22	Data File:	050520.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	32	10	60
Phenol-d6	25	10	49
Nitrobenzene-d5	73	15	144
2-Fluorobiphenyl	77	25	128
2,4,6-Tribromophenol	100	10	142
Terphenyl-d14	102	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	0.14
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.14
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	0.017
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.018
2,4-Dichlorophenol	<1	Carbazole	0.11
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.030
Hexachlorobutadiene	<0.1	Pyrene	0.017
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.2 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10D-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	205037-05 1/0.5
Date Analyzed:	05/05/22	Data File:	050521.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	42	10	60
Phenol-d6	32	10	49
Nitrobenzene-d5	86	15	144
2-Fluorobiphenyl	84	25	128
2,4,6-Tribromophenol	108	10	142
Terphenyl-d14	101	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.5 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	205037-06 1/0.5
Date Analyzed:	05/05/22	Data File:	050522.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	35	10	60
Phenol-d6	27	10	49
Nitrobenzene-d5	77	15	144
2-Fluorobiphenyl	80	25	128
2,4,6-Tribromophenol	100	10	142
Terphenyl-d14	96	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.9 fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/05/22	Lab ID:	02-1070 mb 1/0.5
Date Analyzed:	05/05/22	Data File:	050517.D
Matrix:	Water	Instrument:	GCMS9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	43	10	60
Phenol-d6	30	10	49
Nitrobenzene-d5	85	15	144
2-Fluorobiphenyl	78	25	128
2,4,6-Tribromophenol	93	10	142
Terphenyl-d14	95	41	138

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1	3-Nitroaniline	<10
2-Chlorophenol	<1	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	<0.01
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2	4-Nitroaniline	<10
Nitrobenzene	<0.1	4,6-Dinitro-2-methylphenol	<3
Isophorone	<0.1	4-Bromophenyl phenyl ether	<0.1
2-Nitrophenol	<1	Hexachlorobenzene	<0.1
2,4-Dimethylphenol	<1	Pentachlorophenol	<0.5
Benzoic acid	<5 ca	Phenanthrene	<0.01
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	<0.1	Pyrene	<0.01
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	<0.1	Chrysene	<0.01
1-Methylnaphthalene	<0.1	Bis(2-ethylhexyl) phthalate	1.0 j lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1
2,4,6-Trichlorophenol	<1	Benzo(a)pyrene	<0.01
2,4,5-Trichlorophenol	<1	Benzo(b)fluoranthene	<0.01
2-Chloronaphthalene	<0.1	Benzo(k)fluoranthene	<0.01
2-Nitroaniline	<0.5	Indeno(1,2,3-cd)pyrene	<0.01
Dimethyl phthalate	<1	Dibenz(a,h)anthracene	<0.01
Acenaphthylene	<0.01	Benzo(g,h,i)perylene	<0.02

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-1-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	205037-01 1/0.25
Date Analyzed:	05/10/22	Data File:	051015.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	39	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-2-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	205037-02 1/0.25
Date Analyzed:	05/10/22	Data File:	051016.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	19 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-3-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	205037-04 1/0.25
Date Analyzed:	05/10/22	Data File:	051017.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	TWA-10D-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	205037-05 1/0.25
Date Analyzed:	05/10/22	Data File:	051018.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	30	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	SB-1A-0522	Client:	Maul Foster Alongi
Date Received:	05/03/22	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	205037-06 1/0.25
Date Analyzed:	05/10/22	Data File:	051008.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	35	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 205037
Date Extracted:	05/06/22	Lab ID:	02-1072 mb 1/0.25
Date Analyzed:	05/10/22	Data File:	051007.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 205037-06 Matrix Spike

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	ug/L (ppb)	1,000	<100	98	96	53-117	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	106	69-134

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	128	132	50-150	3

Laboratory Code: Laboratory Control Sample Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	112	63-142

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	138	145	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	116	63-142

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	ug/L (ppb)	20	<1	104	101	75-125	3
Arsenic	ug/L (ppb)	10	1.08	95	96	75-125	1
Barium	ug/L (ppb)	50	3.90	97	98	75-125	1
Beryllium	ug/L (ppb)	5	<1	103	102	75-125	1
Cadmium	ug/L (ppb)	5	<1	96	96	75-125	0
Chromium	ug/L (ppb)	20	<1	106	104	75-125	2
Cobalt	ug/L (ppb)	20	<1	102	101	75-125	1
Copper	ug/L (ppb)	20	2.85	98	97	75-125	1
Iron	ug/L (ppb)	100	1,640	95	80	75-125	17
Lead	ug/L (ppb)	10	<1	95	94	75-125	1
Manganese	ug/L (ppb)	20	169	103	87	75-125	17
Nickel	ug/L (ppb)	20	4.19	100	99	75-125	1
Selenium	ug/L (ppb)	5	<1	103	101	75-125	2
Silver	ug/L (ppb)	5	<1	90	92	75-125	2
Thallium	ug/L (ppb)	5	<1	96	95	75-125	1
Vanadium	ug/L (ppb)	20	4.07	112	111	75-125	1
Zinc	ug/L (ppb)	50	<5	96	96	75-125	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	ug/L (ppb)	20	96	80-120
Arsenic	ug/L (ppb)	10	95	80-120
Barium	ug/L (ppb)	50	96	80-120
Beryllium	ug/L (ppb)	5	102	80-120
Cadmium	ug/L (ppb)	5	97	80-120
Chromium	ug/L (ppb)	20	97	80-120
Cobalt	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	100	80-120
Iron	ug/L (ppb)	100	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	96	80-120
Nickel	ug/L (ppb)	20	100	80-120
Selenium	ug/L (ppb)	5	93	80-120
Silver	ug/L (ppb)	5	90	80-120
Thallium	ug/L (ppb)	5	94	80-120
Vanadium	ug/L (ppb)	20	98	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR TOTAL MERCURY USING EPA METHOD 1631E

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	<0.02	112	102	71-125	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.01	100	103	78-125	3

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	<1	102	98	50-150	4
Chloromethane	ug/L (ppb)	10	<10	108	98	50-150	10
Vinyl chloride	ug/L (ppb)	10	<0.02	109	96	16-176	13
Bromomethane	ug/L (ppb)	10	<5	117	110	10-193	6
Chloroethane	ug/L (ppb)	10	<1	110	103	50-150	7
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	107	50-150	1
Acetone	ug/L (ppb)	50	<50	104	93	15-179	11
1,1-Dichloroethene	ug/L (ppb)	10	<1	104	95	50-150	9
Hexane	ug/L (ppb)	10	<5	84	87	49-161	4
Methylene chloride	ug/L (ppb)	10	11	74 b	54 b	40-143	31 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	95	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	98	92	50-150	6
1,1-Dichloroethane	ug/L (ppb)	10	<1	96	95	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	91	88	10-335	3
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	94	95	50-150	1
Chloroform	ug/L (ppb)	10	<1	97	98	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	83	88	34-168	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	97	97	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	98	50-150	2
1,1-Dichloropropene	ug/L (ppb)	10	<1	87	95	50-150	9
Carbon tetrachloride	ug/L (ppb)	10	<0.5	92	97	50-150	5
Benzene	ug/L (ppb)	10	<0.35	91	95	50-150	4
Trichloroethene	ug/L (ppb)	10	<0.5	84	85	43-133	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	92	90	50-150	2
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	94	50-150	3
Dibromomethane	ug/L (ppb)	10	<1	89	98	50-150	10
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	81	90	50-150	11
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	87	83	48-145	5
Toluene	ug/L (ppb)	10	<1	95	93	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	85	94	37-152	10
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	93	92	50-150	1
2-Hexanone	ug/L (ppb)	50	<10	85	97	50-150	13
1,3-Dichloropropane	ug/L (ppb)	10	<1	99	96	50-150	3
Tetrachloroethene	ug/L (ppb)	10	<1	101	94	50-150	7
Dibromochloromethane	ug/L (ppb)	10	<0.5	97	97	33-164	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	98	98	50-150	0
Chlorobenzene	ug/L (ppb)	10	<1	94	96	50-150	2
Ethylbenzene	ug/L (ppb)	10	<1	99	97	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	99	97	50-150	2
m,p-Xylene	ug/L (ppb)	20	<2	99	96	50-150	3
o-Xylene	ug/L (ppb)	10	<1	102	98	50-150	4
Styrene	ug/L (ppb)	10	<1	94	89	50-150	5
Isopropylbenzene	ug/L (ppb)	10	<1	100	96	50-150	4
Bromoform	ug/L (ppb)	10	<5	97	94	23-161	3
n-Propylbenzene	ug/L (ppb)	10	<1	96	95	50-150	1
Bromobenzene	ug/L (ppb)	10	<1	96	93	50-150	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	98	96	50-150	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	115	116	10-235	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	88	98	33-151	11
2-Chlorotoluene	ug/L (ppb)	10	<1	97	95	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	94	95	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	95	96	50-150	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	95	93	50-150	2
sec-Butylbenzene	ug/L (ppb)	10	<1	97	96	46-139	1
p-Isopropyltoluene	ug/L (ppb)	10	<1	97	95	46-140	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	96	50-150	1
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	98	97	50-150	1
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	101	100	50-150	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	104	100	50-150	4
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	100	93	50-150	7
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	104	95	42-150	9
Naphthalene	ug/L (ppb)	10	<1	100	93	50-150	7
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	99	96	44-155	3

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	106	100	70-130	6
Chloromethane	ug/L (ppb)	10	88	106	70-130	19
Vinyl chloride	ug/L (ppb)	10	93	101	70-130	8
Bromomethane	ug/L (ppb)	10	100	108	28-182	8
Chloroethane	ug/L (ppb)	10	94	102	70-130	8
Trichlorofluoromethane	ug/L (ppb)	10	92	102	70-130	10
Acetone	ug/L (ppb)	50	85	89	42-155	5
1,1-Dichloroethene	ug/L (ppb)	10	97	97	70-130	0
Hexane	ug/L (ppb)	10	108	123	50-161	13
Methylene chloride	ug/L (ppb)	10	92	105	29-192	13
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	93	96	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	96	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	91	94	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	158 vo	166 vo	70-130	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	99	70-130	6
Chloroform	ug/L (ppb)	10	88	93	70-130	6
2-Butanone (MEK)	ug/L (ppb)	50	93	89	50-157	4
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	98	98	70-130	0
1,1-Dichloropropene	ug/L (ppb)	10	90	90	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	92	97	70-130	5
Benzene	ug/L (ppb)	10	92	94	70-130	2
Trichloroethene	ug/L (ppb)	10	85	86	70-130	1
1,2-Dichloropropane	ug/L (ppb)	10	95	93	70-130	2
Bromodichloromethane	ug/L (ppb)	10	93	92	70-130	1
Dibromomethane	ug/L (ppb)	10	90	96	70-130	6
4-Methyl-2-pentanone	ug/L (ppb)	50	102	92	70-130	10
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	101	70-130	9
Toluene	ug/L (ppb)	10	93	96	70-130	3
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	104	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	91	93	70-130	2
2-Hexanone	ug/L (ppb)	50	93	89	69-130	4
1,3-Dichloropropane	ug/L (ppb)	10	91	88	70-130	3
Tetrachloroethene	ug/L (ppb)	10	101	103	70-130	2
Dibromochloromethane	ug/L (ppb)	10	95	90	63-142	5
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	97	70-130	1
Chlorobenzene	ug/L (ppb)	10	92	93	70-130	1
Ethylbenzene	ug/L (ppb)	10	96	98	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	93	95	70-130	2
m,p-Xylene	ug/L (ppb)	20	97	99	70-130	2
o-Xylene	ug/L (ppb)	10	96	99	70-130	3
Styrene	ug/L (ppb)	10	92	91	70-130	1
Isopropylbenzene	ug/L (ppb)	10	94	99	70-130	5
Bromoform	ug/L (ppb)	10	93	94	50-157	1
n-Propylbenzene	ug/L (ppb)	10	95	105	70-130	10
Bromobenzene	ug/L (ppb)	10	90	101	70-130	12
1,3,5-Trimethylbenzene	ug/L (ppb)	10	97	106	52-150	9
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	110	124	70-130	12
1,2,3-Trichloropropane	ug/L (ppb)	10	92	95	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	89	100	70-130	12
4-Chlorotoluene	ug/L (ppb)	10	93	104	70-130	11
tert-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
1,2,4-Trimethylbenzene	ug/L (ppb)	10	95	106	70-130	11
sec-Butylbenzene	ug/L (ppb)	10	95	107	70-130	12
p-Isopropyltoluene	ug/L (ppb)	10	99	109	70-130	10
1,3-Dichlorobenzene	ug/L (ppb)	10	94	101	70-130	7
1,4-Dichlorobenzene	ug/L (ppb)	10	94	108	70-130	14
1,2-Dichlorobenzene	ug/L (ppb)	10	97	105	70-130	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	110	70-130	13
1,2,4-Trichlorobenzene	ug/L (ppb)	10	98	109	70-130	11
Hexachlorobutadiene	ug/L (ppb)	10	107	115	70-130	7
Naphthalene	ug/L (ppb)	10	93	101	70-130	8
1,2,3-Trichlorobenzene	ug/L (ppb)	10	97	104	69-143	7

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR VOLATILES BY EPA METHOD 8260D SIM

Laboratory Code: 205037-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	<0.4	97	92	50-150	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	102	90	70-130	12

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: 205037-06 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Phenol	ug/L (ppb)	2.5	<1	40 vo	25 vo	50-150	46 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	71	60	50-150	17
2-Chlorophenol	ug/L (ppb)	2.5	<1	69	58	50-150	17
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	58	50-150	13
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	65	60	50-150	8
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	67	63	50-150	6
Benzyl alcohol	ug/L (ppb)	13	<1	70	60	50-150	15
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	71	64	50-150	10
2-Methylphenol	ug/L (ppb)	2.5	<1	67	55	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	62	59	50-150	5
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	90	81	50-150	11
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	63	53	50-150	17
Nitrobenzene	ug/L (ppb)	2.5	<0.1	84	75	50-150	11
Isophorone	ug/L (ppb)	2.5	<0.1	92	85	50-150	8
2-Nitrophenol	ug/L (ppb)	2.5	<1	83	74	50-150	11
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	81	75	50-150	8
Benzoic acid	ug/L (ppb)	20	<5	40 vo	34 vo	50-150	16
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	77	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	80	70	50-150	13
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	72	67	50-150	7
Naphthalene	ug/L (ppb)	2.5	<0.1	72	66	50-150	9
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	74	63	50-150	16
4-Chloroaniline	ug/L (ppb)	13	<10	67	59	50-150	13
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	94	89	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	73	50-150	4
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	76	74	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	89	86	50-150	3
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	96	86	50-150	11
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	97	91	50-150	6
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	79	75	50-150	5
2-Nitroaniline	ug/L (ppb)	13	<0.5	90	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	93	92	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	85	81	50-150	5
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	92	94	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	72	73	50-150	1
Acenaphthene	ug/L (ppb)	2.5	<0.01	81	77	50-150	5
2,4-Dinitrophenol	ug/L (ppb)	5	<3	114	114	50-150	0
Dibenzofuran	ug/L (ppb)	2.5	<0.1	94	90	50-150	4
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	94	92	50-150	2
4-Nitrophenol	ug/L (ppb)	5	<3	44 vo	38 vo	50-150	15
Diethyl phthalate	ug/L (ppb)	2.5	<1	97	117	50-150	19
Fluorene	ug/L (ppb)	2.5	<0.01	86	85	50-150	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	89	86	50-150	3
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	91	84	50-150	8
4-Nitroaniline	ug/L (ppb)	13	<10	77	80	50-150	4
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	140	126	50-150	11
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	90	86	50-150	5
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	89	79	50-150	12
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	127	122	50-150	4
Phenanthrene	ug/L (ppb)	2.5	<0.01	89	83	50-150	7
Anthracene	ug/L (ppb)	2.5	<0.01	91	85	50-150	7
Carbazole	ug/L (ppb)	2.5	<0.1	103	102	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	114	91	50-150	22 vo
Fluoranthene	ug/L (ppb)	2.5	<0.01	99	95	50-150	4
Pyrene	ug/L (ppb)	2.5	<0.01	96	88	50-150	9
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	113	121	50-150	7
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	93	93	50-150	0
Chrysene	ug/L (ppb)	2.5	<0.01	90	88	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	1.9	80 b	66 b	50-150	19 b
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	117	115	50-150	2
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	98	94	50-150	4
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	98	95	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	95	91	50-150	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	97	88	50-150	10
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	92	85	50-150	8
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	88	81	50-150	8

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/0.5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Phenol	ug/L (ppb)	2.5	29 vo	10-27
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	71	44-118
2-Chlorophenol	ug/L (ppb)	2.5	73	33-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	72	55-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	71	56-92
1,2-Dichlorobenzene	ug/L (ppb)	2.5	71	58-92
Benzyl alcohol	ug/L (ppb)	13	72	14-82
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	76	66-88
2-Methylphenol	ug/L (ppb)	2.5	73 vo	28-65
Hexachloroethane	ug/L (ppb)	2.5	71	54-94
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	87	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	67 vo	23-55
Nitrobenzene	ug/L (ppb)	2.5	86	65-103
Isophorone	ug/L (ppb)	2.5	93	67-114
2-Nitrophenol	ug/L (ppb)	2.5	89	45-115
2,4-Dimethylphenol	ug/L (ppb)	2.5	82	23-105
Benzoic acid	ug/L (ppb)	20	31 vo	10-21
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	90	70-130
2,4-Dichlorophenol	ug/L (ppb)	2.5	90	46-105
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	62-94
Naphthalene	ug/L (ppb)	2.5	80	66-94
Hexachlorobutadiene	ug/L (ppb)	2.5	76	57-93
4-Chloroaniline	ug/L (ppb)	13	86	40-141
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	99 vo	50-98
2-Methylnaphthalene	ug/L (ppb)	2.5	87	68-98
1-Methylnaphthalene	ug/L (ppb)	2.5	87	67-97
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	89	34-126
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	99	34-119
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	99	45-115
2-Chloronaphthalene	ug/L (ppb)	2.5	85	70-130
2-Nitroaniline	ug/L (ppb)	13	91	51-146
Dimethyl phthalate	ug/L (ppb)	2.5	92	70-130
Acenaphthylene	ug/L (ppb)	2.5	91	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	99	70-130
3-Nitroaniline	ug/L (ppb)	13	99	42-134
Acenaphthene	ug/L (ppb)	2.5	86	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	115	10-171
Dibenzofuran	ug/L (ppb)	2.5	100	60-115
2,4-Dinitrotoluene	ug/L (ppb)	2.5	97	70-134
4-Nitrophenol	ug/L (ppb)	5	43	10-46
Diethyl phthalate	ug/L (ppb)	2.5	93	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	94	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	92	70-130
4-Nitroaniline	ug/L (ppb)	13	98	42-150
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	126	22-141
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	89	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	86	70-130
Pentachlorophenol	ug/L (ppb)	2.5	119	28-130
Phenanthrene	ug/L (ppb)	2.5	88	70-130
Anthracene	ug/L (ppb)	2.5	92	70-130
Carbazole	ug/L (ppb)	2.5	99	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	86	49-130
Fluoranthene	ug/L (ppb)	2.5	100	70-130
Pyrene	ug/L (ppb)	2.5	90	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	100	61-124
Benz(a)anthracene	ug/L (ppb)	2.5	92	70-130
Chrysene	ug/L (ppb)	2.5	89	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	91	57-124
Di-n-octyl phthalate	ug/L (ppb)	2.5	108	45-135
Benzo(a)pyrene	ug/L (ppb)	2.5	97	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	96	62-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	96	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	93	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	89	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	86	70-130

Date of Report: 05/27/22
Date Received: 05/03/22
Project: 0615.20.04-03, F&BI 205037

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR POLYCHLORINATED BIPHENYLS AS AROCLOR 1016/1260 BY EPA METHOD 8082A

Laboratory Code: 205037-06 1/0.25 (Matrix Spike) 1/0.25

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.25	<0.0035	54	48 vo	50-150	12
Aroclor 1260	ug/L (ppb)	0.25	<0.0035	64	58	50-150	10

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.25	54	25-111
Aroclor 1260	ug/L (ppb)	0.25	50	23-123

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

3 + JB 5/4
3
205037

SAMPLE CHAIN OF CUSTODY

5/3/22 VW4/E04/AI4

Page # 1 of 1

Report To: Audrey Hackett/Carolyn Wise

Company: Maul Foster Alongi, Inc.

Address: 2815 2nd Avenue, Suite 540

City, State, ZIP: Seattle WA 98121

Phone: 206-331-1835 Email: ahackett@maulfoster.com

SAMPLERS (*signature*)

PROJECT NAME: TWAAFA - Groundwater Sampling

PO #: 0615.20.04-03

REMARKS: SVOCs lab filtered at 0.7 micron before analysis

Project Specific RLs - (Yes) / No

INVOICE TO: A. Hackett, MFA

TURNAROUND TIME
X :Standard Turnaround
:RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
Dispose after 30 days
Archive Samples
Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	VOCs by 8260D	1,4-Dioxane - 8260D	TPH-Diesel	TPH-Diesel w/SG	TPH-Gasoline	SVOCs by 8270E	cPAH only	Total Metals by 6020	LL PCBs by 8082	Mercury by 1613E		Notes
TWA-1-0522	01 A-L	05/03/22	850	W	12	X	X	X	X	X	X		X	X	X		Time on label 09:30
TWA-2-0522	02 A-L	05/03/22	930	W	12	X	X	X	X	X	X		X	X	X		0850 (ND) 5/4/22
TRIP BLANK #1-0522	03 A-C	N/A	N/A	W	3	X				X			X EJL				
TWA-3-0522	04 A-L	05/03/22	1100	W	12	X	X	X	X	X	X		X	X	X		
TWA-10D-0522	05 A-L	05/03/22	1140	W	12	X	X	X	X	X	X		X	X	X		EJL
SB-1A-0522*	06 A-AA	05/03/22	1255	W	27	X	X	X	X	X	X		X	X	X		*MS/MSD Location
												Samples received at 4 °C					

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Evelyn Lindeen	MFA	05/03/22	1525
Received by:	Khai Hoang	FBI	05/03/22	1525
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 205037 CLIENT MFA INITIALS/DATE: KH 5/3/22

If custody seals are present on cooler, are they intact?	☑ NA	☐ YES	☐ NO
Cooler/Sample temperature	4 °C		
Were samples received on ice/cold packs?		☑ YES	☐ NO

How did samples arrive?
- ☐ Over the Counter
- ☑ Picked up by F&BI
- ☐ FedEx/UPS/GSO

Number of days samples have been sitting prior to receipt at laboratory 0 days

Is there a Chain-of-Custody* (COC)? *or other representative documents, letters, and/or shipping memos	☑ YES	☐ NO
Are the samples clearly identified? (explain "no" answer below)	☑ YES	☐ NO

Is the following information provided on the COC* ? (explain "no" answer below)

Sample ID's	☐ Yes	☑ No	# of Containers	☑ Yes	☐ No
Date Sampled	☑ Yes	☐ No	Relinquished	☑ Yes	☐ No
Time Sampled	☑ Yes (NP)	☑ No	Requested analysis	☑ Yes	☐ No

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below)		☑ YES	☐ NO
Were appropriate sample containers used?	☑ YES	☐ NO	☐ Unknown
If custody seals are present on samples, are they intact?	☑ NA	☐ YES	☐ NO
Are samples requiring no headspace, headspace free?	☐ NA	☑ YES	☐ NO
Air Samples: Were any additional canisters received?	☑ NA	☐ YES	☐ NO

If Yes, number of unused 1L canisters _____

number of unused 6L canisters _____

Explain "no" items from above (use the back if needed)

a) Sample: TWA-3-0522 one voa label TWA-1-0522 time match with coc
b) Time Sampled of: TWA-1-0522 and TWA-2-0522 got switch.