First Quarter 2022

Groundwater Data Analysis Report

TAYLOR WAY AND ALEXANDER AVENUE FILL AREA SITE
TACOMA, WASHINGTON

Cleanup Site ID: 4692

May 6, 2022

Prepared by:

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Prepared for:

GENERAL METALS OF TACOMA
GLENN SPRINGS HOLDINGS
PORT OF TACOMA
CLEAN EARTH

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May 6, 2022

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1.0 Introduction

Dalton, Olmsted, and Fuglevand, Inc. (DOF) prepared this First Quarter Groundwater Data Analysis Report for the Taylor Way and Alexander Avenue Fill Area (TWAAFA) Site 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. 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 first 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 in accordance with the monitoring schedule 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 first quarter 2022 sampling event was completed as the first of four planned events 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 of Tacoma, Burlington Environmental, and Piece County (owner of the former Clean Care property). For the first quarter 2022 monitoring event wells located on the Port of Tacoma parcels were monitored by the Port of Tacoma's consultant Maul, Foster, and Alongi (MFA), and all other wells were monitored by DOF. MFA and DOF coordinated to conduct 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 first quarter of 2022, DOF and the Port completed the following work related to groundwater (GW) monitoring, in accordance with the Revised Groundwater Monitoring Plan (DOF, 2022):

- Measured water levels and collected groundwater samples from the GW 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 Figures 1 and 2. Measurement of water levels and sampling of wells on the Port properties was completed by MFA on behalf of the Port, in coordination with DOF. Measurement of water levels and sampling of wells on Burlington Environmental and the former CleanCare properties was conducted by DOF on behalf of the AO parties.

2.1 Water Level Measurements

On January 18, 2022, DOF and the Port 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 are summarized in Table 2. All network monitoring wells were measured within a 12-hour period with the following exceptions:

- CTMW-17D and PZ-1 were measured on January 19 and January 26, respectively, after access issues on the day of the water level event were resolved.
- TWA-7D was measured on January 31, 2022, approximately one week after installation, as discussed with Ecology due to timing of construction encroaching on the sampling event. TWA-7D was installed on January 26. 2022.

Figures 1 and 2 present the groundwater elevation contours 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 first quarter 2022 event as listed in Table 1 from January 19 to February 3, 2022. Samples were collected in accordance with the Revised Groundwater Monitoring Plan (DOF, 2022). Prior to sampling, purging was conducted at each well. During purging, water quality parameters were recorded, and once parameters stabilized, a groundwater sample was collected. Field forms documenting all 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) and TPHs as diesel-range organics (Dx), including 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 analytical 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 for DOF and MFA collected groundwater samples are included along with the data reports in Appendix B.

2.3 Investigation-Derived Waste

The primary waste generated during the event was purged groundwater, containerized during the sampling events as it was generated. Groundwater was containerized separately based on the property parcel ownership and characterized by the sampling results. The Port is managing waste generated from wells on the Port-owned parcels. Clean Earth is managing waste generated from the wells on the parcels owned by Burlington Environmental. DOF is coordinating disposal with Pierce County and Ecology for waste generated from the wells on the former Clean Care parcel.

3.0 Results

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

3.1 Groundwater Elevations

Depth to water measurements were converted to elevation using recent 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 first quarter 2022 measurement event are recorded on Table 2 and illustrated on Figures 1 and 2, 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 property. 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 property, the “B” interval measurements were used for mapping groundwater elevations as their screen depths are more consistent with wells across the site.

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 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 useable and represent data of good quality with reasonable confidence 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 TPHs were qualified as 'NJ,' defined as a tentatively identified compound, because the sample chromatographic pattern did not resemble the fuel standard used for quantitation. These data will be further reviewed with the context of analyzing both with and without silica gel cleanup for this project.

3.3 Groundwater Chemistry Analytical Results

Validated analytical results of groundwater samples collected during the first quarter 2022 monitoring event at the TWAAFA Site are included in Tables 3 through 7. Screening levels used in this report were those used in the 2020 Data Gaps Work Plan (DOF, 2020). Those screening levels were based on levels developed in the Stericycle RI Report (in 2005) and also applied in the 1514 Taylor Way RI (by Port of Tacoma in 2006). These screening levels were site-specific screening levels developed under MTCA in consideration of the conceptual model (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 Model Toxics Control Act (MTCA) 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 Level 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 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 the SL from the Data Gaps Work Planprimarily in shallow wells located on the former CleanCare property (CCW-2A, CCW-2B, CCW-3A, CCW-3B, CCW-5B, and CCW-7B). The highest concentration of TPH-Gx (1,100 micrograms per liter [µg/L]) was detected at CCW-7B. which is located near the eastern edge of the former CleanCare property. Concentrations were below the SL in all deep wells and all other shallow wells analyzed for TPHs.
- Diesel and lube oil range hydrocarbons were detected in several wells throughout the TWAAFA Site (CCW-1C, CCW-2A, CCW-2B, CCW-2C, CCW-3A, CCW-3B, CCW-4C, CCW-5B, CCW-5C, CCW-6B, CCW-7B, CCW-7C, CCW-8B, MW-1, MW-4, SB-3A, TWA-1, TWA-5D, and TWA-10D). Split samples analyzed using silica gel cleanup preparation methods resulted in significantly lower concentrations with detections above the SL at CCW-2A, CCW_3A, CCW-7B, MW-1, and MW-4, generally near the center of the TWAAFA Site.
- TPH concentrations are illustrated on Figures 13 through 16.

Summary of VOC analytical results (Table 4):

- Select VOCs were detected at concentrations above their respective Data Gaps Work Plan SL; 1,4-dichlorobenzene, benzene, *cis*-1,2-dichloroethene, tetrachloroethene, toluene, trichloroethene, and vinyl chloride. Benzene and vinyl chloride concentrations are illustrated on Figures 5 through 8.

- The highest concentrations of VOCs were detected on the former CleanCare property (within well cluster CCW-2) including tetrachloroethene (870 µg/L), trichloroethene (320 µg/L), and vinyl chloride (51 µg/L), reported in the shallowest depth interval (CCW-2A).
- Concentrations of VOCs were generally below their Data Gaps Work Plan respective SLs 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. No SVOCs were detected above their respective Data Gaps Work Plan SLs.

Summary of metals analytical results (Table 6):

- Metals constituents detected above the laboratory reporting limits included arsenic, chromium, copper, lead, manganese, nickel, and zinc. Metals constituents detected above their respective SL included arsenic, copper, and manganese. Arsenic and Copper concentrations are illustrated on Figures 9 through 12.
- Arsenic concentrations ranged from less than 1 µg/L (not detected) to 1,320 µg/L (CCW-2B). Fifteen of 35 wells sampled exceeded the arsenic SL of 5 µg/L. Arsenic concentrations were highest on the former CleanCare property in samples collected in the shallow aquifer.
- Manganese was detected throughout the TWAAFA Site at concentrations ranging from 76.3 µg/L (CCW-3A) to 1,870 µg/L (TWA-1). Thirty-two of 35 sampled exceeded the manganese SL of 100 µg/L. Manganese concentrations were highest in the north-central area of the Site.
- Copper was detected primarily on the former CleanCare property at concentrations ranging from 0.515 µg/L (CCW-2C) to 20.4 µg/L (CCW-2A). Nine of 35 wells sampled exceeded the copper SL of 2.4 µg/L.

Summary analytical results PCBs (Table 7):

- PCBs were only detected above laboratory reporting limits in wells sampled at the former CleanCare property (CCW-3A and MW-4). PCB concentrations in these wells ranged from 0.0067 to 0.039 µg/L. None of the detected PCB concentrations exceeded their respective SL.

3.4 Conclusions

The first quarter 2022 groundwater sampling event was completed successfully following the objectives set forth in the Groundwater Monitoring Plan (DOF, 2022). New deep aquifer screened groundwater monitoring locations added to the network were successfully incorporated into the event. Access issues for wells PZ-1 and TWA-17D were resolved after the water level measurement phase and before the groundwater chemistry sampling phase of the event. Analytical results from groundwater samples collected show the highest concentrations of compounds that exceed Data Gap Work Plan SLs to be generally located centrally within the TWAAFA Site.

4.0 Upcoming Schedule

In accordance with the Revised Groundwater Monitoring Plan (DOF, 2022) submitted to Ecology in April 2022, four quarters of groundwater monitoring events are to be completed at the TWAAFA Site. The second quarter 2022 water level measurements and groundwater quality sample collections is scheduled to be conducted at the TWAFAA Site in May 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
First 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
First 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.

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

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Table 2

Groundwater Elevation Data

First 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	1/18/2022	--	3.63	12.18	15.81
CCW-1B	1/18/2022	--	2.96	12.34	15.30
CCW-1C	**1/18/2022**	**--**	**9.36**	**6.78**	**16.14**
CCW-2A	1/18/2022	--	2.13	13.21	15.34
CCW-2B	1/18/2022	--	1.20	14.04	15.24
CCW-2C	**1/18/2022**	**--**	**8.33**	**6.85**	**15.18**
CCW-3A	1/18/2022	--	2.91	13.96	16.87
CCW-3B	1/18/2022	--	3.51	13.72	17.23
CCW-3C	**1/18/2022**	**--**	**11.90**	**6.90**	**18.80**
CCW-4C	**1/18/2022**	**--**	**10.06**	**6.78**	**16.84**
CCW-5B	1/18/2022	--	2.45	13.29	15.74
CCW-5C	**1/18/2022**	**--**	**8.55**	**6.97**	**15.52**
CCW-6B	1/18/2022	--	1.73	13.70	15.43
CCW-6C	**1/18/2022**	**--**	**8.21**	**7.04**	**15.25**
CCW-7B	1/18/2022	1.66	1.67	13.36	15.03
CCW-7C	**1/18/2022**	**--**	**8.19**	**6.99**	**15.18**
CCW-8B	1/18/2022	--	2.43	14.01	16.44
MW-1	1/18/2022	--	0.78	13.29	14.07
MW-4	1/18/2022	--	4.40	14.82	19.22
SB-1A	1/18/2022	--	2.32	13.14	15.46
SB-2A	1/18/2022	--	3.59	11.44	15.03
SB-3A	1/18/2022	--	2.92	13.78	16.70
CTMW-1	1/18/2022	--	2.96	13.59	16.55
CTMW-5	1/18/2022	2.8	2.81	14.41	17.22
CTMW-7	**1/18/2022**	**11.29**	**11.30**	**7.03**	**18.33**
CTMW-8	1/18/2022	--	4.31	13.60	17.91
CTMW-9	**1/18/2022**	**--**	**11.01**	**6.49**	**17.50**
CTMW-10	1/18/2022	2.76	2.77	13.15	15.92
CTMW-11R2	1/18/2022	--	4.03	16.74	20.77
CTMW-12	**1/18/2022**	**--**	**14.85**	**6.56**	**21.41**
CTMW-14	1/18/2022	4.45	4.46	11.79	16.25

DOF

Table 2
Groundwater Elevation Data
First 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	1/18/2022	--	4.76	11.64	16.40
CTMW-17	1/18/2022	6.32	6.32	16.12	22.44
CTMW-17D*	**1/19/2022**	**nm**	**13.05**	**6.71**	**19.76**
CTMW-18	1/18/2022	6.01	6.02	16.48	22.50
CTMW-20	1/18/2022	--	0.95	13.20	14.15
CTMW-23R	1/18/2022	--	3.71	16.17	19.88
CTMW-24	1/18/2022	5.64	5.65	13.82	19.47
CTMW-24D	**1/18/2022**	**--**	**12.93**	**6.58**	**19.51**
CTMW-25D	**1/18/2022**	**--**	**9.58**	**6.60**	**16.18**
PZ-1*	**1/26/2022**	nm	1.33	15.56	16.89
PZ-5	1/18/2022	2.84	2.85	13.13	15.98
PZ-7	1/18/2022	--	9.85	14.24	24.09
PZ-8	1/18/2022	7.07	7.08	10.88	17.96
PZ-9	1/18/2022	--	5.24	13.43	18.67
TWA-1	1/18/2022	--	4.14	10.64	14.78
TWA-2	1/18/2022	--	2.09	9.60	11.69
TWA-3	1/18/2022	--	6.81	8.67	15.48
TWA-4D	**1/18/2022**	**--**	**9.15**	**6.13**	**15.28**
TWA-5D	**1/18/2022**	**--**	**11.38**	**6.76**	**18.14**
TWA-6D	**1/18/2022**	**--**	**10.96**	**6.69**	**17.65**
TWA-7D*	**1/31/2022**	**--**	**9.55**	**5.85**	**15.40**
TWA-8D	**1/18/2022**	**--**	**8.86**	**6.06**	**14.92**
TWA-9D	**1/18/2022**	**--**	**9.20**	**6.64**	**15.84**
TWA-10D	**1/18/2022**	**--**	**9.83**	**6.14**	**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

* water levels recorded at a later date due to access issues

Abbreviations

NAVD 88 = North American Vertical Datum

LNAPL = light non-aqueous phase liquid

nm = not measured

DOF

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

TPHs	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	CCW-6B	CCW-6B (DUPLICATE)	CCW-6C	CCW-7B	CCW-7C
Date Sampled		2/1/2022	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/20/2022	1/31/2022	1/31/2022	1/31/2022	2/1/2022	1/20/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022	2/2/2022	2/2/2022
Gasoline Range Organics	800	**380**	100 U	100 U	**4,300**	**5,500**	**5,500**	100 U	**390**	**710**	100 U	100 U	**1,100**	100 U	**250**	**250**	500 U	**1,100**	100 U
Diesel Range Organics	500	**210 NJ**	**360 NJ**	**900 NJ**	**2,700 NJ**	**2,300 NJ**	**2,500 NJ**	**550 NJ**	**11,000 NJ**	**2,700 NJ**	**530 NJ**	**1,000 NJ**	**2,400 NJ**	**1,800 NJ**	**780 NJ**	**660 NJ**	**790 NJ**	**1,400 NJ**	**550 NJ**
Lube Oil	500	300 U	300 U	**300 NJ**	**850 NJ**	**900 NJ**	**1,000 NJ**	**340 NJ**	**3,300 NJ**	**880 NJ**	250 U	**340 NJ**	**940 NJ**	**570 NJ**	280 U	280 U	250 U	**290 NJ**	250 U
with Silica Gel Cleanup																			
Diesel Range Organics	500	60 U	60 U	60 U	**690 NJ**	**330 NJ**	**360 NJ**	60 U	**1,700**	**200**	50 U	60 U	**320 NJ**	60 U	55 U	55 U	50 U	**520**	50 U
Lube Oil	500	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	250 U	300 U	300 U	300 U	280 U	280 U	250 U	250 U	250 U

TPHs	DGWP Screening Level	CCW-8B	MW-1	MW-4	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D	TWA-7D	TWA-8D	TWA-9D	TWA-10D
Date Sampled		2/2/2022	1/25/2022	1/31/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/24/2022	1/24/2022	1/24/2022	2/3/2022	1/25/2022	1/25/2022	2/3/2022	2/3/2022	1/19/2022	1/24/2022
Gasoline Range Organics	800	**110**	**200**	**100**	100 U	100 U	100 U	100 U	100 U	100 U	500 U	NS	100 U	100 U	NS	100 U	100 U	100 U
Diesel Range Organics	500	**6,100 NJ**	**9,600**	**6900 NJ**	50 U	50 U	**670**	**560**	**860**	**150**	**220**	**240 NJ**	**4,900**	**390**	55 U	55 U	**140 NJ**	**750**
Lube Oil	500	**610 NJ**	**1,800**	**3200 NJ**	250 U	250 U	**380**	**300**	**460**	250 U	**420**	280 U	**3,500**	250 U	280 U	280 U	300 U	250 U
with Silica Gel Cleanup																		
Diesel Range Organics	500	**200**	**810**	**350 NJ**	50 U	50 U	50 U	50 U	50 U	50 U	50 U	55 U	50 U	50 UJ	55 U	55 U	60 U	50 U
Lube Oil	500	250 U	**380**	**540**	250 U	250 U	250 U	250 U	250 U	250 U	250 U	280 U	250 U	250 UJ	280 U	280 U	300 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:
U = Result is non-detect at the method reporting limit (MRL).
J = Result is estimated.
NJ = Tentatively identified compound, estimated value.
NS = not sampled for analyte
-- = not analyzed

Table 4
Groundwater Analytical Results - Voltile Organic Compounds
First 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
		Date Sampled	2/1/2022	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/20/2022
1,1,1,2-Tetrachloroethane	NA	1.7	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
1,1,2,2-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
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
1,1-Dichloroethane	120,000	--	1 U	1 U	1 U	1 U	**2.6**	**2.6**	1 U
1,1-Dichloroethene	4,000	--	1 U	1 U	1 U	**1.8**	1 U	1 U	1 U
1,1-Dichloropropene	5	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	NA	6.4	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
1,2,4-Trichlorobenzene	NA	1.5	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	**42**	**94**	**96**	1 U
1,2-Dibromo-3-chloropropane	NA	NA	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
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	**11**	**6.4**	**6.3**	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
1,2-Dichloropropane	23.2	--	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	**5.5**	**21**	**21**	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	**1.9**	**13**	**12**	1 U
1,3-Dichloropropane	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	10	--	1 U	1 U	1 U	**4.3**	**78**	**77**	1 U
2,2-Dichloropropane	NA	NA	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
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	**14**	**13**	1 U
2-Hexanone	1,960,000	--	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
Acetone	426,000	--	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	**29**	**57**	**56**	0.35 U
Bromobenzene	NA	64	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
Bromomethane	968	--	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
CFC-11	NA	2400	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
Chlorobenzene	5,030	--	1 U	1 U	1 U	**36**	**800**	**840**	1 U
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	**1.1**	**1.2**	1 U
Chloroform	283	--	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
cis-1,2-Dichloroethene	16	--	**25**	1 U	1 U	**380**	**1.1**	**1.1**	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
Dibromochloromethane	20.6	--	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
Dichlorobromomethane	NA	1600	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	**75**	**37**	**35**	1 U
Hexachlorobutadiene	NA	0.56	**5.3**	0.5 U	0.5 U	**0.85**	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
Isopropylbenzene (Cumene)	8,000	--	1 U	1 U	1 U	**8.3**	**4.7**	**4.6**	1 U
m, p-Xylene	266,000	--	2 U	2 U	2 U	**41**	**100**	**94**	2 U
Methyl isobutyl ketone	NA	640	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	**1.4**	1 U	1 U	1 U	**1.1**
Methylene chloride	960	--	5 U	5 U	5 U	5 U	**8.2**	**8.1**	8.9 U
Naphthalene	3,090	--	1 U	1 U	1 U	**51**	**62**	**61**	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	**14**	**7**	**7**	1 U
o-Xylene	266,000	--	1 U	1 U	1 U	**39**	**66**	**63**	1 U
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	**5.7**	**2.9**	**2.9**	1 U
sec-Butylbenzene	359	--	1 U	1 U	1 U	**3.5**	**1**	**1**	1 U
Styrene	819	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	NA	800	1 U	1 U	1 U	**2.5**	1 U	1 U	1 U
Tetrachloroethene	2.9	--	**41**	1 U	1 U	**870**	1 U	1 U	1 U
Toluene	130	--	1 U	1 U	1 U	**53**	**150**	**140**	1 U
trans-1,2-Dichloroethene	21,300	--	**1.5**	1 U	1 U	**28**	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
Trichloroethene	0.7	--	**22**	0.5 U	0.5 U	**320**	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.18	--	**0.96**	**0.045**	0.02 U	**51**	**1.3**	**1.4**	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:
U = Result is non-detect at the method reporting limit (MRL)
J = Result is estimated
NJ = Tentatively identified compound, estimated value
NS = not sampled for analyte
NA = Screening Level not available
-- = Screening level available from DGWP (DOF, 2020)

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

VOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-3A	CCW-3B	CCW-3C	CCW-4C	CCW-5B	CCW-5C	CCW-6B	CCW-6B (DUPLICATE)	CCW-6C	CCW-7B
		Date Sampled	1/31/2022	1/31/2022	1/31/2022	2/1/2022	1/20/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022	2/2/2022
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	--	**3.5**	1 U	1 U	1 U	**11**	1 U	1 U	1 U	1 U	**2**
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	**1.7**	1 U	**1.7**	**1.8**	1 U	**11**
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	--	**1.1**	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	**4.4**
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	**1.4**	**1.4**	1 U	**12**
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**	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	--	**11**	**2.8**	0.35 U	0.35 U	**34**	0.35 U	**12**	**12**	0.35 U	**18**
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	**46**	1 U	**14**	**14**	1 U	**50**
Chloroethane	64,900	--	1 U	1 U	1 U	1 U	**3.6**	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	**2.5**	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	--	**23**	1 U	1 U	1 U	**71**	1 U	**13**	**13**	1 U	**74**
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	**10**	1 U	**1.4**	**1.4**	1 U	**7.6**
m, p-Xylene	266,000	--	**9.5**	2 U	2 U	2 U	**13**	2 U	2 U	2 U	2 U	**6.3**
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	**3.3**	1 U	1.7	1 U	1 U	1 U	1 U
Methylene chloride	960	--	5 U	5 U	5 U	5 U	8.9 U	8.9 U	5 U	5 U	5 U	5 U
Naphthalene	3,090	--	**3.8**	**3.1**	1 U	1 U	**8.9**	1 U	**3.6**	**4**	1 U	**39**
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	**19**	1 U	**1.5**	**1.6**	1 U	**12**
o-Xylene	266,000	--	**6.9**	1 U	1 U	1 U	**21**	1 U	**2.7**	**2.8**	1 U	**13**
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	**2.6**	1 U	1 U	1 U	1 U	**1.6**
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	--	**19**	**7.3**	1 U	1 U	**20**	1 U	**3.7**	**3.7**	1 U	**24**
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	--	**0.1**	**1.4**	0.02 U	0.02 U	**2.1**	0.02 U	**0.23**	**0.26**	0.02 U	**0.52**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work
MTCA A/B Screening Level = minimum screening level for Model To
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
U = Result is non-detect at the method reporting limit (MRL)
J = Result is estimated
NJ = Tentatively identified compound, estimated value
NS = not sampled for analyte
NA = Screening Level not available
-- = Screening level available from DGWP (DOF, 2020)

DOF DALTON OLMSTED FUGLEVAND

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

VOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-7C	CCW-8B	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	MW-1	MW-4
		Date Sampled	2/2/2022	2/2/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/25/2022	1/31/2022
1,1,1,2-Tetrachloroethane	NA	1.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	341,000	--	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 UJ	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
1,1-Dichloroethane	120,000	--	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
1,1-Dichloropropene	5	--	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 UJ	1 U
1,2,3-Trichloropropane	NA	0.00038	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
1,2,4-Trichlorobenzene	NA	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
1,2,4-Trimethylbenzene	3,870	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
1,2-Dibromo-3-chloropropane	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U
1,2-Dibromoethane	NA	0.01	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	4,200	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	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
1,2-Dichloropropane	23.2	--	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 UJ	1 U
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
1,3-Dichloropropane	NA	160	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 UJ	1 U
2,2-Dichloropropane	NA	NA	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
2-Chlorotoluene	NA	160	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
2-Hexanone	1,960,000	--	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 UJ	1 U
Acetone	426,000	--	50 U	50 U	1 U	1 U	1 U	1 U	1 UJ	50 U
Benzene	1.6	--	**4**	**1.7**	10 U	10 U	10 U	10 U	10 U	**3.5**
Bromobenzene	NA	64	1 U	1 U	50 U	50 U	50 U	50 U	50 U	1 U
Bromoform	NA	5.5	5 U	5 U	0.35 U	0.35 U	0.35 U	0.35 U	**29**	5 U
Bromomethane	968	--	5 U	5 U	1 U	1 U	1 U	1 U	1 UJ	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
CFC-11	NA	2400	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
CFC-12	NA	1600	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
Chlorobenzene	5,030	--	1 U	**1.4**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**1.4**
Chloroethane	64,900	--	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
Chloromethane	133	--	10 U	10 U	1 U	1 U	1 U	1 U	1 U	10 U
cis-1,2-Dichloroethene	16	--	1 U	1 U	10 U	10 U	10 U	10 U	10 U	1 U
cis-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	1 U	1 U	1 U	1 U	1 U	0.4 U
Dibromochloromethane	20.6	--	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U
Dibromomethane	NA	80	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U
Dichlorobromomethane	NA	1600	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Ethylbenzene	887	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.6**
Hexachlorobutadiene	NA	0.56	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Hexane	NA	480	5 U	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	5 U
Isopropylbenzene (Cumene)	8,000	--	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
Methyl isobutyl ketone	NA	640	10 U	10 U	1 U	1 U	1 U	1 U	1 U	10 U
Methyl t-butyl ether	NA	20	1 U	1 U	8.6 U	5.9 U	8.5 U	8.7 U	10 U	1 U
Methylene chloride	960	--	5 U	5 U	1 U	1 U	1 U	1 U	1 UJ	5 U
Naphthalene	3,090	--	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
o-Xylene	266,000	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2.9**
p-Isopropyltoluene	4,520	--	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
sec-Butylbenzene	359	--	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 UJ	1 U
tert-Butylbenzene	NA	800	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
Toluene	130	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2.6**
trans-1,2-Dichloroethene	21,300	--	1 U	1 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1 U
trans-1,3-Dichloropropene	NA	0.44	0.4 U	0.4 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U
Trichloroethene	0.7	--	0.5 U	0.5 U	1 U	1 U	1 U	1 U	1 U	0.5 U
Vinyl chloride	0.18	--	0.02 U	**0.026**	0.02 U	0.02 U	0.02 U	0.02 U	**0.033**	**0.44**

Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels used in Data Gaps Work
MTCA A/B Screening Level = minimum screening level for Model To
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
U = Result is non-detect at the method reporting limit (MRL)
J = Result is estimated
NJ = Tentatively identified compound, estimated value
NS = not sampled for analyte
NA = Screening Level not available
-- = Screening level available from DGWP (DOF, 2020)

DOF DALTON OLMSTED FUGLEVAND

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

VOCs	DGWP Screening Level	MTCA A/B Screening Level	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D	TWA-7D	TWA-8D	TWA-9D	TWA-10D
		Date Sampled	1/24/2022	1/24/2022	1/24/2022	2/3/2022	1/25/2022	1/25/2022	2/3/2022	2/3/2022	1/19/2022	1/24/2022
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 UJ
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 UJ
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 UJ
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 UJ
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 UJ
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 UJ
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 UJ
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 UJ
1,3-Dichlorobenzene	110	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
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 UJ
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 UJ
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 UJ
Acetone	426,000	--	1 U	1 U	1 U	50 U	1 U	1 U	50 U	50 U	50 U	1 UJ
Benzene	1.6	--	10 U	10 U	10 U	0.35 U	10 U	10 U	0.35 U	0.35 U	0.35 U	10 U
Bromobenzene	NA	64	50 U	50 U	50 U	1 U	50 U	50 U	1 U	1 U	1 U	50 U
Bromoform	NA	5.5	**10**	0.35 U	0.35 U	5 U	0.35 U	0.35 U	5 U	5 U	5 U	0.35 U
Bromomethane	968	--	1 U	1 U	1 U	5 U	1 U	1 U	5 U	5 U	5 U	1 UJ
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	5 U	5 U	5 U	1 U	5 U	5 U	1 U	1 U	1 U	5 U
CFC-12	NA	1600	5 U	5 U	5 U	1 U	5 U	5 U	1 U	1 U	1 U	5 U
Chlorobenzene	5,030	--	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 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	--	1 U	1 U	1 U	10 U	1 U	1 U	10 U	10 U	10 U	1 U
cis-1,2-Dichloroethene	16	--	10 U	10 U	10 U	1 U	10 U	10 U	1 U	1 U	1 U	10 U
cis-1,3-Dichloropropene	NA	0.44	1 U	1 U	1 U	0.4 U	1 U	1 U	0.4 U	0.4 U	0.4 U	1 U
Dibromochloromethane	20.6	--	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.5 U	0.5 U	0.5 U	0.4 U
Dibromomethane	NA	80	0.5 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U
Dichlorobromomethane	NA	1600	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 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	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U
Hexane	NA	480	0.5 U	0.5 U	0.5 U	5 U	0.5 U	0.5 U	5 U	5 U	5 U	0.5 UJ
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	1 U	1 U	1 U	10 U	1 U	1 U	10 U	10 U	10 U	1 U
Methyl t-butyl ether	NA	20	10 U	13 U	13 U	1 U	10 U	10 U	1 U	1 U	1 U	12 U
Methylene chloride	960	--	1 U	1 U	1 U	5 U	1 U	1 U	5 U	5 U	**11**	1 UJ
Naphthalene	3,090	--	5 U	5 U	5 U	1 U	5 U	5 U	1 U	1 U	1 U	5 U
n-Propylbenzene	737	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
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 UJ
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 UJ
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 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	21,300	--	0.4 U	0.4 U	0.4 U	1 U	0.4 U	0.4 U	1 U	1 U	1 U	0.4 U
trans-1,3-Dichloropropene	NA	0.44	0.5 U	0.5 U	0.5 U	0.4 U	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U	0.5 U
Trichloroethene	0.7	--	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	0.5 U	0.5 U	1 U
Vinyl chloride	0.18	--	**0.34**	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
MTCA A/B Screening Level = minimum screening level for Model Tc
Bold values indicate detections
Yellow shading indicates detection above DGWP Screening Levels
Abbreviations:
U = Result is non-detect at the method reporting limit (MRL)
J = Result is estimated
NJ = Tentatively identified compound, estimated value
NS = not sampled for analyte
NA = Screening Level not available
-- = Screening level available from DGWP (DOF, 2020)

DOF DALTON OLMSTED FUGLEVAND

Table 5

Groundwater Analytical Results - Semi-Volatile Organic Compounds

First 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
		Date Sampled	2/1/2022	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/20/2022	1/31/2022	1/31/2022
1,2,4-Trichlorobenzene	NA	1.5	0.1 U	0.1 UJ-	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	0.1 UJ-	0.1 U	**5.1**	**4.4**	**4.6**	0.1 U	0.1 U	0.1 U
1,3-Dichlorobenzene	NA	NA	0.1 U	0.1 UJ-	0.1 U	**0.91**	**8.7**	**9**	0.1 U	0.1 U	**0.21**
1,4-Dichlorobenzene	NA	8.1	0.1 U	0.1 UJ-	0.1 U	**2.4**	**59**	**58**	0.1 U	0.1 U	**0.11**
1-Methylnaphthalene	NA	1.5	0.1 U	0.1 UJ-	0.1 U	**16**	**4.9**	**5.3**	0.1 U	**0.63**	**1.6**
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 U	0.1 UJ-	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	R	R	R	1 U	1 U	1 U	R	1 U	1 U
2,4,6-Trichlorophenol	NA	4	R	R	R	1 U	1 U	1 U	R	1 U	1 U
2,4-Dichlorophenol	NA	24	R	R	R	1 U	1 U	1 U	R	1 U	1 U
2,4-Dimethylphenol	553	--	R	R	R	**2.9**	1 U	1 U	R	1 U	1 U
2,4-Dinitrophenol	3,460	--	R	R	R	3 UJ	3 U	3 U	R	3 U	3 U
2,4-Dinitrotoluene	1,360	--	0.5 U	0.5 UJ-	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 UJ-	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 UJ-	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	--	R	R	R	1 U	1 U	1 U	R	1 U	1 U
2-Methylnaphthalene	994	--	0.1 U	0.1 UJ-	0.1 U	**16**	**2.2**	**2.4**	0.1 U	**0.8**	**0.85**
2-Methylphenol	33,300	--	R	R	R	**1.5**	1 U	1 U	R	1 U	1 U
2-Nitroaniline	210	--	0.5 U	0.5 UJ-	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	R	R	R	1 U	1 U	1 U	R	1 U	1 U
3-Methylphenol + 4-Methylphenol	2,960	--	R	R	R	**4.4**	2 U	2 U	R	2 U	2 U
3-Nitroaniline	NA	NA	10 U	10 UJ-	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	NA	1.3	R	R	R	3 U	3 U	3 U	R	3 U	3 U
4-Bromophenyl phenyl ether	NA	NA	0.1 U	0.1 UJ-	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	--	R	R	R	1 U	1 U	1 U	R	1 U	1 U
4-Chloroaniline	6,730	--	10 U	10 UJ-	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 UJ-	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 UJ-	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	15,200	--	R	R	R	R	R	R	R	3 U	3 U
Acenaphthene	643	--	0.01 U	**0.59 J-**	0.01 U	**4.6**	**1.3**	**1.6**	0.01 U	**0.21**	**0.23**
Acenaphthylene	4,530	--	0.01 U	0.01 UJ-	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 UJ-	0.01 U	**0.23**	**0.17**	**0.2**	0.01 U	0.01 U	**0.018**
Benz[a]anthracene	10	--	0.01 U	0.01 UJ-	0.01 U	**0.017**	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 UJ-	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 UJ-	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	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 UJ-	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	--	R	R	R	R	R	R	R	5 U	5 U
Benzyl alcohol	1,270,000	--	1 U	1 UJ-	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bis(2-chloroethoxy)methane	10	--	0.1 U	0.1 UJ-	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 UJ-	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	--	0.33 U	0.38 UJ-	0.28 U	0.64 U	0.4 U	0.32 U	0.18 U	0.75 U	0.19 U
Butylbenzyl phthalate	NA	46	1 U	1 UJ-	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbazole	236	--	0.1 U	0.1 UJ-	0.1 U	**2**	**0.54**	**0.59**	0.1 U	**0.25**	**0.14**
Chrysene	10	--	0.01 U	0.01 UJ-	0.01 U	**0.014**	0.01 U	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 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	260	--	0.1 U	0.1 UJ-	0.1 U	**2.2**	**0.43**	**0.54**	0.1 U	0.1 U	0.1 U
Diethyl phthalate	28,400	--	1 U	1 UJ-	1 U	1 U	1 U	1 U	1 U	**1.3**	1 U
Dimethyl phthalate	72,000	--	1 U	1 UJ-	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Di-n-butyl phthalate	2,910	--	1 U	1 UJ-	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Di-n-octyl phthalate	10	--	1 U	1 UJ-	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U
Fluoranthene	90.2	--	0.01 U	**0.017 J-**	0.01 U	**0.3**	**0.24**	**0.26**	0.01 U	**0.014**	0.01 U
Fluorene	2,740	--	0.01 U	**0.089 J-**	0.01 U	**3.9**	**0.63**	**0.77**	0.01 U	**0.17**	**0.26**
Hexachlorobenzene	NA	0.055	0.1 U	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Hexachlorobutadiene	17.7	--	**2.5**	0.1 U	0.1 U	**0.25**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Hexachlorocyclopentadiene	NA	48	0.3 U	0.3 UJ-	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 UJ-	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 U	0.01 UJ-	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 UJ-	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	0.1 UJ-	0.1 U	**26**	**38**	**39**	0.1 U	**2**	**1.5**
Nitrobenzene	449	--	0.1 U	0.1 UJ-	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 UJ-	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 U	0.1 UJ-	0.1 U	**0.43**	0.1 U	0.1 U	0.1 U	**0.96**	0.1 U
Pentachlorophenol	50	--	R	R	R	0.5 U	0.5 U	0.5 U	R	0.5 U	0.5 U
Phenanthrene	139	--	0.01 U	**0.1 J-**	0.01 U	**2.1**	**1.1**	**1.4**	0.01 U	**0.15**	**0.15**
Phenol	789,000	--	R	R	R	**1.2 J-**	R	R	R	1 U	1 U
Pyrene	603	--	0.01 U	**0.012 J-**	0.01 U	**0.2**	**0.17**	**0.18**	0.01 U	**0.032**	0.01 U
1,4-Dioxane	160	--	0.4 U	**4.6**	**40**	0.4 U	0.4 U	0.4 U	**5.9**	**1.5**	**1.4**

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:

U = Result is non-detect at the method reporting limit (MRL).

J = Result is estimated.

NJ = Tentatively identified compound, estimated value.

UJ- = reported as undetected and qualified as estimated with an associated negative bias

J- = qualified as estimated with an associated negative bias

R = Result Rejected

NA = Screening Level not available

-- = Screening level available in DGWP (DOF, 2020)

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Table 5

Groundwater Analytical Results - Semi-Volatile Organic Compounds

First Quarter 2022 Groundwater Analysis Report

TWAAFA Site

Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-3C	CCW-4C	CCW-5B	CCW-5C	CCW-6B (DUPLICATE)	CCW-6B	CCW-6C	CCW-7B
		Date Sampled	1/31/2022	2/1/2022	1/20/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022	2/2/2022
1,2,4-Trichlorobenzene	NA	1.5	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
1,2-Dichlorobenzene	NA	720	0.1 U	0.1 UJ-	**0.45 J-**	0.1 U	**0.87**	**0.8**	0.1 U	**7.2**
1,3-Dichlorobenzene	NA	NA	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	**0.32**	**0.27**	0.1 U	**2.8**
1,4-Dichlorobenzene	NA	8.1	0.1 U	0.1 UJ-	**0.32 J-**	0.1 U	**0.79**	**0.71**	0.1 U	**7.7**
1-Methylnaphthalene	NA	1.5	0.1 U	0.1 UJ-	**6.9 J-**	0.1 U	**1.2**	**0.99**	0.1 U	**24**
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2,4,5-Trichlorophenol	NA	800	1 U	R	R	R	R	1 U	1 U	1 U
2,4,6-Trichlorophenol	NA	4	1 U	R	R	R	R	1 U	1 U	1 U
2,4-Dichlorophenol	NA	24	1 U	R	R	R	R	1 U	1 U	1 U
2,4-Dimethylphenol	553	--	1 U	R	R	R	R	1 U	1 U	1 U
2,4-Dinitrophenol	3,460	--	3 U	R	R	R	R	3 U	3 U	3 U
2,4-Dinitrotoluene	1,360	--	0.5 U	0.5 UJ-	0.5 UJ-	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 UJ-	0.5 UJ-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chloronaphthalene	1,030	--	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Chlorophenol	96.7	--	1 U	R	R	R	R	1 U	1 U	1 U
2-Methylnaphthalene	994	--	0.1 U	0.1 UJ-	**1.1 J-**	0.1 U	0.1 U	0.1 U	0.1 U	**0.69**
2-Methylphenol	33,300	--	1 U	R	R	R	R	1 U	1 U	1 U
2-Nitroaniline	210	--	0.5 U	0.5 UJ-	0.5 UJ-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitrophenol	NA	NA	1 U	R	R	R	R	1 U	1 U	1 U
3-Methylphenol + 4-Methylphenol	2,960	--	2 U	R	R	R	R	2 U	2 U	2 U
3-Nitroaniline	NA	NA	10 U	10 UJ-	10 UJ-	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	NA	1.3	3 U	R	R	R	R	3 U	3 U	3 U
4-Bromophenyl phenyl ether	NA	NA	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4-Chloro-3-methylphenol	20	--	1 U	R	R	R	R	1 U	1 U	1 U
4-Chloroaniline	6,730	--	10 U	10 UJ-	10 UJ-	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	NA	NA	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4-Nitroaniline	NA	--	10 U	10 UJ-	10 UJ-	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	15,200	--	3 U	R	R	R	R	3 U	3 U	3 U
Acenaphthene	643	--	0.01 U	**0.047 J-**	**1.2 J-**	**0.03**	**1.2**	**0.94**	0.01 U	**18**
Acenaphthylene	4,530	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	14,200	--	0.01 U	0.01 UJ-	**0.02 J-**	0.01 U	**0.016**	**0.014**	0.01 U	**1.2**
Benz[a]anthracene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	**0.084**
Benzo(a)pyrene	0.05	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(b)fluoranthene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	**0.016**
Benzo(ghi)perylene	739	--	0.02 U	0.02 UJ-	0.02 UJ-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(k)fluoranthene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzoic acid	5,830,000	--	5 U	R	R	R	R	5 U	5 U	5 U
Benzyl alcohol	1,270,000	--	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Bis(2-chloroethoxy)methane	10	--	0.1 U	0.1 UJ-	0.1 UJ-	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 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Bis(2-ethylhexyl) phthalate	0.046	--	0.27 U	0.2 UJ-	0.4 UJ-	0.17 U	0.2 U	0.2 U	0.39 U	0.38 U
Butylbenzyl phthalate	NA	46	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Carbazole	236	--	0.1 U	0.1 UJ-	**0.3 J-**	0.1 U	**0.28**	**0.21**	0.1 U	**6.1**
Chrysene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	**0.077**
Dibenzo(a,h)anthracene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	260	--	0.1 U	0.1 UJ-	**0.41 J-**	0.1 U	**0.4**	**0.31**	0.1 U	**11**
Diethyl phthalate	28,400	--	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Dimethyl phthalate	72,000	--	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Di-n-butyl phthalate	2,910	--	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Di-n-octyl phthalate	10	--	1 U	1 UJ-	1 UJ-	1 U	1 U	1 U	1 U	1 U
Fluoranthene	90.2	--	0.01 U	0.01 UJ-	**0.012 J-**	0.01 U	**0.03**	**0.019**	0.01 U	**2.1**
Fluorene	2,740	--	0.01 U	**0.013 J-**	**0.74 J-**	0.01 U	**0.46**	**0.36**	0.01 U	**12**
Hexachlorobenzene	NA	0.055	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Hexachlorobutadiene	17.7	--	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Hexachlorocyclopentadiene	NA	48	0.3 U	0.3 UJ-	0.3 UJ-	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Hexachloroethane	NA	5.6	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	10	--	0.01 U	0.01 UJ-	0.01 UJ-	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Isophorone	1,560	--	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Naphthalene	3,090	--	0.1 U	0.1 UJ-	**1.8 J-**	0.1 U	**2.2**	**1.8**	0.1 U	**20**
Nitrobenzene	449	--	0.1 U	0.1 UJ-	0.1 UJ-	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 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
N-Nitrosodiphenylamine	10	--	0.1 U	0.1 UJ-	0.1 UJ-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Pentachlorophenol	50	--	0.5 U	R	R	R	R	0.5 U	0.5 U	0.5 U
Phenanthrene	139	--	0.01 U	0.01 UJ-	**0.18 J-**	0.01 U	**0.015**	**0.012**	0.011	**0.43**
Phenol	789,000	--	1 U	R	R	R	R	1 U	1 U	1 U
Pyrene	603	--	0.01 U	0.01 UJ-	**0.011 J-**	0.01 U	**0.019**	**0.012**	0.01 U	**1**
1,4-Dioxane	160	--	**2.7**	**23**	**2.1**	**11**	0.4 U	0.4 U	**9.8**	0.4 U

Notes:

all concentrations in micrograms per liter (µg/L)

DGWP Screening Level = Screening Levels from the Data Gaps Work

MTCA A/B Screening Level = minimum screening level for Model To:

Bold values indicate detections

Yellow shading indicates detection above DGWP Screening Levels

Abbreviations:

U = Result is non-detect at the method reporting limit (MRL).

J = Result is estimated.

NJ = Tentatively identified compound, estimated value.

UJ- = reported as undetected and qualified as estimated with an ass

J- = qualified as estimated with an associated negative bias

R = Result Rejected

NA = Screening Level not available

-- = Screening level available in DGWP (DOF, 2020)

Table 5

Groundwater Analytical Results - Semi-Volatile Organic Compounds

First Quarter 2022 Groundwater Analysis Report

TWAAFA Site

Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	CCW-7C	CCW-8B	MW-1	MW-4	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)
		Date Sampled	2/2/2022	2/2/2022	1/25/2022	1/31/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022
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
1,2-Dichlorobenzene	NA	720	0.1 U	**0.44**	0.1 U	**0.15**	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
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
1-Methylnaphthalene	NA	1.5	0.1 U	**4.4**	**5**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
2,2'-Oxybis(1-chloropropane)	NA	0.63	0.1 U	0.1 U	1 U	0.1 U	1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol	NA	800	1 U	1 U	1 U	1 U	1 UJ	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
2,4-Dichlorophenol	NA	24	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,4-Dimethylphenol	553	--	1 U	1 U	3 U	1 U	3 UJ	3 U	3 U	3 U
2,4-Dinitrophenol	3,460	--	3 U	3 U	0.5 U	3 U	0.5 U	0.5 U	0.5 U	0.5 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
2,6-Dinitrotoluene	4,260	--	0.5 U	0.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Chloronaphthalene	1,030	--	0.1 U	0.1 U	R	0.1 U	R	R	R	R
2-Chlorophenol	96.7	--	1 U	1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U
2-Methylnaphthalene	994	--	0.1 U	**2.2**	R	0.1 U	R	R	R	R
2-Methylphenol	33,300	--	1 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Nitroaniline	210	--	0.5 U	0.5 U	1 U	0.5 U	1 U	1 U	1 U	1 U
2-Nitrophenol	NA	NA	1 U	1 U	R	1 U	R	R	R	R
3-Methylphenol + 4-Methylphenol	2,960	--	2 U	2 U	10 U	2 U	10 U	10 U	10 U	10 U
3-Nitroaniline	NA	NA	10 U	10 U	3 U	10 U	3 UJ	3 U	3 U	3 U
4,6-Dinitro-2-methylphenol	NA	1.3	3 U	3 U	0.1 U	3 U	0.1 U	0.1 U	0.1 U	0.1 U
4-Bromophenyl phenyl ether	NA	NA	0.1 U	0.1 U	1 U	0.1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	20	--	1 U	1 U	10 U	1 U	10 U	10 U	10 U	10 U
4-Chloroaniline	6,730	--	10 U	10 U	0.1 U	10 U	0.1 U	0.1 U	0.1 U	0.1 U
4-Chlorophenyl phenyl ether	NA	NA	0.1 U	0.1 U	10 U	0.1 U	10 U	10 U	10 U	10 U
4-Nitroaniline	NA	--	10 U	10 U	3 U	10 U	-- R	3 U	3 U	3 U
4-Nitrophenol	15,200	--	3 U	3 U	**0.79**	3 U	0.01 U	0.01 U	**0.068**	**0.064**
Acenaphthene	643	--	0.01 U	**2.1**	0.01 U	**0.21**	0.01 U	0.01 U	0.01 U	0.01 U
Acenaphthylene	4,530	--	0.01 U	0.01 U	**0.47**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Anthracene	14,200	--	0.01 U	**0.12**	**0.013**	**0.026**	0.01 U	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 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
Benzo(b)fluoranthene	10	--	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U	0.02 U	0.02 U	0.02 U
Benzo(ghi)perylene	739	--	0.02 U	0.02 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	10	--	0.01 U	0.01 U	R	0.01 U	R	R	R	R
Benzoic acid	5,830,000	--	5 U	5 U	R	5 U	R	R	R	R
Benzyl alcohol	1,270,000	--	1 U	1 U	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U
Bis(2-chloroethoxy)methane	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
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
Bis(2-ethylhexyl) phthalate	0.046	--	0.38 U	0.38 U	0.68 U	1.1 U	0.47 U	0.71 U	0.42 U	0.25 U
Butylbenzyl phthalate	NA	46	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbazole	236	--	0.1 U	0.1 U	**1.1**	**0.16**	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	10	--	0.01 U	0.01 U	**0.036**	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzo(a,h)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
Dibenzofuran	260	--	0.1 U	0.1 U	**0.32**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Diethyl phthalate	28,400	--	1 U	**5.7**	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
Di-n-butyl phthalate	2,910	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Di-n-octyl phthalate	10	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene	90.2	--	0.01 U	**0.05**	**0.092**	**0.016**	0.01 U	0.01 U	0.01 U	0.01 U
Fluorene	2,740	--	0.01 U	**0.26**	**1.1**	**0.15**	0.01 U	0.01 U	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
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
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
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
Indeno(1,2,3-cd)pyrene	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
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
Naphthalene	3,090	--	0.1 U	**0.12**	**0.15**	0.1 U	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
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
N-Nitrosodiphenylamine	10	--	0.1 U	0.1 U	0.1 U	**0.37**	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 UJ	0.5 U	0.5 U	0.5 U
Phenanthrene	139	--	**0.012**	**0.038**	**0.56**	**0.029**	0.01 U	0.01 U	0.01 U	0.01 U
Phenol	789,000	--	1 U	1 U	R	1 U	R	R	R	R
Pyrene	603	--	0.01 U	**0.059**	**0.18**	**0.024**	0.01 U	0.01 U	0.01 U	0.01 U
1,4-Dioxane	160	--	**11**	0.4 U	0.4 U	**0.55**	NS	NS	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

MTCA A/B Screening Level = minimum screening level for Model To:

Bold values indicate detections

Yellow shading indicates detection above DGWP Screening Levels

Abbreviations:

U = Result is non-detect at the method reporting limit (MRL).

J = Result is estimated.

NJ = Tentatively identified compound, estimated value.

UJ- = reported as undetected and qualified as estimated with an ass

J- = qualified as estimated with an associated negative bias

R = Result Rejected

NA = Screening Level not available

-- = Screening level available in DGWP (DOF, 2020)

Table 5

Groundwater Analytical Results - Semi-Volatile Organic Compounds

First Quarter 2022 Groundwater Analysis Report

TWAAFA Site

Tacoma, Washington

SVOCs	DGWP Screening Level	MTCA A/B Screening Level	TWA-1		TWA-2		TWA-3		TWA-5D		TWA-6D		TWA-8D		TWA-9D		TWA-10D	
		Date Sampled	1/24/2022		1/24/2022		1/24/2022		1/25/2022		1/25/2022		2/3/2022		1/19/2022		1/24/2022	
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
1,2-Dichlorobenzene	NA	720	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
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
1-Methylnaphthalene	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
2,2'-Oxybis(1-chloropropane)	NA	0.63	1	U	1	U	1	U	1	U	1	U	0.1	U	0.1	U	1	U
2,4,5-Trichlorophenol	NA	800	1	U	1	U	1	U	1	U	1	U		R	1	U	1	U
2,4,6-Trichlorophenol	NA	4	1	U	1	U	1	U	1	U	1	U		R	1	U	1	U
2,4-Dichlorophenol	NA	24	1	U	1	U	1	U	1	U	1	U		R	1	U	1	U
2,4-Dimethylphenol	553	--	3	UJ	3	UJ	3	UJ	3	U	3	U		R	1	U	3	U
2,4-Dinitrophenol	3,460	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		R	3	UJ	0.5	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
2,6-Dinitrotoluene	4,260	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.5	U	0.5	U	0.1	U
2-Chloronaphthalene	1,030	--		R		R		R		R		R	0.1	U	0.1	U		R
2-Chlorophenol	96.7	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U		R	1	U	0.1	U
2-Methylnaphthalene	994	--		R		R		R		R		R	0.1	U	0.1	U		R
2-Methylphenol	33,300	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		R	1	U	0.5	U
2-Nitroaniline	210	--	1	U	1	U	1	U	1	U	1	U	0.5	U	0.5	U	1	U
2-Nitrophenol	NA	NA		R		R		R		R		R		R	1	U		R
3-Methylphenol + 4-Methylphenol	2,960	--	10	U	10	U	10	U	10	U	10	U		R	2	U	10	U
3-Nitroaniline	NA	NA	3	U	3	U	3	U	3	U	3	U	10	U	10	U	3	U
4,6-Dinitro-2-methylphenol	NA	1.3	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	--	R	3	U	0.1	U
4-Bromophenyl phenyl ether	NA	NA	1	U	1	U	1	U	1	U	1	U	0.1	U	0.1	U	1	U
4-Chloro-3-methylphenol	20	--	10	U	10	U	10	U	10	U	10	U		R	1	U	10	U
4-Chloroaniline	6,730	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	10	U	10	U	0.1	U
4-Chlorophenyl phenyl ether	NA	NA	10	U	10	U	10	U	10	U	10	U	0.1	U	0.1	U	10	U
4-Nitroaniline	NA	--		R		R		R	3	U	3	U	10	U	10	U	3	U
4-Nitrophenol	15,200	--	**0.41**		**0.015**		0.01	U	0.01	U	0.01	U		R		R	0.01	U
Acenaphthene	643	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Acenaphthylene	4,530	--	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	0.01	U	0.01	U	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	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
Benzo(b)fluoranthene	10	--	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.01	U	0.01	U	0.02	U
Benzo(ghi)perylene	739	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.02	U	0.02	U	0.01	U
Benzo(k)fluoranthene	10	--	5	UJ	5	UJ	5	UJ		R		R	0.01	U	0.01	U		R
Benzoic acid	5,830,000	--		R		R		R		R		R		R		R		R
Benzyl alcohol	1,270,000	--	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	1	U	1	U	0.1	U
Bis(2-chloroethoxy)methane	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
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
Bis(2-ethylhexyl) phthalate	0.046	--	0.32	U	0.41	U	0.69	U	0.39	U	0.27	U	0.2	U	0.37	U	0.3	U
Butylbenzyl phthalate	NA	46	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	0.1	U	0.1	U	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	U	0.01	U	0.01	U
Dibenzo(a,h)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
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
Diethyl phthalate	28,400	--	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
Di-n-butyl phthalate	2,910	--	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Di-n-octyl phthalate	10	--	1	UJ	1	UJ	1	UJ	1	U	1	U	1	U	1	U	1	U
Fluoranthene	90.2	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
Fluorene	2,740	--	**0.28**		0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	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
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
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
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
Indeno(1,2,3-cd)pyrene	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
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
Naphthalene	3,090	--	0.1	U	0.1	U	0.1	U	0.1	U	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
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
N-Nitrosodiphenylamine	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
Pentachlorophenol	50	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U		R	0.5	U	0.5	U
Phenanthrene	139	--	0.01	U	**0.021**		**0.01**		0.01	U	0.01	U	0.012		0.01	U	0.01	U
Phenol	789,000	--		R		R		R		R		R		R		R		R
Pyrene	603	--	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
1,4-Dioxane	160	--	0.65		0.4	U	**0.4**	**U**	**0.72**		**6**		0.4	U	**1.8**		**0.4**	**U**

Notes:

all concentrations in micrograms per liter (µg/L)

DGWP Screening Level = Screening Levels from the Data Gaps Work

MTCA A/B Screening Level = minimum screening level for Model Tox

Bold values indicate detections

Yellow shading indicates detection above DGWP Screening Levels

Abbreviations:

U = Result is non-detect at the method reporting limit (MRL).

J = Result is estimated.

NJ = Tentatively identified compound, estimated value.

UJ- = reported as undetected and qualified as estimated with an ass

J- = qualified as estimated with an associated negative bias

R = Result Rejected

NA = Screening Level not available

-- = Screening level available in DGWP (DOF, 2020)

Table 6
Groundwater Analytical Results - Total Metals
First 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	CCW-6B	CCW-6B (DUPLICATE)	CCW-6C	CCW-7B	CCW-7C
	Date Sampled	2/1/2022	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/20/2022	1/31/2022	1/31/2022	1/31/2022	2/1/2022	1/20/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022	2/2/2022	2/2/2022
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	0.02 U	**0.023**	0.02 U	**0.034**	0.02 U
Arsenic	5	**3.57**	1 U	**4.07**	**4.24**	**1,230**	**1,320**	**5.99**	**48.1**	**2.96**	**1.93**	**2.4**	**731**	**2.12**	**4.61**	**4.2**	**8.45**	**1.81**	**2.71**
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	1 U	1 U	1 U	1 U	1 U
Chromium	11	1 U	1 U	**4.24**	1 U	1 U	1 U	**2.36**	**2.82**	1 U	**2.64**	**2.73**	**1.06**	**3.6**	**1.57**	**1.57**	**21.8**	**1.13**	**8.12**
Copper	2.4	2.4 U	2.4 U	2.4 U	**20.4**	**1.84**	**1.37**	**0.515**	2.4 U	2.4 U	2.4 U	2.4 U	**2.55**	**0.623**	**8.61**	**8.48**	2.4 U	2.4 U	2.4 U
Lead	8.1	1 U	1 U	1 U	**3.71**	0.5 U	0.5 U	1 U	**4.36**	5 U	1 U	1 U	**7.8**	1 U	**33.2**	**32.4**	1 U	**2.09**	1 U
Manganese	100	**279**	**479**	**291**	**919**	**239**	**250**	**281**	**76.3**	**1,420**	**1,290**	**548**	**614**	**892**	**676**	**673**	**254**	**772**	**192**
Nickel	10	**5.23**	**3.44**	**5.7**	**5.15**	**8.02**	**8.08**	**5.77**	**168**	**6.33**	**3.01**	**3.35**	**2.92**	**2.95**	**5.45**	**4.98**	**1.45**	**2.25**	**2.96**
Zinc	81	5 U	5 U	5 U	**30.4**	5 U	5 U	5 U	**309**	5 U	5 U	5 U	**20.6**	5 U	**109**	**95.2**	5 U	5 U	5 U

Metals	DGWP Screening Level	CCW-8B	MW-1	MW-4	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	TWA-1	TWA-2	TWA-3	TWA-4D	TWA-5D	TWA-6D	TWA-7D	TWA-8D	TWA-9D	TWA-10D
	Date Sampled	2/2/2022	1/25/2022	1/31/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/24/2022	1/24/2022	1/24/2022	2/3/2022	1/25/2022	1/25/2022	2/3/2022	2/3/2022	1/19/2022	1/24/2022
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	0.02 U	0.02 U	0.02 U	0.02 U
Arsenic	5	**2.59**	**3.99**	**1.46**	**1.37**	**2.31**	**1.54**	**1.51**	**1.59**	**22.1**	**11.4**	**9.37**	**6.77**	**10.1**	**11.4**	**10.7**	**14.9**	**12.8**
Cadmium	40	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	10 U	1 U	1 U	5 U	10 U	10 U
Chromium	11	1 U	**1.35**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.87**	**2.3**	**6.46**	**29.1**	**1.75**	**1.9**	10 U	**6.12**
Copper	2.4	2.4 U	6.17 U	**2.43**	3.23 U	0.4 U	0.4 U	0.4 U	1.98 U	1.39 U	2.9 U	**2.98**	1.08 U	2.4 U	**3.1**	**4.24**	**15**	1.82 U
Lead	8.1	1 U	**1.25**	**3.83**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	5 U	5 U	5 U
Manganese	100	**667**	**186**	**344**	**154**	**359**	**206**	**205**	**1,870**	**433**	**457**	**680**	**170**	**811**	**263**	**333**	**84.2**	**93.5**
Nickel	10	**3.57**	**2.97**	**6.21**	**4.35**	**4.37**	**2.86**	**2.88**	**4.81**	**6.12**	**6.85**	**4.74**	**1.59**	**2.75**	**4.83**	**6.55**	10 U	**2.7**
Zinc	81	**5.72**	5 U	**28**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	50 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:
U = Result is non-detect at the method reporting limit (MRL).
J = Result is estimated.
NJ = Tentatively identified compound, estimated value.

Table 7
Groundwater Analytical Results - Polychlorinated Biphenols
First 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-6B (DUPLICATE)	CCW-6C	CCW-7B
		Date Sampled	2/1/2022	2/1/2022	2/1/2022	1/20/2022	1/19/2022	1/19/2022	1/20/2022	1/31/2022	1/31/2022	1/31/2022	2/1/2022	1/20/2022	1/20/2022	2/3/2022	2/3/2022	2/2/2022	2/2/2022
PCB-aroclor 1016	NA	1.1	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1221	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1232	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1242	0.65	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 U	0.0035 U	**0.03 J-**	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1248	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1254	1.3	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 U	0.0035 U	**0.0067 J-**	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1260	0.00607	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1262	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-
PCB-aroclor 1268	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ-	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-	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ-	0.0035 UJ-

PCBs	DGWP Screening Level	MTCA A/B Screening Level	CCW-7C	CCW-8B	MW-1	MW-4	SB-1A	SB-2A	SB-3A	SB-3A (DUPLICATE)	TWA-1	TWA-2	TWA-3	TWA-5D	TWA-6D	TWA-8D	TWA-9D	TWA-10D
		Date Sampled	2/2/2022	2/2/2022	1/25/2022	1/31/2022	1/24/2022	1/25/2022	1/25/2022	1/25/2022	1/24/2022	1/24/2022	1/24/2022	1/25/2022	1/25/2022	2/3/2022	1/19/2022	1/24/2022
PCB-aroclor 1016	NA	1.1	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	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 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1221	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1232	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1242	0.65	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1248	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1254	1.3	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	**0.039**	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1260	0.00607	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	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 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1262	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ
PCB-aroclor 1268	NA	--	0.0035 UJ-	0.0035 UJ-	0.0035 UJ	0.0035 U	0.0035 U	0.0035 UJ	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 U	0.0035 UJ	0.0035 UJ	0.0035 U	0.0035 UJ-	0.0035 UJ

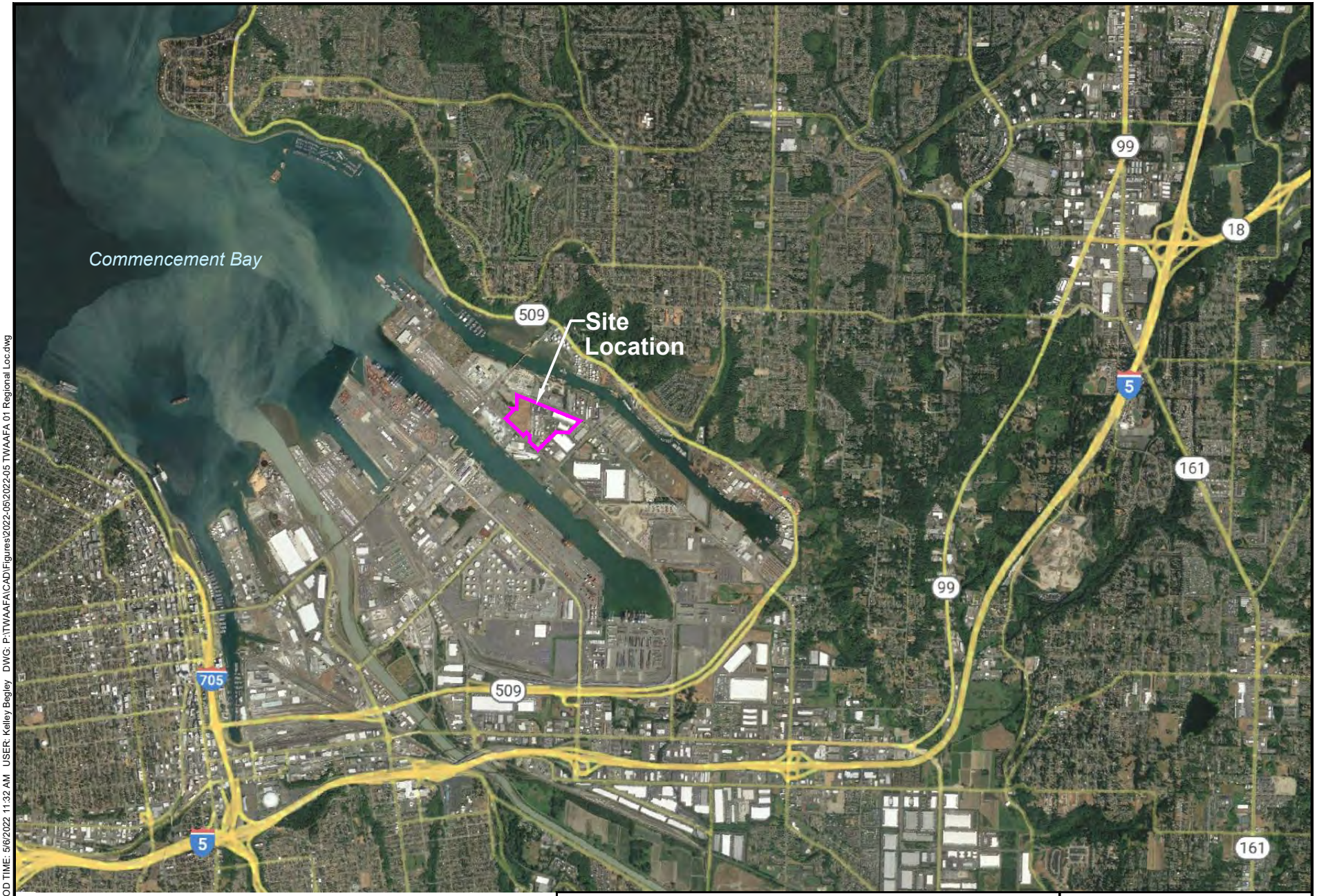
Notes:
all concentrations in micrograms per liter (µg/L)
DGWP Screening Level = Screening Levels from the Data Gaps Work Plan (DOF, 2020)
MTCA A/B Screening Level = minimum screening level for Model Toxics Control Act Methods A or B groundwater, provided for reference
Bold values indicate detections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

DOF DALTON OLMSTED FUGLEVAND

Figures

Abbreviations

μg/L = micrograms per Liter
DGWP = Data Gaps Work Plan (DOF, 2020)
SL = Screening Level
TPH-Gx= Total Petroleum Hydrocarbon Gasoline Range
TPH-Dx= Total Petroleum Hydrocarbon Diesel Range



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

0 4500

Scale in Feet

TWAAFA Site
Tacoma, Washington

Regional Location Map

DALTON OLMSTED FUGLEVAND

FIGURE 1

05/06/2022

PLOT TIME: 5/6/2022 11:54 AM MOD TIME: 5/6/2022 11:32 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 01 Regional Loc.dwg

Legend

TWAAFA Project Boundary

Parcel Boundary

0 350

Scale in Feet

TWAAFA Site
Tacoma, Washington
Data Gaps Work Plan

Site Location Map

DALTON OLMSTED FUGLEVAND

FIGURE 2

05/06/2022

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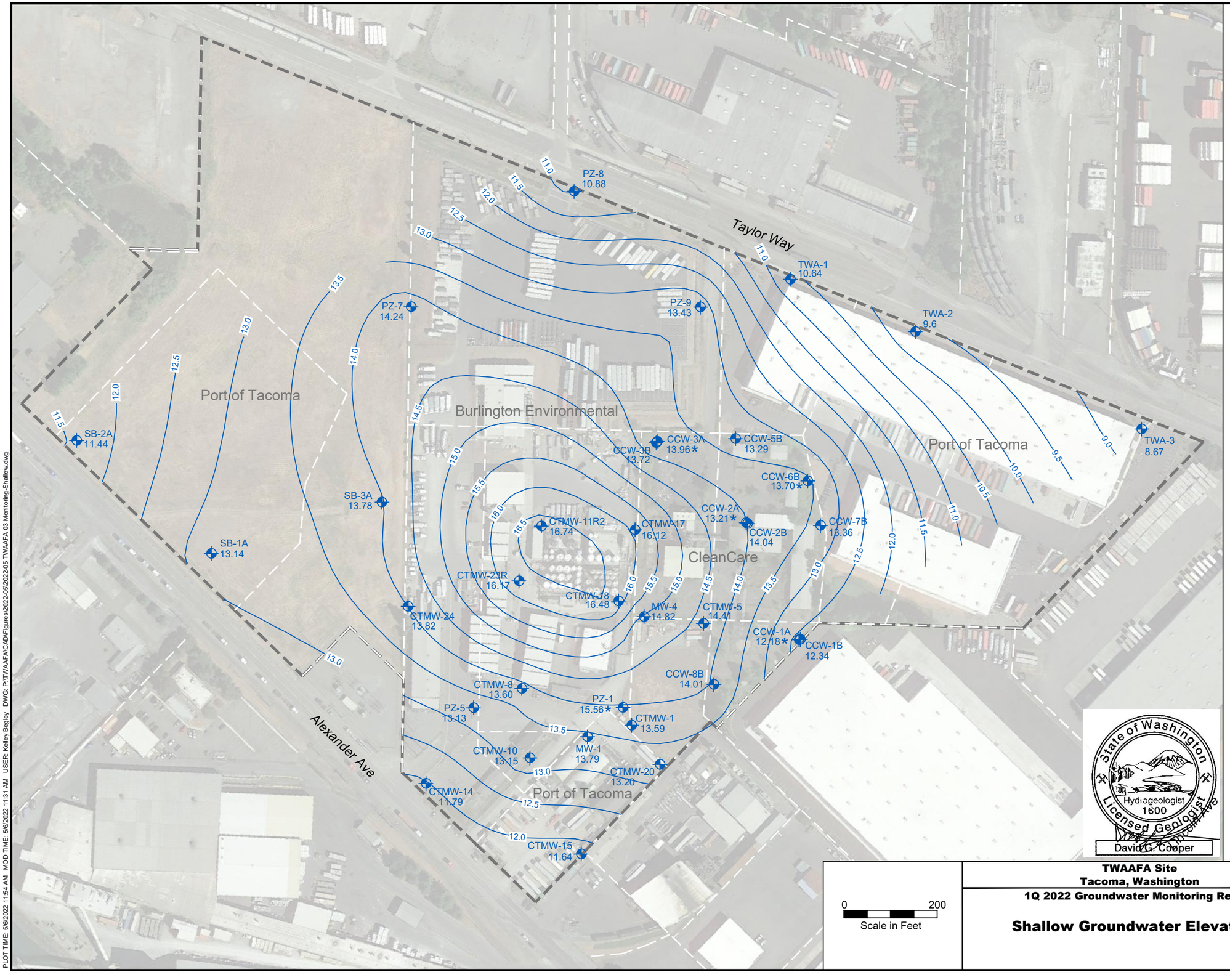


Legend

- 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 1/18/2022.
2. PZ-1 measured on 1/26/2022.
3. Wells on properties owned by Port of Tacoma measured by the Port's consultant.

★ WLs not used for contouring, discussed in 1Q22 GW Analysis Report.

State of Washington
Hydrogeologist
1600
Licensed Geologist
David G. Cooper

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

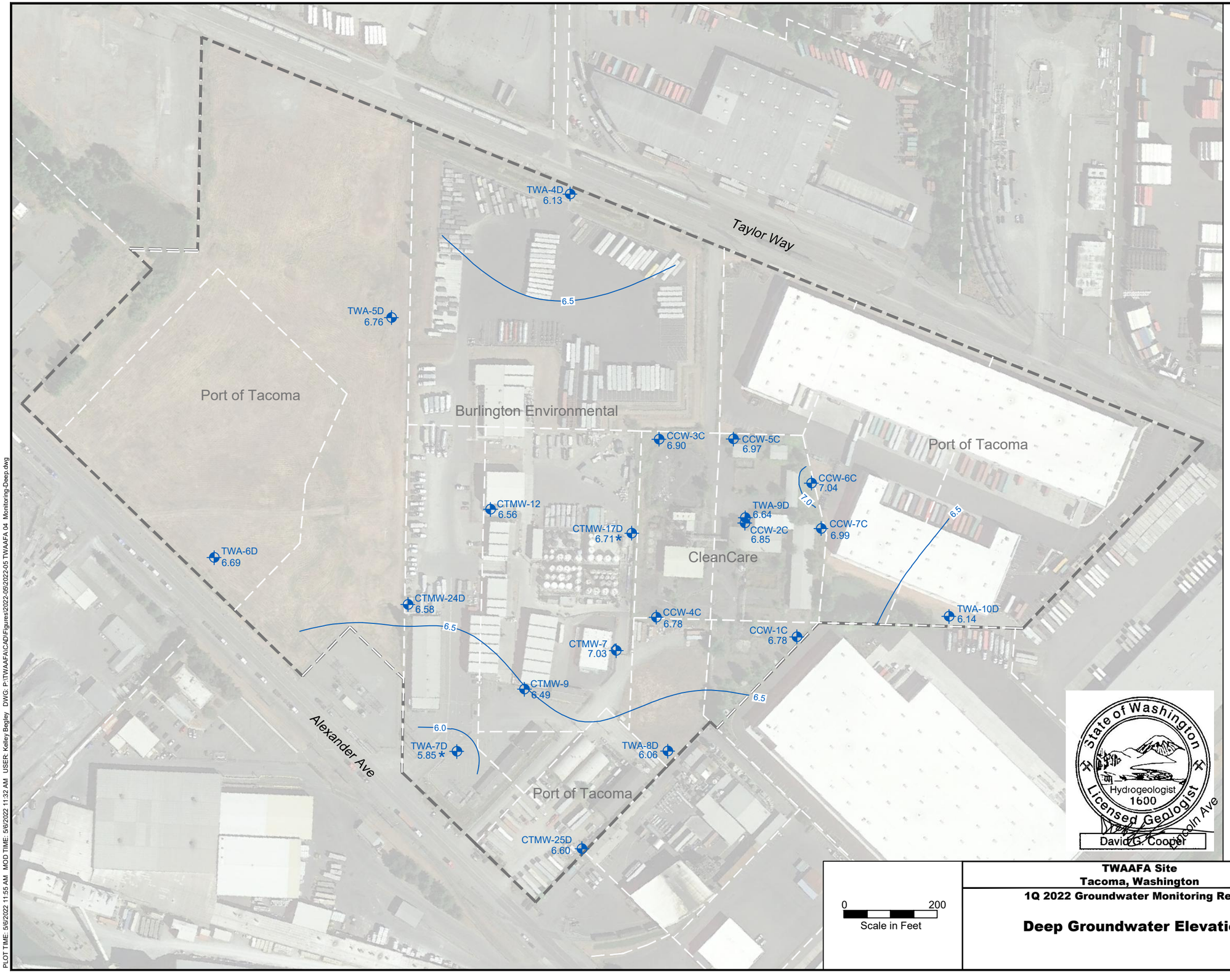
Shallow Groundwater Elevations

DALTON OLMSTED FUGLEVAND

FIGURE 3

05/06/2022

PLOT TIME: 5/6/2022 11:54 AM MOD TIME: 5/6/2022 11:31 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 03 Monitoring-Shallow.dwg



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 1/18/2022.
2. CTMW-17D measured on 1/19/2022.
3. TWA-7D measured on 1/13/2022.
4. Wells on properties owned by Port of Tacoma measured by the Port's consultant.

* WLs not used for contouring, discussed in 1Q22 GW Analysis Report.

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

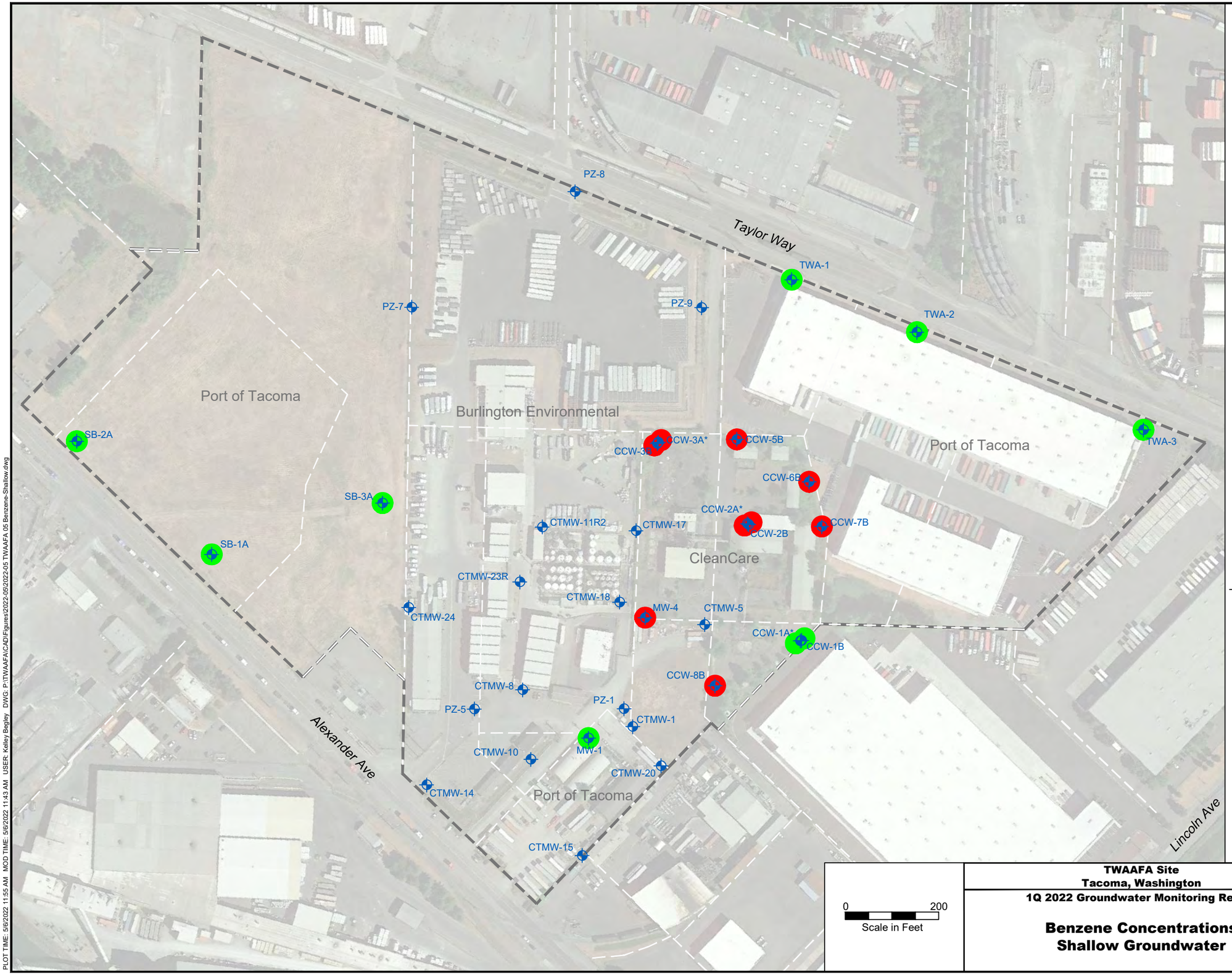
Deep Groundwater Elevations

DALTON OLMSTED FUGLEVAND

FIGURE 4

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:32 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 04 Monitoring-Deep.dwg



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TWAAFA Site
Tacoma, Washington

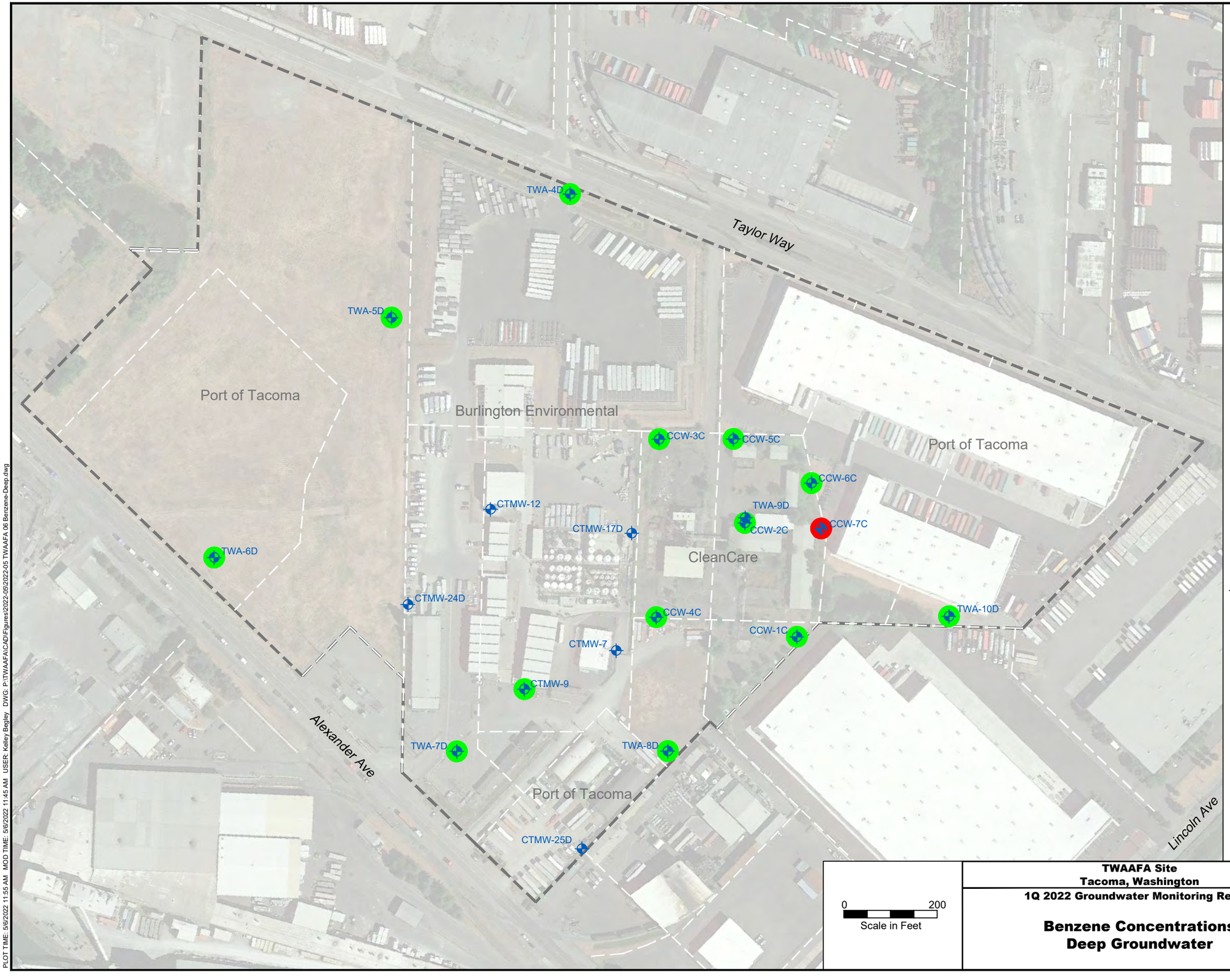
1Q 2022 Groundwater Monitoring Report

Benzene Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 5

05/06/2022



TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

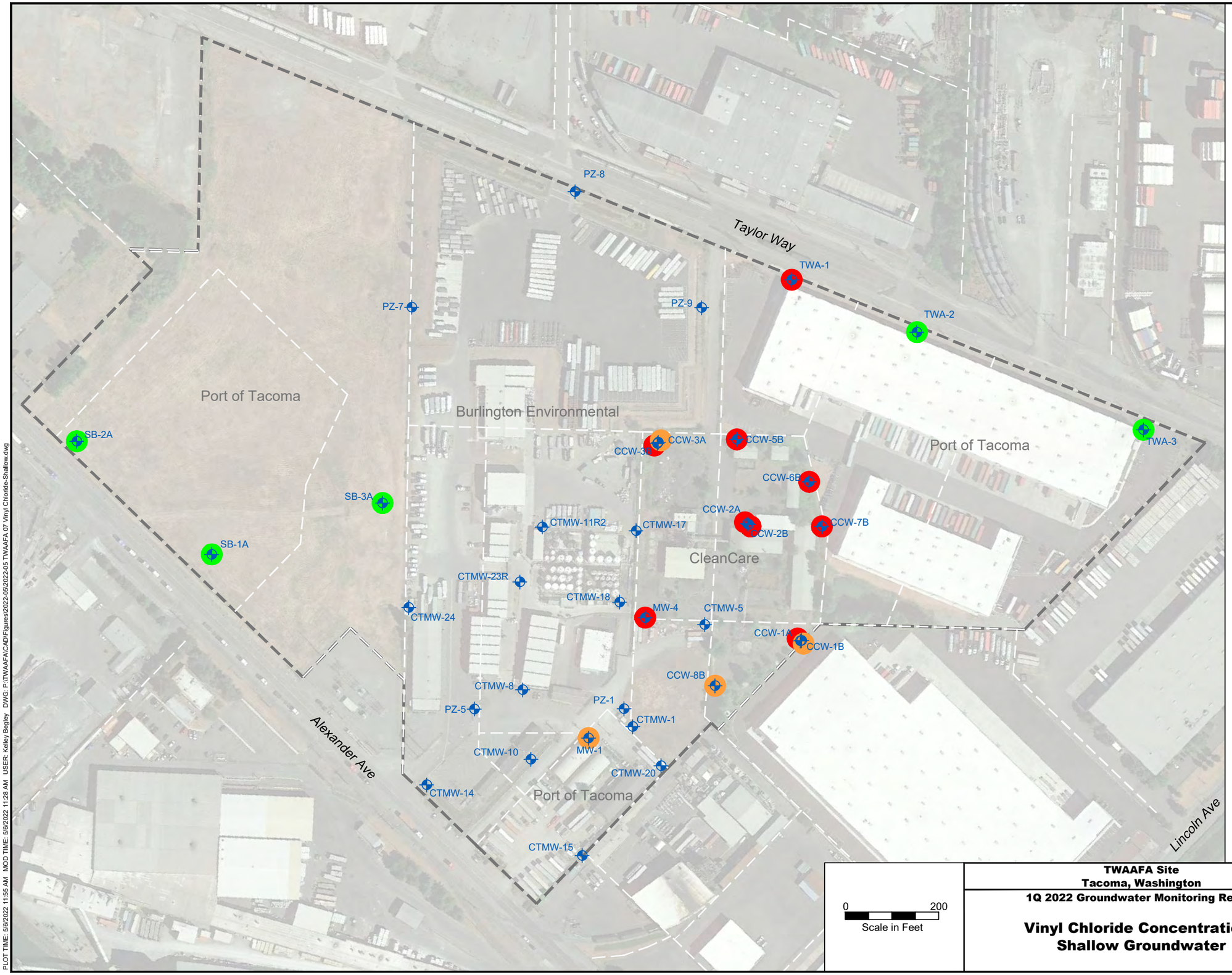
Benzene Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 6

05/04/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:45 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 06 Benzene-Deep.dwg



Legend

- Shallow Aquifer Monitoring Well/ Piezometer
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=0.18 μg/L
- Detected Above SL from DGWP SL=0.18μg/L

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

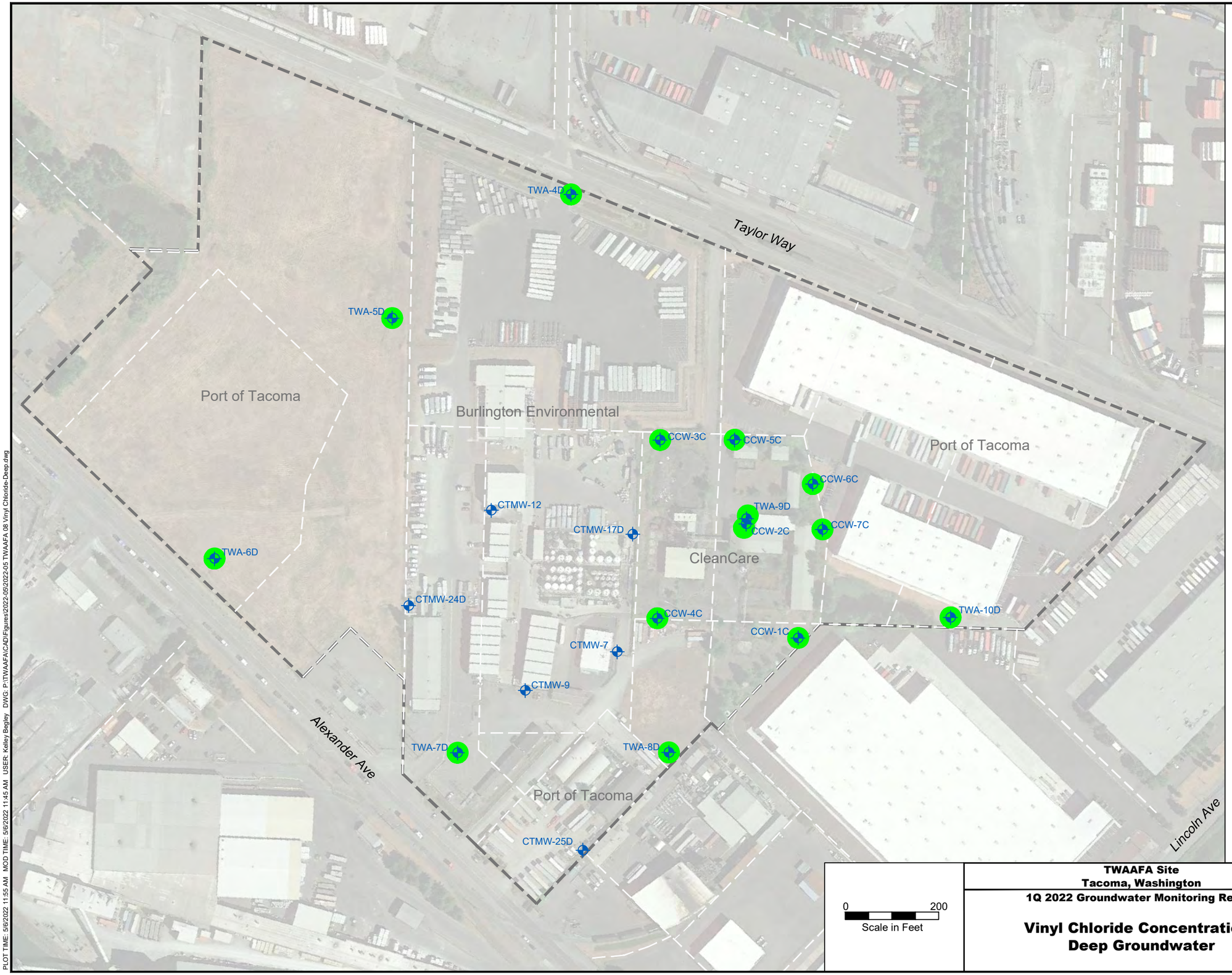
Vinyl Chloride Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 7

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:28 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 07 Vinyl Chloride-Shallow.dwg



Legend

- Deep Aquifer Monitoring Well
- TWAAFA Site Boundary
- Parcel Boundary
- Not Detected
- Detected Below SL from DGWP SL=0.18 μg/L
- Detected Above SL from DGWP SL=0.18μg/L

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

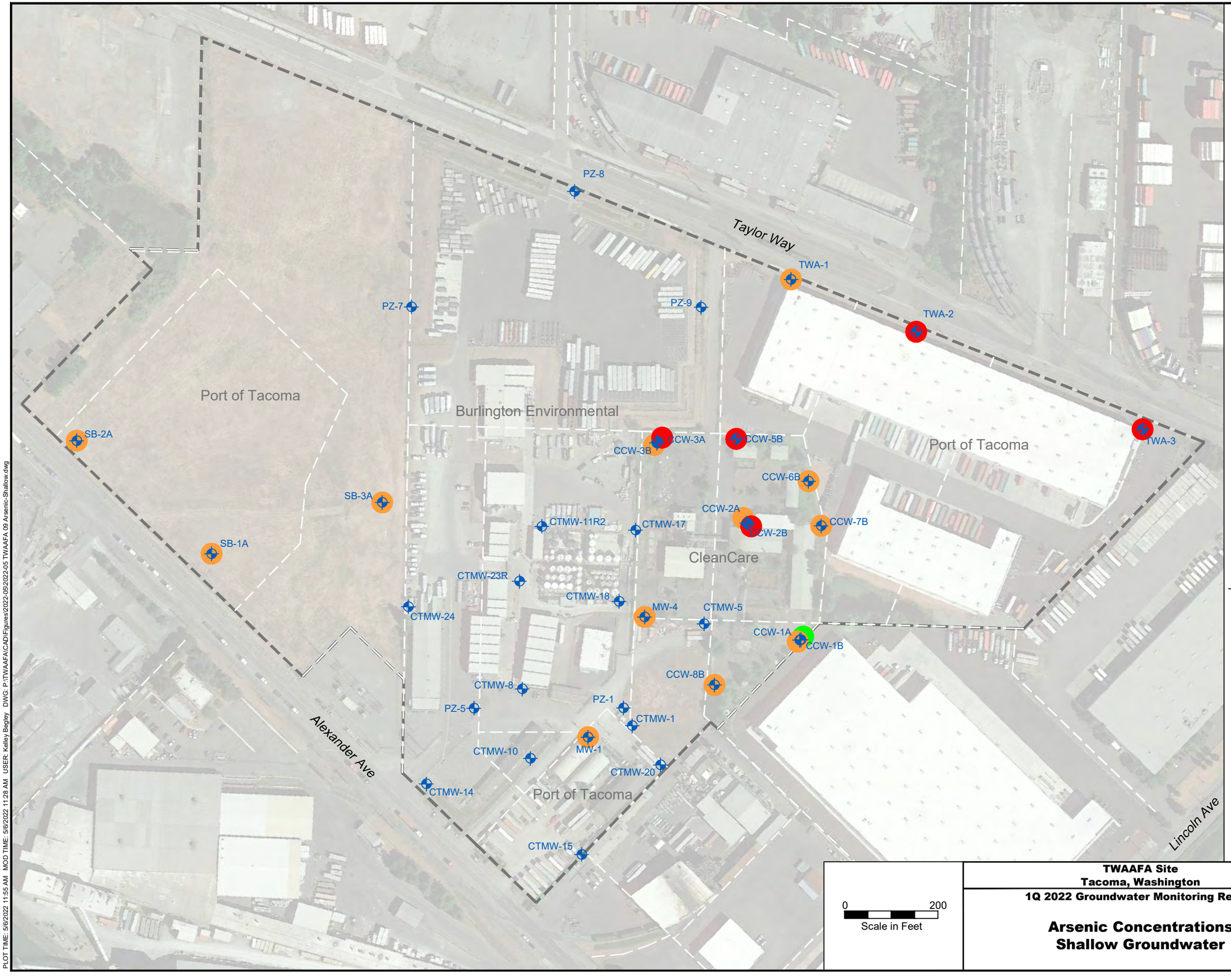
Vinyl Chloride Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 8

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:45 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 08 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

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

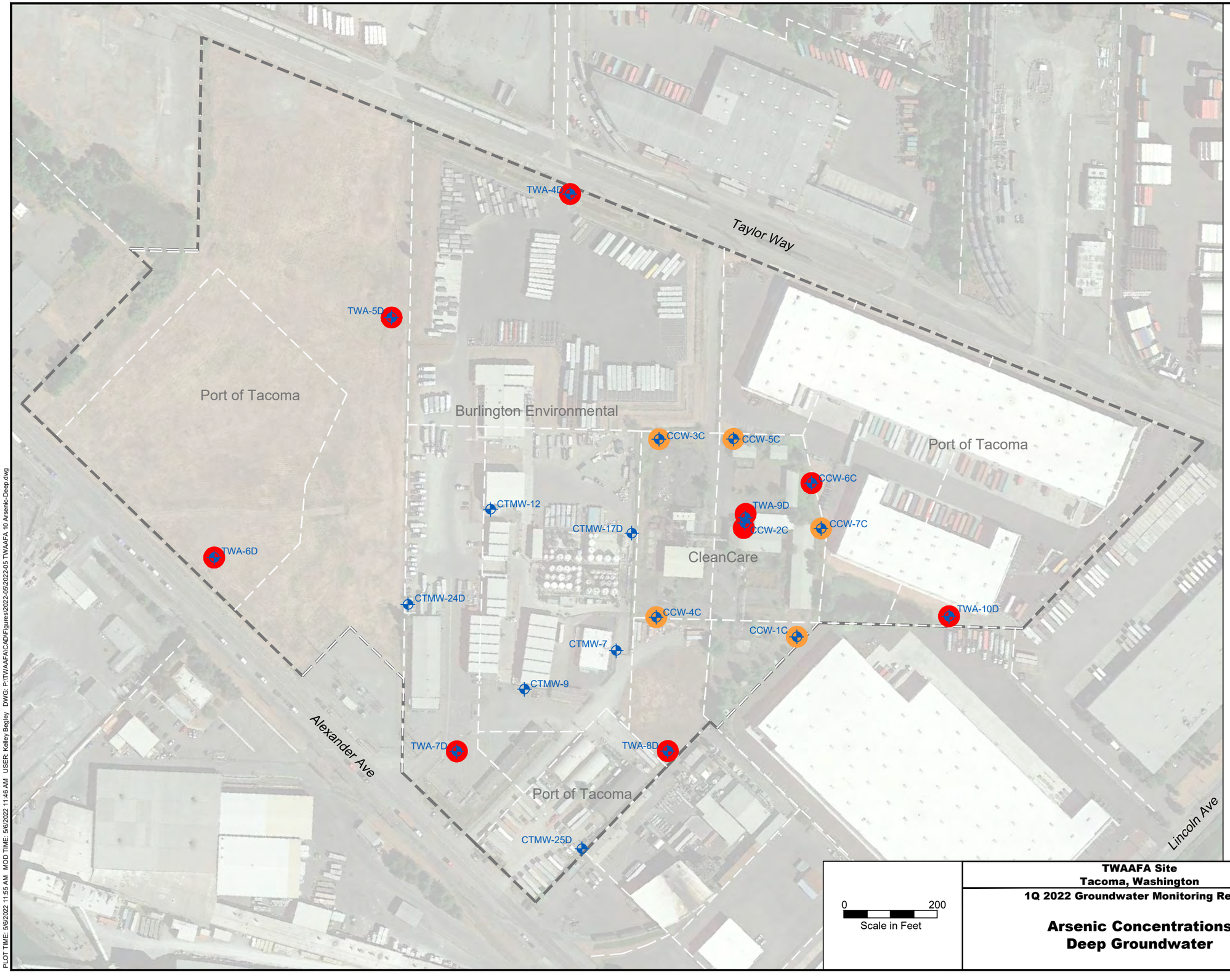
Arsenic Concentrations
Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 9

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:28 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 09 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

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

Arsenic Concentrations
Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 10

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:46 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 10 Arsenic-Deep.dwg

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:47 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 11 Copper-Shallow.dwg

PZ-8
Taylor Way
TWA-1
PZ-7
PZ-9
TWA-2
Port of Tacoma
Burlington Environmental
SB-2A
CCW-3A
CCW-5B
CCW-3B
Port of Tacoma
TWA-3
CCW-6B
SB-3A
CCW-2A
CCW-2B
CCW-7B
CTMW-11R2
CTMW-17
SB-1A
CleanCare
CTMW-23R
CTMW-18
MW-4
CTMW-5
CTMW-24
CCW-1A
CCW-1B
CCW-8B
CTMW-8
PZ-1
PZ-5
CTMW-1
Alexander Ave
MW-1
CTMW-10
CTMW-20
CTMW-14
Port of Tacoma
Lincoln Ave
CTMW-15

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

0 200
Scale in Feet

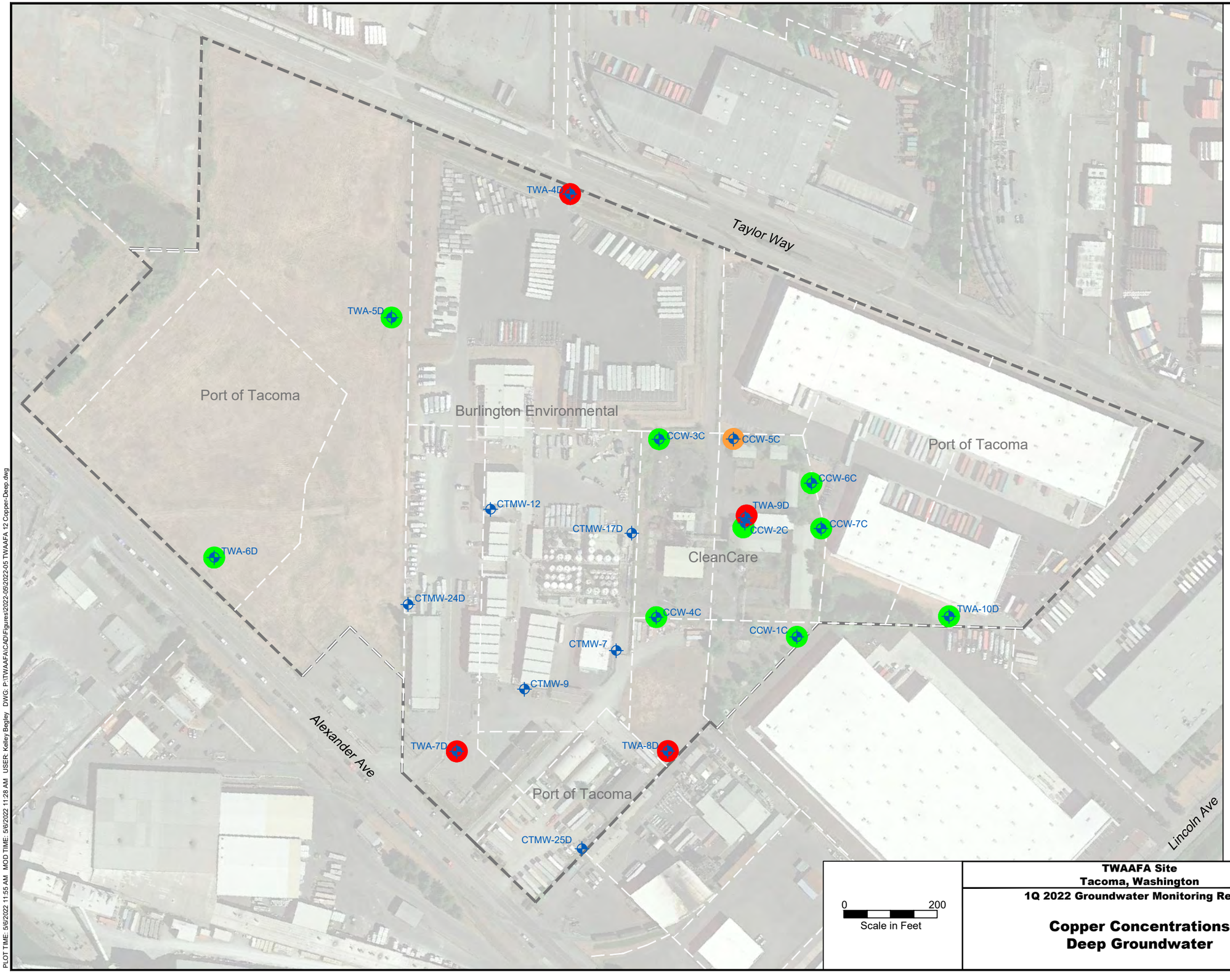
TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

Copper Concentrations
Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 11

05/06/2022



N

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

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

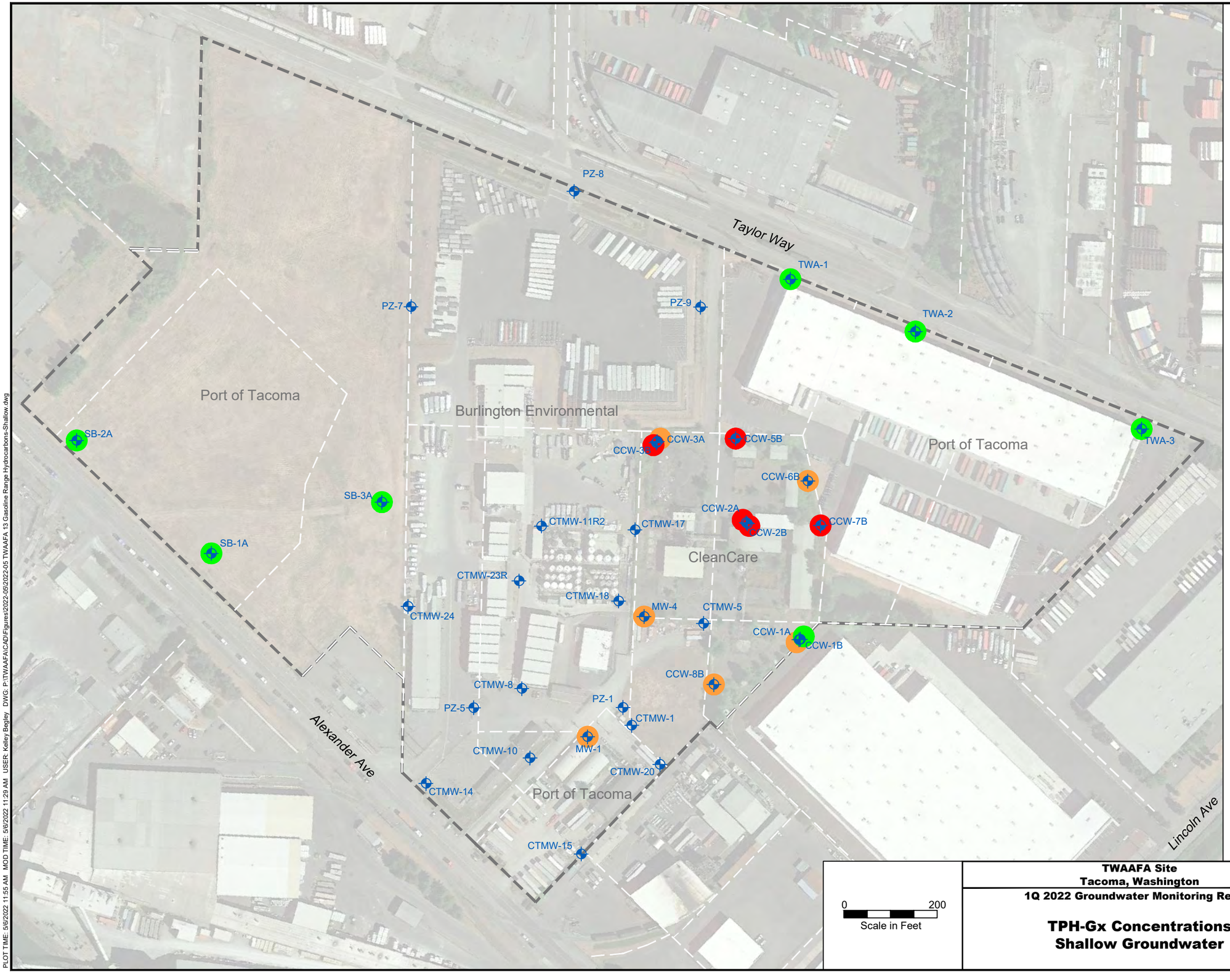
Copper Concentrations
Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 12

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:28 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 12 Copper-Deep.dwg



TWAAFA Site
Tacoma, Washington

1Q 2022 Groundwater Monitoring Report

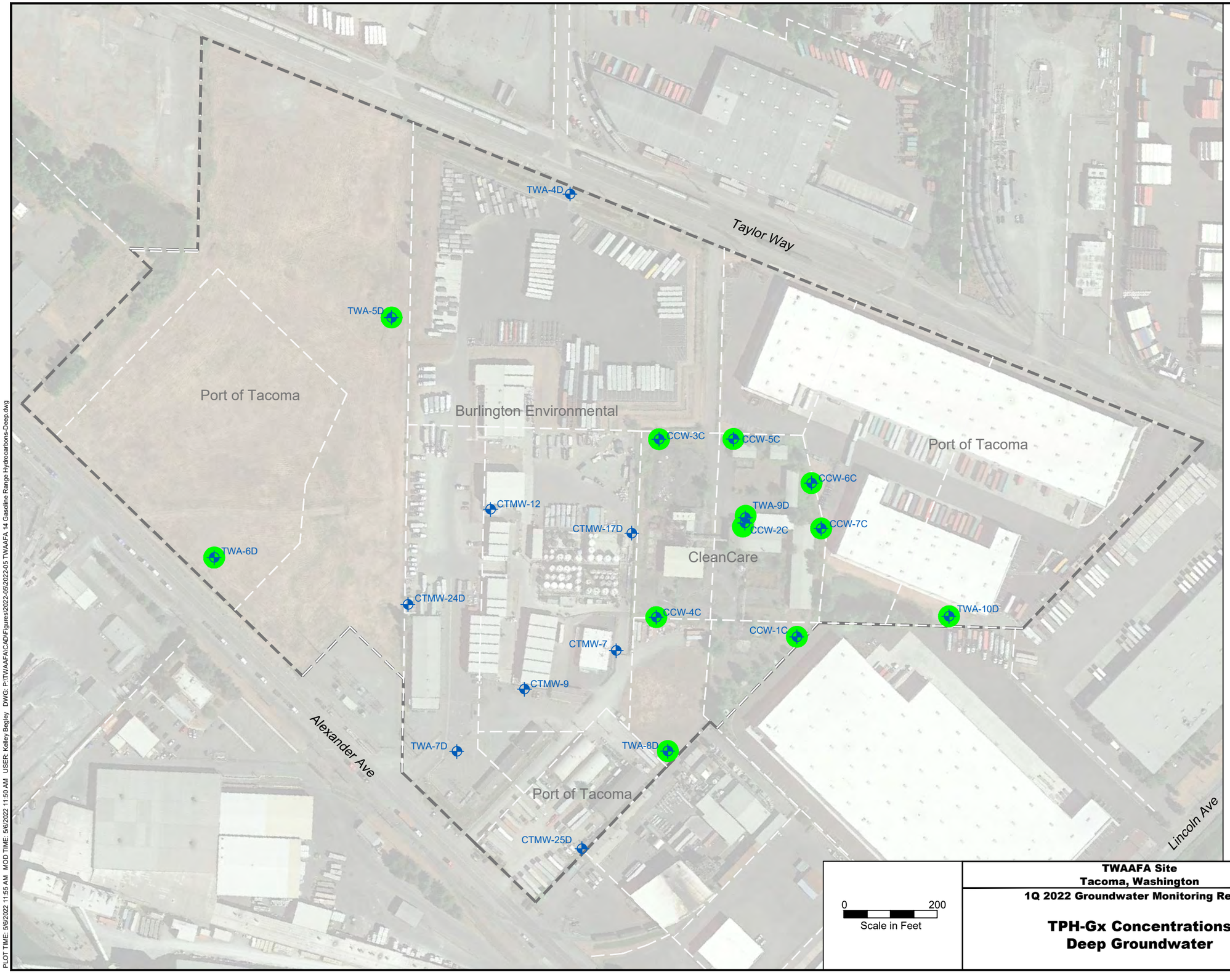
TPH-Gx Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 13

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:29 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 13 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

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington

1Q 2022 Groundwater Monitoring Report

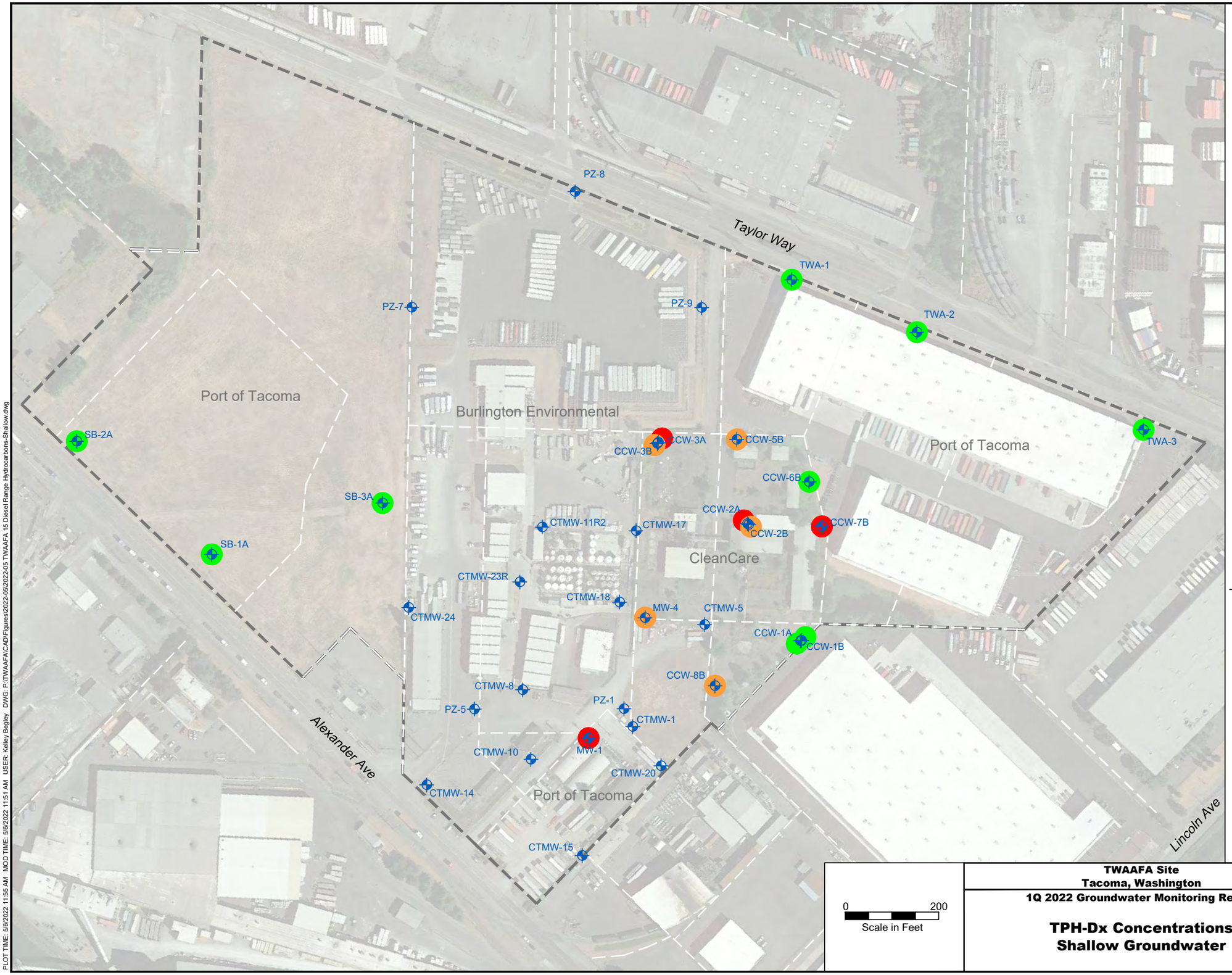
TPH-Gx Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 14

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:50 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 14 Gasoline Range Hydrocarbons-Deep.dwg



TWAAFA Site
Tacoma, Washington

1Q 2022 Groundwater Monitoring Report

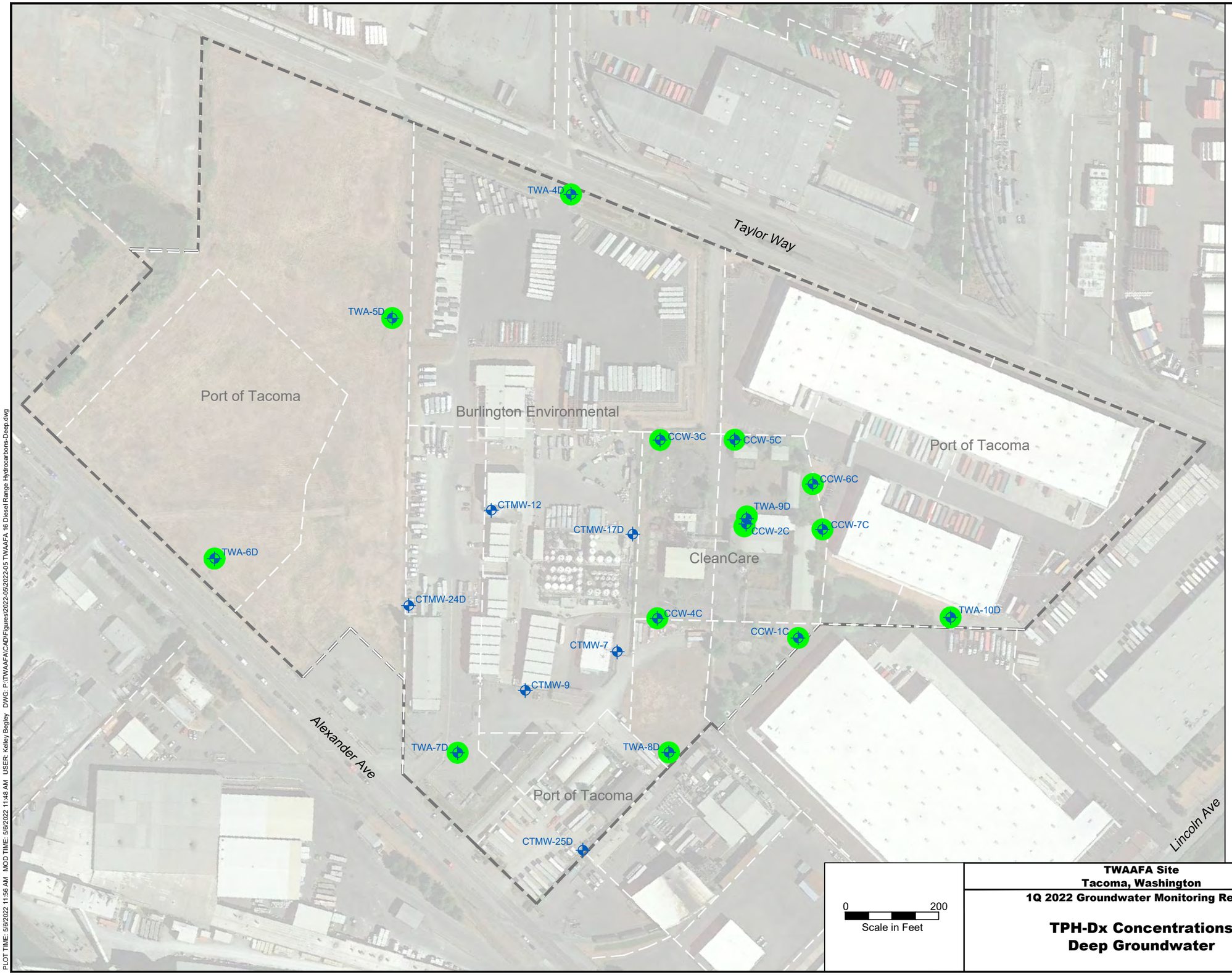
TPH-Dx Concentrations Shallow Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 15

05/06/2022

PLOT TIME: 5/6/2022 11:55 AM MOD TIME: 5/6/2022 11:51 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 15 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

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

0 200
Scale in Feet

TWAAFA Site
Tacoma, Washington
1Q 2022 Groundwater Monitoring Report

TPH-Dx Concentrations Deep Groundwater

DALTON OLMSTED FUGLEVAND

FIGURE 16

05/06/2022

PLOT TIME: 5/6/2022 11:56 AM MOD TIME: 5/6/2022 11:48 AM USER: Kelley Begley DWG: P:\TWAAFA\CAD\Figures\2022-05\2022-05 TWAAFA 16 Diesel Range Hydrocarbons-Deep.dwg

DOF DALTON OLMSTED FUGLEVAND

Appendix A

Groundwater Sampling Field Sheets

DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-9

Facility: CLEAN CARE – TWAAFA.

Date: 1/19/2022

Sampling Personnel: ANTHONY CERRUTI + MICHAEL WRIGHT (DREW CRATSENBERG)

Initial Headspace (ppm) 0.2

Sampling Method: LF PERI

1 Volume = 0.17 * (total well depth - water level)

Begin-Water Level: 9.60'

End-Water Level: 9.79 - PUMP ON 9.48 PUMP OFF

Equipment Used: YSI PRO+, GEOTECH PERI, GRUNDFOS T-100

Pump Intake Depth (ft) TOC: ~~APPROX 58' AC~~ APPROX. 58'

WATERLINE 75 / MINI RAE PID / 1/4" HDPE TUBING + SILICON TUBING.

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	< 5 NTU or < 10% if >5 NTU
1110	9.59	PURGE BEGINS.						
1114	9.79	~~PUMP RATE~~ 300	7.84	4396	13.1	0.51	201.0	11.51
1117	9.79	~~300~~ 300	8.03	4316	13.0	0.42	191.5	7.54
1120	9.80	300	8.08	4224	13.0	0.37	187.7	3.10
1123	9.80	300	8.09	4181	13.0	0.33	185.5	2.40
1126	9.79	300	8.11	4104	13.0	0.27	181.6	2.67
1129	9.79	300	8.12	4061	13.0	0.28	178.0	2.07
								1.83 final
1250	PUMP OFF. FINAL WL =		9.48'					
		TOTAL PURGE =	4 gal + SAMPLE VOLUME.					

Project: TWAAFA
Sampler: AC/MW/DC
Sample ID: TWA-9-0122
Date: 01/19/2022
Time: 11:45

Notes:
- NEW TUBING INSTALLED. ~~SILICONE JUNCTION ~6" ABOVE BOT~~ TUBING SET TO BOTTOM & PULLED ~2' UP.
- WELL VOLUME = 6.6 gal.
- SHEEN ON WATER IN MONUMENT. • NO MP SET. NORTH SIDE OF WELL USED.

Bottles and Analyses: (collected in order below)

18	x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVED
9	x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL PRESERVED
3	x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
6	x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
6	x 1000 mL unpreserved AG 8082A PCBs
3	x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2B
Facility: TWAAFA – CLEAN CARE
Date: 1/19/2022
Sampling Personnel: AC/DC/MW
Initial Headspace (ppm) 35.5
Sampling Method: LF PERI
Begin-Water Level: 1.25'
Equipment Used: YSI 22+, OAKTON T-100, GEOTECH PERI, MINIRAE PID, WATERLINE 75, 1/4" HDPE TUBING + SILICON
1 Volume = 0.17 * (total well depth - water level) 0.17 · 13.10 − 1.25 = 1.9gal
End-Water Level: 3.90' PUMP ON 3.89 PUMP OFF
Pump Intake Depth (ft) TOC: 12'

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	< 5 NTU or < 10% if >5 NTU
1340	1.34'							
1342	PURGE BEGINS 300mL/min.							
1346	2.21'	220						
1348	2.34'	220						
1350	2.49'	200						
1352	2.71	200	6.83	1008	12.0	0.32	17.2	22.7
1355	2.94	200	6.85	975	12.0	0.32	22.4	4.72
1358	3.09	200	6.89	944	12.1	0.27	26.3	8.96
1401	3.21	200	6.91	908	12.1	0.23	29.6	5.92
1404	3.26	200	6.92	886	12.1	0.21	31.3	5.19
1407	3.34	200	6.98	869	12.2	0.19	31.1	4.64
1410	3.39	200	7.00	872	12.2	0.18	30.0	6.39
1413	3.47	200	7.03	831	12.2	0.22	28.5	5.35
1416	3.58	200	7.06	808	12.2	0.23	25.6	5.65
1419	3.55	200	7.05	801	12.2	0.22	25.1	5.23
1428	Flow cell Disconnected							
1437							Final 4.22	
1520	PUMP OFF. 4 GALLONS + SAMPLE VOLUME TOTAL PURGE							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-2B-0122
Date: 01/19/2022
Time: 14:45

* DUPLICATE
Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-9-2B-0122
Date: 01/19/2022
Time: 14:50

Notes:
* SCREEN = 11-13'
* NEW HDPE 1/4" TUBING + SILICON INSTALLED.
*

Bottles and Analyses: (collected in order below)

6	x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVED
3	x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL PRESERVED
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
2	x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

* DUPLICATE BOTTLE SET FOR CCW-9-2B-0122

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2A
Facility: CLEANCARE TWAAFA.
Date: 1/20/22
Sampling Personnel: AC/MW/DC
Initial Headspace (ppm) 1.7.
Sampling Method: LF PERI
Begin-Water Level: 2.13
Equipment Used: YSI PROT, WATERLINE 75, DAIKIN T-100
1 Volume = 0.17 * (total well depth - water level)
End-Water Level: 2.20 - PUMPON.
Pump Intake Depth (ft) TOC: APPROX 4.8'
MINIRAE PID, GEOTECH PERI, 1/4" HDPE TUBING.

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	< 5 NTU or < 10% if >5 NTU
0912	2.13	Purge Started						
0913	2.20	300						
0918	2.20	300	11.29	788	9.9	0.80	98.3	248
0921	2.21	300	9.44	869	9.8	0.17	68.0	57.0
0924	2.21	300	9.07	803	9.8	1.20	49.7	13.51
0927	2.21	300	8.65	736	9.7	0.28	-55.6	9.91
0930	2.21	400	8.33	639	9.7	0.17	-146.5	3.98
0933	2.21	400	8.15	667	9.7	0.13	-179.6	3.33
0936	2.21	400	8.14	646	9.7	0.14	-197.0	6.94
0939	2.21	400	8.08	632	9.7	0.13	-208.5	2.72
0942	2.22	400	8.03	617	9.7	0.20	-217.6	2.36
0945	2.22	400	7.85	598	9.7	0.37	-225.7	2.07
0948	2.22	400	7.80	585	9.7	0.43	-229.6	1.97
0951	2.22	400	7.76	581	9.7	0.38	-232.4	1.72
0952	FLOW	CELL	DISCONNECTED				Final	1.57

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-2A-0122
Date: 01/20/2022
Time: 09:50

Notes: - NO MP, INSIDE TOC USED.
- NEW 1/4" HDPE TUBING + SILICON TUBING.
- SLIGHT ODOR, GRAY COLOR IN TUBING. TOTAL PURGE 6.0 gal + sample volume

Bottles and Analyses: (collected in order below)

6	x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCl PRESERVED.
3	x 40 mL ~~unpreserved~~ VOA TPH-Gx HCl PRESERVED
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	x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-2C

Facility: CLEAN CARE ~~FACILITY~~ TWAAFA.

Date: 1/20/2022

Sampling Personnel: AC / MW / DC

Initial Headspace (ppm) 0.0

Sampling Method: LF PERI

Begin-Water Level: 8.63

Equipment Used: YSI PROT, WATERLINE 75, DAKTON T-100

1 Volume = 0.17 * (total well depth - water level) 2.6 gal

End-Water Level: 8.67

Pump Intake Depth (ft) TOC: ~22'

MINIRAE PID, GEOTECH PERI, 1/4" HDPE TUBING

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	< 5 NTU or < 10% if >5 NTU
01107	PURGE	BEGINS.						
01110	8.66	400						
01114	8.68	400	6.87	961	13.3	1.10	-138.9	1.19
01117	8.69	400	6.96	962	13.3	0.63	-139.3	0.99
01120	8.69	400	6.96	960	13.3	0.36	-138.9	0.71
01123	8.69	400	6.95	963	13.3	0.26	-138.7	0.21
1128	FLOW CELL DISCONNECTED.						Final Reading ~~2.86~~ AC	0.43

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-2C-0122
Date: 01/20/2022
Time: 11:45

Notes: - 2 MPs (BLACK & NOTCH) WL RECORDED FROM TOC, N SIDE OF NOTCH
- Effervescence in flow Cell
- WATER CLEAR. TOTAL PURGE 3 GALLONS. + SAMPLE VOLUME.

Bottles and Analyses: (collected in order below)

6	x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCl PRESERVED
3	x 40 mL ~~unpreserved~~ VOA TPH-Gx HCl PRESERVED
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	x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-5C
Facility: CLEAN EARTH - TWAAFA -

Date: 1/20/22
Sampling Personnel: AC/DC/MW
Initial Headspace (ppm) 0.1
Sampling Method: LF PERI
Begin-Water Level: 8.79
Equipment Used: YSI PRO+, GEOTECH PERI, WATERLINE TS
1 Volume = 0.17 * (total well depth - water level) 2.6 Gal.
End-Water Level: 8.90
Pump Intake Depth (ft) TOC: 22.0 ft

ORION T100, MINIRAE PID

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	< 5 NTU or < 10% if >5 NTU
1255	PURGE BEGINS							
	← 8.82 ← 300mL/min.							
1300	8.83	300	6.56	847	13.4	0.43	-44.1	34.1
1303	8.83	300	6.56	838	13.3	0.30	-42.4	42.0
1306	8.83	300	6.56	823	13.4	0.27	-42.7	12.9
1309	8.83	300	6.56	813	13.3	0.23	-41.9	7.96
1312	8.83	300	6.56	806	13.3	0.20	-42.1	6.20
1315	8.83	300	6.56	806	13.3	0.17	-42.4	4.23
1318	8.83	300	6.56	803	13.4	0.16	-42.5	4.93
1321	8.83	300	6.56	798	13.4	0.15	-43.2	4.41
~~1326~~ 1324	flow cell disconnected							
								Final 5.39
1400	PUMP OFF	TOTAL PURGE = 4 gallons + SAMPLE VOLUME						

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-5C-0122
Date: 01/20/2022
Time: 13:45

Notes: - WL RECORDED @ NOTCH, TOC INSIDE OF NOTCH. ; DOG EARS STRIPPED ; WELL ~~SEAL~~ LOCKED; WELL SEAL RESEATED AFTER CLEAN
- Purge Water is clear

Bottles and Analyses: (collected in order below)

6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVED
3 x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL PRESERVED
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 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-5B
Facility: TWAAFA - CLEAN CARE

Date: 1/20/2022
Sampling Personnel: AC/DC/MW
Initial Headspace (ppm) 0.5
Sampling Method: LF PERI
Begin-Water Level: 2.25' (NOTCH TOC)
Equipment Used: YSI PROX, GEOTECH PERI, DAKTON-T-100
1 Volume = 0.17 * (total well depth - water level) 1 gal
End-Water Level: 2.50
Pump Intake Depth (ft) TOC: ~8'
WATERLINE 75, MINI RAE PID, 1/4" HDPE + SILICON TUBING.

Water Quality Measurements

Time	Water level	Purge Rate	pH	Conductivity	Temperature	Dissolved 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	< 5 NTU or < 10% if >5 NTU
~~1334~~ 1431	~~2.45~~	~~410~~ 410	Start purge					
1440	2.48	410	6.58	477.7	10.1	3.41	-52.9	16.91
1443	2.48	410	6.57	469.0	10.1	1.37	-51.5	11.29
1446	2.48	410	6.56	432.6	10.1	0.44	-51.4	7.97
1449	2.48	410	6.53	405.5	10.0	0.36	-50.8	4.72
1452	2.48	410	6.52	359.7	10.0	0.22	-49.0	4.97
1455	2.48	410	6.51	343.2	10.0	0.19	-48.2	3.16
1458	2.48	410	6.51	328.5	10.0	0.18	-47.5	3.79
1501	2.48	410	6.51	321.0	10.0	0.16	-46.8	4.84
1504	2.48	410	6.50	308.1	10.0	0.15	-46.5	3.40
1507	2.48	410	6.50	302.1	10.0	0.13	-45.6	2.74
1510	2.48	410	6.49	296.1	9.9	0.36	-45.1	2.22
1514	Flow Cell Disconnect							
							Final	1.96
1530	PUMP OFF PURGE COMPLETE TOTAL VOL = 6.5 gal + SAMPLE VOL.							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-5B-0122
Date: 01/20/2022
Time: 15:20

Notes: - AGL-471 ON TAG. WATER IN MONUMENT RUSTY. DOWELS (MONUMENT TABS) STRIPPED. ~~MONUMENT~~ WELL CAP LABELED "5B"
- NEW 1/4" HDPE TUBING INSTALLED.

Bottles and Analyses: (collected in order below)

6 ~~15~~ 16x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVED
3 ~~15~~ 16x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL PRESERVED.
1 ~~1 GLASS~~ x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
2 ~~1 GLASS~~ 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
2 ~~1 GLASS~~ 1000 mL unpreserved AG 8082A PCBs
1 ~~1 GLASS~~ 500 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)
250

DALTON OLMSTED FUGLEVAND	Monitoring Well Sampling Field Sheet	Well No. CCW-3C Facility: TWAAFA - Clean Care
Date: 1-31-22	Sampling Personnel:	Initial Headspace (ppm) 0.0
Sampling Method: LF PERI	MW/DC/AC	Begin-Water Level: 12.58
Equipment Used: YSI PRO, CrocTech PERI, OAKTON, WATER LEVEL, Mini RAE 3000	1 Volume = 0.17 * (total well depth - water level) 3 gal	End-Water Level: 12.58
		Pump Intake Depth (ft) TOC: 27.0 ft BTOC

Tubing for Well 1/4" HDPE + SILICON

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	< 5 NTU or < 10% if >5 NTU
0934	PURGE Begin: 300 mL/min							
0940	Flow RATE = 400 mL/min WL = 12.60							
0945	12.6	400	6.80	723	13.0	0.56	79.9	15.82
0948	12.6	400	6.79	724	13.1	0.42	78.3	11.07
0951	12.6	400	6.79	721	13.1	0.37	76.7	10.78
0954	13.1	400	6.79	719	13.1	0.26	74.2	6.71
0957	13.2	400	6.79	714	13.1	0.25	70.8	4.41
1000	13.2	400	6.79	717	13.2	0.23	69.5	4.46
1003	13.2	400	6.79	714	13.2	0.22	64.5	2.96
1003	All Parameter Stable Disconnect Flow Cell							
							Fin.	4.38
	1030 PUMP OFF PURGE Complete TOTAL Vol purged = 6gal + sample vol.							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: **CCW-3C-0122**
Date: 01/31/2022
Time: 10:15

Notes: - Water had specks in water initially became clear
- New Tubing was installed

Bottles and Analyses: (collected in order below)

- 6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVED
- 3 x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL PRESERVED
- 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 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW - 3A
Facility: TWAAFA - Clear Care
Date: 1-31 - 22
Sampling Personnel: MW/AC/DC
Initial Headspace (ppm) 2.4
Sampling Method: LF PERI
Begin-Water Level: 3.88
Equipment Used: YSI GEOTECH
1 Volume = 0.17 * (total well depth - water level) .6 gal.
End-Water Level: 4.10 3.89 @ 1223
WATER LEVEL, Min. PID TUBING 1/4" HDPE + Silicon
Pump Intake Depth (ft) TOC: 7.30 (TWD) 6ft-BMP

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	< 5 NTU or < 10% if >5 NTU
1110	PURGE BEGIN: 310 mL/min							
1113	Flow Rate = 210 mL/min							
1118	4.03	210	6.81	641	9.5	1.35	19.4	12.74
1121	4.02	210	6.82	640	9.5	0.83	18.3	10.02
1124	4.02	210	6.82	641	9.4	0.59	16.9	8.25
1127	4.05	210	6.82	648	9.6	0.45	14.8	8.32
1130	4.05	210	6.82	647	9.5	0.37	13.8	7.09
1133	4.05	210	6.82	656	9.7	0.32	10.8	6.38
1134	4.05	210	6.82	658	10.0	0.26	9.2	4.99
1137	PURGE Complete 1.5 gal purged							
1138	Flow CELL Disconnected							
1145	Sample Collected						Final	~~6.03~~ 4.25
1219	4.16	210						
1220	PUMP OFF PURGE Complete							
					TOTOL PURE 3.5 GAL			

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-3A-0122
Date: 01/31/2022
Time: 11:45

Notes: WATERS Clear, new Tubing
Effervescence: Tiny Bubbles in some VOC's

Bottles and Analyses: (collected in order below)

- 6 x 40 mL ~~unpreserved~~ HCL VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVE
- 3 x 40 mL ~~unpreserved~~ HCL VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
- 1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-3B
Facility: TWAAFA
Date: 1-31-22
Sampling Personnel: MW / AC / DC
Initial Headspace (ppm) 12.2
Sampling Method: LF PERI
Begin-Water Level: 4.47
Equipment Used: YSI PRO F. Daily 1 Volume = 0.17 * (total well depth - water level) 1.3 gals
End-Water Level: 4.95
GEOTECH PARE.
MINI BARE PID New ¼" HYDE Tubing
Pump Intake Depth (ft) TOC: 8.51 2.75 gals removed
WATER LINE WL

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	< 5 NTU or < 10% if >5 NTU
1250	PURGE BEGINS							
1253	4.96	~~4.98~~ 400 mL/min						
1256	4.90	300	6.77			Bubble on probe cleared		
1300	4.80	300	6.71	6.77	11.9	0.55	-17.9	6.54
1303	4.87	300	6.70	6.70	11.8	0.57	-17.6	6.09
1306	4.87	300	6.71	6.71	11.7	0.39	-17.4	5.24
1309	4.89	300	6.71	6.70	11.7	0.27	-17.5	5.62
1312	4.89	300	6.71	6.74	11.8	0.23	-17.6	5.12
1313	FLOW CELL Disconnected							
1325	Samples Collected						Final	4.15
1345	PUMP SHUT OFF							
					Total Gallon removed 2.75 gals			

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-3B-0122
Date: 01/31/2022
Time: 13:25

Notes: Water Clear : New Tubing
Effervescense : Tiny Bubbles in VOC's

Bottles and Analyses: (collected in order below)

6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVE
3 x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL
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 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. MW-4
Facility: TWAAFA
Date: 1-31-22
Sampling Personnel: MW / AC / DC
Sampling Method: LF PERI
Initial Headspace (ppm) 1.8
Begin-Water Level: (BMP) 5.69
Equipment Used: YSI PRO TOA KTO M T-100 Geotech PERI WATER Level (WL Mini DID New Tubing 1/4" Silcon
1 Volume = 0.17 * (total well depth - water level)
End-Water Level: 6.151 (@1613)
Pump Intake Depth (ft) TOC: ~25' FROM BOTTOM

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	< 5 NTU or < 10% if >5 NTU
1516	PURGE Begins @ 200							
~~1522~~	~~Flow Rate~~ (mL)							
1522	6.85	170 mL/mins						
1530	7.10	170	7.57	977	11.0	0.92	-44.5	5.28
1533	7.10	170	7.54	968	11.1	0.55	-68.0	4.37
1536	7.10	170	7.50	944	11.1	0.50	-68.3	3.61
1539	7.10	170	7.49	938	11.2	0.40	-68.1	3.10
1540	Flow Cell Disconnected							
1545	Sample Collected							
1611	PUMP OFF.							
						Total gal 1.75 gal removed		

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: MW-4-0122
Date: 01/31/2022
Time: 15:45

Notes: - Slight odor in Purge Water
- Low Density Black flowing materials
- 2.50ft from top of casing.

Bottles and Analyses: (collected in order below)

- 6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane HCL PRESERVE
- 3 x 40 mL ~~unpreserved~~ VOA TPH-Gx HCL
- 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 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW 4C
Facility: TWAAFA
Date: 2-1-22
Sampling Personnel: MW/AC/DC
Initial Headspace (ppm): 0.3
Sampling Method: LF PERI
Begin-Water Level: 10.91
Equipment Used: YSI PRO, Horiba T-100, Geo Tech PERI, WATER Level Meter, PID
1 Volume = 0.17 * (total well depth - water level): 2.20 Gal
End-Water Level: 10.83 @ 1021
Pump Intake Depth (ft) TOC: 22' BMP
New Tubing 1/4" Hyde Sleeve, LA Motte 2020we TURB

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	< 5 NTU or < 10% if >5 NTU
0937	BEGIN PURGE							
0939	FLUID Flow @ 400 mL/min							
0941	10.91	400	6.88	1394	13.6	0.33	-116.0	10.78
0944	10.91	400	6.90	1359	13.6	0.39	-98.3	6.74
0947	10.91	400	6.90	1297	13.6	1.06	-78.5	3.86
0950	10.91	400	6.91	1270	13.6	0.46	-75.5	4.17
0953	10.91	400	6.90	1263	13.6	0.24	-70.1	2.65
0956	10.91	400	6.90	1245	13.7	0.29	-68.7	2.95
1000	Flow Cell Disconnected						FINAL TURB.	4.01
1005	Sample Connected							
1018	PUMP OFF.							
						Total gals		

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: **CCW-4C-0222**
Date: 02/01/2022
Time: 10:05

Notes: - Water clear No Effervesonse
- New tubing was add for this well

Bottles and Analyses: (collected in order below)

6 ~~3~~ x 40 mL unpreserved VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3 x 40 mL unpreserved VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW 1-C
Facility: TWAAFA

Date: 2-1-22
Sampling Personnel: MW/AC/DC
Sampling Method: LF PERI
Initial Headspace (ppm) 0.1 ppm
Begin-Water Level: 10.13 ft.
End-Water Level: 10.03' BMP. @ 1230
Equipment Used: YSI PRO Geotech Peri WATER2 Meter, Mini. PID, New Tubing ¼" HDPE & Silicone, Camera 2022 Turbidity
1 Volume = 0.17 * (total well depth - water level) 2 2 Gals
Pump Intake Depth (ft) TOC: ~21'

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	< 5 NTU or < 10% if >5 NTU
1106	Start Purge							
1107	est. Flow Rate @ 500							
1110	10.17	500	6.91	967	10.1	1.29	-59.1	5.67
1113	10.17	500	7.17	1128	13.6	0.46	-67.3	5.69
1116	10.17	500	7.12	1141	13.7	0.35	-69.6	4.55
1119	10.17	500	7.13	1148	13.8	0.28	-71.6	4.58
			7.13	1150	13.7	0.23	-72.8	3.97
1123	Flow Cell Disconnected						Final -	3.25
1200	Sample time							
1225	PUMP OFF							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-1C-0222
Date: 02/01/2022
Time: 12:00

Notes: - 11:10 Reading was not valid Measurement is good condition
- Water started clear at purge and stayed clear without purge, New Tubing added.
- 7.25 gallons + SAMPLE VOLUME TOTAL PURGE

* EXTRA VOLUME COLLECTED FOR MS + MSD

Bottles and Analyses: (collected in order below)

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

~~250~~ TOTAL 37 BOTTLES

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-~~2B~~1B
Facility: TWAAFA

Date: 2-1-22
Sampling Personnel: MW/AC/DC
Sampling Method: LE PERI
Equipment Used: YSI PID, Geotech PERI Meter Water, Mini PID New Tubing 1/4 Hose, Silicone, Camille 2020 Turbidity
1 Volume = 0.17 * (total well depth - water level) 7 gal
Initial Headspace (ppm) 0.6
Begin-Water Level: 3.85 (Top of Casing, North)
End-Water Level: 3.89 (Top of Casing, North)
Pump Intake Depth (ft) TOC: ~~2.00~~ 8.5 ft

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	< 5 NTU or < 10% if >5 NTU
1305	Start Purge							
1308	Flow Rate set 300 ml/min							
1310	4.21	300	reconformed flow rate					
1313	4.21	300	6.99	441.3	11.3	0.89	-89.7	12.2
1316	4.21	300	6.95	396.3	11.3	0.40	-82.9	11.24
1319	4.21	300	6.96	389.6	11.3	0.31	-81.5	9.32
1322	4.21	300	6.97	379.1	11.2	0.29	-80.2	9.69
1328	4.21	300	6.98	369.2	11.2	0.24	-78.2	4.99
1331	4.21	300	7.00	358.2	11.2	0.19	-78.3	3.91
1334	4.21	300	7.01	343.1	11.3	0.17	-78.1	4.27
1336	Total gals purge 2.7 gals SC > 3%. Collecting samples							
1337	Disconnected flow cell							
							Final	4.58 NTU
1400	PUMP OFF.							
	TOTAL DEPTH = 9.66'							

Project:TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-1B-0222
Date: 02/01/2022
Time: 13:45

Notes:
- Slightly cloudy water color (Start) but became clear with particles
- Turned pump off @ 1404 & Total 9.66 ft BTOC North side
- Total Volume purged 3.50 Gallons

Bottles and Analyses: (collected in order below)

6	x 40 mL unpreserved VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3	x 40 mL unpreserved VOA TPH-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	x 1000 mL unpreserved AG 8082A PCBs
1	x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND	Monitoring Well Sampling Field Sheet	Well No. CCW-1A
Date: 2/1/22	Sampling Personnel: MW / AC / DC	Facility: TWAAFA
Sampling Method: CE PERI	1 Volume = 0.17 * (total well depth - water level) 0.29 gal	Initial Headspace (ppm) 8.7
Equipment Used: YSI PRO Geotech PERI Meter WL MW PID		Begin-Water Level: 4.31 @ 1431
		End-Water Level: 4.31 @ 1522
		Pump Intake Depth (ft) TOC: 4.6' BTOC N'SIDE

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	< 5 NTU or < 10% if >5 NTU
1427	Start of Purge Rate		= 280 mL/min.					
1430	4.32	240 Est. Rate						
1438	4.39	240	6.92	253.6	8.9	0.35	-73.8	4.89
1441	4.39	240	6.93	256.1	9.0	0.29	-72.2	4.07
1444	4.39	240	6.94	259.2	9.0	0.25	-70.9	3.86
1446	Disconnect	Flow Cell						
							Final	4.35
1520	PUMP OFF.							
	TOTAL DEPTH =	5.01'	SOFT BOTTOM					

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-1A-0222
Date: 02/01/2022
Time: 15:00

Notes: Start of Purge water looked cloudy with small particles in water

- INITIAL WL BELOW TOP OF SCREEN
- TOTAL DEPTH OF WELL = 5.01' SOFT BOTTOM; PUMPED W/ PERI, REMOVED SIGNIFICANT SED + LONG FIBROUS ORGANICS. TOTAL DEPTH = 5.10'. HARD BOTTOM

Bottles and Analyses: (collected in order below)

- 12 x 40 mL ~~unpreserved~~ HCl VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
- 3 x 40 mL ~~unpreserved~~ HCl VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
- 1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-8B
Facility: TWAAFA

Date: 2/2/22
Sampling Personnel: MW / AC / DC
Sampling Method: LF PERI
Equipment Used: YSI PRO ~~PERI METER~~ OAKTON ~~TROLL~~ MINI PIN
1 Volume = 0.17 * (total well depth - water level) 1.2 Gals
Initial Headspace (ppm) 0.3
Begin-Water Level: 3.67
End-Water Level: 3.79 (0956)
Pump Intake Depth (ft) TOC: ~~11.29' BMP~~ ~ 9' BMP.

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	< 5 NTU or < 10% if >5 NTU
0850	Purge Start							
0854	3.79	320mL/min start						
0856	3.79	320 mL/min						
0859	3.79	400 mL/min est.						
0902	3.79	400	6.91	357.4	11.4	0.38	-60.1	29.0
0905	3.79	400	6.90	360.6	11.3	0.63	-53.6	27.7
0908	3.79	400	6.90	363.1	11.4	0.21	-48.8	14.38
0911	3.79	400	6.90	361.2	11.3	0.23	-46.8	11.01
0914	3.79	400	6.89	365.8	11.4	0.17	-43.3	9.99
0917	3.79	400	6.88	366.5	11.4	0.15	-42.0	7.23
0920	3.79	400	6.90	362.5	11.4	0.13	-40.5	5.74
0923	3.79	400	6.89	361.4	11.4	0.13	-39.9	4.96
0926	3.79	400	6.88	359.1	11.4	0.12	-38.1	3.65
0929	3.79	400	6.88	357.2	11.4	0.13	-38.4	4.06
0930	Flow Cell Disconnected							
0933	3.79	495	Flow Rate changed				Final	3.91
0957	Pump Was shut off							
	TOTAL DEPTH = 11.29' BMP							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-8B-0222
Date: 02/02/2022
Time: 09:45

Notes: - Water odor is foul and also a sheen on top of water. Floating particles in water
- Water clear @ the 0911 reading - sheen is absent. Intact cap removal was not done because there was no cap. There were tears inside PVC.

Bottles and Analyses: ~~Sequence~~ (collected in order below)

6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3 x 40 mL ~~unpreserved~~ VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-7C (AGL 476 on tag)
Facility: TWAAFA

Date: 2/2/22
Sampling Personnel: MW / AC / JC
Sampling Method: LF PERI
Equipment Used: YSI PID HERMIT OAKTON Mini PID RAE, New Tubing 1/4 POE + Silicon
1 Volume = 0.17 * (total well depth - water level)

Initial Headspace (ppm) 0.0
Begin-Water Level: 9.09 @ (North side)
End-Water Level: 9.10 (1151)
Pump Intake Depth (ft) TOC: 23.05 ft. (BMP)

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	< 5 NTU or < 10% if >5 NTU
1105	Start of Purge							
1106	9.12	600						
1108	9.12	400 Purge off.						
1111	9.12	400 flow cell connected @ 1109				.69	-46.3	2.35
1115	9.12	400	6.83	772	12.4	.70	-45.6	2.89
1118	9.12	400	6.83	780	12.4	.50	-49.1	2.89
1121	9.12	400	6.83	783	12.3	-58.7	-52.7	2.79
1124	9.12	400	6.84	784	12.3	-57.1	-55.1	3.49
~~1126~~	~~Sampling time~~ @							
1126	Flow Cell Disconnected						Final	1.43
1130	Sample Collected							
1151	PUMP OFF							
1152	9.08 WL							
						3.1 Gallons removed		

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-7C-0222
Date: 02/02/2022
Time: 11:30

Notes: Start water clear no odor, during sampling the water had light tan color. Meter 0 PID response during sampling.

Bottles and Analyses: (collected in order below)

6 x 40 mL ~~unpreserved~~ HCL VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3 x 40 mL ~~unpreserved~~ HCL VOA TPH-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 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) 250

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CW - 7B
Facility: TWAAFA
Date: 2/2/22
Sampling Personnel: MW / AC / DL
Initial Headspace (ppm) 0.8
Sampling Method: LF PERI
Begin-Water Level: 2.64 ft.
Equipment Used: YSI, PRE Aquatec, CHEMET-100 Turbidity, PID, new tubing 1/4 HDPE Silicon
1 Volume = 0.17 * (total well depth - water level) 1.9 gals
End-Water Level: 2.65 ft @ 1239 DS
Pump Intake Depth (ft) TOC: 7.00 ft

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	< 5 NTU or < 10% if >5 NTU
1212	PURGE	BEGINS						
1213	2.65	420						
1217	2.65	420	est. water level					
1218	Flow	Cell Connected						
1219	2.65	420mL	final flow rate est.					
1225	2.65	420	6.36	357.6	9.7	0.53	-43.5	4.91
1228	2.65	420	6.36	350.1	9.7	0.33	-37.8	3.49
1231	2.65	420	6.36	248.1	9.7	0.29	-35.6	3.55
1234	2.65	440	6.36	289.3	9.7	0.23	-34.2	3.44
1238	Disconnect flow Cell							
1245	Sample Collect						Final	3.00
1300	Pump turned off							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-7B-0222
Date: 02/02/2022
Time: 12:45

Notes: ~~Start~~ Start of Pump water has SL odor & water is clear.
Total well volume Purged - 4.0 Gallons
Total well Depth 9.20 FT (Below MP)

Bottles and Analyses: (collected in order below)

6 x 40 mL ~~unpreserved~~ HCl VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3 x 40 mL ~~unpreserved~~ HCl VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-6C
Facility: TWAAFA
Date: 2-2-22
Sampling Personnel: MKU AC/DC
Initial Headspace (ppm) 0.1
Sampling Method: LF PERI
Begin-Water Level: 8.99 ft. (North side notch)
Equipment Used: YSI PRO Water, PID RAE, CHEMets Turbidity, silicon tubing, 1/4 HDPE & Sloane
1 Volume = 0.17 * (total well depth - water level) 2.4 gals
End-Water Level: 9.27 @ 1450
Pump Intake Depth (ft) TOC: 20.0 ft

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	< 5 NTU or < 10% if >5 NTU
1348	9.284	400	Begins Purge BMP					
1352	9.25	400						
1355	9.24	400	Water flow @					
1359	9.24	400	Water flow rate est.					
1402	9.24	400	6.65	1506	12.3	.72	-24.1	5.34
1405	9.24	400	6.66	1571	12.3	.48	-36.6	4.60
1408	9.24	400	6.66	1685	12.3	.38	-42.1	3.49
1411	9.24	400	6.66	1730	12.4	.32	-44.5	2.57
1414	9.24	400	6.66	1780	12.3	.30	-46.6	1.75
1417	9.24	400	6.66	1820	12.3	.28	-48.7	1.93
1420	9.24	400	6.66	1824	12.3	.27	-49.1	1.53
1425	Flow Cell Disconnected							
1445 (x)								
1430	9.25	400					w/ Flow Cell Final	1.83
1445	Sample Collected						w/o Flow Cell Final	2.06
						Total Purge Volume		~4.0 Gals
1451	Pump OFF							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-6C-0222
Date: 02/02/2022
Time: 14:45

Notes: To start water is clear ~~no s~~, Slight odor & tint to water

Bottles and Analyses: HCl (collected in order below)

6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3 x 40 mL ~~unpreserved~~ VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CCW-6B
Facility: TWAAFA
Date: 2/2/22
Sampling Personnel: MW/AC/DC
Initial Headspace (ppm) 0.3 1.3 ppm
Sampling Method: LF PERI
Begin-Water Level: 2.72 (Width @ Top)
Equipment Used: YSI PRO Meter PID RAE, OAKTON-T-100 Turbidity
1 Volume = 0.17 * (total well depth - water level) 1 gal.
End-Water Level: 2.78 (1625)
New Tubing 1/4 HDPE & Silicone
Pump Intake Depth (ft) ~~TOC~~ 8.50 (A) 6.5 BMP

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)
(A)	< 0.33 ft from 2nd reading	< 500 mL	< 0.1 unit	</= 3%	< 3%	</= 0.3 mg/L	< 10 mV	< 5 NTU or < 10% if >5 NTU
1514	IS PURGE Started & Flow Cell connected							
1517	2.72	420						
1520	2.72	420	Flow rate is holding					
1524	2.72	420	established					
1527	2.72	420	6.36	385.1	9.4	0.26	-38.	7.03
1530	2.72	420	6.35	365.3	9.3	0.24	-35.5	4.60
1533	2.72	420	6.35	351.4	9.3	0.22	-33.9	2.95
1535	2.72	420	6.34	3.34.2	9.3	0.21	-32.6	3.47
1539	2.72	420	6.36	3.26.1	9.3	0.21	-32.0	2.36
1542	~~2.72~~	420	6.36	~~3.28~~ 3281	9.3	0.21	-31.8	2.17
1544	Disco disconnected Flow Cell							
							Final w/ Flow cell	1.65
							Final —	2.34

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-9-6B-0222
Date: 02/02/2022
Time: 16:05

* DUPLICATE

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: CCW-6B-0222
Date: 02/02/2022
Time: 16:00

Notes: - Water clear NO odor

* DUPLICATE COLLECTED CCW-9-6B-0222 @ 1605

Bottles and Analyses: (collected in order below)

6+6 x 40 mL unpreserved ~~HCl~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
3+3 x 40 mL unpreserved ~~HCl~~ VOA TPH-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~~ 250mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

CCW-6B-0222 CCW-9-6B-0222

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. CC1 TWA-4D

Facility: TWAAFA

Date: 2/3/22

Sampling Personnel: MW / AC / DC

Initial Headspace (ppm): 0.2

Sampling Method: LF PERI

Begin-Water Level: 9.55

Equipment Used: YSI PRO meter, LAMOTTE 2020 TURBIDITY METER, New Tubing, 1/4 HDPE & Loaded WATER LINE WATER PERI PUMP

1 Volume = 0.17 * (total well depth - water level) 8.6 gals

End-Water Level: 11.03' BMP @ 1030

Pump Intake Depth (ft) TOC: ~56' BMP

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	< 5 NTU or < 10% if >5 NTU
0921	PURGE Starts							
0923	10.37	420						
0926	10.78	320						
0929	10.94	320						
0932	11.15	320						
0939	11.27	320						
0942	11.02	280						
0945	10.92	240						
0946	0951	Flow Cell connected						
0953	10.83	240	7.64	1460	12.3	0.20	-13.6	3.73
0956	10.82	240	7.85	2223	12.6	0.20	-59.9	1.93
0959	10.82	240	7.90	2610	12.7	0.19	-86.0	1.33
1002	10.82	240	7.92	2816	12.8	0.23	-75.1	.99
1005	10.85	240	7.94	3073	12.9	0.22	-115.9	.81
1008	10.85	240	7.94	3098	12.7	0.21	-119.9	1.01
1011	10.85	240	7.94	3153	12.7	0.21	-120.1	0.75
							Flow Cell OFF	1.50
1020	Sample Collected							
PUMP	OFF @ 1030							
	TOTAL DEPTH = 58.0' BMP.							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: TWA-4D-0222
Date: 02/03/2022
Time: 10:20

Notes: Water is clear, no odor, Effervescence in flow meter

Bottles and Analyses: HCL (collected in order below)

6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
6 x 40 mL ~~unpreserved~~ VOA TPH-Gx
1 x 500 mL ~~unpreserved~~ AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
1 x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
1 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)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA-8D
Facility: TWAAFA
Date: 2.3.22
Sampling Personnel: MW/AC/DC
Sampling Method: LF PERI
Initial Headspace (ppm) 0.1
Begin-Water Level: 7.11 (1108) 9.48 (1128)
End-Water Level: 11.41' @ 1304
Equipment Used: YSI, PID Meter, Lamotte 2020 Turbidity Meter, New Tubing 1/4 HDPE & Stone, Water Line, Water Bladder Pump
1 Volume = 0.17 * (total well depth - water level) 8 gals
Pump Intake Depth (ft) TOC: 54' BMP

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	< 5 NTU or < 10% if >5 NTU
	~~PURGE Start~~ (a)							
1133	9.54 (a)							
1135	10.08 (a)	500	PURGE BEGINS					
1138	10.82	320						
1141	11.20	280						
1144	11.42	220						
1147	11.54	220						
1150	11.63	220	→ REDUCED TO 200mL/min.					
1153	11.57	~~200~~						
1156	11.51	200						
1159	Flow Cell connected → Pump incidentally turned off <15 SECONDS							
1201	11.37	200	7.78	4846	12.9	0.58	139.9	2.55
1204	11.32	~~225~~ 3000	7.98	4886	12.8	0.46	140.3	2.76
1207	11.95	200	7.79	4966	12.8	0.28	141.2	1.83
1210	11.93	200	7.79	5018	12.8	0.25	141.5	1.41
1213	11.90	200	7.78	5055	12.8	0.23	141.8	1.49
1215	Flow Cell Disconnected							
1230	~~Sample~~ (b)						Flow Cell off	1.05
1216	11.72	200						
1230	Sample Collected							
1305	PUMP OFF.							
	TOTAL DEPTH 55.95' BMP							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: TWA-8D-0222
Date: 02/03/2022
Time: 12:30

Notes: Water level drop while venting before purge.

Bottles and Analyses: HCl (collected in order below)

- 6 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
- 3 x 40 mL unpreserved VOA TPH-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 x 1000 mL unpreserved AG 8082A PCBs
- 1 x ~~500~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

DOF DALTON OLMSTED FUGLEVAND

Monitoring Well Sampling Field Sheet

Well No. TWA - 7D
Facility: TWAAFA
Date: 2-3-22
Sampling Personnel: MW / AC / DC
Initial Headspace (ppm) 0.0
Sampling Method: LF PERI
Begin-Water Level: 10.37
Equipment Used: YSI PRO Meter, LaMotte 2030 Turbidity Meter, New Tubing 1/4 HDPE & Strainer, Water Line, Water meter, Pump
1 Volume = 0.17 * (total well depth - water level) 5.4 Gals in 1455
End-Water Level: ~~11.95~~ 11.85 @ 1458
Pump Intake Depth (ft) TOC: 58 ~~57~~ BMP AC

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	< 5 NTU or < 10% if >5 NTU
1412	Start of Purge 200mL max WL 40.33							
1415	10.~~88~~ 98	200						
1418	11.34	200						
1421	11.73	200	→ Reduce 180 mL/min					
1424	11.81	180	→ Pump stop slight movement connecting flow cell (5 sec)					
1427	11.65	180	8.09	4150	13.8	0.87	-156.4	7.77
1430	11.60	180	8.09	4075	13.8	0.74	-157.0	7.02
1433	11.55	180	8.11	3849	13.8	0.48	-158.2	6.88
1436	11.53	180	8.11	3775	13.9	0.41	-159.0	6.73
1439	11.51	180	8.10	3720	13.9	0.38	-159.2	6.50
1442	11.51	180	8.10	3719	14.1	0.32	-160.0	6.51
1450	Sample Collected							
1443	FLOW CELL DISCONNECTED WL=				11.53	FLOW RATE 180mL/min.		
	Total Volume purged - 1.75 Gals						FINAL TURB = 3.70	
	Total well Depth - 60.54							
1459	Turned pump off							

Project: TWAAFA
Sampler: AC/DC/MW
Sample ID: TWA-7D-0222
Date: 02/03/2022
Time: 14:50

Notes: Release of pressure when opened cap. Occasional bubbles spotted in tubing @ beginning of purge and throughout

Bottles and Analyses: ~~HCL~~ (collected in order below)

2 x 40 mL ~~unpreserved~~ VOA 8260/8260 SIM dual acquisition and 1,4 Dioxane
0 x 40 mL unpreserved VOA TPH-Gx
1 x 500 mL unpreserved AG TPH-Dx and TPH-Dx with Silica Gel Cleanup
0 x 1000 mL unpreserved AG 8270E SVOCs and 8270E cPAHs
0 x 1000 mL unpreserved AG 8082A PCBs
1 x 500 ~~mL~~ 250 mL HDPE w/ HNO_3 6020 Metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn) and 1613E (Hg)

Maul Foster & Alongi, Inc.

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Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	MW-1				
Project #	0615.20.04	**Sampler**	E. Lundeen				
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/25/2022				
Sampling Event	January 2022	**Sample Name**	MW-1-0122				
Sub Area	Potter Property	**Sample Depth**	5.5				
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/25/2022	12:10	8.31		1.28		7.03	1.14

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	11:10:00 AM	0.9	0.4	6.81	8.7	228.6	0.98	55.9	107
	12:00:00 PM	3.2	0.2	6.6	8.5	293.8	0.27	-54.7	76.4
	12:05:00 PM	3.4	0.2	6.6	8.5	292.2	0.27	-56.5	77.7
Final Field Parameters	12:10:00 PM	3.6	0.2	6.6	8.6	299.2	0.26	-59	75.3

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Slightly turbid; pale yellow tint; petroleum hydrocarbon-like odor; ductile sheen.
No product observed on interface probe. Product was observed during water level measurements on 1/18/2021, but was too thin to be measurable.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	12:15:00 PM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 11:00.
Equipment Used: Solinist interface probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

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Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	SB-1A		
Project #	0615.20.04	**Sampler**	S. Maloney		
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/24/2022		
Sampling Event	January 2022	**Sample Name**	SB-1A-0122		
Sub Area	Hylebos Marsh Property	**Sample Depth**	7.5		
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/24/2022	15:19	11.5		2.12		9.38	1.52

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	3:45:00 PM	0.8	0.4	7.18	9.8	682.6	8.7	-35	17.4
	3:50:00 PM	1.4	0.4	7.17	9.8	629.8	14.3	-34.6	10.8
	3:55:00 PM	1.8	0.4	7.17	9.7	614.6	17.2	-34	7.67
	3:57:00 PM	2.1	0.4	7.17	9.7	601.2	20.2	-31.8	5.85
	4:00:00 PM	2.4	0.4	7.18	9.7	595.6	21.2	-31.6	3.52
	4:03:00 PM	2.6	0.4	7.18	9.7	593.8	22.7	-31.4	3.88
Final Field Parameters	4:06:00 PM	2.9	0.4	7.17	9.7	592.4	24	-29.8	3.93

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear with red / brown particulates; slight brownish-red tint; no odor; no sheen.
Dissolved Oxygen (DO) readings are provided in percent saturation instead of mg/L.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	4:20:00 PM	VOA-Glass	18	No
			Amber Glass	12	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly	2	No
			Red Dissolved Poly		
			Total Bottles	32	

General Sampling Comments

Began purging at 15:35.
Extra volume for MS/MSD collected here.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	SB-2A
Project #	0615.20.04	**Sampler**	E. Lundeen
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/25/2022
Sampling Event	January 2022	**Sample Name**	SB-2A-0122
Sub Area	Hylebos Marsh Property	**Sample Depth**	8.5
FSDS QA:	E. Lundeen 1/31/2022	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/25/2022	8:08	12.62		3.76		8.86	1.44

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	8:30:00 AM	1.4	0.3	7.17	10.2	492.5	0.27	123	8.5
	8:35:00 AM	1.75	0.3	7.16	10.1	488.3	0.26	102.6	10.7
	8:40:00 AM	2	0.3	7.14	10.1	476.8	0.26	80.7	8.6
	8:45:00 AM	2.4	0.3	7.13	10.1	473.6	0.27	78.8	8.2
	8:50:00 AM	2.6	0.3	7.13	10.1	473.5	0.26	77.4	8.19
Final Field Parameters	8:55:00 AM	3	0.3	7.13	10.1	469.8	0.26	75.6	8.33

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; colorless; no odor; no sheen.
Attempted to reduce turbidity under 5 NTU, however, turbidity stabilized above 8 NTU.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	9:00:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly	1	No
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 08:10.
Collected FieldBlank#1-0122 here at 09:10.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	SB-3A
Project #	0615.20.04	**Sampler**	S. Maloney
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/25/2022
Sampling Event	January 2022	**Sample Name**	SB-3A-0122
Sub Area	Hylebos Marsh Property	**Sample Depth**	7.5
FSDS QA:	E. Lundeen 1/31/2022	**Easting**	**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/25/2022	12:05	12.86		3.16		9.7	1.58

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	12:45:00 PM	1.4	0.4	7.28	9.3	757	0.17	-108.7	6.12
	12:48:00 PM	1.7	0.4	7.27	9.5	794	0.15	-112.7	5.79
	12:51:00 PM	2	0.4	7.26	9.6	779	0.14	-116.8	4.49
Final Field Parameters	12:54:00 PM	2.3	0.4	7.26	9.5	782	0.14	-117.7	4.89

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	1:00:00 PM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 12:30.
Field duplicate SB-9-3A-0122 collected here.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-1				
Project #	0615.20.04	**Sampler**	E. Lundeen				
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/24/2022				
Sampling Event	January 2022	**Sample Name**	TWA-1-0122				
Sub Area	Taylor Way Property	**Sample Depth**	11				
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/24/2022	9:30	13.52		4.88		8.64	1.41

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	10:37:00 AM	4	0.3	6.26	7.9	751	0.61	177.2	1.03
	10:40:00 AM	4.2	0.2	6.3	7.9	744	0.47	141.2	0.87
	10:45:00 AM	4.4	0.2	6.32	8	738.9	0.45	97.2	1.15
	10:50:00 AM	4.6	0.2	6.31	7.9	734.6	0.47	96.4	0.96
Final Field Parameters	10:55:00 AM	4.8	0.2	6.31	7.9	729.1	0.46	89.3	1.14

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; coloress; slight sulfur-like odor; no sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	11:00:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 09:40.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

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Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-10D		
Project #	0615.20.04	**Sampler**	E. Lundeen		
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/24/2022		
Sampling Event	January 2022	**Sample Name**	TWA-10-0122		
Sub Area	Taylor Way Property	**Sample Depth**	54.5		
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/24/2022	12:04	58.44		10.29		48.35	7.83

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	1:45:00 PM	6.5	0.4	8.27	12.6	6970	0.38	-152.2	4.48
	2:04:00 PM	7.5	0.4	8.28	12.7	7233	0.09	-184.5	4.79
	2:09:00 PM	7.9	0.3	8.28	12.7	7314	0.09	-186.2	3.56
	2:14:00 PM	8.3	0.3	8.27	12.6	7294	0.09	-187.6	2.91
Final Field Parameters	2:20:00 PM	8.7	0.3	8.27	12.6	7297	0.03	-188.4	2.95

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; pale yellow tint; slight sulfur-like odor; no sheen. Effervesces in hydrochloric acid.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	2:20:00 PM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 13:05.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

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109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-2		
Project #	0615.20.04	**Sampler**	S. Maloney		
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/24/2022		
Sampling Event	January 2022	**Sample Name**	TWA-2-0122		
Sub Area	Taylor Way Property	**Sample Depth**	7.5		
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/24/2022	9:43	9		3		6	0.98

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	10:43:00 AM	3	0.1	6.93	8.9	1386	17.7	45	4.47
	10:46:00 AM	3.1	0.1	7	9.5	1334	10.2	17.2	4.29
	10:49:00 AM	3.2	0.1	7.1	9.6	1279	8	-1.5	3.71
	10:52:00 AM	3.3	0.1	7.13	9.5	1276	8	-7	3.01
Final Field Parameters	10:55:00 AM	3.4	0.1	7.16	9.5	1282	7.8	-9.6	2.76

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

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

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	11:05:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 09:55.
Dissolved Oxygen (DO) readings are provided in percent saturation instead of mg/L.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

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Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-3				
Project #	0615.20.04	**Sampler**	S. Maloney				
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/24/2022				
Sampling Event	January 2022	**Sample Name**	TWA-3-0122				
Sub Area	Taylor Way Property	**Sample Depth**	7.5				
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/24/2022	12:15	9.71		6.88		2.83	0.46

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	12:33:00 PM	0.7	0.1	6.71	8.8	4301	3.5	-14.4	1.95
	12:36:00 PM	0.8	0.1	6.71	8.7	4323	3.3	-15.6	1.76
Final Field Parameters	12:39:00 PM	0.9	0.1	6.71	8.7	4305	3.1	-16.2	1.61

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; colorless; no odor; no sheen.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	12:50:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 12:20.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

Maul Foster & Alongi, Inc.

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Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-5D		
Project #	0615.20.04	**Sampler**	S. Maloney		
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/25/2022		
Sampling Event	January 2022	**Sample Name**	TWA-5-0122		
Sub Area	Hylebos Marsh Property	**Sample Depth**	27.5		
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**	**TOC**

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/25/2022	8:20	33.1		12.1		21	3.4

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	8:55:00 AM	1.2	0.4	7.46	13.1	3677	0.39	-121.3	5.62
	9:00:00 AM	1.8	0.4	7.45	12.9	3653	0.3	-127.7	5.26
	9:05:00 AM	2.3	0.4	7.44	13	3640	0.27	-129.8	5.2
	9:10:00 AM	2.9	0.4	7.43	13.1	3627	0.22	-130.4	4.93
Final Field Parameters	9:15:00 AM	3.4	0.4	7.43	13	3617	0.21	-130.8	4.88

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; brownish tint; no odor; slight ribbon sheen. Effervesces in hydrochloric acid.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	9:20:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 08:33.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1

Water Field Sampling Data Sheet

Client Name	Port of Tacoma	**Sample Location**	TWA-6D				
Project #	0615.20.04	**Sampler**	S. Maloney				
Project Name	TWAAFA Groundwater Sampling	**Sampling Date**	1/25/2022				
Sampling Event	January 2022	**Sample Name**	TWA-6-0122				
Sub Area	Hylebos Marsh Property	**Sample Depth**	27.5				
FSDS QA:	E. Lundeen 1/31/2022	**Easting**		**Northing**		**TOC**	

Hydrology/Level Measurements

					(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
Date	**Time**	**DT-Bottom**	**DT-Product**	**DT-Water**	**DTP-DTW**	**DTB-DTW**	**Pore Volume**
1/25/2022	9:35	33.81		11.84		21.97	3.58

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

Water Quality Data

Purge Method	**Time**	**Purge Vol (gal)**	**Flowrate l/min**	**pH**	**Temp (C)**	**E Cond (uS/cm)**	**DO (mg/L)**	**ORP**	**Turbidity**
(2) Peristaltic Pump	10:50:00 AM	1.1	0.3	7.05	11.8	3916	0.35	-93.6	2.96
	11:00:00 AM	2	0.3	7.04	11.8	3896	0.26	-97.5	3.95
Final Field Parameters	11:05:00 AM	2.4	0.3	7.04	12	3884	0.2	-101.1	4.31

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

Water Quality Observations:

Clear; brownish tint; no odor; no sheen. Effervesces in hydrochloric acid.

Sample Information

Sampling Method	**Sample Type**	**Sampling Time**	**Container Code/Preservative**	**#**	**Filtered**
(2) Peristaltic Pump	Groundwater	11:25:00 AM	VOA-Glass	9	No
			Amber Glass	6	No
			White Poly	1	No
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	16	

General Sampling Comments

Began purging at 10:25.
Equipment Used: Solinist water level probe, YSI ProSeries Professional Plus, and Hach 2100Q turbidimeter.

DOF DALTON OLMSTED FUGLEVAND

Appendix B

Analytical Laboratory Reports and Data Validation Review Reports

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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February 8, 2022

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

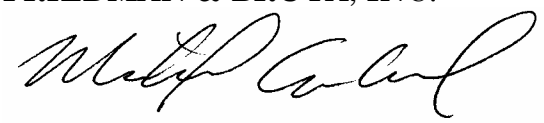
Dear Mr Louviere:

Included are the results from the testing of material submitted on January 19, 2022 from the TWAAFA, F&BI 201265 project. There are 48 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: Tasya Gray
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 19, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA, F&BI 201265 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
201265 -01	TWA-9D-0122
201265 -02	CCW-2B-0122
201265 -03	CCW-9-2B-0122
201265 -04	TRIP BLANK 1-0122

Methylene chloride was detected in the 8260D analysis of samples TWA-9D-0122, CCW-2B-0122, and CCW-9-2B-0122. The data were flagged as due to laboratory contamination.

The 8270E calibration standard, matrix spike, and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 matrix spike and matrix spike duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected, therefore the data were acceptable.

The 8260D SIM 1,4-dioxane trip blank was not analyzed. There were insufficient VOAs submitted for analysis.

All other quality control requirements were acceptable.

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-9D-0122 201265-01	<100	94
CCW-2B-0122 201265-02 1/50	5,500	95
CCW-9-2B-0122 201265-03 1/50	5,500	94
TRIP BLANK 1-0122 201265-04	<100	91
Method Blank 02-0161 MB	<100	94

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-0122 201265-01 1/1.2	<60	<300	135
CCW-2B-0122 201265-02 1/1.2	330 x	<300	107
CCW-9-2B-0122 201265-03	360 x	<300	121
Method Blank 02-250 MB	<50	<250	128

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-0122 201265-01 1/1.2	140 x	<300	128
CCW-2B-0122 201265-02 1/1.2	2,300 x	900 x	114
CCW-9-2B-0122 201265-03 1/1.2	2,500 x	1,000 x	120
Method Blank 02-250 MB	<50	<250	118

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-9D-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-01 x10
Date Analyzed:	01/27/22	Data File:	201265-01 x10.139
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	14.9
Cadmium	<10
Chromium	<10
Copper	15.0
Lead	<5
Manganese	84.2
Nickel	<10
Zinc	<50

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-02
Date Analyzed:	01/27/22	Data File:	201265-02.114
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<1
Chromium	<1
Copper	1.84
Lead	<0.5
Manganese	239
Nickel	8.02
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-02 x10
Date Analyzed:	01/27/22	Data File:	201265-02 x10.140
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1,230

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-03
Date Analyzed:	01/27/22	Data File:	201265-03.115
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<1
Chromium	<1
Copper	1.37
Lead	<0.5
Manganese	250
Nickel	8.08
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-03 x10
Date Analyzed:	01/27/22	Data File:	201265-03 x10.141
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1,320

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	I2-71 mb
Date Analyzed:	01/28/22	Data File:	I2-71 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<0.5
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-0122 201265-01	<0.02
CCW-2B-0122 201265-02	<0.02
CCW-9-2B-0122 201265-03	<0.02
Method Blank i2-72 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-9D-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-01
Date Analyzed:	02/02/22	Data File:	020219.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	110	78	126
Toluene-d8	90	87	115
4-Bromofluorobenzene	95	92	112

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 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-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-02
Date Analyzed:	02/02/22	Data File:	020220.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	90	87	115
4-Bromofluorobenzene	93	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.3	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	1.1	Chlorobenzene	740 ve
Trichlorofluoromethane	<1	Ethylbenzene	37
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	100
Hexane	<5	o-Xylene	66
Methylene chloride	8.2 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	4.7
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	2.6	n-Propylbenzene	7.0
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.1	1,3,5-Trimethylbenzene	21
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	14
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	150 ve
Benzene	57	sec-Butylbenzene	1.0
Trichloroethene	<0.5	p-Isopropyltoluene	2.9
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	13
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	78
Dibromomethane	<1	1,2-Dichlorobenzene	6.4
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	150 ve	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	62
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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-02 1/50
Date Analyzed:	02/02/22	Data File:	020237.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	89	87	115
4-Bromofluorobenzene	95	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<50	1,3-Dichloropropane	<50
Chloromethane	<500	Tetrachloroethene	<50
Vinyl chloride	1.1	Dibromochloromethane	<25
Bromomethane	<250	1,2-Dibromoethane (EDB)	<50
Chloroethane	<50	Chlorobenzene	800
Trichlorofluoromethane	<50	Ethylbenzene	<50
Acetone	<2,500	1,1,1,2-Tetrachloroethane	<50
1,1-Dichloroethene	<50	m,p-Xylene	<100
Hexane	<250	o-Xylene	55
Methylene chloride	<250	Styrene	<50
Methyl t-butyl ether (MTBE)	<50	Isopropylbenzene	<50
trans-1,2-Dichloroethene	<50	Bromoform	<250
1,1-Dichloroethane	<50	n-Propylbenzene	<50
2,2-Dichloropropane	<50	Bromobenzene	<50
cis-1,2-Dichloroethene	<50	1,3,5-Trimethylbenzene	<50
Chloroform	<50	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<1,000	1,2,3-Trichloropropane	<50
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<50
1,1,1-Trichloroethane	<50	4-Chlorotoluene	<50
1,1-Dichloropropene	<50	tert-Butylbenzene	<50
Carbon tetrachloride	<25	1,2,4-Trimethylbenzene	94
Benzene	61	sec-Butylbenzene	<50
Trichloroethene	<25	p-Isopropyltoluene	<50
1,2-Dichloropropane	<50	1,3-Dichlorobenzene	<50
Bromodichloromethane	<25	1,4-Dichlorobenzene	82
Dibromomethane	<50	1,2-Dichlorobenzene	<50
4-Methyl-2-pentanone	<500	1,2-Dibromo-3-chloropropane	<500
cis-1,3-Dichloropropene	<20	1,2,4-Trichlorobenzene	<50
Toluene	150	Hexachlorobutadiene	<25
trans-1,3-Dichloropropene	<20	Naphthalene	52
1,1,2-Trichloroethane	<25	1,2,3-Trichlorobenzene	<50
2-Hexanone	<500		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-03
Date Analyzed:	02/02/22	Data File:	020221.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	95	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.4	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	1.2	Chlorobenzene	710 ve
Trichlorofluoromethane	<1	Ethylbenzene	35
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	94
Hexane	<5	o-Xylene	63
Methylene chloride	8.1 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	4.6
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	2.6	n-Propylbenzene	7.0
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	1.1	1,3,5-Trimethylbenzene	21
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	13
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	140 ve
Benzene	56	sec-Butylbenzene	1.0
Trichloroethene	<0.5	p-Isopropyltoluene	2.9
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	12
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	77
Dibromomethane	<1	1,2-Dichlorobenzene	6.3
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	61
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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-03 1/50
Date Analyzed:	02/02/22	Data File:	020238.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	95	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<50	1,3-Dichloropropane	<50
Chloromethane	<500	Tetrachloroethene	<50
Vinyl chloride	1.3	Dibromochloromethane	<25
Bromomethane	<250	1,2-Dibromoethane (EDB)	<50
Chloroethane	<50	Chlorobenzene	840
Trichlorofluoromethane	<50	Ethylbenzene	<50
Acetone	<2,500	1,1,1,2-Tetrachloroethane	<50
1,1-Dichloroethene	<50	m,p-Xylene	<100
Hexane	<250	o-Xylene	58
Methylene chloride	<250	Styrene	<50
Methyl t-butyl ether (MTBE)	<50	Isopropylbenzene	<50
trans-1,2-Dichloroethene	<50	Bromoform	<250
1,1-Dichloroethane	<50	n-Propylbenzene	<50
2,2-Dichloropropane	<50	Bromobenzene	<50
cis-1,2-Dichloroethene	<50	1,3,5-Trimethylbenzene	<50
Chloroform	<50	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<1,000	1,2,3-Trichloropropane	<50
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<50
1,1,1-Trichloroethane	<50	4-Chlorotoluene	<50
1,1-Dichloropropene	<50	tert-Butylbenzene	<50
Carbon tetrachloride	<25	1,2,4-Trimethylbenzene	96
Benzene	64	sec-Butylbenzene	<50
Trichloroethene	<25	p-Isopropyltoluene	<50
1,2-Dichloropropane	<50	1,3-Dichlorobenzene	<50
Bromodichloromethane	<25	1,4-Dichlorobenzene	84
Dibromomethane	<50	1,2-Dichlorobenzene	<50
4-Methyl-2-pentanone	<500	1,2-Dibromo-3-chloropropane	<500
cis-1,3-Dichloropropene	<20	1,2,4-Trichlorobenzene	<50
Toluene	160	Hexachlorobutadiene	<25
trans-1,3-Dichloropropene	<20	Naphthalene	54
1,1,2-Trichloroethane	<25	1,2,3-Trichlorobenzene	<50
2-Hexanone	<500		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TRIP BLANK 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-04
Date Analyzed:	01/27/22	Data File:	012726.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	114	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	95	92	112

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, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	02-212 mb
Date Analyzed:	01/27/22	Data File:	012709.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	94	92	112

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, F&BI 201265
Date Extracted:	02/02/22	Lab ID:	02-282 mb
Date Analyzed:	02/02/22	Data File:	020207.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	95	92	112

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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	02/02/22	Lab ID:	201265-01
Date Analyzed:	02/02/22	Data File:	020210.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	99	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.8

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	02/02/22	Lab ID:	201265-02
Date Analyzed:	02/02/22	Data File:	020211.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	98	50	150
4-Bromofluorobenzene	97	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-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	02/02/22	Lab ID:	201265-03
Date Analyzed:	02/02/22	Data File:	020212.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	101	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 201265
Date Extracted:	02/02/22	Lab ID:	02-0284 mb
Date Analyzed:	02/02/22	Data File:	020208.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	102	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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/25/22	Lab ID:	201265-01 1/0.5
Date Analyzed:	01/26/22	Data File:	012610.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	10 ip	11	65
Nitrobenzene-d5	86	50	150
2-Fluorobiphenyl	73	44	108
2,4,6-Tribromophenol	68	10	140
Terphenyl-d14	70	50	150

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 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl 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	0.37 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/25/22	Lab ID:	201265-02 1/0.5
Date Analyzed:	01/26/22	Data File:	012611.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	58	44	108
2,4,6-Tribromophenol	67	10	140
Terphenyl-d14	87	50	150

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	1.3
1,3-Dichlorobenzene	8.7	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	52 ve	Dibenzofuran	0.43
1,2-Dichlorobenzene	4.4	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.63
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 jl ca	Phenanthrene	1.1
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.17
2,4-Dichlorophenol	<1	Carbazole	0.54
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	33 ve	Fluoranthene	0.24
Hexachlorobutadiene	<0.1	Pyrene	0.17
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	2.2	Chrysene	<0.01
1-Methylnaphthalene	4.9	Bis(2-ethylhexyl) phthalate	0.40 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/25/22	Lab ID:	201265-02 1/5
Date Analyzed:	01/28/22	Data File:	012810.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14 d	11	65
Phenol-d6	7 d	11	65
Nitrobenzene-d5	84 d	50	150
2-Fluorobiphenyl	79 d	44	108
2,4,6-Tribromophenol	81 d	10	140
Terphenyl-d14	78 d	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10 jl	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	2.0
1,3-Dichlorobenzene	8.8	2,4-Dinitrophenol	<30 ca
1,4-Dichlorobenzene	59	Dibenzofuran	<1
1,2-Dichlorobenzene	4.6	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30 jl
2,2'-Oxybis(1-chloropropane)	<1	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	0.87
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100 ca
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 ca jl	Phenanthrene	1.2
Bis(2-chloroethoxy)methane	<1	Anthracene	0.19
2,4-Dichlorophenol	<10	Carbazole	<1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	38	Fluoranthene	0.22
Hexachlorobutadiene	<1	Pyrene	0.15
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	2.2	Chrysene	<0.1
1-Methylnaphthalene	5.1	Bis(2-ethylhexyl) phthalate	<0.7 j
Hexachlorocyclopentadiene	<3 ca	Di-n-octyl phthalate	<10 ca
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-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/25/22	Lab ID:	201265-03 1/0.5
Date Analyzed:	01/26/22	Data File:	012612.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	86	50	150
2-Fluorobiphenyl	65	44	108
2,4,6-Tribromophenol	71	10	140
Terphenyl-d14	87	50	150

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	1.6
1,3-Dichlorobenzene	9.0	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	54 ve	Dibenzofuran	0.54
1,2-Dichlorobenzene	4.6	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.77
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 jl ca	Phenanthrene	1.4
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.20
2,4-Dichlorophenol	<1	Carbazole	0.59
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	35 ve	Fluoranthene	0.26
Hexachlorobutadiene	<0.1	Pyrene	0.18
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	2.4	Chrysene	<0.01
1-Methylnaphthalene	5.3	Bis(2-ethylhexyl) phthalate	0.32 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-9-2B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/25/22	Lab ID:	201265-03 1/5
Date Analyzed:	01/28/22	Data File:	012809.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12 d	11	65
Phenol-d6	7 d	11	65
Nitrobenzene-d5	82 d	50	150
2-Fluorobiphenyl	77 d	44	108
2,4,6-Tribromophenol	82 d	10	140
Terphenyl-d14	82 d	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10 jl	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	2.1
1,3-Dichlorobenzene	8.6	2,4-Dinitrophenol	<30 ca
1,4-Dichlorobenzene	58	Dibenzofuran	<1
1,2-Dichlorobenzene	4.5	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30 jl
2,2'-Oxybis(1-chloropropane)	<1	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	1.0
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100 ca
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 ca jl	Phenanthrene	1.3
Bis(2-chloroethoxy)methane	<1	Anthracene	0.21
2,4-Dichlorophenol	<10	Carbazole	<1
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	39	Fluoranthene	0.25
Hexachlorobutadiene	<1	Pyrene	0.17
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	2.4	Chrysene	<0.1
1-Methylnaphthalene	5.3	Bis(2-ethylhexyl) phthalate	<0.7 j
Hexachlorocyclopentadiene	<3 ca	Di-n-octyl phthalate	<10 ca
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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 201265
Date Extracted:	Not Applicable	Lab ID:	02-245 mb 1/0.5
Date Analyzed:	01/25/22	Data File:	012515.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	82	44	108
2,4,6-Tribromophenol	77	10	140
Terphenyl-d14	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl ca
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10 ca
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 jl	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	0.12 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-9D-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-01 1/0.25
Date Analyzed:	01/28/22	Data File:	012824.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	15	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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-02 1/0.25
Date Analyzed:	01/28/22	Data File:	012825.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	25	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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/19/22	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	201265-03 1/0.25
Date Analyzed:	01/28/22	Data File:	012826.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	29	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA, F&BI 201265
Date Extracted:	01/27/22	Lab ID:	02-254 mb 1/0.25
Date Analyzed:	01/28/22	Data File:	012822.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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

Laboratory Code: 201323-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

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: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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	112	120	63-142	7

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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	108	108	63-142	0

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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

Laboratory Code: 201265-01 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	16.9	97	101	75-125	4
Cadmium	ug/L (ppb)	5	<10	100	101	75-125	1
Chromium	ug/L (ppb)	20	10.7	100	106	75-125	6
Copper	ug/L (ppb)	20	<50	93	108	75-125	15
Lead	ug/L (ppb)	10	<10	87	90	75-125	3
Manganese	ug/L (ppb)	20	78.6	96	104	75-125	8
Nickel	ug/L (ppb)	20	<10	94	98	75-125	4
Zinc	ug/L (ppb)	50	<50	101	99	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	101	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	97	80-120
Nickel	ug/L (ppb)	20	97	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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

Laboratory Code: 201265-01 (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	85	85	71-125	1

Laboratory Code: 201356-02 (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	91	61	71-125	0

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	99	103	78-125	4

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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

Laboratory Code: 201265-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	121	50-150
Chloromethane	ug/L (ppb)	10	<10	125	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	114	50-150
Bromomethane	ug/L (ppb)	10	<5	127	50-150
Chloroethane	ug/L (ppb)	10	<1	127	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	119	50-150
Acetone	ug/L (ppb)	50	<50	102	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	119	50-150
Hexane	ug/L (ppb)	10	<5	100	50-150
Methylene chloride	ug/L (ppb)	10	8.3	138 b	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	108	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	113	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	114	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Chloroform	ug/L (ppb)	10	<1	112	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	86	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	113	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	113	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	101	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	115	50-150
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	107	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	99	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	96	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	95	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	83	50-150
Toluene	ug/L (ppb)	10	<1	111	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	89	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	101	50-150
2-Hexanone	ug/L (ppb)	50	<10	98	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	109	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	99	50-150
Chlorobenzene	ug/L (ppb)	10	<1	99	50-150
Ethylbenzene	ug/L (ppb)	10	<1	105	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	114	50-150
m,p-Xylene	ug/L (ppb)	20	<2	108	50-150
o-Xylene	ug/L (ppb)	10	<1	110	50-150
Styrene	ug/L (ppb)	10	<1	111	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	114	50-150
Bromoform	ug/L (ppb)	10	<5	108	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	95	50-150
Bromobenzene	ug/L (ppb)	10	<1	87	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	92	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	91	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	100	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	97	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	108	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	101	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	106	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	92	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	99	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	95	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	98	50-150
Naphthalene	ug/L (ppb)	10	<1	96	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	102	50-150

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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	116	115	46-206	1
Chloromethane	ug/L (ppb)	10	116	120	70-142	3
Vinyl chloride	ug/L (ppb)	10	109	108	70-130	1
Bromomethane	ug/L (ppb)	10	119	120	56-197	1
Chloroethane	ug/L (ppb)	10	119	118	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	113	104	70-130	8
Acetone	ug/L (ppb)	50	99	100	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	110	108	70-130	2
Hexane	ug/L (ppb)	10	109	99	54-136	10
Methylene chloride	ug/L (ppb)	10	114	111	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	101	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	106	104	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	115	115	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	105	104	70-130	1
Chloroform	ug/L (ppb)	10	102	101	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	102	101	17-154	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	112	109	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	105	104	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	103	98	70-130	5
Carbon tetrachloride	ug/L (ppb)	10	105	104	70-130	1
Benzene	ug/L (ppb)	10	98	96	70-130	2
Trichloroethene	ug/L (ppb)	10	107	104	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	101	98	70-130	3
Bromodichloromethane	ug/L (ppb)	10	110	91	70-130	19
Dibromomethane	ug/L (ppb)	10	99	94	70-130	5
4-Methyl-2-pentanone	ug/L (ppb)	50	103	106	68-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	89	69-131	3
Toluene	ug/L (ppb)	10	109	104	70-130	5
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	92	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	100	97	70-130	3
2-Hexanone	ug/L (ppb)	50	103	102	45-138	1
1,3-Dichloropropane	ug/L (ppb)	10	96	95	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	102	70-130	6
Dibromochloromethane	ug/L (ppb)	10	101	97	60-148	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	96	70-130	3
Chlorobenzene	ug/L (ppb)	10	100	95	70-130	5
Ethylbenzene	ug/L (ppb)	10	104	100	70-130	4
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	101	99	70-130	2
m,p-Xylene	ug/L (ppb)	20	106	101	70-130	5
o-Xylene	ug/L (ppb)	10	104	101	70-130	3
Styrene	ug/L (ppb)	10	111	106	70-130	5
Isopropylbenzene	ug/L (ppb)	10	109	105	70-130	4
Bromoform	ug/L (ppb)	10	101	99	69-138	2
n-Propylbenzene	ug/L (ppb)	10	98	94	70-130	4
Bromobenzene	ug/L (ppb)	10	88	86	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	110	107	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	93	92	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	96	94	70-130	2
2-Chlorotoluene	ug/L (ppb)	10	98	95	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	99	97	70-130	2
tert-Butylbenzene	ug/L (ppb)	10	97	94	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	106	103	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	100	98	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	106	101	70-130	5
1,3-Dichlorobenzene	ug/L (ppb)	10	95	92	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	92	90	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	94	92	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	102	97	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	93	91	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	97	94	70-130	3
Naphthalene	ug/L (ppb)	10	90	90	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	92	70-130	3

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

Laboratory Code: 201265-01 (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	116	117	50-150	1
Chloromethane	ug/L (ppb)	10	<10	108	105	50-150	3
Vinyl chloride	ug/L (ppb)	10	<0.02	102	101	50-150	1
Bromomethane	ug/L (ppb)	10	<5	115	114	50-150	1
Chloroethane	ug/L (ppb)	10	<1	112	111	50-150	1
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	98	50-150	8
Acetone	ug/L (ppb)	50	<50	88	78	50-150	12
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	102	50-150	1
Hexane	ug/L (ppb)	10	<5	109	108	50-150	1
Methylene chloride	ug/L (ppb)	10	11	74 b	62 b	50-150	18 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	101	100	50-150	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	98	50-150	1
1,1-Dichloroethane	ug/L (ppb)	10	<1	101	99	50-150	2
2,2-Dichloropropane	ug/L (ppb)	10	<1	106	107	50-150	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	99	50-150	2
Chloroform	ug/L (ppb)	10	<1	99	97	50-150	2
2-Butanone (MEK)	ug/L (ppb)	50	<20	84	89	50-150	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	107	106	50-150	1
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	99	98	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	102	100	50-150	2
Carbon tetrachloride	ug/L (ppb)	10	<0.5	99	100	50-150	1
Benzene	ug/L (ppb)	10	<0.35	96	94	50-150	2
Trichloroethene	ug/L (ppb)	10	<0.5	106	104	50-150	2
1,2-Dichloropropane	ug/L (ppb)	10	<1	97	96	50-150	1
Bromodichloromethane	ug/L (ppb)	10	<0.5	109	90	50-150	19
Dibromomethane	ug/L (ppb)	10	<1	96	95	50-150	1
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	96	98	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	94	50-150	1
Toluene	ug/L (ppb)	10	<1	107	107	50-150	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	96	97	50-150	1
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	97	97	50-150	0
2-Hexanone	ug/L (ppb)	50	<10	94	94	50-150	0
1,3-Dichloropropane	ug/L (ppb)	10	<1	94	93	50-150	1
Tetrachloroethene	ug/L (ppb)	10	<1	107	107	50-150	0
Dibromochloromethane	ug/L (ppb)	10	<0.5	101	101	50-150	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	96	96	50-150	0
Chlorobenzene	ug/L (ppb)	10	<1	103	100	50-150	3
Ethylbenzene	ug/L (ppb)	10	<1	103	102	50-150	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	101	50-150	0
m,p-Xylene	ug/L (ppb)	20	<2	103	103	50-150	0
o-Xylene	ug/L (ppb)	10	<1	103	103	50-150	0
Styrene	ug/L (ppb)	10	<1	109	109	50-150	0
Isopropylbenzene	ug/L (ppb)	10	<1	107	109	50-150	2
Bromoform	ug/L (ppb)	10	<5	100	101	50-150	1
n-Propylbenzene	ug/L (ppb)	10	<1	99	99	50-150	0
Bromobenzene	ug/L (ppb)	10	<1	90	90	50-150	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	111	108	50-150	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	88	89	50-150	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	91	91	50-150	0
2-Chlorotoluene	ug/L (ppb)	10	<1	99	99	50-150	0
4-Chlorotoluene	ug/L (ppb)	10	<1	99	102	50-150	3
tert-Butylbenzene	ug/L (ppb)	10	<1	101	100	50-150	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	108	108	50-150	0
sec-Butylbenzene	ug/L (ppb)	10	<1	103	103	50-150	0
p-Isopropyltoluene	ug/L (ppb)	10	<1	107	106	50-150	1
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	96	50-150	0
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	93	93	50-150	0
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	97	50-150	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	93	96	50-150	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	99	101	50-150	2
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	99	100	50-150	1
Naphthalene	ug/L (ppb)	10	<1	99	97	50-150	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	102	102	50-150	0

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

Laboratory Code: 201356-02 (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	121	126	50-150	4
Chloromethane	ug/L (ppb)	10	<10	112	118	50-150	5
Vinyl chloride	ug/L (ppb)	10	<0.02	103	109	50-150	6
Bromomethane	ug/L (ppb)	10	<5	115	124	50-150	8
Chloroethane	ug/L (ppb)	10	<1	112	118	50-150	5
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	112	50-150	5
Acetone	ug/L (ppb)	50	<50	88	92	50-150	4
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	105	50-150	4
Hexane	ug/L (ppb)	10	<5	110	124	50-150	12
Methylene chloride	ug/L (ppb)	10	11	99	117	50-150	17
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	100	104	50-150	4
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	101	50-150	4
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	103	50-150	4
2,2-Dichloropropane	ug/L (ppb)	10	<1	108	112	50-150	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	104	50-150	5
Chloroform	ug/L (ppb)	10	<1	99	100	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	105	90	50-150	15
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	108	108	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	99	103	50-150	4
1,1-Dichloropropene	ug/L (ppb)	10	<1	103	102	50-150	1
Carbon tetrachloride	ug/L (ppb)	10	<0.5	100	105	50-150	5
Benzene	ug/L (ppb)	10	<0.35	96	97	50-150	1
Trichloroethene	ug/L (ppb)	10	<0.5	106	107	50-150	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	101	99	50-150	2
Bromodichloromethane	ug/L (ppb)	10	<0.5	110	96	50-150	14
Dibromomethane	ug/L (ppb)	10	<1	98	98	50-150	0
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	105	101	50-150	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	98	96	50-150	2
Toluene	ug/L (ppb)	10	<1	108	108	50-150	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	100	98	50-150	2
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	100	97	50-150	3
2-Hexanone	ug/L (ppb)	50	<10	106	95	50-150	11
1,3-Dichloropropane	ug/L (ppb)	10	<1	99	93	50-150	6
Tetrachloroethene	ug/L (ppb)	10	<1	107	108	50-150	1
Dibromochloromethane	ug/L (ppb)	10	<0.5	103	99	50-150	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	100	98	50-150	2
Chlorobenzene	ug/L (ppb)	10	<1	100	99	50-150	1
Ethylbenzene	ug/L (ppb)	10	<1	104	103	50-150	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	105	50-150	5
m,p-Xylene	ug/L (ppb)	20	<2	105	104	50-150	1
o-Xylene	ug/L (ppb)	10	<1	103	105	50-150	2
Styrene	ug/L (ppb)	10	<1	111	109	50-150	2
Isopropylbenzene	ug/L (ppb)	10	<1	109	110	50-150	1
Bromoform	ug/L (ppb)	10	<5	104	102	50-150	2
n-Propylbenzene	ug/L (ppb)	10	<1	102	97	50-150	5
Bromobenzene	ug/L (ppb)	10	<1	93	86	50-150	8
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	106	103	50-150	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	93	89	50-150	4
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	97	89	50-150	9
2-Chlorotoluene	ug/L (ppb)	10	<1	102	98	50-150	4
4-Chlorotoluene	ug/L (ppb)	10	<1	103	97	50-150	6
tert-Butylbenzene	ug/L (ppb)	10	<1	103	99	50-150	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	111	107	50-150	4
sec-Butylbenzene	ug/L (ppb)	10	<1	106	102	50-150	4
p-Isopropyltoluene	ug/L (ppb)	10	<1	109	106	50-150	3
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	101	95	50-150	6
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	92	50-150	5
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	99	96	50-150	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	106	98	50-150	8
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	101	100	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	103	101	50-150	2
Naphthalene	ug/L (ppb)	10	<1	100	98	50-150	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	103	104	50-150	1

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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	112	116	46-206	4
Chloromethane	ug/L (ppb)	10	114	115	70-142	1
Vinyl chloride	ug/L (ppb)	10	103	104	70-130	1
Bromomethane	ug/L (ppb)	10	118	116	56-197	2
Chloroethane	ug/L (ppb)	10	114	115	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	106	103	70-130	3
Acetone	ug/L (ppb)	50	90	93	10-140	3
1,1-Dichloroethene	ug/L (ppb)	10	103	104	70-130	1
Hexane	ug/L (ppb)	10	99	104	54-136	5
Methylene chloride	ug/L (ppb)	10	101	104	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	100	101	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	99	100	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	100	102	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	110	111	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	102	70-130	0
Chloroform	ug/L (ppb)	10	99	99	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	91	94	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	108	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	101	102	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	101	100	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	101	102	70-130	1
Benzene	ug/L (ppb)	10	95	97	70-130	2
Trichloroethene	ug/L (ppb)	10	104	106	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	96	99	70-130	3
Bromodichloromethane	ug/L (ppb)	10	108	93	70-130	15
Dibromomethane	ug/L (ppb)	10	98	95	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	98	101	68-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	91	95	69-131	4
Toluene	ug/L (ppb)	10	106	108	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	99	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	96	98	70-130	2
2-Hexanone	ug/L (ppb)	50	96	98	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	92	95	70-130	3
Tetrachloroethene	ug/L (ppb)	10	106	108	70-130	2
Dibromochloromethane	ug/L (ppb)	10	99	102	60-148	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	98	70-130	2
Chlorobenzene	ug/L (ppb)	10	97	99	70-130	2
Ethylbenzene	ug/L (ppb)	10	101	103	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	100	106	70-130	6
m,p-Xylene	ug/L (ppb)	20	102	105	70-130	3
o-Xylene	ug/L (ppb)	10	103	105	70-130	2
Styrene	ug/L (ppb)	10	107	109	70-130	2
Isopropylbenzene	ug/L (ppb)	10	106	110	70-130	4
Bromoform	ug/L (ppb)	10	104	105	69-138	1
n-Propylbenzene	ug/L (ppb)	10	97	100	70-130	3
Bromobenzene	ug/L (ppb)	10	88	92	70-130	4
1,3,5-Trimethylbenzene	ug/L (ppb)	10	111	109	70-130	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	93	96	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	99	102	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	97	102	70-130	5
tert-Butylbenzene	ug/L (ppb)	10	99	103	70-130	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	107	112	70-130	5
sec-Butylbenzene	ug/L (ppb)	10	102	106	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	105	109	70-130	4
1,3-Dichlorobenzene	ug/L (ppb)	10	94	98	70-130	4
1,4-Dichlorobenzene	ug/L (ppb)	10	93	95	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	95	99	70-130	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	100	101	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	97	102	70-130	5
Hexachlorobutadiene	ug/L (ppb)	10	98	102	70-130	4
Naphthalene	ug/L (ppb)	10	94	99	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	101	104	70-130	3

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

Laboratory Code: 201265-01 (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	1.8	119 b	101 b	50-150	16 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	125	110	70-130	13

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

Laboratory Code: 201265-01 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	9 vo	10 vo	50-150	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2-Chlorophenol	ug/L (ppb)	2.5	<1	44 vo	48 vo	50-150	9
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	72	69	50-150	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
Benzyl alcohol	ug/L (ppb)	13	<1	29 vo	30 vo	50-150	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	75	50-150	3
2-Methylphenol	ug/L (ppb)	2.5	<1	36 vo	36 vo	50-150	0
Hexachloroethane	ug/L (ppb)	2.5	<0.1	68	68	50-150	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	84	83	50-150	1
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	29 vo	30 vo	50-150	3
Nitrobenzene	ug/L (ppb)	2.5	<0.1	77	81	50-150	5
Isophorone	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2-Nitrophenol	ug/L (ppb)	2.5	<1	61	69	50-150	12
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	48 vo	53	50-150	10
Benzoic acid	ug/L (ppb)	20	<5	0 vo	0 vo	50-150	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	57	63	50-150	10
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	70	71	50-150	1
Naphthalene	ug/L (ppb)	2.5	<0.1	73	73	50-150	0
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	63	63	50-150	0
4-Chloroaniline	ug/L (ppb)	13	<10	38 vo	48 vo	50-150	23 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	56	50-150	4
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	71	69	50-150	3
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	73	71	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	69	77	50-150	11
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	43 vo	53	50-150	21 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	53	64	50-150	19
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	75	76	50-150	1
2-Nitroaniline	ug/L (ppb)	13	<0.5	80	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	84	85	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	75	76	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	84	89	50-150	6
3-Nitroaniline	ug/L (ppb)	13	<10	55	66	50-150	18
Acenaphthene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
2,4-Dinitrophenol	ug/L (ppb)	5	<3	11 vo	13 vo	50-150	17
Dibenzofuran	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	70	73	50-150	4
4-Nitrophenol	ug/L (ppb)	5	<3	4 vo	5 vo	50-150	22 vo
Diethyl phthalate	ug/L (ppb)	2.5	<1	79	83	50-150	5
Fluorene	ug/L (ppb)	2.5	<0.01	78	78	50-150	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	73	74	50-150	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	78	79	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	62	69	50-150	11
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	33 vo	42 vo	50-150	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	74	74	50-150	0
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	66	66	50-150	0
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	29 vo	37 vo	50-150	24 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
Anthracene	ug/L (ppb)	2.5	<0.01	74	73	50-150	1
Carbazole	ug/L (ppb)	2.5	<0.1	83	84	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	82	85	50-150	4
Fluoranthene	ug/L (ppb)	2.5	<0.01	75	74	50-150	1
Pyrene	ug/L (ppb)	2.5	<0.01	80	74	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	71	71	50-150	0
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	55	66	50-150	18
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	43 vo	49 vo	50-150	13
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	60	64	50-150	6
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	65	69	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	71	76	50-150	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	73	80	50-150	9
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	74	81	50-150	9

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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)	2.5	9 vo	10	10-86	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	82	82	60-88	0
2-Chlorophenol	ug/L (ppb)	2.5	41	47	10-89	14
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	79	48-91	2
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	80	48-91	1
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	80	52-92	1
Benzyl alcohol	ug/L (ppb)	13	26	28	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	82	82	59-86	0
2-Methylphenol	ug/L (ppb)	2.5	32	35	10-75	9
Hexachloroethane	ug/L (ppb)	2.5	82	81	47-92	1
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	84	91	70-130	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	25	27	10-66	8
Nitrobenzene	ug/L (ppb)	2.5	79	80	60-90	1
Isophorone	ug/L (ppb)	2.5	85	92	70-130	8
2-Nitrophenol	ug/L (ppb)	2.5	59	73	27-104	21 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	58	10-84	11
Benzoic acid	ug/L (ppb)	20	3 vo	3 vo	10-102	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	84	87	55-103	4
2,4-Dichlorophenol	ug/L (ppb)	2.5	56	66	23-103	16
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	80	56-93	0
Naphthalene	ug/L (ppb)	2.5	83	81	62-90	2
Hexachlorobutadiene	ug/L (ppb)	2.5	74	72	48-85	3
4-Chloroaniline	ug/L (ppb)	13	49	53	35-108	8
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	53	59	18-109	11
2-Methylnaphthalene	ug/L (ppb)	2.5	81	82	64-93	1
1-Methylnaphthalene	ug/L (ppb)	2.5	83	85	64-93	2
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	91	85	49-112	7
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	52	72	16-112	32 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	60	75	26-113	22 vo
2-Chloronaphthalene	ug/L (ppb)	2.5	85	85	67-97	0
2-Nitroaniline	ug/L (ppb)	13	81	84	31-168	4
Dimethyl phthalate	ug/L (ppb)	2.5	93	93	70-130	0
Acenaphthylene	ug/L (ppb)	2.5	85	86	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	92	93	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	62	33-120	5
Acenaphthene	ug/L (ppb)	2.5	87	88	70-130	1
2,4-Dinitrophenol	ug/L (ppb)	5	36	50	10-120	33 vo
Dibenzofuran	ug/L (ppb)	2.5	82	82	67-107	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	83	83	53-132	0
4-Nitrophenol	ug/L (ppb)	5	5 vo	8 vo	10-89	46 vo
Diethyl phthalate	ug/L (ppb)	2.5	98	97	70-130	1
Fluorene	ug/L (ppb)	2.5	92	91	70-130	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	88	89	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	85	87	70-130	2
4-Nitroaniline	ug/L (ppb)	13	57	61	32-122	7
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	54	70	10-139	26 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	86	86	70-130	0
Hexachlorobenzene	ug/L (ppb)	2.5	78	78	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	55	73	10-129	28 vo
Phenanthrene	ug/L (ppb)	2.5	90	89	70-130	1
Anthracene	ug/L (ppb)	2.5	87	89	70-130	2
Carbazole	ug/L (ppb)	2.5	94	93	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	87	101	28-147	15
Fluoranthene	ug/L (ppb)	2.5	96	93	70-130	3
Pyrene	ug/L (ppb)	2.5	91	92	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	85	84	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	92	90	70-130	2
Chrysene	ug/L (ppb)	2.5	91	90	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	98	95	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	71	69	49-119	3
Benzo(a)pyrene	ug/L (ppb)	2.5	84	84	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	94	91	70-130	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	91	92	70-130	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	86	92	70-130	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	90	91	70-130	1

Date of Report: 02/08/22
Date Received: 01/19/22
Project: TWAAFA, F&BI 201265

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

Laboratory Code: 201265-01 1/0.25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	<0.0035	29 vo	23 vo	50-150	23 vo
Aroclor 1260	ug/L (ppb)	0.063	<0.0035	38 vo	31 vo	50-150	20

Laboratory Code: 201356-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	33	49	50-150	39 vo
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	46	64	50-150	32 vo

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	44	25-165
Aroclor 1260	ug/L (ppb)	0.063	55	25-163

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.

201265

SAMPLE CHAIN OF CUSTODY

01-19-22

3-COOLERS D04 A14 VW5

Page # 1 of 1

Report To TASYA GRAY / TREVOR LOUVIERE

Company DOF

Address 1001 SW KLICKITAT WAY SUITE 200B

City, State, ZIP SEATTLE, WA 98134

Phone (206) 375-0211 Email tgray@dofnw.com tlouviere@dofnw.com

SAMPLERS (*signature*)

PROJECT NAME: TWAAFA

PO #

REMARKS: METALS LIST: As, Cd, Cr, Cu, Pb, Ni, Zn, & Mn.

Project specific RLs? - Yes / No

INVOICE TO: DOF - TREVOR LOUVIERE

TURNAROUND TIME
- ☐ Standard turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID (per TL 1/21/22 AE)	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGCU + NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021 (MC)	NWTPH-HCID (AC)	8260SIM 1,4-Dioxane + VOCs EPA 8260	8270E SVOCs + cPAHs EPA 8270E	PCBs EPA 8082A	METALS 6020 SEE NOTES	MERCURY 1631E			Notes
TWA-9-0122	01 A-AP	1/19/2022	1145	W	45	X	X	X	X	X	X	X	X	X			EXTRA VOLUME FOR MS/MSD
CCW-2B-0122	02 A-M	1/19/2022	1445	W	15	X	X			X	X	X	X	X			
CCW-9-2B-0122	03 A-M	1/19/2022	1450	W	15	X	X			X	X	X	X	X			
TRIP BLANK#1-0122	04 A-B	1/19/2022	—	W	2		X			X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: ANTHONY	ANTHONY CERNIT	DOF	1/19/22	1526
Received by:	UNK	F-B1	1/19/22	1526
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
Ph. (206) 285-8282

NP

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
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www.friedmanandbruya.com

February 8, 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 January 20, 2022 from the TWAAFA-001, F&BI 201287 project. There are 50 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: Tasya Gray
DOF0208R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on January 20, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 201287 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
201287 -01	CCW-2A-0122
201287 -02	CCW-2C-0122
201287 -03	CCW-5C-0122
201287 -04	CCW-5B-0122
201287 -05	TRIP BLANK 2-0122
201287 -06	FIELD BLANK 1-0122

Methylene chloride was detected in the 8260D analysis of samples CCW-2C-0122, CCW-5C-0122, CCW-5B-0122, and FIELD BLANK 1-0122. The data were flagged as due to laboratory contamination.

The 8270E calibration standard, matrix spike, and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 matrix spike and matrix spike duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected, therefore the data were acceptable.

The 8260D SIM 1,4-dioxane trip blank was not analyzed. There were insufficient VOAs submitted for analysis.

All other quality control requirements were acceptable.

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-2A-0122 201287-01 1/40	4,300	99
CCW-2C-0122 201287-02	<100	99
CCW-5C-0122 201287-03	<100	99
CCW-5B-0122 201287-04 1/5	1,100	102
TRIP BLANK 2-0122 201287-05	<100	93
FIELD BLANK 1-0122 201287-06	<100	93
Method Blank 02-0161 MB	<100	94

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-2A-0122 201287-01 1/1.2	690 x	<300	124
CCW-2C-0122 201287-02 1/1.2	<60	<300	124
CCW-5C-0122 201287-03	<60	<300	121
CCW-5B-0122 201287-04 1/1.2	320 x	<300	135
FIELD BLANK 1-0122 201287-06	<50	<250	140
Method Blank 02-250 MB	<50	<250	128

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-2A-0122 201287-01 1/1.2	2,700 x	850 x	128
CCW-2C-0122 201287-02 1/1.2	550 x	340 x	118
CCW-5C-0122 201287-03 1/1.2	1,800 x	570 x	119
CCW-5B-0122 201287-04 1/1.2	2,400 x	940 x	132
FIELD BLANK 1-0122 201287-06	<50	<250	142
Method Blank 02-250 MB	<50	<250	118

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-01
Date Analyzed:	01/27/22	Data File:	201287-01.116
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.24
Cadmium	<1
Chromium	<1
Copper	20.4
Lead	3.71
Manganese	919
Nickel	5.15
Zinc	30.4

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-2C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-02
Date Analyzed:	01/27/22	Data File:	201287-02.117
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	5.99
Cadmium	<1
Chromium	2.36
Copper	0.515
Lead	<1
Manganese	281
Nickel	5.77
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-5C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-03
Date Analyzed:	01/27/22	Data File:	201287-03.118
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.12
Cadmium	<1
Chromium	3.60
Copper	0.623
Lead	<1
Manganese	892
Nickel	2.95
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-5B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-04
Date Analyzed:	01/27/22	Data File:	201287-04.119
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	731
Cadmium	<1
Chromium	1.06
Copper	2.55
Lead	7.80
Manganese	614
Nickel	2.92
Zinc	20.6

Analysis For Total Metals By EPA Method 6020B

Client ID:	FIELD BLANK 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-06
Date Analyzed:	01/27/22	Data File:	201287-06.120
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	0.718
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 201287
Date Extracted:	01/27/22	Lab ID:	I2-71 mb
Date Analyzed:	01/28/22	Data File:	I2-71 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-2A-0122 201287-01	<0.02
CCW-2C-0122 201287-02	<0.02
CCW-5C-0122 201287-03	<0.02
CCW-5B-0122 201287-04	<0.02
FIELD BLANK 1-0122 201287-06	<0.02
Method Blank i2-72 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-01
Date Analyzed:	01/28/22	Data File:	012847.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	78	126
Toluene-d8	101	87	115
4-Bromofluorobenzene	97	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	600 ve
Vinyl chloride	51	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	36
Trichlorofluoromethane	<1	Ethylbenzene	75
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	1.8	m,p-Xylene	41
Hexane	<5	o-Xylene	39
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	8.3
trans-1,2-Dichloroethene	28	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	14
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	350 ve	1,3,5-Trimethylbenzene	5.5
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	2.5
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	42
Benzene	29	sec-Butylbenzene	3.5
Trichloroethene	310 ve	p-Isopropyltoluene	5.7
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	1.9
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	4.3
Dibromomethane	<1	1,2-Dichlorobenzene	11
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	53	Hexachlorobutadiene	0.85
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-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-01 1/10
Date Analyzed:	02/02/22	Data File:	020222.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	92	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	870
Vinyl chloride	54	Dibromochloromethane	<5
Bromomethane	<50	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	44
Trichlorofluoromethane	<10	Ethylbenzene	79
Acetone	<500	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	41
Hexane	<50	o-Xylene	39
Methylene chloride	<50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	<10
trans-1,2-Dichloroethene	29	Bromoform	<50
1,1-Dichloroethane	<10	n-Propylbenzene	13
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	380	1,3,5-Trimethylbenzene	<10
Chloroform	<10	1,1,2,2-Tetrachloroethane	<2
2-Butanone (MEK)	<200	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<2	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<5	1,2,4-Trimethylbenzene	40
Benzene	32	sec-Butylbenzene	<10
Trichloroethene	320	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<5	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	12
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<4	1,2,4-Trichlorobenzene	<10
Toluene	56	Hexachlorobutadiene	<5
trans-1,3-Dichloropropene	<4	Naphthalene	63
1,1,2-Trichloroethane	<5	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-2C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-02
Date Analyzed:	01/27/22	Data File:	012730.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	94	92	112

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 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:	CCW-5C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-03
Date Analyzed:	01/27/22	Data File:	012729.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	110	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	96	92	112

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)	1.7	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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-04
Date Analyzed:	01/28/22	Data File:	012846.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	97	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	2.1	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	3.6	Chlorobenzene	46
Trichlorofluoromethane	<1	Ethylbenzene	71
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	13
Hexane	<5	o-Xylene	21
Methylene chloride	7.4 lc	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	10
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	19
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	2.5	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)	<0.2	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	11
Benzene	34	sec-Butylbenzene	2.6
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	1.7
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	8.9
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:	TRIP BLANK 2-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-05
Date Analyzed:	01/27/22	Data File:	012731.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	93	92	112

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 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-06
Date Analyzed:	01/27/22	Data File:	012732.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	78	126
Toluene-d8	90	87	115
4-Bromofluorobenzene	97	92	112

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	8.9 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 201287
Date Extracted:	01/27/22	Lab ID:	02-212 mb
Date Analyzed:	01/27/22	Data File:	012709.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	94	92	112

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-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/31/22	Lab ID:	201287-01
Date Analyzed:	01/31/22	Data File:	013122.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	83	50	150
Toluene-d8	114	50	150
4-Bromofluorobenzene	109	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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/31/22	Lab ID:	201287-02
Date Analyzed:	01/31/22	Data File:	013123.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	106	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	5.9

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-5C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/31/22	Lab ID:	201287-03
Date Analyzed:	01/31/22	Data File:	013124.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	11

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-5B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/31/22	Lab ID:	201287-04
Date Analyzed:	01/31/22	Data File:	013125.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	107	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	2.1

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	FIELD BLANK 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/31/22	Lab ID:	201287-06
Date Analyzed:	01/31/22	Data File:	013121.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	104	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 201287
Date Extracted:	01/31/22	Lab ID:	02-0223 mb
Date Analyzed:	01/31/22	Data File:	013106.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	103	50	150
4-Bromofluorobenzene	101	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-01 1/0.5
Date Analyzed:	01/28/22	Data File:	012812.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	63	50	150
2-Fluorobiphenyl	64	44	108
2,4,6-Tribromophenol	63	10	140
Terphenyl-d14	69	50	150

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	4.6
1,3-Dichlorobenzene	0.91	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	2.4	Dibenzofuran	2.2
1,2-Dichlorobenzene	5.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	1.5	Fluorene	3.9
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	0.43
3-Methylphenol + 4-Methylphenol	4.4	4-Nitroaniline	<10 ca
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	2.9	Pentachlorophenol	<0.5
Benzoic acid	<5 ca jl	Phenanthrene	2.1
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.23
2,4-Dichlorophenol	<1	Carbazole	2.0
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	22 ve	Fluoranthene	0.30
Hexachlorobutadiene	0.25	Pyrene	0.20
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.017
2-Methylnaphthalene	16	Chrysene	0.014
1-Methylnaphthalene	16	Bis(2-ethylhexyl) phthalate	0.64 fb
Hexachlorocyclopentadiene	<0.3 ca	Di-n-octyl phthalate	<1 ca
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-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-01 1/5
Date Analyzed:	01/28/22	Data File:	012808.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14 d	11	65
Phenol-d6	8 d	11	65
Nitrobenzene-d5	66 d	50	150
2-Fluorobiphenyl	63 d	44	108
2,4,6-Tribromophenol	54 d	10	140
Terphenyl-d14	61 d	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<10 jl	2,6-Dinitrotoluene	<5
Bis(2-chloroethyl) ether	<1	3-Nitroaniline	<100
2-Chlorophenol	<10	Acenaphthene	4.9
1,3-Dichlorobenzene	<1	2,4-Dinitrophenol	<30 ca
1,4-Dichlorobenzene	2.3	Dibenzofuran	2.2
1,2-Dichlorobenzene	5.6	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30 jl
2,2'-Oxybis(1-chloropropane)	<1	Diethyl phthalate	<10
2-Methylphenol	<10	Fluorene	4.0
Hexachloroethane	<1	4-Chlorophenyl phenyl ether	<1
N-Nitroso-di-n-propylamine	<1	N-Nitrosodiphenylamine	<1
3-Methylphenol + 4-Methylphenol	<20	4-Nitroaniline	<100 ca
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 ca jl	Phenanthrene	2.2
Bis(2-chloroethoxy)methane	<1	Anthracene	0.24
2,4-Dichlorophenol	<10	Carbazole	1.9
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	26	Fluoranthene	0.28
Hexachlorobutadiene	<1	Pyrene	0.17
4-Chloroaniline	<100	Benzyl butyl phthalate	<10
4-Chloro-3-methylphenol	<10	Benz(a)anthracene	<0.1
2-Methylnaphthalene	18	Chrysene	<0.1
1-Methylnaphthalene	18	Bis(2-ethylhexyl) phthalate	<0.7 j
Hexachlorocyclopentadiene	<3 ca	Di-n-octyl phthalate	<10 ca
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-2C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-02 1/0.5
Date Analyzed:	01/26/22	Data File:	012614.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	7 ip	11	65
Phenol-d6	5 ip	11	65
Nitrobenzene-d5	54	50	150
2-Fluorobiphenyl	61	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	68	50	150

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 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl	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	0.18 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-5C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-03 1/0.5
Date Analyzed:	01/26/22	Data File:	012615.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	9 ip	11	65
Phenol-d6	6 ip	11	65
Nitrobenzene-d5	66	50	150
2-Fluorobiphenyl	67	44	108
2,4,6-Tribromophenol	77	10	140
Terphenyl-d14	71	50	150

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	0.030
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl	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	0.17 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-5B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-04 1/0.5
Date Analyzed:	01/26/22	Data File:	012616.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	3 ip	11	65
Phenol-d6	4 ip	11	65
Nitrobenzene-d5	43 ip	50	150
2-Fluorobiphenyl	44	44	108
2,4,6-Tribromophenol	13	10	140
Terphenyl-d14	44 ip	50	150

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	1.2
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	0.32	Dibenzofuran	0.41
1,2-Dichlorobenzene	0.45	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.74
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 jl	Phenanthrene	0.18
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.020
2,4-Dichlorophenol	<1	Carbazole	0.30
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	1.8	Fluoranthene	0.012
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	1.1	Chrysene	<0.01
1-Methylnaphthalene	6.9	Bis(2-ethylhexyl) phthalate	0.40 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	201287-06 1/0.5
Date Analyzed:	01/26/22	Data File:	012617.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	86	50	150
2-Fluorobiphenyl	82	44	108
2,4,6-Tribromophenol	75	10	140
Terphenyl-d14	89	50	150

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 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl	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	0.14 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/25/22	Lab ID:	02-245 mb 1/0.5
Date Analyzed:	01/25/22	Data File:	012515.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	82	44	108
2,4,6-Tribromophenol	77	10	140
Terphenyl-d14	95	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 ca jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	4-Nitroaniline	<10 ca
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 jl	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	0.12 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-2A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-01 1/0.25
Date Analyzed:	01/28/22	Data File:	012841.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	97	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-2C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-02 1/0.25
Date Analyzed:	01/28/22	Data File:	012842.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
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-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-03 1/0.25
Date Analyzed:	01/28/22	Data File:	012843.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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-5B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-04 1/0.25
Date Analyzed:	01/28/22	Data File:	012844.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17	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 1-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/20/22	Project:	TWAAFA-001, F&BI 201287
Date Extracted:	01/27/22	Lab ID:	201287-06 1/0.25
Date Analyzed:	01/28/22	Data File:	012845.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
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 201287
Date Extracted:	01/27/22	Lab ID:	02-254 mb 1/0.25
Date Analyzed:	01/28/22	Data File:	012822.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201323-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

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: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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	112	120	63-142	7

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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	108	108	63-142	0

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201265-01 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	16.9	97	101	75-125	4
Cadmium	ug/L (ppb)	5	<10	100	101	75-125	1
Chromium	ug/L (ppb)	20	10.7	100	106	75-125	6
Copper	ug/L (ppb)	20	<50	93	108	75-125	15
Lead	ug/L (ppb)	10	<10	87	90	75-125	3
Manganese	ug/L (ppb)	20	78.6	96	104	75-125	8
Nickel	ug/L (ppb)	20	<10	94	98	75-125	4
Zinc	ug/L (ppb)	50	<50	101	99	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	101	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	97	80-120
Nickel	ug/L (ppb)	20	97	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201265-01 (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	85	85	71-125	1

Laboratory Code: 201356-02 (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	91	61	71-125	0

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	99	103	78-125	4

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201265-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	121	50-150
Chloromethane	ug/L (ppb)	10	<10	125	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	114	50-150
Bromomethane	ug/L (ppb)	10	<5	127	50-150
Chloroethane	ug/L (ppb)	10	<1	127	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	119	50-150
Acetone	ug/L (ppb)	50	<50	102	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	119	50-150
Hexane	ug/L (ppb)	10	<5	100	50-150
Methylene chloride	ug/L (ppb)	10	8.3	138 b	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	108	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	113	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	114	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	112	50-150
Chloroform	ug/L (ppb)	10	<1	112	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	86	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	113	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	113	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	101	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	115	50-150
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	107	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	99	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	96	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	95	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	83	50-150
Toluene	ug/L (ppb)	10	<1	111	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	89	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	101	50-150
2-Hexanone	ug/L (ppb)	50	<10	98	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	109	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	104	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	99	50-150
Chlorobenzene	ug/L (ppb)	10	<1	99	50-150
Ethylbenzene	ug/L (ppb)	10	<1	105	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	114	50-150
m,p-Xylene	ug/L (ppb)	20	<2	108	50-150
o-Xylene	ug/L (ppb)	10	<1	110	50-150
Styrene	ug/L (ppb)	10	<1	111	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	114	50-150
Bromoform	ug/L (ppb)	10	<5	108	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	95	50-150
Bromobenzene	ug/L (ppb)	10	<1	87	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	92	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	91	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	100	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	97	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	108	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	101	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	106	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	92	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	99	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	95	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	98	50-150
Naphthalene	ug/L (ppb)	10	<1	96	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	102	50-150

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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	116	115	46-206	1
Chloromethane	ug/L (ppb)	10	116	120	70-142	3
Vinyl chloride	ug/L (ppb)	10	109	108	70-130	1
Bromomethane	ug/L (ppb)	10	119	120	56-197	1
Chloroethane	ug/L (ppb)	10	119	118	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	113	104	70-130	8
Acetone	ug/L (ppb)	50	99	100	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	110	108	70-130	2
Hexane	ug/L (ppb)	10	109	99	54-136	10
Methylene chloride	ug/L (ppb)	10	114	111	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	101	70-130	0
trans-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	106	104	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	115	115	70-130	0
cis-1,2-Dichloroethene	ug/L (ppb)	10	105	104	70-130	1
Chloroform	ug/L (ppb)	10	102	101	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	102	101	17-154	1
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	112	109	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	105	104	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	103	98	70-130	5
Carbon tetrachloride	ug/L (ppb)	10	105	104	70-130	1
Benzene	ug/L (ppb)	10	98	96	70-130	2
Trichloroethene	ug/L (ppb)	10	107	104	70-130	3
1,2-Dichloropropane	ug/L (ppb)	10	101	98	70-130	3
Bromodichloromethane	ug/L (ppb)	10	110	91	70-130	19
Dibromomethane	ug/L (ppb)	10	99	94	70-130	5
4-Methyl-2-pentanone	ug/L (ppb)	50	103	106	68-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	92	89	69-131	3
Toluene	ug/L (ppb)	10	109	104	70-130	5
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	92	70-130	4
1,1,2-Trichloroethane	ug/L (ppb)	10	100	97	70-130	3
2-Hexanone	ug/L (ppb)	50	103	102	45-138	1
1,3-Dichloropropane	ug/L (ppb)	10	96	95	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	102	70-130	6
Dibromochloromethane	ug/L (ppb)	10	101	97	60-148	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	96	70-130	3
Chlorobenzene	ug/L (ppb)	10	100	95	70-130	5
Ethylbenzene	ug/L (ppb)	10	104	100	70-130	4
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	101	99	70-130	2
m,p-Xylene	ug/L (ppb)	20	106	101	70-130	5
o-Xylene	ug/L (ppb)	10	104	101	70-130	3
Styrene	ug/L (ppb)	10	111	106	70-130	5
Isopropylbenzene	ug/L (ppb)	10	109	105	70-130	4
Bromoform	ug/L (ppb)	10	101	99	69-138	2
n-Propylbenzene	ug/L (ppb)	10	98	94	70-130	4
Bromobenzene	ug/L (ppb)	10	88	86	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	110	107	70-130	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	93	92	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	96	94	70-130	2
2-Chlorotoluene	ug/L (ppb)	10	98	95	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	99	97	70-130	2
tert-Butylbenzene	ug/L (ppb)	10	97	94	70-130	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	106	103	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	100	98	70-130	2
p-Isopropyltoluene	ug/L (ppb)	10	106	101	70-130	5
1,3-Dichlorobenzene	ug/L (ppb)	10	95	92	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	92	90	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	94	92	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	102	97	70-130	5
1,2,4-Trichlorobenzene	ug/L (ppb)	10	93	91	70-130	2
Hexachlorobutadiene	ug/L (ppb)	10	97	94	70-130	3
Naphthalene	ug/L (ppb)	10	90	90	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	92	70-130	3

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201356-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	<0.4	129	50-150

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	99	105	70-130	6

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201265-01 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	9 vo	10 vo	50-150	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2-Chlorophenol	ug/L (ppb)	2.5	<1	44 vo	48 vo	50-150	9
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	72	69	50-150	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
Benzyl alcohol	ug/L (ppb)	13	<1	29 vo	30 vo	50-150	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	75	50-150	3
2-Methylphenol	ug/L (ppb)	2.5	<1	36 vo	36 vo	50-150	0
Hexachloroethane	ug/L (ppb)	2.5	<0.1	68	68	50-150	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	84	83	50-150	1
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	29 vo	30 vo	50-150	3
Nitrobenzene	ug/L (ppb)	2.5	<0.1	77	81	50-150	5
Isophorone	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2-Nitrophenol	ug/L (ppb)	2.5	<1	61	69	50-150	12
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	48 vo	53	50-150	10
Benzoic acid	ug/L (ppb)	20	<5	0 vo	0 vo	50-150	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	57	63	50-150	10
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	70	71	50-150	1
Naphthalene	ug/L (ppb)	2.5	<0.1	73	73	50-150	0
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	63	63	50-150	0
4-Chloroaniline	ug/L (ppb)	13	<10	38 vo	48 vo	50-150	23 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	56	50-150	4
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	71	69	50-150	3
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	73	71	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	69	77	50-150	11
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	43 vo	53	50-150	21 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	53	64	50-150	19
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	75	76	50-150	1
2-Nitroaniline	ug/L (ppb)	13	<0.5	80	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	84	85	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	75	76	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	84	89	50-150	6
3-Nitroaniline	ug/L (ppb)	13	<10	55	66	50-150	18
Acenaphthene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
2,4-Dinitrophenol	ug/L (ppb)	5	<3	11 vo	13 vo	50-150	17
Dibenzofuran	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	70	73	50-150	4
4-Nitrophenol	ug/L (ppb)	5	<3	4 vo	5 vo	50-150	22 vo
Diethyl phthalate	ug/L (ppb)	2.5	<1	79	83	50-150	5
Fluorene	ug/L (ppb)	2.5	<0.01	78	78	50-150	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	73	74	50-150	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	78	79	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	62	69	50-150	11
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	33 vo	42 vo	50-150	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	74	74	50-150	0
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	66	66	50-150	0
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	29 vo	37 vo	50-150	24 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
Anthracene	ug/L (ppb)	2.5	<0.01	74	73	50-150	1
Carbazole	ug/L (ppb)	2.5	<0.1	83	84	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	82	85	50-150	4
Fluoranthene	ug/L (ppb)	2.5	<0.01	75	74	50-150	1
Pyrene	ug/L (ppb)	2.5	<0.01	80	74	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	71	71	50-150	0
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	55	66	50-150	18
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	43 vo	49 vo	50-150	13
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	60	64	50-150	6
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	65	69	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	71	76	50-150	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	73	80	50-150	9
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	74	81	50-150	9

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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)	2.5	9 vo	10	10-86	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	82	82	60-88	0
2-Chlorophenol	ug/L (ppb)	2.5	41	47	10-89	14
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	79	48-91	2
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	80	48-91	1
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	80	52-92	1
Benzyl alcohol	ug/L (ppb)	13	26	28	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	82	82	59-86	0
2-Methylphenol	ug/L (ppb)	2.5	32	35	10-75	9
Hexachloroethane	ug/L (ppb)	2.5	82	81	47-92	1
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	84	91	70-130	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	25	27	10-66	8
Nitrobenzene	ug/L (ppb)	2.5	79	80	60-90	1
Isophorone	ug/L (ppb)	2.5	85	92	70-130	8
2-Nitrophenol	ug/L (ppb)	2.5	59	73	27-104	21 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	58	10-84	11
Benzoic acid	ug/L (ppb)	20	3 vo	3 vo	10-102	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	84	87	55-103	4
2,4-Dichlorophenol	ug/L (ppb)	2.5	56	66	23-103	16
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	80	56-93	0
Naphthalene	ug/L (ppb)	2.5	83	81	62-90	2
Hexachlorobutadiene	ug/L (ppb)	2.5	74	72	48-85	3
4-Chloroaniline	ug/L (ppb)	13	49	53	35-108	8
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	53	59	18-109	11
2-Methylnaphthalene	ug/L (ppb)	2.5	81	82	64-93	1
1-Methylnaphthalene	ug/L (ppb)	2.5	83	85	64-93	2
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	91	85	49-112	7
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	52	72	16-112	32 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	60	75	26-113	22 vo
2-Chloronaphthalene	ug/L (ppb)	2.5	85	85	67-97	0
2-Nitroaniline	ug/L (ppb)	13	81	84	31-168	4
Dimethyl phthalate	ug/L (ppb)	2.5	93	93	70-130	0
Acenaphthylene	ug/L (ppb)	2.5	85	86	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	92	93	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	62	33-120	5
Acenaphthene	ug/L (ppb)	2.5	87	88	70-130	1
2,4-Dinitrophenol	ug/L (ppb)	5	36	50	10-120	33 vo
Dibenzofuran	ug/L (ppb)	2.5	82	82	67-107	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	83	83	53-132	0
4-Nitrophenol	ug/L (ppb)	5	5 vo	8 vo	10-89	46 vo
Diethyl phthalate	ug/L (ppb)	2.5	98	97	70-130	1
Fluorene	ug/L (ppb)	2.5	92	91	70-130	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	88	89	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	85	87	70-130	2
4-Nitroaniline	ug/L (ppb)	13	57	61	32-122	7
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	54	70	10-139	26 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	86	86	70-130	0
Hexachlorobenzene	ug/L (ppb)	2.5	78	78	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	55	73	10-129	28 vo
Phenanthrene	ug/L (ppb)	2.5	90	89	70-130	1
Anthracene	ug/L (ppb)	2.5	87	89	70-130	2
Carbazole	ug/L (ppb)	2.5	94	93	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	87	101	28-147	15
Fluoranthene	ug/L (ppb)	2.5	96	93	70-130	3
Pyrene	ug/L (ppb)	2.5	91	92	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	85	84	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	92	90	70-130	2
Chrysene	ug/L (ppb)	2.5	91	90	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	98	95	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	71	69	49-119	3
Benzo(a)pyrene	ug/L (ppb)	2.5	84	84	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	94	91	70-130	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	91	92	70-130	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	86	92	70-130	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	90	91	70-130	1

Date of Report: 02/08/22
Date Received: 01/20/22
Project: TWAAFA-001, F&BI 201287

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

Laboratory Code: 201265-01 1/0.25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	<0.0035	29 vo	23 vo	50-150	23 vo
Aroclor 1260	ug/L (ppb)	0.063	<0.0035	38 vo	31 vo	50-150	20

Laboratory Code: 201356-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	33	49	50-150	39 vo
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	46	64	50-150	32 vo

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	44	25-165
Aroclor 1260	ug/L (ppb)	0.063	55	25-163

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.

201287

SAMPLE CHAIN OF CUSTODY

01-20-22

D03/A13/VW6

Page # 1 of 1

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (*signature*)

PROJECT NAME: TWAAFA

PO # TWAAFA-001

REMARKS: ~~SVOCs lab filtered at 0.7 micron before analysis~~ per TL 1/21/22 ME

Project Specific RLs (Yes) / No

INVOICE TO: DOF

TURNAROUND TIME

X Standard Turnaround

~~X RUSH~~ per TL 1/21/22

Rush charges authorized by: ME

SAMPLE DISPOSAL

Dispose after 30 days

Archive Samples

Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGC	NWTPH-Dx	NWTPH-Gx	VOCs EPA 8260 + SIM VOC EPA 8260 + 1,4 Dioxane	SVOCs EPA 8270E	LL PCBs 8082A	Total Metals 6020 (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	Notes
CCW-2A-0122	01 A-O	1/20/22	0950	W	15	X	X	X	X	X	X	X	X	
CCW-2C-0122	02	1/20/22	1145	W	15	X	X	X	X	X	X	X	X	
CCW-5C-0122	03	1/20/22	1345	W	15	X	X	X	X	X	X	X	X	
CCW-5B-0122	04 AK L	1/20/22	1520	W	15	X	X	X	X	X	X	X	X	3 voas recieved w/o any sample inside AWB 1/21
TRIP BLANK #2-0122	05 A-B	1/20/22	—	W	~~15~~ 2			X	X					
FIELD BLANK #1-0122	06 A-O	1/20/22	1530	W	15	X	X	X	X	X	X	X	X	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	ANTHONY CERRUTI	DOF	1/20/20	1549
Received by:	VIVINT	FBI	1/20	1540
Relinquished by:				
Received by:		Samples received at 6 °C		

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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www.friedmanandbruya.com

February 17, 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 January 31, 2022 from the TWAAFA-001, F&BI 201446 project. There are 43 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: Tasya Gray
DOF0217R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 31, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 201446 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
201446 -01	CCW-3C-0122
201446 -02	CCW-3A-0122
201446 -03	CCW-3B-0122
201446 -04	TRIP BLANK 3-0122

The 1631E matrix spike duplicate did not pass the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

The 8260D SIM 1,4-dioxane laboratory control sample and the associated relative percent difference exceeded the acceptance criteria. The samples associated with the quality assurance did not have 1,4-dioxane detected, therefore the data were acceptable.

The 8270E matrix spike and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

Nitrobenzene in the 8270E laboratory control sample exceeded the acceptance criteria. The compound was not detected, therefore the data were acceptable.

The 8082 matrix spike and matrix spike duplicate did not pass the default acceptance criteria for Aroclor 1016 and 1260. The laboratory control sample passed the acceptance criteria, therefore the results are likely due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446
Date Extracted: 02/07/22
Date Analyzed: 02/07/22 and 02/08/22

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-3C-0122 201446-01	<100	91
CCW-3A-0122 201446-02	390	105
CCW-3B-0122 201446-03	710	103
TRIP BLANK 3-0122 201446-04	<100	90
Method Blank 02-0312 MB	<100	96

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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-3C-0122 201446-01	<50	<250	115
CCW-3A-0122 201446-02 1/1.2	1,700	<300	130
CCW-3B-0122 201446-031/1.2	200	<300	124
Method Blank 02-371 MB	<50	<250	143

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446
Date Extracted: 02/03/22
Date Analyzed: 02/03/22

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-3C-0122 201446-01	530 x	<250	119
CCW-3A-0122 201446-02 1/1.2	11,000 x	3,300 x	134
CCW-3B-0122 201446-03 1/1.2	2,700 x	880 x	138
Method Blank 02-371 MB	<50	<250	133

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-01
Date Analyzed:	02/08/22	Data File:	201446-01.175
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.93
Cadmium	<1
Chromium	2.64
Copper	<2.4
Lead	<1
Nickel	3.01
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-01 x5
Date Analyzed:	02/08/22	Data File:	201446-01 x5.147
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,290

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-02
Date Analyzed:	02/08/22	Data File:	201446-02.176
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	48.1
Cadmium	<1
Chromium	2.82
Copper	<2.4
Lead	4.36
Manganese	76.3
Nickel	168
Zinc	309

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-03
Date Analyzed:	02/08/22	Data File:	201446-03.177
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.96
Cadmium	<1
Chromium	<1
Copper	<2.4
Nickel	6.33
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-03 x5
Date Analyzed:	02/08/22	Data File:	201446-03 x5.149
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Lead	<5
Manganese	1,420

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	NA	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	I2-108 mb
Date Analyzed:	02/08/22	Data File:	I2-108 mb.085
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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-3C-0122 201446-01	<0.02
CCW-3A-0122 201446-02	<0.02
CCW-3B-0122 201446-03	<0.02
Method Blank i2-102 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-01
Date Analyzed:	02/09/22	Data File:	020911.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	98	92	112

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:	CCW-3A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-02
Date Analyzed:	02/09/22	Data File:	020912.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	91	87	115
4-Bromofluorobenzene	93	92	112

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	23
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	9.5
Hexane	<5	o-Xylene	6.9
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	1.1
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	1.0
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	3.5
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
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	19	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-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-03
Date Analyzed:	02/08/22	Data File:	020839.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	88	87	115
4-Bromofluorobenzene	93	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	1.4	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	2.8	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	7.3	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	3.1
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 3-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-04
Date Analyzed:	02/08/22	Data File:	020840.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	110	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	93	92	112

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 201446
Date Extracted:	02/08/22	Lab ID:	02-0385 mb
Date Analyzed:	02/08/22	Data File:	020824.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	98	92	112

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-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-01
Date Analyzed:	02/08/22	Data File:	020817.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	2.7

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-3A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-02
Date Analyzed:	02/08/22	Data File:	020818.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	111	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-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	201446-03
Date Analyzed:	02/08/22	Data File:	020819.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	1.4

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TRIP BLANK 3-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/03/22	Lab ID:	201446-04
Date Analyzed:	02/03/22	Data File:	020316.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/08/22	Lab ID:	02-0386 mb
Date Analyzed:	02/08/22	Data File:	020806.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	102	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/03/22	Lab ID:	02-0289 mb
Date Analyzed:	02/03/22	Data File:	020306.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	CCW-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	201446-01 1/0.5
Date Analyzed:	02/10/22	Data File:	021007.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	75	50	150
2-Fluorobiphenyl	62	44	108
2,4,6-Tribromophenol	77	10	140
Terphenyl-d14	88	50	150

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
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	0.27 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:	CCW-3A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	201446-02 1/0.5
Date Analyzed:	02/10/22	Data File:	021022.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	74	50	150
2-Fluorobiphenyl	67	44	108
2,4,6-Tribromophenol	73	10	140
Terphenyl-d14	85	50	150

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	0.21
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	1.3
2-Methylphenol	<1	Fluorene	0.17
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	0.96
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	0.15
Bis(2-chloroethoxy)methane	<0.1	Anthracene	<0.01
2,4-Dichlorophenol	<1	Carbazole	0.25
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	2.0	Fluoranthene	0.014
Hexachlorobutadiene	<0.1	Pyrene	0.032
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	0.80	Chrysene	<0.01
1-Methylnaphthalene	0.63	Bis(2-ethylhexyl) phthalate	0.75 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-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	201446-03 1/0.5
Date Analyzed:	02/10/22	Data File:	021008.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	6 ip	11	65
Nitrobenzene-d5	60	50	150
2-Fluorobiphenyl	38 ip	44	108
2,4,6-Tribromophenol	48	10	140
Terphenyl-d14	65	50	150

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	0.23
1,3-Dichlorobenzene	0.21	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.11	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	0.26
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	0.15
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.018
2,4-Dichlorophenol	<1	Carbazole	0.14
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	1.5	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	0.85	Chrysene	<0.01
1-Methylnaphthalene	1.6	Bis(2-ethylhexyl) phthalate	0.19 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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	02-373 mb 1/0.5
Date Analyzed:	02/10/22	Data File:	021006.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	94	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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
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	0.20 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-3C-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	201446-01 1/0.25
Date Analyzed:	02/07/22	Data File:	020716.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

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-3A-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/07/22	Lab ID:	201446-02 1/0.25
Date Analyzed:	02/07/22	Data File:	020717.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	13 ip	24	127

Compounds:	Concentration ug/L (ppb)
Aroclor 1221	<0.0035
Aroclor 1232	<0.0035
Aroclor 1016	<0.0035
Aroclor 1242	0.030
Aroclor 1248	<0.0035
Aroclor 1254	0.0067
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-3B-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	01/31/22	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	201446-03 1/0.25
Date Analyzed:	02/07/22	Data File:	020718.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 201446
Date Extracted:	02/04/22	Lab ID:	02-372 mb 1/0.25
Date Analyzed:	02/07/22	Data File:	020704.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	24	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: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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

Laboratory Code: 202021-03 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	103	105	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: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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	124	128	63-142	3

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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	124	124	63-142	0

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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

Laboratory Code: 202021-03 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	93	100	75-125	7
Cadmium	ug/L (ppb)	5	<10	95	99	75-125	4
Chromium	ug/L (ppb)	20	<10	90	93	75-125	3
Copper	ug/L (ppb)	20	<3	87	91	75-125	4
Lead	ug/L (ppb)	10	<10	84	87	75-125	4
Manganese	ug/L (ppb)	20	257	79	82	75-125	4
Nickel	ug/L (ppb)	20	<10	90	93	75-125	3
Zinc	ug/L (ppb)	50	<50	91	95	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	94	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	94	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	95	80-120
Nickel	ug/L (ppb)	20	95	80-120
Zinc	ug/L (ppb)	50	95	80-120

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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

Laboratory Code: 202021-03 (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	76	67 vo	71-125	12

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	82	88	78-125	7

Date of Report: 02/17/22
Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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

Laboratory Code: 202021-03 (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	115	50-150	1
Chloromethane	ug/L (ppb)	10	<10	119	117	50-150	2
Vinyl chloride	ug/L (ppb)	10	<0.02	105	105	50-150	0
Bromomethane	ug/L (ppb)	10	<5	121	125	50-150	3
Chloroethane	ug/L (ppb)	10	<1	117	118	50-150	1
Trichlorofluoromethane	ug/L (ppb)	10	<1	111	108	50-150	3
Acetone	ug/L (ppb)	50	<50	108	90	50-150	18
1,1-Dichloroethene	ug/L (ppb)	10	<1	107	107	50-150	0
Hexane	ug/L (ppb)	10	<5	97	99	50-150	2
Methylene chloride	ug/L (ppb)	10	<5	118	119	50-150	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	1.4	97	100	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	101	50-150	0
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	105	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	97	102	50-150	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	104	50-150	1
Chloroform	ug/L (ppb)	10	<1	105	104	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	96	96	50-150	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	113	113	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	104	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	99	102	50-150	3
Carbon tetrachloride	ug/L (ppb)	10	<0.5	105	107	50-150	2
Benzene	ug/L (ppb)	10	<0.35	98	98	50-150	0
Trichloroethene	ug/L (ppb)	10	<0.5	107	108	50-150	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	100	100	50-150	0
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	117	50-150	19
Dibromomethane	ug/L (ppb)	10	<1	101	101	50-150	0
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	96	100	50-150	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	91	92	50-150	1
Toluene	ug/L (ppb)	10	<1	110	108	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	97	98	50-150	1
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	100	50-150	2
2-Hexanone	ug/L (ppb)	50	<10	100	97	50-150	3
1,3-Dichloropropane	ug/L (ppb)	10	<1	105	97	50-150	8
Tetrachloroethene	ug/L (ppb)	10	<1	111	109	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	108	107	50-150	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	100	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	101	101	50-150	0
Ethylbenzene	ug/L (ppb)	10	<1	102	100	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	108	107	50-150	1
m,p-Xylene	ug/L (ppb)	20	<2	106	104	50-150	2
o-Xylene	ug/L (ppb)	10	<1	103	102	50-150	1
Styrene	ug/L (ppb)	10	<1	112	110	50-150	2
Isopropylbenzene	ug/L (ppb)	10	<1	108	107	50-150	1
Bromoform	ug/L (ppb)	10	<5	113	112	50-150	1
n-Propylbenzene	ug/L (ppb)	10	<1	93	95	50-150	2
Bromobenzene	ug/L (ppb)	10	<1	88	90	50-150	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	99	110	50-150	11
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	89	50-150	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	90	89	50-150	1
2-Chlorotoluene	ug/L (ppb)	10	<1	96	98	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	96	97	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	91	94	50-150	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	107	50-150	4
sec-Butylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	102	50-150	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	98	50-150	2
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	95	50-150	0
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	95	98	50-150	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	97	100	50-150	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	95	97	50-150	2
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	100	102	50-150	2
Naphthalene	ug/L (ppb)	10	<1	88	91	50-150	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	100	103	50-150	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	120	116	46-206	3
Chloromethane	ug/L (ppb)	10	112	111	70-142	1
Vinyl chloride	ug/L (ppb)	10	103	101	70-130	2
Bromomethane	ug/L (ppb)	10	118	118	56-197	0
Chloroethane	ug/L (ppb)	10	113	112	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	110	106	70-130	4
Acetone	ug/L (ppb)	50	93	102	10-140	9
1,1-Dichloroethene	ug/L (ppb)	10	103	103	70-130	0
Hexane	ug/L (ppb)	10	120	103	54-136	15
Methylene chloride	ug/L (ppb)	10	112	103	43-134	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	94	97	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	101	70-130	1
2,2-Dichloropropane	ug/L (ppb)	10	106	104	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	100	70-130	0
Chloroform	ug/L (ppb)	10	102	100	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	106	108	17-154	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	111	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	102	101	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	96	99	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	106	101	70-130	5
Benzene	ug/L (ppb)	10	96	96	70-130	0
Trichloroethene	ug/L (ppb)	10	105	107	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	99	99	70-130	0
Bromodichloromethane	ug/L (ppb)	10	98	97	70-130	1
Dibromomethane	ug/L (ppb)	10	101	102	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	98	98	68-130	0
cis-1,3-Dichloropropene	ug/L (ppb)	10	94	96	69-131	2
Toluene	ug/L (ppb)	10	107	108	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	101	103	70-130	2
2-Hexanone	ug/L (ppb)	50	98	98	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	96	98	70-130	2
Tetrachloroethene	ug/L (ppb)	10	111	110	70-130	1
Dibromochloromethane	ug/L (ppb)	10	110	111	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	101	102	70-130	1
Chlorobenzene	ug/L (ppb)	10	100	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	102	105	70-130	3
m,p-Xylene	ug/L (ppb)	20	103	103	70-130	0
o-Xylene	ug/L (ppb)	10	99	101	70-130	2
Styrene	ug/L (ppb)	10	109	110	70-130	1
Isopropylbenzene	ug/L (ppb)	10	103	105	70-130	2
Bromoform	ug/L (ppb)	10	111	112	69-138	1
n-Propylbenzene	ug/L (ppb)	10	94	95	70-130	1
Bromobenzene	ug/L (ppb)	10	90	90	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	102	102	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	91	92	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	100	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	98	99	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	94	93	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	104	107	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	99	100	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	103	105	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	96	99	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	95	97	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	93	96	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	95	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	99	70-130	7
Hexachlorobutadiene	ug/L (ppb)	10	103	103	70-130	0
Naphthalene	ug/L (ppb)	10	83	88	70-130	6
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	99	70-130	4

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

Laboratory Code: 202021-03 (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	41	0 b	52 b	50-150	nm

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	119	111	70-130	7

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

Laboratory Code: 202021-03 (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	37	0 b	0 b	50-150	nm 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	142 vo	110	70-130	25 vo

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

Laboratory Code: 202021-03 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	9 vo	7 vo	50-150	25 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	73	52	50-150	34 vo
2-Chlorophenol	ug/L (ppb)	2.5	<1	46 vo	33 vo	50-150	33 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	43 vo	50-150	42 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	44 vo	50-150	43 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	47 vo	50-150	39 vo
Benzyl alcohol	ug/L (ppb)	13	<1	26 vo	20 vo	50-150	26 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	55	50-150	33 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	33 vo	27 vo	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	67	45 vo	50-150	39 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	83	64	50-150	26 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	27 vo	22 vo	50-150	20
Nitrobenzene	ug/L (ppb)	2.5	<0.1	89	68	50-150	27 vo
Isophorone	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
2-Nitrophenol	ug/L (ppb)	2.5	<1	98	68	50-150	36 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	59	37 vo	50-150	46 vo
Benzoic acid	ug/L (ppb)	20	<5	1 vo	1 vo	50-150	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	65	50-150	21 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	65	54	50-150	18
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	73	59	50-150	21 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	58	50-150	20
4-Chloroaniline	ug/L (ppb)	13	<10	49 vo	36 vo	50-150	31 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	57	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	63	50-150	17
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	64	50-150	16
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	76	57	50-150	29 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	74	51	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	79	73	50-150	8
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	71	65	50-150	9
2-Nitroaniline	ug/L (ppb)	13	<0.5	96	79	50-150	19
Dimethyl phthalate	ug/L (ppb)	2.5	<1	75	82	50-150	9
Acenaphthylene	ug/L (ppb)	2.5	<0.01	70	69	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	87	89	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	70	66	50-150	6
Acenaphthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
2,4-Dinitrophenol	ug/L (ppb)	5	<3	9 vo	26 vo	50-150	97 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	73	80	50-150	9
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	110	96	50-150	14
4-Nitrophenol	ug/L (ppb)	5	<3	12 vo	11 vo	50-150	9
Diethyl phthalate	ug/L (ppb)	2.5	<1	75	86	50-150	14
Fluorene	ug/L (ppb)	2.5	<0.01	71	77	50-150	8
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	69	75	50-150	8
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	81	82	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	65	55	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	39 vo	51	50-150	27 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	82	80	50-150	2
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	76	77	50-150	1
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	80	49 vo	50-150	48 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	79	81	50-150	2
Anthracene	ug/L (ppb)	2.5	<0.01	81	83	50-150	2
Carbazole	ug/L (ppb)	2.5	<0.1	89	88	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	88	78	50-150	12
Fluoranthene	ug/L (ppb)	2.5	<0.01	86	88	50-150	2
Pyrene	ug/L (ppb)	2.5	<0.01	76	82	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	100	108	50-150	8
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	83	86	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	102	104	50-150	2
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	91	90	50-150	1
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	85	86	50-150	1
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	84	89	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	76	88	50-150	15
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	91	50-150	13
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	71	87	50-150	20

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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	11	10-86
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	83	60-88
2-Chlorophenol	ug/L (ppb)	2.5	61	10-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	79	48-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	80	48-91
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	52-92
Benzyl alcohol	ug/L (ppb)	13	31	10-72
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	81	59-86
2-Methylphenol	ug/L (ppb)	2.5	38	10-75
Hexachloroethane	ug/L (ppb)	2.5	81	47-92
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	88	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	31	10-66
Nitrobenzene	ug/L (ppb)	2.5	96 vo	60-90
Isophorone	ug/L (ppb)	2.5	90	70-130
2-Nitrophenol	ug/L (ppb)	2.5	98	27-104
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	10-84
Benzoic acid	ug/L (ppb)	20	11	10-102
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	88	55-103
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	23-103
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	83	56-93
Naphthalene	ug/L (ppb)	2.5	83	62-90
Hexachlorobutadiene	ug/L (ppb)	2.5	85	48-85
4-Chloroaniline	ug/L (ppb)	13	75	35-108
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	71	18-109
2-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
1-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	97	49-112
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	92	16-112
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	96	26-113
2-Chloronaphthalene	ug/L (ppb)	2.5	91	67-97
2-Nitroaniline	ug/L (ppb)	13	105	31-168
Dimethyl phthalate	ug/L (ppb)	2.5	97	70-130
Acenaphthylene	ug/L (ppb)	2.5	90	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	70-130
3-Nitroaniline	ug/L (ppb)	13	73	33-120
Acenaphthene	ug/L (ppb)	2.5	90	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	78	10-120
Dibenzofuran	ug/L (ppb)	2.5	96	67-107
2,4-Dinitrotoluene	ug/L (ppb)	2.5	108	53-132
4-Nitrophenol	ug/L (ppb)	5	17	10-89
Diethyl phthalate	ug/L (ppb)	2.5	96	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	88	70-130
4-Nitroaniline	ug/L (ppb)	13	73	32-122
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	89	10-139
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	85	65-95
Pentachlorophenol	ug/L (ppb)	2.5	79	10-129
Phenanthrene	ug/L (ppb)	2.5	89	70-130
Anthracene	ug/L (ppb)	2.5	91	70-130
Carbazole	ug/L (ppb)	2.5	94	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	82	28-147
Fluoranthene	ug/L (ppb)	2.5	95	70-130
Pyrene	ug/L (ppb)	2.5	96	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	88	34-142
Benz(a)anthracene	ug/L (ppb)	2.5	94	70-130
Chrysene	ug/L (ppb)	2.5	93	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	95	53-133
Di-n-octyl phthalate	ug/L (ppb)	2.5	82	49-119
Benzo(a)pyrene	ug/L (ppb)	2.5	93	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	93	70-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	97	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	98	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	102	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	70-130

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Date Received: 01/31/22
Project: TWAAFA-001, F&BI 201446

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

Laboratory Code: 202021-03 1/0.5 (Matrix Spike) 1/0.5

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	27 vo	31 vo	50-150	14
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	34 vo	36 vo	50-150	6

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	40	25-111
Aroclor 1260	ug/L (ppb)	0.063	44	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.

SAMPLE CHAIN OF CUSTODY

201446

01-31-22

VW5/D01/AII

Page # 1 of 1

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGC	NWTPH-Dx	NWTPH-Gx	VOCs EPA 8260 + SIM VOC EPA 8260 + 1,4 Dioxane	SVOCs EPA 8270E	LL PCBs 8082A	Total Metals 6020 (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mercury by 1631E	Notes *2 COOLERS
CCW-3C-0122	01	1/31/22	1015	W	15	X	X	X	X	X	X	X	X	
CCW-3A-0122	02	1/31/22	1145	W	15	X	X	X	X	X	X	X	X	-preVOA vial empty-wrapper
CCW-3B-0122	03	1/31/22	1325	W	15	X	X	X	X	X	X	X	X	
TRIP BLANK #3-0122	04A-C	1/31/22	—	W	3			X	X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	ANTHONY CERRUTI	DOF	1/31/22	1415
Received by:	VIENT	FBI	1/31/22	1415
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.

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fbi@isomedia.com
www.friedmanandbruya.com

February 17, 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 February 1, 2022 from the TWAAFA-001, F&BI 202021 project. There are 53 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: Tasya Gray
DOF0217R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 1, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 202021 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
202021 -01	MW-4-0122
202021 -02	CCW-4C-0222
202021 -03	CCW-1C-0222
202021 -04	CCW-1B-0222
202021 -05	CCW-1A-0222
202021 -06	TRIP BLANK 4-0222

The 1631E matrix spike duplicate did not pass the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

The 8260D surrogate 4-bromofluorobenzene failed the laboratory acceptance criteria in sample CCW-1A-0222. No affected compounds were flagged accordingly.

The 8260D SIM 1,4-dioxane laboratory control sample and the associated relative percent difference exceeded the acceptance criteria. The samples associated with the quality assurance did not have 1,4-dioxane detected, therefore the data were acceptable.

The 8270E matrix spike and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

Nitrobenzene in the 8270E laboratory control sample exceeded the acceptance criteria. The compound was not detected, therefore the data were acceptable.

The 8082 matrix spike and matrix spike duplicate did not pass the default acceptance criteria for Aroclor 1016 and 1260. The laboratory control sample passed the acceptance criteria, therefore the results are likely due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021
Date Extracted: 02/07/22
Date Analyzed: 02/07/22

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)
MW-4-0122 202021-01	100	97
CCW-4C-0222 202021-02	<100	96
CCW-1C-0222 202021-03	<100	92
CCW-1B-0222 202021-04	<100	93
CCW-1A-0222 202021-05	380	106
TRIP BLANK 4-0222 202021-06	<100	91
Method Blank 02-0312 MB	<100	96

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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)
MW-4-0122 202021-01	350 x	540	125
CCW-4C-0222 202021-02 1/1.2	<60	<300	136
CCW-1C-0222 202021-031/1.2	<60	<300	125
CCW-1B-0222 202021-041/1.2	<60	<300	126
CCW-1A-0222 202021-051/1.2	<60	<300	121
Method Blank 02-371 MB	<50	<250	143

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021
Date Extracted: 02/03/22
Date Analyzed: 02/03/22

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)
MW-4-0122 202021-01	6,900 x	3,200 x	ip
CCW-4C-0222 202021-02 1/1.2	1,000 x	340 x	137
CCW-1C-0222 202021-03 1/1.2	900 x	300 x	131
CCW-1B-0222 202021-04 1/1.2	360 x	<300	116
CCW-1A-0222 202021-05 1/1.2	210 x	<300	124
Method Blank 02-371 MB	<50	<250	133

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-4-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-01
Date Analyzed:	02/08/22 21:01:58	Data File:	202021-01.158
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.46
Cadmium	<1
Chromium	<1
Copper	2.43
Lead	3.83
Manganese	344
Nickel	6.21
Zinc	28.0

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-4C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-02
Date Analyzed:	02/08/22 21:06:32	Data File:	202021-02.159
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.40
Cadmium	<1
Chromium	2.73
Copper	<2.4
Lead	<1
Manganese	548
Nickel	3.35
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-03
Date Analyzed:	02/08/22 21:11:05	Data File:	202021-03.160
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.07
Cadmium	<1
Chromium	4.24
Copper	<2.4
Lead	<1
Manganese	291
Nickel	5.70
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-04
Date Analyzed:	02/08/22 21:24:46	Data File:	202021-04.163
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	479
Nickel	3.44
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-1A-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-05
Date Analyzed:	02/08/22 21:29:21	Data File:	202021-05.164
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.57
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	279
Nickel	5.23
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	I2-108 mb
Date Analyzed:	02/08/22 15:28:03	Data File:	I2-108 mb.085
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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
MW-4-0122 202021-01	<0.02
CCW-4C-0222 202021-02	<0.02
CCW-1C-0222 202021-03	<0.02
CCW-1B-0222 202021-04	<0.02
CCW-1A-0222 202021-05	<0.02
Method Blank i2-102 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-4-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/09/22	Lab ID:	202021-01
Date Analyzed:	02/09/22	Data File:	020913.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	94	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.44	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	1.4
Trichlorofluoromethane	<1	Ethylbenzene	1.6
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	2.9
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	3.5	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	2.6	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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-02
Date Analyzed:	02/08/22	Data File:	020826.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	95	92	112

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)	3.3	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:	CCW-1C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-03
Date Analyzed:	02/08/22	Data File:	020827.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	94	92	112

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)	1.4	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:	CCW-1B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-04
Date Analyzed:	02/08/22	Data File:	020828.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	116	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	92	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.045	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:	CCW-1A-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-05
Date Analyzed:	02/09/22	Data File:	020914.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	89 vo	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	41
Vinyl chloride	0.96	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	1.5	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	25	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	22	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	5.3
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1 js
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1 js
2-Hexanone	<10		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TRIP BLANK 4-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-06
Date Analyzed:	02/08/22	Data File:	020830.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	97	87	115
4-Bromofluorobenzene	96	92	112

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 202021
Date Extracted:	02/08/22	Lab ID:	02-0385 mb
Date Analyzed:	02/08/22	Data File:	020824.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	98	92	112

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:	MW-4-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-01
Date Analyzed:	02/08/22	Data File:	020821.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	105	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.55

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-4C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-02
Date Analyzed:	02/09/22	Data File:	020824.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	23

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-03 1/10
Date Analyzed:	02/08/22	Data File:	020807.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	40

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-04
Date Analyzed:	02/09/22	Data File:	020823.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	4.6

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-1A-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/08/22	Lab ID:	202021-05
Date Analyzed:	02/09/22	Data File:	020822.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	106	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:	TRIP BLANK 4-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/03/22	Lab ID:	202021-06
Date Analyzed:	02/03/22	Data File:	020307.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	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 202021
Date Extracted:	02/08/22	Lab ID:	02-0386 mb
Date Analyzed:	02/08/22	Data File:	020806.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	102	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/03/22	Lab ID:	02-0289 mb
Date Analyzed:	02/03/22	Data File:	020306.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	MW-4-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-01 1/0.5
Date Analyzed:	02/10/22	Data File:	021009.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	83	50	150
2-Fluorobiphenyl	58	44	108
2,4,6-Tribromophenol	68	10	140
Terphenyl-d14	79	50	150

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	0.21
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	0.15	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	0.15
Hexachloroethane	<0.1	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1	N-Nitrosodiphenylamine	0.37
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	0.029
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.026
2,4-Dichlorophenol	<1	Carbazole	0.16
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	<0.1	Fluoranthene	0.016
Hexachlorobutadiene	<0.1	Pyrene	0.024
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
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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-02 1/0.5
Date Analyzed:	02/10/22	Data File:	021010.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	2 ip	11	65
Phenol-d6	1 ip	11	65
Nitrobenzene-d5	11 ip	50	150
2-Fluorobiphenyl	12 ip	44	108
2,4,6-Tribromophenol	19	10	140
Terphenyl-d14	15 ip	50	150

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	0.047
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	0.013
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
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	0.20 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:	CCW-1C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-03 1/0.5
Date Analyzed:	02/10/22	Data File:	021011.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	9 ip	11	65
Phenol-d6	6 ip	11	65
Nitrobenzene-d5	54	50	150
2-Fluorobiphenyl	58	44	108
2,4,6-Tribromophenol	83	10	140
Terphenyl-d14	74	50	150

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
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	0.28 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:	CCW-1B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-04 1/0.5
Date Analyzed:	02/10/22	Data File:	021012.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	3 ip	11	65
Phenol-d6	2 ip	11	65
Nitrobenzene-d5	19 ip	50	150
2-Fluorobiphenyl	18 ip	44	108
2,4,6-Tribromophenol	19	10	140
Terphenyl-d14	20 ip	50	150

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	0.59
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	0.089
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	0.10
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	0.017
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	0.38 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:	CCW-1A-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-05 1/0.5
Date Analyzed:	02/10/22	Data File:	021013.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	2 ip	11	65
Phenol-d6	4 ip	11	65
Nitrobenzene-d5	86	50	150
2-Fluorobiphenyl	79	44	108
2,4,6-Tribromophenol	7 ip	10	140
Terphenyl-d14	80	50	150

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
Naphthalene	<0.1	Fluoranthene	<0.01
Hexachlorobutadiene	2.5	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	0.33 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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	02-373 mb 1/0.5
Date Analyzed:	02/10/22	Data File:	021006.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	94	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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
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	0.20 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:	MW-4-0122	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/07/22	Lab ID:	202021-01 1/0.25
Date Analyzed:	02/07/22	Data File:	020719.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	34	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	0.039
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Analysis For PCBs By EPA Method 8082A

Client Sample ID:	CCW-4C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-02 1/0.25
Date Analyzed:	02/07/22	Data File:	020720.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	20 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-1C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-03 1/0.25
Date Analyzed:	02/07/22	Data File:	020723.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	13 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-1B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/07/22	Lab ID:	202021-04 1/0.25
Date Analyzed:	02/07/22	Data File:	020721.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17	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-1A-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/01/22	Project:	TWAAFA-001, F&BI 202021
Date Extracted:	02/04/22	Lab ID:	202021-05 1/0.25
Date Analyzed:	02/07/22	Data File:	020722.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17 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 202021
Date Extracted:	02/04/22	Lab ID:	02-372 mb 1/0.25
Date Analyzed:	02/07/22	Data File:	020704.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	24	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: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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

Laboratory Code: 202021-03 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	103	105	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: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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	124	128	63-142	3

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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	124	124	63-142	0

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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

Laboratory Code: 202021-03 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	93	100	75-125	7
Cadmium	ug/L (ppb)	5	<10	95	99	75-125	4
Chromium	ug/L (ppb)	20	<10	90	93	75-125	3
Copper	ug/L (ppb)	20	<3	87	91	75-125	4
Lead	ug/L (ppb)	10	<10	84	87	75-125	4
Manganese	ug/L (ppb)	20	257	79	82	75-125	4
Nickel	ug/L (ppb)	20	<10	90	93	75-125	3
Zinc	ug/L (ppb)	50	<50	91	95	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	94	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	94	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	95	80-120
Nickel	ug/L (ppb)	20	95	80-120
Zinc	ug/L (ppb)	50	95	80-120

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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

Laboratory Code: 202021-03 (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	76	67 vo	71-125	12

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	82	88	78-125	7

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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

Laboratory Code: 202021-03 (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	115	50-150	1
Chloromethane	ug/L (ppb)	10	<10	119	117	50-150	2
Vinyl chloride	ug/L (ppb)	10	<0.02	105	105	50-150	0
Bromomethane	ug/L (ppb)	10	<5	121	125	50-150	3
Chloroethane	ug/L (ppb)	10	<1	117	118	50-150	1
Trichlorofluoromethane	ug/L (ppb)	10	<1	111	108	50-150	3
Acetone	ug/L (ppb)	50	<50	108	90	50-150	18
1,1-Dichloroethene	ug/L (ppb)	10	<1	107	107	50-150	0
Hexane	ug/L (ppb)	10	<5	97	99	50-150	2
Methylene chloride	ug/L (ppb)	10	<5	118	119	50-150	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	1.4	97	100	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	101	50-150	0
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	105	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	97	102	50-150	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	104	50-150	1
Chloroform	ug/L (ppb)	10	<1	105	104	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	96	96	50-150	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	113	113	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	104	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	99	102	50-150	3
Carbon tetrachloride	ug/L (ppb)	10	<0.5	105	107	50-150	2
Benzene	ug/L (ppb)	10	<0.35	98	98	50-150	0
Trichloroethene	ug/L (ppb)	10	<0.5	107	108	50-150	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	100	100	50-150	0
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	117	50-150	19
Dibromomethane	ug/L (ppb)	10	<1	101	101	50-150	0
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	96	100	50-150	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	91	92	50-150	1
Toluene	ug/L (ppb)	10	<1	110	108	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	97	98	50-150	1
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	100	50-150	2
2-Hexanone	ug/L (ppb)	50	<10	100	97	50-150	3
1,3-Dichloropropane	ug/L (ppb)	10	<1	105	97	50-150	8
Tetrachloroethene	ug/L (ppb)	10	<1	111	109	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	108	107	50-150	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	100	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	101	101	50-150	0
Ethylbenzene	ug/L (ppb)	10	<1	102	100	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	108	107	50-150	1
m,p-Xylene	ug/L (ppb)	20	<2	106	104	50-150	2
o-Xylene	ug/L (ppb)	10	<1	103	102	50-150	1
Styrene	ug/L (ppb)	10	<1	112	110	50-150	2
Isopropylbenzene	ug/L (ppb)	10	<1	108	107	50-150	1
Bromoform	ug/L (ppb)	10	<5	113	112	50-150	1
n-Propylbenzene	ug/L (ppb)	10	<1	93	95	50-150	2
Bromobenzene	ug/L (ppb)	10	<1	88	90	50-150	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	99	110	50-150	11
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	89	50-150	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	90	89	50-150	1
2-Chlorotoluene	ug/L (ppb)	10	<1	96	98	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	96	97	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	91	94	50-150	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	107	50-150	4
sec-Butylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	102	50-150	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	98	50-150	2
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	95	50-150	0
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	95	98	50-150	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	97	100	50-150	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	95	97	50-150	2
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	100	102	50-150	2
Naphthalene	ug/L (ppb)	10	<1	88	91	50-150	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	100	103	50-150	3

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Project: TWAAFA-001, F&BI 202021

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	120	116	46-206	3
Chloromethane	ug/L (ppb)	10	112	111	70-142	1
Vinyl chloride	ug/L (ppb)	10	103	101	70-130	2
Bromomethane	ug/L (ppb)	10	118	118	56-197	0
Chloroethane	ug/L (ppb)	10	113	112	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	110	106	70-130	4
Acetone	ug/L (ppb)	50	93	102	10-140	9
1,1-Dichloroethene	ug/L (ppb)	10	103	103	70-130	0
Hexane	ug/L (ppb)	10	120	103	54-136	15
Methylene chloride	ug/L (ppb)	10	112	103	43-134	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	94	97	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	101	70-130	1
2,2-Dichloropropane	ug/L (ppb)	10	106	104	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	100	70-130	0
Chloroform	ug/L (ppb)	10	102	100	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	106	108	17-154	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	111	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	102	101	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	96	99	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	106	101	70-130	5
Benzene	ug/L (ppb)	10	96	96	70-130	0
Trichloroethene	ug/L (ppb)	10	105	107	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	99	99	70-130	0
Bromodichloromethane	ug/L (ppb)	10	98	97	70-130	1
Dibromomethane	ug/L (ppb)	10	101	102	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	98	98	68-130	0
cis-1,3-Dichloropropene	ug/L (ppb)	10	94	96	69-131	2
Toluene	ug/L (ppb)	10	107	108	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	101	103	70-130	2
2-Hexanone	ug/L (ppb)	50	98	98	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	96	98	70-130	2
Tetrachloroethene	ug/L (ppb)	10	111	110	70-130	1
Dibromochloromethane	ug/L (ppb)	10	110	111	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	101	102	70-130	1
Chlorobenzene	ug/L (ppb)	10	100	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	102	105	70-130	3
m,p-Xylene	ug/L (ppb)	20	103	103	70-130	0
o-Xylene	ug/L (ppb)	10	99	101	70-130	2
Styrene	ug/L (ppb)	10	109	110	70-130	1
Isopropylbenzene	ug/L (ppb)	10	103	105	70-130	2
Bromoform	ug/L (ppb)	10	111	112	69-138	1
n-Propylbenzene	ug/L (ppb)	10	94	95	70-130	1
Bromobenzene	ug/L (ppb)	10	90	90	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	102	102	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	91	92	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	100	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	98	99	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	94	93	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	104	107	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	99	100	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	103	105	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	96	99	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	95	97	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	93	96	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	95	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	99	70-130	7
Hexachlorobutadiene	ug/L (ppb)	10	103	103	70-130	0
Naphthalene	ug/L (ppb)	10	83	88	70-130	6
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	99	70-130	4

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

Laboratory Code: 202021-03 (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	41	0 b	52 b	50-150	nm b

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

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	119	111	70-130	7

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

Laboratory Code: 202021-03 (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	37	0 b	0 b	50-150	nm b

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Project: TWAAFA-001, F&BI 202021

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

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	142 vo	110	50-150	25 vo

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

Laboratory Code: 202021-03 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	9 vo	7 vo	50-150	25 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	73	52	50-150	34 vo
2-Chlorophenol	ug/L (ppb)	2.5	<1	46 vo	33 vo	50-150	33 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	43 vo	50-150	42 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	44 vo	50-150	43 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	47 vo	50-150	39 vo
Benzyl alcohol	ug/L (ppb)	13	<1	26 vo	20 vo	50-150	26 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	55	50-150	33 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	33 vo	27 vo	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	67	45 vo	50-150	39 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	83	64	50-150	26 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	27 vo	22 vo	50-150	20
Nitrobenzene	ug/L (ppb)	2.5	<0.1	89	68	50-150	27 vo
Isophorone	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
2-Nitrophenol	ug/L (ppb)	2.5	<1	98	68	50-150	36 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	59	37 vo	50-150	46 vo
Benzoic acid	ug/L (ppb)	20	<5	1 vo	1 vo	50-150	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	65	50-150	21 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	65	54	50-150	18
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	73	59	50-150	21 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	58	50-150	20
4-Chloroaniline	ug/L (ppb)	13	<10	49 vo	36 vo	50-150	31 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	57	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	63	50-150	17
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	64	50-150	16
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	76	57	50-150	29 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	74	51	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	79	73	50-150	8
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	71	65	50-150	9
2-Nitroaniline	ug/L (ppb)	13	<0.5	96	79	50-150	19
Dimethyl phthalate	ug/L (ppb)	2.5	<1	75	82	50-150	9
Acenaphthylene	ug/L (ppb)	2.5	<0.01	70	69	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	87	89	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	70	66	50-150	6
Acenaphthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
2,4-Dinitrophenol	ug/L (ppb)	5	<3	9 vo	26 vo	50-150	97 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	73	80	50-150	9
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	110	96	50-150	14
4-Nitrophenol	ug/L (ppb)	5	<3	12 vo	11 vo	50-150	9
Diethyl phthalate	ug/L (ppb)	2.5	<1	75	86	50-150	14
Fluorene	ug/L (ppb)	2.5	<0.01	71	77	50-150	8
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	69	75	50-150	8
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	81	82	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	65	55	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	39 vo	51	50-150	27 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	82	80	50-150	2
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	76	77	50-150	1
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	80	49 vo	50-150	48 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	79	81	50-150	2
Anthracene	ug/L (ppb)	2.5	<0.01	81	83	50-150	2
Carbazole	ug/L (ppb)	2.5	<0.1	89	88	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	88	78	50-150	12
Fluoranthene	ug/L (ppb)	2.5	<0.01	86	88	50-150	2
Pyrene	ug/L (ppb)	2.5	<0.01	76	82	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	100	108	50-150	8
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	83	86	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	102	104	50-150	2
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	91	90	50-150	1
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	85	86	50-150	1
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	84	89	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	76	88	50-150	15
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	91	50-150	13
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	71	87	50-150	20

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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	11	10-86
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	83	60-88
2-Chlorophenol	ug/L (ppb)	2.5	61	10-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	79	48-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	80	48-91
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	52-92
Benzyl alcohol	ug/L (ppb)	13	31	10-72
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	81	59-86
2-Methylphenol	ug/L (ppb)	2.5	38	10-75
Hexachloroethane	ug/L (ppb)	2.5	81	47-92
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	88	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	31	10-66
Nitrobenzene	ug/L (ppb)	2.5	96 vo	60-90
Isophorone	ug/L (ppb)	2.5	90	70-130
2-Nitrophenol	ug/L (ppb)	2.5	98	27-104
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	10-84
Benzoic acid	ug/L (ppb)	20	11	10-102
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	88	55-103
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	23-103
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	83	56-93
Naphthalene	ug/L (ppb)	2.5	83	62-90
Hexachlorobutadiene	ug/L (ppb)	2.5	85	48-85
4-Chloroaniline	ug/L (ppb)	13	75	35-108
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	71	18-109
2-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
1-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	97	49-112
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	92	16-112
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	96	26-113
2-Chloronaphthalene	ug/L (ppb)	2.5	91	67-97
2-Nitroaniline	ug/L (ppb)	13	105	31-168
Dimethyl phthalate	ug/L (ppb)	2.5	97	70-130
Acenaphthylene	ug/L (ppb)	2.5	90	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	70-130
3-Nitroaniline	ug/L (ppb)	13	73	33-120
Acenaphthene	ug/L (ppb)	2.5	90	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	78	10-120
Dibenzofuran	ug/L (ppb)	2.5	96	67-107
2,4-Dinitrotoluene	ug/L (ppb)	2.5	108	53-132
4-Nitrophenol	ug/L (ppb)	5	17	10-89
Diethyl phthalate	ug/L (ppb)	2.5	96	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	88	70-130
4-Nitroaniline	ug/L (ppb)	13	73	32-122
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	89	10-139
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	85	65-95
Pentachlorophenol	ug/L (ppb)	2.5	79	10-129
Phenanthrene	ug/L (ppb)	2.5	89	70-130
Anthracene	ug/L (ppb)	2.5	91	70-130
Carbazole	ug/L (ppb)	2.5	94	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	82	28-147
Fluoranthene	ug/L (ppb)	2.5	95	70-130
Pyrene	ug/L (ppb)	2.5	96	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	88	34-142
Benz(a)anthracene	ug/L (ppb)	2.5	94	70-130
Chrysene	ug/L (ppb)	2.5	93	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	95	53-133
Di-n-octyl phthalate	ug/L (ppb)	2.5	82	49-119
Benzo(a)pyrene	ug/L (ppb)	2.5	93	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	93	70-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	97	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	98	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	102	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	70-130

Date of Report: 02/17/22
Date Received: 02/01/22
Project: TWAAFA-001, F&BI 202021

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

Laboratory Code: 202021-03 1/0.5 (Matrix Spike) 1/0.5

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	27 vo	31 vo	50-150	14
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	34 vo	36 vo	50-150	6

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	40	25-111
Aroclor 1260	ug/L (ppb)	0.063	44	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.

202021

SAMPLE CHAIN OF CUSTODY

02-01-22

D04/A32/VW3

Page # 1 of 1

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGC	NWTPH-Dx	NWTPH-Gx	VOCs EPA 8260 + SIM VOC EPA 8260 + 1,4 Dioxane	SVOCs EPA 8270E	LL PCBs 8082A	Total Metals 6020 (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	Notes
MW-4-0122	01A-N	1/31/22	1545	W	15	X	X	X	X	X	X	X	X	POSSIBLE NAPL
CCW-4C-0222	02A-O	2/1/22	1005	W	14	X	X	X	X	X	X	X	X	-1 VOA BOTTLE
CCW-1C-0222	03A-AJ	2/1/22	1200	W	37	X	X	X	X	X	X	X	X	+ EXTRA VOL FOR MS/MSD
CCW-1B-0222	04A-O	2/1/22	1345	W	15	X	X	X	X	X	X	X	X	
CCW-1A-0222	05A-O	2/1/22	1500	W	15	X	X	X	X	X	X	X	X	
TRIP BLANK #4-0222	06A-C	2/1/22	—	W	3			X	X					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	ANTHONY GERMUT	DOF	02/01/22	16:00
Received by:	VIA FX	FBI	02/1/22	16:00
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

February 17, 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 February 2, 2022 from the TWAAFA-001, F&BI 202037 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 have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Tasya Gray
DOF0217R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on February 2, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 202037 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
202037 -01	CCW-8B-0222
202037 -02	CCW-7C-0222
202037 -03	CCW-7B-0222
202037 -04	CCW-6C-0222
202037 -05	TRIP BLANK 5-0222
202037 -06	FIELD BLANK 2-0222

The 1631E matrix spike duplicate did not pass the acceptance criteria. The laboratory control sample passed the acceptance criteria, therefore the results were likely due to matrix effect.

Methylene chloride was detected in the 8260D analysis of sample FIELD BLANK 2-0222. The data were flagged as due to laboratory contamination.

The 8260D SIM 1,4-dioxane laboratory control sample and the associated relative percent difference exceeded the acceptance criteria. The samples associated with the quality assurance did not have 1,4-dioxane detected, therefore the data were acceptable.

The 8270E matrix spike and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

Nitrobenzene in the 8270E laboratory control sample exceeded the acceptance criteria. The compound was not detected, therefore the data were acceptable.

The 8082 matrix spike and matrix spike duplicate did not pass the default acceptance criteria for Aroclor 1016 and 1260. The laboratory control sample passed the acceptance criteria, therefore the results are likely due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037
Date Extracted: 02/07/22
Date Analyzed: 02/07/22

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-0222 202037-01	110	99
CCW-7C-0222 202037-02	<100	97
CCW-7B-0222 202037-03	1,100	93
CCW-6C-0222 202037-04 1/5	<500	96
TRIP BLANK 5-0222 202037-05	<100	93
FIELD BLANK 2-0222 202037-06	<100	94
Method Blank 02-0312 MB	<100	96

Date of Report: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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-0222 202037-01	200	<250	116
CCW-7C-0222 202037-02	<50	<250	104
CCW-7B-0222 202037-03	520	<250	117
CCW-6C-0222 202037-04	<50	<250	112
FIELD BLANK 2-0222 202037-06	<50	<250	121
Method Blank 02-371 MB	<50	<250	143

Date of Report: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037
Date Extracted: 02/03/22
Date Analyzed: 02/03/22

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-0222 202037-01	6,100 x	610 x	150
CCW-7C-0222 202037-02	550 x	<250	103
CCW-7B-0222 202037-03	1,400 x	290 x	126
CCW-6C-0222 202037-04	790 x	<250	119
FIELD BLANK 2-0222 202037-06	<50	<250	120
Method Blank 02-371 MB	<50	<250	133

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-8B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-01
Date Analyzed:	02/08/22	Data File:	202037-01.178
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.59
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	667
Nickel	3.57
Zinc	5.72

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-7C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-02
Date Analyzed:	02/08/22	Data File:	202037-02.179
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.71
Cadmium	<1
Chromium	8.12
Copper	<2.4
Lead	<1
Manganese	192
Nickel	2.96
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-7B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-03
Date Analyzed:	02/08/22	Data File:	202037-03.180
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.81
Cadmium	<1
Chromium	1.13
Copper	<2.4
Lead	2.09
Manganese	772
Nickel	2.25
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-6C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-04
Date Analyzed:	02/08/22	Data File:	202037-04.181
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	8.45
Cadmium	<1
Chromium	21.8
Copper	<2.4
Lead	<1
Manganese	254
Nickel	1.45
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	FIELD BLANK 2-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-06
Date Analyzed:	02/08/22	Data File:	202037-06.182
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
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 202037
Date Extracted:	02/08/22	Lab ID:	I2-108 mb
Date Analyzed:	02/08/22	Data File:	I2-108 mb.085
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037
Date Extracted: 02/03/22
Date Analyzed: 02/04/22

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-0222 202037-01	<0.02
CCW-7C-0222 202037-02	<0.02
CCW-7B-0222 202037-03	0.034
CCW-6C-0222 202037-04	<0.02
FIELD BLANK 2-0222 202037-06	<0.02
Method Blank i2-102 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-8B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-01
Date Analyzed:	02/09/22	Data File:	020909.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	98	87	115
4-Bromofluorobenzene	93	92	112

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	1.4
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	1.7	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:	CCW-7C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-02
Date Analyzed:	02/08/22	Data File:	020832.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	110	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	95	92	112

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	4.0	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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/09/22	Lab ID:	202037-03
Date Analyzed:	02/09/22	Data File:	020910.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	95	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.52	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	50
Trichlorofluoromethane	<1	Ethylbenzene	74
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	6.3
Hexane	<5	o-Xylene	13
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	7.6
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	12
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	2.0
Benzene	18	sec-Butylbenzene	1.6
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	4.4
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	12
Dibromomethane	<1	1,2-Dichlorobenzene	11
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	24	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	39
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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-04
Date Analyzed:	02/08/22	Data File:	020834.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	113	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	93	92	112

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:	TRIP BLANK 5-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-05
Date Analyzed:	02/08/22	Data File:	020835.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	100	87	115
4-Bromofluorobenzene	98	92	112

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 2-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-06
Date Analyzed:	02/08/22	Data File:	020836.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	99	87	115
4-Bromofluorobenzene	99	92	112

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:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	02-0385 mb
Date Analyzed:	02/08/22	Data File:	020824.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	98	92	112

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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-01
Date Analyzed:	02/08/22	Data File:	020816.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	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:	CCW-7C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-02
Date Analyzed:	02/09/22	Data File:	020825.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	11

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	CCW-7B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-03
Date Analyzed:	02/08/22	Data File:	020820.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	87	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	105	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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-04
Date Analyzed:	02/09/22	Data File:	020826.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	103	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	9.8

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TRIP BLANK 5-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/03/22	Lab ID:	202037-05
Date Analyzed:	02/03/22	Data File:	020320.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	103	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:	FIELD BLANK 2-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/08/22	Lab ID:	202037-06
Date Analyzed:	02/08/22	Data File:	020812.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	50	150
Toluene-d8	103	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 202037
Date Extracted:	02/08/22	Lab ID:	02-0386 mb
Date Analyzed:	02/08/22	Data File:	020806.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	102	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/03/22	Lab ID:	02-0289 mb
Date Analyzed:	02/03/22	Data File:	020306.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-01 1/0.5
Date Analyzed:	02/10/22	Data File:	021014.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	80	50	150
2-Fluorobiphenyl	75	44	108
2,4,6-Tribromophenol	82	10	140
Terphenyl-d14	79	50	150

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	2.1
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	0.44	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	5.7
2-Methylphenol	<1	Fluorene	0.26
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	0.038
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.12
2,4-Dichlorophenol	<1	Carbazole	<0.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	0.12	Fluoranthene	0.050
Hexachlorobutadiene	<0.1	Pyrene	0.059
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	<0.01
2-Methylnaphthalene	2.2	Chrysene	<0.01
1-Methylnaphthalene	4.4	Bis(2-ethylhexyl) phthalate	0.36 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:	CCW-7C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-02 1/0.5
Date Analyzed:	02/10/22	Data File:	021015.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	82	50	150
2-Fluorobiphenyl	71	44	108
2,4,6-Tribromophenol	85	10	140
Terphenyl-d14	78	50	150

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	0.012
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	0.34 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:	CCW-7B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-03 1/0.5
Date Analyzed:	02/10/22	Data File:	021016.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	88	50	150
2-Fluorobiphenyl	77	44	108
2,4,6-Tribromophenol	92	10	140
Terphenyl-d14	83	50	150

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	2.8	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	7.7	Dibenzofuran	11
1,2-Dichlorobenzene	7.2	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	Phenanthrene	0.43
Bis(2-chloroethoxy)methane	<0.1	Anthracene	1.2
2,4-Dichlorophenol	<1	Carbazole	6.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	20 ve	Fluoranthene	2.1
Hexachlorobutadiene	<0.1	Pyrene	1.0
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.084
2-Methylnaphthalene	0.69	Chrysene	0.077
1-Methylnaphthalene	23 ve	Bis(2-ethylhexyl) phthalate	0.33 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	0.016
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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-03 1/5
Date Analyzed:	02/11/22	Data File:	021107.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13 d	11	65
Phenol-d6	8 d	11	65
Nitrobenzene-d5	69 d	50	150
2-Fluorobiphenyl	78 d	44	108
2,4,6-Tribromophenol	95 d ca	10	140
Terphenyl-d14	83 d	50	150

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	20
1,3-Dichlorobenzene	3.0	2,4-Dinitrophenol	<30 ca
1,4-Dichlorobenzene	8.2	Dibenzofuran	12
1,2-Dichlorobenzene	7.4	2,4-Dinitrotoluene	<5
Benzyl alcohol	<10	4-Nitrophenol	<30 ca
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 ca
Nitrobenzene	<1	4,6-Dinitro-2-methylphenol	<30 ca
Isophorone	<1	4-Bromophenyl phenyl ether	<1
2-Nitrophenol	<10	Hexachlorobenzene	<1
2,4-Dimethylphenol	<10	Pentachlorophenol	<5 ca
Benzoic acid	<50	Phenanthrene	0.44
Bis(2-chloroethoxy)methane	<1	Anthracene	1.2
2,4-Dichlorophenol	<10	Carbazole	6.4
1,2,4-Trichlorobenzene	<1	Di-n-butyl phthalate	<10
Naphthalene	25	Fluoranthene	2.1
Hexachlorobutadiene	<1	Pyrene	1.0
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	24	Bis(2-ethylhexyl) phthalate	<0.7 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
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-6C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-04 1/0.5
Date Analyzed:	02/10/22	Data File:	021017.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	10 ip	11	65
Nitrobenzene-d5	88	50	150
2-Fluorobiphenyl	72	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	79	50	150

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	0.011
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	0.39 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:	FIELD BLANK 2-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-06 1/0.5
Date Analyzed:	02/10/22	Data File:	021018.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	13	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	92	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	79	10	140
Terphenyl-d14	96	50	150

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
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	0.38 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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	02-373 mb 1/0.5
Date Analyzed:	02/10/22	Data File:	021006.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	94	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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
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	0.20 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-8B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-01 1/0.25
Date Analyzed:	02/07/22	Data File:	020706.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	13 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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-02 1/0.25
Date Analyzed:	02/07/22	Data File:	020707.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	15 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-7B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-03 1/0.25
Date Analyzed:	02/07/22	Data File:	020708.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	20 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-6C-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-04 1/0.25
Date Analyzed:	02/07/22	Data File:	020709.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:	FIELD BLANK 2-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/02/22	Project:	TWAAFA-001, F&BI 202037
Date Extracted:	02/04/22	Lab ID:	202037-06 1/0.25
Date Analyzed:	02/07/22	Data File:	020710.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	24	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 202037
Date Extracted:	02/04/22	Lab ID:	02-372 mb 1/0.25
Date Analyzed:	02/07/22	Data File:	020704.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	24	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: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037

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

Laboratory Code: 202021-03 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	103	105	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: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037

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	124	128	63-142	3

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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	124	124	63-142	0

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

Laboratory Code: 202021-03 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	93	100	75-125	7
Cadmium	ug/L (ppb)	5	<10	95	99	75-125	4
Chromium	ug/L (ppb)	20	<10	90	93	75-125	3
Copper	ug/L (ppb)	20	<3	87	91	75-125	4
Lead	ug/L (ppb)	10	<10	84	87	75-125	4
Manganese	ug/L (ppb)	20	257	79	82	75-125	4
Nickel	ug/L (ppb)	20	<10	90	93	75-125	3
Zinc	ug/L (ppb)	50	<50	91	95	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	94	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	94	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	95	80-120
Nickel	ug/L (ppb)	20	95	80-120
Zinc	ug/L (ppb)	50	95	80-120

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

Laboratory Code: 202021-03 (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	76	67 vo	71-125	12

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	82	88	78-125	7

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

Laboratory Code: 202021-03 (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	115	50-150	1
Chloromethane	ug/L (ppb)	10	<10	119	117	50-150	2
Vinyl chloride	ug/L (ppb)	10	<0.02	105	105	50-150	0
Bromomethane	ug/L (ppb)	10	<5	121	125	50-150	3
Chloroethane	ug/L (ppb)	10	<1	117	118	50-150	1
Trichlorofluoromethane	ug/L (ppb)	10	<1	111	108	50-150	3
Acetone	ug/L (ppb)	50	<50	108	90	50-150	18
1,1-Dichloroethene	ug/L (ppb)	10	<1	107	107	50-150	0
Hexane	ug/L (ppb)	10	<5	97	99	50-150	2
Methylene chloride	ug/L (ppb)	10	<5	118	119	50-150	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	1.4	97	100	50-150	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	101	50-150	0
1,1-Dichloroethane	ug/L (ppb)	10	<1	104	105	50-150	1
2,2-Dichloropropane	ug/L (ppb)	10	<1	97	102	50-150	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	104	50-150	1
Chloroform	ug/L (ppb)	10	<1	105	104	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	96	96	50-150	0
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	113	113	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	103	104	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	99	102	50-150	3
Carbon tetrachloride	ug/L (ppb)	10	<0.5	105	107	50-150	2
Benzene	ug/L (ppb)	10	<0.35	98	98	50-150	0
Trichloroethene	ug/L (ppb)	10	<0.5	107	108	50-150	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	100	100	50-150	0
Bromodichloromethane	ug/L (ppb)	10	<0.5	97	117	50-150	19
Dibromomethane	ug/L (ppb)	10	<1	101	101	50-150	0
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	96	100	50-150	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	91	92	50-150	1
Toluene	ug/L (ppb)	10	<1	110	108	50-150	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	97	98	50-150	1
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	102	100	50-150	2
2-Hexanone	ug/L (ppb)	50	<10	100	97	50-150	3
1,3-Dichloropropane	ug/L (ppb)	10	<1	105	97	50-150	8
Tetrachloroethene	ug/L (ppb)	10	<1	111	109	50-150	2
Dibromochloromethane	ug/L (ppb)	10	<0.5	108	107	50-150	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	103	100	50-150	3
Chlorobenzene	ug/L (ppb)	10	<1	101	101	50-150	0
Ethylbenzene	ug/L (ppb)	10	<1	102	100	50-150	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	108	107	50-150	1
m,p-Xylene	ug/L (ppb)	20	<2	106	104	50-150	2
o-Xylene	ug/L (ppb)	10	<1	103	102	50-150	1
Styrene	ug/L (ppb)	10	<1	112	110	50-150	2
Isopropylbenzene	ug/L (ppb)	10	<1	108	107	50-150	1
Bromoform	ug/L (ppb)	10	<5	113	112	50-150	1
n-Propylbenzene	ug/L (ppb)	10	<1	93	95	50-150	2
Bromobenzene	ug/L (ppb)	10	<1	88	90	50-150	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	99	110	50-150	11
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	89	50-150	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	90	89	50-150	1
2-Chlorotoluene	ug/L (ppb)	10	<1	96	98	50-150	2
4-Chlorotoluene	ug/L (ppb)	10	<1	96	97	50-150	1
tert-Butylbenzene	ug/L (ppb)	10	<1	91	94	50-150	3
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	107	50-150	4
sec-Butylbenzene	ug/L (ppb)	10	<1	96	100	50-150	4
p-Isopropyltoluene	ug/L (ppb)	10	<1	100	102	50-150	2
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	98	50-150	2
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	95	50-150	0
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	95	98	50-150	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	97	100	50-150	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	95	97	50-150	2
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	100	102	50-150	2
Naphthalene	ug/L (ppb)	10	<1	88	91	50-150	3
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	100	103	50-150	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	120	116	46-206	3
Chloromethane	ug/L (ppb)	10	112	111	70-142	1
Vinyl chloride	ug/L (ppb)	10	103	101	70-130	2
Bromomethane	ug/L (ppb)	10	118	118	56-197	0
Chloroethane	ug/L (ppb)	10	113	112	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	110	106	70-130	4
Acetone	ug/L (ppb)	50	93	102	10-140	9
1,1-Dichloroethene	ug/L (ppb)	10	103	103	70-130	0
Hexane	ug/L (ppb)	10	120	103	54-136	15
Methylene chloride	ug/L (ppb)	10	112	103	43-134	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	94	97	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	97	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	102	101	70-130	1
2,2-Dichloropropane	ug/L (ppb)	10	106	104	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	100	100	70-130	0
Chloroform	ug/L (ppb)	10	102	100	70-130	2
2-Butanone (MEK)	ug/L (ppb)	50	106	108	17-154	2
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	111	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	102	101	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	96	99	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	106	101	70-130	5
Benzene	ug/L (ppb)	10	96	96	70-130	0
Trichloroethene	ug/L (ppb)	10	105	107	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	99	99	70-130	0
Bromodichloromethane	ug/L (ppb)	10	98	97	70-130	1
Dibromomethane	ug/L (ppb)	10	101	102	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	98	98	68-130	0
cis-1,3-Dichloropropene	ug/L (ppb)	10	94	96	69-131	2
Toluene	ug/L (ppb)	10	107	108	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	101	103	70-130	2
2-Hexanone	ug/L (ppb)	50	98	98	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	96	98	70-130	2
Tetrachloroethene	ug/L (ppb)	10	111	110	70-130	1
Dibromochloromethane	ug/L (ppb)	10	110	111	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	101	102	70-130	1
Chlorobenzene	ug/L (ppb)	10	100	99	70-130	1
Ethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	102	105	70-130	3
m,p-Xylene	ug/L (ppb)	20	103	103	70-130	0
o-Xylene	ug/L (ppb)	10	99	101	70-130	2
Styrene	ug/L (ppb)	10	109	110	70-130	1
Isopropylbenzene	ug/L (ppb)	10	103	105	70-130	2
Bromoform	ug/L (ppb)	10	111	112	69-138	1
n-Propylbenzene	ug/L (ppb)	10	94	95	70-130	1
Bromobenzene	ug/L (ppb)	10	90	90	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	102	102	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	91	92	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	95	100	70-130	5
4-Chlorotoluene	ug/L (ppb)	10	98	99	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	94	93	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	104	107	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	99	100	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	103	105	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	96	99	70-130	3
1,4-Dichlorobenzene	ug/L (ppb)	10	95	97	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	93	96	70-130	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	97	95	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	92	99	70-130	7
Hexachlorobutadiene	ug/L (ppb)	10	103	103	70-130	0
Naphthalene	ug/L (ppb)	10	83	88	70-130	6
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	99	70-130	4

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

Laboratory Code: 202021-03 (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	41	0 b	52 b	50-150	nm 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	119	111	70-130	7

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

Laboratory Code: 202021-03 (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	37	0 b	0 b	50-150	nm 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	142 vo	110	50-150	25 vo

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

Laboratory Code: 202021-03 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	9 vo	7 vo	50-150	25 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	73	52	50-150	34 vo
2-Chlorophenol	ug/L (ppb)	2.5	<1	46 vo	33 vo	50-150	33 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	43 vo	50-150	42 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	44 vo	50-150	43 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	47 vo	50-150	39 vo
Benzyl alcohol	ug/L (ppb)	13	<1	26 vo	20 vo	50-150	26 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	55	50-150	33 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	33 vo	27 vo	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	67	45 vo	50-150	39 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	83	64	50-150	26 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	27 vo	22 vo	50-150	20
Nitrobenzene	ug/L (ppb)	2.5	<0.1	89	68	50-150	27 vo
Isophorone	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
2-Nitrophenol	ug/L (ppb)	2.5	<1	98	68	50-150	36 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	59	37 vo	50-150	46 vo
Benzoic acid	ug/L (ppb)	20	<5	1 vo	1 vo	50-150	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	65	50-150	21 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	65	54	50-150	18
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	73	59	50-150	21 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	58	50-150	20
4-Chloroaniline	ug/L (ppb)	13	<10	49 vo	36 vo	50-150	31 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	57	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	63	50-150	17
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	64	50-150	16
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	76	57	50-150	29 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	74	51	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	79	73	50-150	8
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	71	65	50-150	9
2-Nitroaniline	ug/L (ppb)	13	<0.5	96	79	50-150	19
Dimethyl phthalate	ug/L (ppb)	2.5	<1	75	82	50-150	9
Acenaphthylene	ug/L (ppb)	2.5	<0.01	70	69	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	87	89	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	70	66	50-150	6
Acenaphthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
2,4-Dinitrophenol	ug/L (ppb)	5	<3	9 vo	26 vo	50-150	97 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	73	80	50-150	9
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	110	96	50-150	14
4-Nitrophenol	ug/L (ppb)	5	<3	12 vo	11 vo	50-150	9
Diethyl phthalate	ug/L (ppb)	2.5	<1	75	86	50-150	14
Fluorene	ug/L (ppb)	2.5	<0.01	71	77	50-150	8
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	69	75	50-150	8
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	81	82	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	65	55	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	39 vo	51	50-150	27 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	82	80	50-150	2
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	76	77	50-150	1
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	80	49 vo	50-150	48 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	79	81	50-150	2
Anthracene	ug/L (ppb)	2.5	<0.01	81	83	50-150	2
Carbazole	ug/L (ppb)	2.5	<0.1	89	88	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	88	78	50-150	12
Fluoranthene	ug/L (ppb)	2.5	<0.01	86	88	50-150	2
Pyrene	ug/L (ppb)	2.5	<0.01	76	82	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	100	108	50-150	8
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	83	86	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	102	104	50-150	2
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	91	90	50-150	1
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	85	86	50-150	1
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	84	89	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	76	88	50-150	15
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	91	50-150	13
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	71	87	50-150	20

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Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037

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	11	10-86
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	83	60-88
2-Chlorophenol	ug/L (ppb)	2.5	61	10-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	79	48-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	80	48-91
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	52-92
Benzyl alcohol	ug/L (ppb)	13	31	10-72
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	81	59-86
2-Methylphenol	ug/L (ppb)	2.5	38	10-75
Hexachloroethane	ug/L (ppb)	2.5	81	47-92
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	88	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	31	10-66
Nitrobenzene	ug/L (ppb)	2.5	96 vo	60-90
Isophorone	ug/L (ppb)	2.5	90	70-130
2-Nitrophenol	ug/L (ppb)	2.5	98	27-104
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	10-84
Benzoic acid	ug/L (ppb)	20	11	10-102
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	88	55-103
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	23-103
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	83	56-93
Naphthalene	ug/L (ppb)	2.5	83	62-90
Hexachlorobutadiene	ug/L (ppb)	2.5	85	48-85
4-Chloroaniline	ug/L (ppb)	13	75	35-108
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	71	18-109
2-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
1-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	97	49-112
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	92	16-112
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	96	26-113
2-Chloronaphthalene	ug/L (ppb)	2.5	91	67-97
2-Nitroaniline	ug/L (ppb)	13	105	31-168
Dimethyl phthalate	ug/L (ppb)	2.5	97	70-130
Acenaphthylene	ug/L (ppb)	2.5	90	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	70-130
3-Nitroaniline	ug/L (ppb)	13	73	33-120
Acenaphthene	ug/L (ppb)	2.5	90	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	78	10-120
Dibenzofuran	ug/L (ppb)	2.5	96	67-107
2,4-Dinitrotoluene	ug/L (ppb)	2.5	108	53-132
4-Nitrophenol	ug/L (ppb)	5	17	10-89
Diethyl phthalate	ug/L (ppb)	2.5	96	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	88	70-130
4-Nitroaniline	ug/L (ppb)	13	73	32-122
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	89	10-139
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	85	65-95
Pentachlorophenol	ug/L (ppb)	2.5	79	10-129
Phenanthrene	ug/L (ppb)	2.5	89	70-130
Anthracene	ug/L (ppb)	2.5	91	70-130
Carbazole	ug/L (ppb)	2.5	94	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	82	28-147
Fluoranthene	ug/L (ppb)	2.5	95	70-130
Pyrene	ug/L (ppb)	2.5	96	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	88	34-142
Benz(a)anthracene	ug/L (ppb)	2.5	94	70-130
Chrysene	ug/L (ppb)	2.5	93	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	95	53-133
Di-n-octyl phthalate	ug/L (ppb)	2.5	82	49-119
Benzo(a)pyrene	ug/L (ppb)	2.5	93	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	93	70-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	97	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	98	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	102	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	70-130

Date of Report: 02/17/22
Date Received: 02/02/22
Project: TWAAFA-001, F&BI 202037

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

Laboratory Code: 202021-03 1/0.5 (Matrix Spike) 1/0.5

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	27 vo	31 vo	50-150	14
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	34 vo	36 vo	50-150	6

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	40	25-111
Aroclor 1260	ug/L (ppb)	0.063	44	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.

202037

SAMPLE CHAIN OF CUSTODY

02/02/22 VWS/AIY/A P03

Page # ____ of ____

Report To Trevor Louviere/Tasya Gray

Company DOF

Address 1001 SW Klickitat Way

City, State, ZIP Seattle, WA 98134

Phone 425-785-6322 Email tlouviere@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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGC	NWTPH-Dx	NWTPH-Gx	VOCs EPA 8260 + SIM VOC EPA 8260 + 1,4 Dioxane	SVOCs EPA 8270E	LL PCBs 8082A	Total Metals 6020 (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	Notes
						ANALYSES REQUESTED								# JARS recd
CCW-8B-0222	01 A-O	2/2/22	0945	W	15	X	X	X	X	X	X	X	X	15
CCW-7C-0222	02 A-O	2/2/22	1130	W	15	X	X	X	X	X	X	X	X	9
CCW-7B-0222	03 A-O	2/2/22	1245	W	15	X	X	X	X	X	X	X	X	9
CCW-6C-0222	04 A-O	2/2/22	1445	W	15	X	X	X	X	X	X	X	X	15
TRIP BLANK #5-0222	05 A-C	2/2/22	—	W	15				X					3
FIELD BLANK #2-0222	06 A-O	2/2/22	1400	W	15	X	X	X	X	X	X	X	X	15
														(NP) 2/3/22

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	ANTHONY CERRUTI	DOF	2/2/22	1515
Received by:	VINH	FBI	2/2/22	1515
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

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Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Vineta Mills, M.S.
Eric Young, B.S.

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www.friedmanandbruya.com

February 17, 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 February 3, 2022 from the TWAAFA-001, F&BI 202069 project. There are 47 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: Tasya Gray
DOF0217R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on February 3, 2022 by Friedman & Bruya, Inc. from the Dalton Olmsted Fuglevand TWAAFA-001, F&BI 202069 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Dalton Olmsted Fuglevand
202069 -01	CCW-6B-0222
202069 -02	CCW-9-6B-0222
202069 -03	TWA-4D-0222
202069 -04	RWA-8D-0222
202069 -05	TWA-7D-0222
202069 -06	TRIP BLANK 6-0222

The 8260D SIM 1,4-dioxane laboratory control sample and the associated relative percent difference exceeded the acceptance criteria. The samples associated with the quality assurance did not have 1,4-dioxane detected, therefore the data were acceptable.

The 8270E matrix spike and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged accordingly.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

Nitrobenzene in the 8270E laboratory control sample exceeded the acceptance criteria. The compound was not detected, therefore the data were acceptable.

The 8082 matrix spike and matrix spike duplicate did not pass the default acceptance criteria for Aroclor 1016 and 1260. The laboratory control sample passed the acceptance criteria, therefore the results are likely due to matrix effect.

All other quality control requirements were acceptable.

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069
Date Extracted: 02/08/22
Date Analyzed: 02/08/22

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-6B-0222 202069-01	250	103
CCW-9-6B-0222 202069-02	250	102
RWA-8D-0222 202069-04	<100	96
TRIP BLANK 6-0222 202069-06	<100	94
Method Blank 02-314 MB	<100	92

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069
Date Extracted: 02/07/22
Date Analyzed: 02/09/22

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-0222 202069-01 1/1.1	<55	<280	116
CCW-9-6B-0222 202069-02 1/1.1	<55	<280	99
TWA-4D-0222 202069-03 1/1.1	<55	<280	114
RWA-8D-0222 202069-04 1/1.1	<55	<280	123
TWA-7D-0222 202069-05 1/1.1	<55	<280	116
Method Blank 02-379 MB	<50	<250	123

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069
Date Extracted: 02/07/22
Date Analyzed: 02/07/22

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-0222 202069-01 1/1.1	780 x	<280	138
CCW-9-6B-0222 202069-02 1/1.1	660 x	<280	118
TWA-4D-0222 202069-03 1/1.1	240 x	<280	131
RWA-8D-0222 202069-04 1/1.1	<55	<280	131
TWA-7D-0222 202069-05 1/1.1	<55	<280	127
Method Blank 02-379 MB	<50	<250	129

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-01
Date Analyzed:	02/08/22	Data File:	202069-01.165
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.61
Cadmium	<1
Chromium	1.57
Copper	8.61
Lead	33.2
Manganese	676
Nickel	5.45
Zinc	109

Analysis For Total Metals By EPA Method 6020B

Client ID:	CCW-9-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-02
Date Analyzed:	02/08/22	Data File:	202069-02.166
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	4.20
Cadmium	<1
Chromium	1.57
Copper	8.48
Lead	32.4
Manganese	673
Nickel	4.98
Zinc	95.2

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-03
Date Analyzed:	02/08/22	Data File:	202069-03.167
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	9.37
Chromium	2.30
Copper	2.98
Manganese	680
Nickel	4.74
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-4D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-03 x5
Date Analyzed:	02/08/22	Data File:	202069-03 x5.141
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Lead	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-04
Date Analyzed:	02/08/22	Data File:	202069-04.173
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.7
Chromium	1.90
Copper	4.24
Manganese	333
Nickel	6.55
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-04 x5
Date Analyzed:	02/08/22	Data File:	202069-04 x5.142
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Cadmium	<5
Lead	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-7D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-05
Date Analyzed:	02/08/22	Data File:	202069-05.174
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	11.4
Cadmium	<1
Chromium	1.75
Copper	3.10
Lead	<1
Manganese	263
Nickel	4.83
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 202069
Date Extracted:	02/08/22	Lab ID:	I2-108 mb
Date Analyzed:	02/08/22	Data File:	I2-108 mb.085
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<2.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069
Date Extracted: 02/09/22
Date Analyzed: 02/10/22

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-0222 202069-01	<0.02
CCW-9-6B-0222 202069-02	0.023
TWA-4D-0222 202069-03	<0.02
RWA-8D-0222 202069-04	<0.02
TWA-7D-0222 202069-05	<0.02
Method Blank i2-111 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	CCW-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-01
Date Analyzed:	02/09/22	Data File:	020925.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	92	87	115
4-Bromofluorobenzene	94	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.23	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	14
Trichlorofluoromethane	<1	Ethylbenzene	13
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	2.7
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	1.4
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	1.5
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	12	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	1.4
Dibromomethane	<1	1,2-Dichlorobenzene	1.7
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	3.7	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-9-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-02
Date Analyzed:	02/09/22	Data File:	020926.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	91	87	115
4-Bromofluorobenzene	94	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.26	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	14
Trichlorofluoromethane	<1	Ethylbenzene	13
Acetone	<50	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	2.8
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	1.4
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	1.6
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	12	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	1.4
Dibromomethane	<1	1,2-Dichlorobenzene	1.8
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	3.7	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	4.0
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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-03
Date Analyzed:	02/09/22	Data File:	020927.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	94	92	112

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:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-04
Date Analyzed:	02/09/22	Data File:	020928.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	95	92	112

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-7D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-05
Date Analyzed:	02/09/22	Data File:	020929.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	95	92	112

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:	TRIP BLANK 6-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/09/22	Lab ID:	202069-06
Date Analyzed:	02/09/22	Data File:	020930.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	93	92	112

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 202069
Date Extracted:	02/09/22	Lab ID:	02-388 mb
Date Analyzed:	02/09/22	Data File:	020907.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	96	92	112

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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-01
Date Analyzed:	02/08/22	Data File:	020813.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	104	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-9-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-02
Date Analyzed:	02/08/22	Data File:	020814.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	104	50	150

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

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/08/22	Lab ID:	202069-04
Date Analyzed:	02/08/22	Data File:	020815.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	104	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:	TRIP BLANK 6-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/07/22	Lab ID:	202069-06
Date Analyzed:	02/07/22	Data File:	020708.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	104	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 202069
Date Extracted:	02/08/22	Lab ID:	02-0386 mb
Date Analyzed:	02/08/22	Data File:	020806.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	102	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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/03/22	Lab ID:	02-0289 mb
Date Analyzed:	02/03/22	Data File:	020306.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	103	50	150
4-Bromofluorobenzene	104	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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-01 1/0.5
Date Analyzed:	02/10/22	Data File:	021019.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	8 ip	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	62	50	150
2-Fluorobiphenyl	61	44	108
2,4,6-Tribromophenol	69	10	140
Terphenyl-d14	71	50	150

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	1.2
1,3-Dichlorobenzene	0.32	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.79	Dibenzofuran	0.40
1,2-Dichlorobenzene	0.87	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	Phenanthrene	0.015
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.016
2,4-Dichlorophenol	<1	Carbazole	0.28
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	2.2	Fluoranthene	0.030
Hexachlorobutadiene	<0.1	Pyrene	0.019
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	1.2	Bis(2-ethylhexyl) phthalate	0.16 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:	CCW-9-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-02 1/0.5
Date Analyzed:	02/10/22	Data File:	021020.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	52	50	150
2-Fluorobiphenyl	50	44	108
2,4,6-Tribromophenol	51	10	140
Terphenyl-d14	52	50	150

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	0.94
1,3-Dichlorobenzene	0.27	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	0.71	Dibenzofuran	0.31
1,2-Dichlorobenzene	0.80	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	0.36
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	0.012
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.014
2,4-Dichlorophenol	<1	Carbazole	0.21
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	1.8	Fluoranthene	0.019
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	0.99	Bis(2-ethylhexyl) phthalate	0.15 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:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-04 1/0.5
Date Analyzed:	02/10/22	Data File:	021021.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	9 ip	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	73	50	150
2-Fluorobiphenyl	71	44	108
2,4,6-Tribromophenol	54	10	140
Terphenyl-d14	80	50	150

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	0.012
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	0.15 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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	02-373 mb 1/0.5
Date Analyzed:	02/10/22	Data File:	021006.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	94	50	150
2-Fluorobiphenyl	89	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	96	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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
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	0.20 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-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-01 1/0.25
Date Analyzed:	02/07/22	Data File:	020711.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	18 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-9-6B-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-02 1/0.25
Date Analyzed:	02/07/22	Data File:	020712.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17 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:	RWA-8D-0222	Client:	Dalton Olmsted Fuglevand
Date Received:	02/03/22	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	202069-04 1/0.25
Date Analyzed:	02/07/22	Data File:	020713.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

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:	Method Blank	Client:	Dalton Olmsted Fuglevand
Date Received:	Not Applicable	Project:	TWAAFA-001, F&BI 202069
Date Extracted:	02/04/22	Lab ID:	02-372 mb 1/0.25
Date Analyzed:	02/07/22	Data File:	020704.D
Matrix:	Water	Instrument:	GC7
Units:	ug/L (ppb)	Operator:	MG

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	24	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: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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

Laboratory Code: 202096-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	109	69-134

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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	104	104	63-142	0

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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	120	104	63-142	14

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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

Laboratory Code: 202021-03 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	93	100	75-125	7
Cadmium	ug/L (ppb)	5	<10	95	99	75-125	4
Chromium	ug/L (ppb)	20	<10	90	93	75-125	3
Copper	ug/L (ppb)	20	<3	87	91	75-125	4
Lead	ug/L (ppb)	10	<10	84	87	75-125	4
Manganese	ug/L (ppb)	20	257	79	82	75-125	4
Nickel	ug/L (ppb)	20	<10	90	93	75-125	3
Zinc	ug/L (ppb)	50	<50	91	95	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	94	80-120
Cadmium	ug/L (ppb)	5	96	80-120
Chromium	ug/L (ppb)	20	95	80-120
Copper	ug/L (ppb)	20	94	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	95	80-120
Nickel	ug/L (ppb)	20	95	80-120
Zinc	ug/L (ppb)	50	95	80-120

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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

Laboratory Code: 202069-01 (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	17	170 b	202 b	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	97	97	78-125	0

Date of Report: 02/17/22
Date Received: 02/03/22
Project: TWAAFA-001, F&BI 202069

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

Laboratory Code: 202077-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	126	50-150
Chloromethane	ug/L (ppb)	10	<10	119	50-150
Vinyl chloride	ug/L (ppb)	10	0.20	106	50-150
Bromomethane	ug/L (ppb)	10	<5	124	50-150
Chloroethane	ug/L (ppb)	10	<1	118	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	111	50-150
Acetone	ug/L (ppb)	50	<50	108	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	107	50-150
Hexane	ug/L (ppb)	10	<5	111	50-150
Methylene chloride	ug/L (ppb)	10	<5	106	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	98	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	105	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	98	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	104	50-150
Chloroform	ug/L (ppb)	10	<1	106	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	101	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	117	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	105	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	98	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	108	50-150
Benzene	ug/L (ppb)	10	<0.35	100	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	110	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	104	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	116	50-150
Dibromomethane	ug/L (ppb)	10	<1	105	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	104	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	94	50-150
Toluene	ug/L (ppb)	10	<1	110	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	99	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	104	50-150
2-Hexanone	ug/L (ppb)	50	<10	100	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	100	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	111	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	113	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	105	50-150
Chlorobenzene	ug/L (ppb)	10	<1	101	50-150
Ethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	106	50-150
m,p-Xylene	ug/L (ppb)	20	<2	105	50-150
o-Xylene	ug/L (ppb)	10	<1	101	50-150
Styrene	ug/L (ppb)	10	<1	112	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	103	50-150
Bromoform	ug/L (ppb)	10	<5	112	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	92	50-150
Bromobenzene	ug/L (ppb)	10	<1	92	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	100	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	92	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	96	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	102	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	93	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	96	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	101	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	96	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	93	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	94	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	91	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	96	50-150
Naphthalene	ug/L (ppb)	10	<1	84	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	96	50-150

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Project: TWAAFA-001, F&BI 202069

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	119	118	46-206	1
Chloromethane	ug/L (ppb)	10	118	117	70-142	1
Vinyl chloride	ug/L (ppb)	10	106	104	70-130	2
Bromomethane	ug/L (ppb)	10	120	127	56-197	6
Chloroethane	ug/L (ppb)	10	117	114	70-130	3
Trichlorofluoromethane	ug/L (ppb)	10	110	109	70-130	1
Acetone	ug/L (ppb)	50	94	96	10-140	2
1,1-Dichloroethene	ug/L (ppb)	10	106	104	70-130	2
Hexane	ug/L (ppb)	10	96	97	54-136	1
Methylene chloride	ug/L (ppb)	10	106	103	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	99	98	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	100	98	70-130	2
1,1-Dichloroethane	ug/L (ppb)	10	104	102	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	105	104	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	102	70-130	1
Chloroform	ug/L (ppb)	10	102	101	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	99	108	17-154	9
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	113	112	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	104	102	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	98	97	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	106	102	70-130	4
Benzene	ug/L (ppb)	10	97	97	70-130	0
Trichloroethene	ug/L (ppb)	10	106	106	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	99	100	70-130	1
Bromodichloromethane	ug/L (ppb)	10	115	96	70-130	18
Dibromomethane	ug/L (ppb)	10	102	102	70-130	0
4-Methyl-2-pentanone	ug/L (ppb)	50	104	104	68-130	0
cis-1,3-Dichloropropene	ug/L (ppb)	10	95	95	69-131	0
Toluene	ug/L (ppb)	10	106	107	70-130	1
trans-1,3-Dichloropropene	ug/L (ppb)	10	99	100	70-130	1
1,1,2-Trichloroethane	ug/L (ppb)	10	102	102	70-130	0
2-Hexanone	ug/L (ppb)	50	99	101	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	95	97	70-130	2
Tetrachloroethene	ug/L (ppb)	10	108	108	70-130	0
Dibromochloromethane	ug/L (ppb)	10	112	110	60-148	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	101	102	70-130	1
Chlorobenzene	ug/L (ppb)	10	98	98	70-130	0
Ethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	108	105	70-130	3
m,p-Xylene	ug/L (ppb)	20	102	103	70-130	1
o-Xylene	ug/L (ppb)	10	100	101	70-130	1
Styrene	ug/L (ppb)	10	105	107	70-130	2
Isopropylbenzene	ug/L (ppb)	10	103	105	70-130	2
Bromoform	ug/L (ppb)	10	115	112	69-138	3
n-Propylbenzene	ug/L (ppb)	10	92	92	70-130	0
Bromobenzene	ug/L (ppb)	10	88	89	70-130	1
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	98	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	94	95	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	96	96	70-130	0
4-Chlorotoluene	ug/L (ppb)	10	95	97	70-130	2
tert-Butylbenzene	ug/L (ppb)	10	93	94	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	103	104	70-130	1
sec-Butylbenzene	ug/L (ppb)	10	96	97	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	98	100	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	95	97	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	91	94	70-130	3
1,2-Dichlorobenzene	ug/L (ppb)	10	94	96	70-130	2
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	101	103	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	93	94	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	98	98	70-130	0
Naphthalene	ug/L (ppb)	10	88	88	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	100	100	70-130	0

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

Laboratory Code: 202021-03 (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	41	0 b	52 b	50-150	nm

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	119	111	70-130	7

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

Laboratory Code: 202069-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria	RPD (Limit 20)
1,4-Dioxane	ug/L (ppb)	2	<0.4	134	50-150	0

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	152 vo	114	70-130	29 vo

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

Laboratory Code: 202021-03 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	9 vo	7 vo	50-150	25 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	73	52	50-150	34 vo
2-Chlorophenol	ug/L (ppb)	2.5	<1	46 vo	33 vo	50-150	33 vo
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	66	43 vo	50-150	42 vo
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	68	44 vo	50-150	43 vo
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	70	47 vo	50-150	39 vo
Benzyl alcohol	ug/L (ppb)	13	<1	26 vo	20 vo	50-150	26 vo
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	55	50-150	33 vo
2-Methylphenol	ug/L (ppb)	2.5	<1	33 vo	27 vo	50-150	20
Hexachloroethane	ug/L (ppb)	2.5	<0.1	67	45 vo	50-150	39 vo
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	83	64	50-150	26 vo
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	27 vo	22 vo	50-150	20
Nitrobenzene	ug/L (ppb)	2.5	<0.1	89	68	50-150	27 vo
Isophorone	ug/L (ppb)	2.5	<0.1	84	69	50-150	20
2-Nitrophenol	ug/L (ppb)	2.5	<1	98	68	50-150	36 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	59	37 vo	50-150	46 vo
Benzoic acid	ug/L (ppb)	20	<5	1 vo	1 vo	50-150	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	80	65	50-150	21 vo
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	65	54	50-150	18
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	73	59	50-150	21 vo
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	71	58	50-150	20
4-Chloroaniline	ug/L (ppb)	13	<10	49 vo	36 vo	50-150	31 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	57	50-150	5
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	63	50-150	17
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	75	64	50-150	16
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	76	57	50-150	29 vo
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	74	51	50-150	37 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	79	73	50-150	8
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	71	65	50-150	9
2-Nitroaniline	ug/L (ppb)	13	<0.5	96	79	50-150	19
Dimethyl phthalate	ug/L (ppb)	2.5	<1	75	82	50-150	9
Acenaphthylene	ug/L (ppb)	2.5	<0.01	70	69	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	87	89	50-150	2
3-Nitroaniline	ug/L (ppb)	13	<10	70	66	50-150	6
Acenaphthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
2,4-Dinitrophenol	ug/L (ppb)	5	<3	9 vo	26 vo	50-150	97 vo
Dibenzofuran	ug/L (ppb)	2.5	<0.1	73	80	50-150	9
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	110	96	50-150	14
4-Nitrophenol	ug/L (ppb)	5	<3	12 vo	11 vo	50-150	9
Diethyl phthalate	ug/L (ppb)	2.5	<1	75	86	50-150	14
Fluorene	ug/L (ppb)	2.5	<0.01	71	77	50-150	8
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	69	75	50-150	8
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	81	82	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	65	55	50-150	17
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	39 vo	51	50-150	27 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	82	80	50-150	2
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	76	77	50-150	1
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	80	49 vo	50-150	48 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	79	81	50-150	2
Anthracene	ug/L (ppb)	2.5	<0.01	81	83	50-150	2
Carbazole	ug/L (ppb)	2.5	<0.1	89	88	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	88	78	50-150	12
Fluoranthene	ug/L (ppb)	2.5	<0.01	86	88	50-150	2
Pyrene	ug/L (ppb)	2.5	<0.01	76	82	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	100	108	50-150	8
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	83	86	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	102	104	50-150	2
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	91	90	50-150	1
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	83	85	50-150	2
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	85	86	50-150	1
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	84	89	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	76	88	50-150	15
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	80	91	50-150	13
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	71	87	50-150	20

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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	11	10-86
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	83	60-88
2-Chlorophenol	ug/L (ppb)	2.5	61	10-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	79	48-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	80	48-91
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	52-92
Benzyl alcohol	ug/L (ppb)	13	31	10-72
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	81	59-86
2-Methylphenol	ug/L (ppb)	2.5	38	10-75
Hexachloroethane	ug/L (ppb)	2.5	81	47-92
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	88	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	31	10-66
Nitrobenzene	ug/L (ppb)	2.5	96 vo	60-90
Isophorone	ug/L (ppb)	2.5	90	70-130
2-Nitrophenol	ug/L (ppb)	2.5	98	27-104
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	10-84
Benzoic acid	ug/L (ppb)	20	11	10-102
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	88	55-103
2,4-Dichlorophenol	ug/L (ppb)	2.5	82	23-103
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	83	56-93
Naphthalene	ug/L (ppb)	2.5	83	62-90
Hexachlorobutadiene	ug/L (ppb)	2.5	85	48-85
4-Chloroaniline	ug/L (ppb)	13	75	35-108
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	71	18-109
2-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
1-Methylnaphthalene	ug/L (ppb)	2.5	85	64-93
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	97	49-112
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	92	16-112
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	96	26-113
2-Chloronaphthalene	ug/L (ppb)	2.5	91	67-97
2-Nitroaniline	ug/L (ppb)	13	105	31-168
Dimethyl phthalate	ug/L (ppb)	2.5	97	70-130
Acenaphthylene	ug/L (ppb)	2.5	90	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	100	70-130
3-Nitroaniline	ug/L (ppb)	13	73	33-120
Acenaphthene	ug/L (ppb)	2.5	90	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	78	10-120
Dibenzofuran	ug/L (ppb)	2.5	96	67-107
2,4-Dinitrotoluene	ug/L (ppb)	2.5	108	53-132
4-Nitrophenol	ug/L (ppb)	5	17	10-89
Diethyl phthalate	ug/L (ppb)	2.5	96	70-130
Fluorene	ug/L (ppb)	2.5	92	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	88	70-130
4-Nitroaniline	ug/L (ppb)	13	73	32-122
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	89	10-139
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	90	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	85	65-95
Pentachlorophenol	ug/L (ppb)	2.5	79	10-129
Phenanthrene	ug/L (ppb)	2.5	89	70-130
Anthracene	ug/L (ppb)	2.5	91	70-130
Carbazole	ug/L (ppb)	2.5	94	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	82	28-147
Fluoranthene	ug/L (ppb)	2.5	95	70-130
Pyrene	ug/L (ppb)	2.5	96	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	88	34-142
Benz(a)anthracene	ug/L (ppb)	2.5	94	70-130
Chrysene	ug/L (ppb)	2.5	93	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	95	53-133
Di-n-octyl phthalate	ug/L (ppb)	2.5	82	49-119
Benzo(a)pyrene	ug/L (ppb)	2.5	93	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	93	70-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	97	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	98	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	102	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	99	70-130

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Project: TWAAFA-001, F&BI 202069

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

Laboratory Code: 202021-03 1/0.5 (Matrix Spike) 1/0.5

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	27 vo	31 vo	50-150	14
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	34 vo	36 vo	50-150	6

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	40	25-111
Aroclor 1260	ug/L (ppb)	0.063	44	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.

SAMPLE CHAIN OF CUSTODY

02/03/22 VW4/D03/AIY

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202069

Report To Trevor Louviere/Tasya Gray

Company DOF

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Phone 425-785-6322 Email tlouviere@dofnw.com

SAMPLERS (*signature*)

PROJECT NAME: TWAAFA

PO # TWAAFA-001

REMARKS No ME per TL
~~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

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx w/SGC	NWTPH-Dx	NWTPH-Gx	VOCs EPA 8260 + SIM VOC EPA 8260 + 1,4 Dioxane	SVOCs EPA 8270E	LL PCBs 8082A	Total Metals 6020 (As, Cd, Cr, Cu, Pb, Ni, Zn, Mn)	Mecury by 1631E	Notes
CCW-6B-0222	01 A-D	2/2/22	1600	W	15	X	X	X	X	X	X	X	X	
CCW-9-6B-0222	02 1	2/2/22	1605	W	15	X	X	X	X	X	X	X	X	
TWA-4D-0222	03 A-D	2/3/22	1020	W	8	X	X		X			X	X	DO NOT RUN 1,4 DIOXANE
TWA-8D-0222	04 A-D	2/3/22	1230	W	15	X	X	X	X	X	X	X	X	
TWA-7R-0222	05 A-D	2/3/22	1450	W	4	X	X		X			X	X	DO NOT RUN 1,4 DIOXANE * ONLY 2-40mL VOAs!
TRIP BLANK #6 -0222	06 A-C	2/3/22	—	W	3			X	X					
per TL														
2/8/22														

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	ANTHONY CERUTI	DOF	2/3/22	1605
Received by:	VIN 14	FBI	2/3/22	1605
Relinquished by:				
Received by:		Samples received at 4 °C		

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Seattle, WA 98119-2029
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QA/QC SOLUTIONS, LLC

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April 14, 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 -1stQ 2022 Groundwater Sampling Data Validation Summary
Client Project No., Task Order No.: Not Specified, Task No. 3
QA/QC Solutions, LLC Project No.: 030222.1

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 – First 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 2 results reported as detected required qualification as estimated and were assigned a *J* data validation qualifier.
- A total of 23 results reported as detected required qualification as estimated with an associated negative bias and were assigned a *J-* data validation qualifier.
- A total of 40 results reported as detected required qualification as tentatively identified and estimated and were assigned a *NJ* data validation qualifier.
- A total of 3 results reported as undetected required qualification as estimated and were assigned a *UJ* data validation qualifier,

- A total of 255 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 22 results reported as detected required restatement as undetected and were assigned a *U* data validation qualifier,
- A total of 149 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-, 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 at the reporting limits reported.

Data Set

The data set consisted of 24 groundwater samples, 2 field duplicates, 2 field blanks, and 6 trip blanks that were collected on in January and February 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 six (6) 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).
- 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).
- Semivolatile organic compounds (SVOCs) for 66 target analytes (including co-eluting SVOCs) by extraction and analysis by gas chromatography/mass spectrometry (GC/MS) using U.S. EPA SW-846 Method 8270E (U.S. EPA 2022).

- 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:

- Results were reported at the reporting limit.
- 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.
- For the analysis of PCBs, there is an apparent negative bias associated with the recovery the surrogate compound for 14 samples. Affected results were qualified *UJ*- if undetected or *J*- if detected in the associated samples and have an associated negative bias.
- For the analysis of SVOCs, there is an apparent systematic negative bias associated with the recovery the acid surrogate compounds in several samples. and all LCS recoveries of phenol, benzoic acid, and 4-Nitrophenol. The results for these three SVOCs in associated samples were rejected (*R*) when recoveries were <10 percent.
- There is a systematic negative bias associated with the recoveries of 2 of the 3 or 3 of the 3 acid surrogate compounds. The sample results reported for the 15 acid fraction SVOCs in the associated samples were rejected (*R*) when at least 2 of the 3 acid fraction surrogate compound recoveries were <10 percent.
- For some samples, the recoveries for 2 of 3 or all 3 of the base/neutral surrogate compounds were below the applicable lower control limit. Affected results were qualified as *UJ*- if undetected and *J*- if detected in the associated samples. These qualified results have an associated negative bias.
- Selected results reported as detected for methylene chloride and bis(2-ethylhexyl) phthalate were restated as undetected to detection of these compounds in associated method and/or field blanks.
- The bis(2-ethylhexyl) phthalate reported as detected in the two field blanks were qualified as estimated (*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

References

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U.S. EPA 2020b. National Functional Guidelines for Inorganic Data Superfund Data Review. Final. OLEM 9240.1-66 EPA 542-R-20-006. November 2020. Office of Superfund Remediation and Technology Innovation (OSRTI), U.S. Environmental Protection Agency.

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 July 30, 2021). 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	Oil-Range Hydrocarbons by WDOE NWTPH-Dx,	Metals by SW-846 6020B	Total Mercury by 1631E	VOCs by SW-846 8260D	SVOCs by SW-846 8270E*	PCBs by SW-846 8082A
TWA-9D-0122	201265-01	1/19/22	11:45	✓	✓	✓	✓	✓	✓	✓
CCW-2B-0122	201265-02	1/19/22	14:45	✓	✓	✓	✓	✓	✓	✓
CCW-9-2B-0122	201265-03	1/19/22	14:50	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK 1-0122	201265-04	1/19/22	-	✓	-	-	-	✓	-	-
CCW-2A-0122	201287-01	1/20/22	09:50	✓	✓	✓	✓	✓	✓	✓
CCW-2C-0122	201287-02	1/20/22	11:45	✓	✓	✓	✓	✓	✓	✓
CCW-5C-0122	201287-03	1/20/22	13:45	✓	✓	✓	✓	✓	✓	✓
CCW-5B-0122	201287-04	1/20/22	15:20	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK 2-0122	201287-05	1/20/22	-	✓	-	-	-	✓	-	-
FIELD BLANK 1-0122	201287-06	1/20/22	15:30	✓	✓	✓	✓	✓	✓	✓
CCW-3C-0122	201446-01	1/31/22	10:15	✓	✓	✓	✓	✓	✓	✓
CCW-3A-0122	201446-02	1/31/22	11:45	✓	✓	✓	✓	✓	✓	✓
CCW-3B-0122	201446-03	1/31/22	13:25	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK 3-0122	201446-04	1/31/22	-	✓	-	-	-	✓	-	-
MW-4-0122	202021-01	1/31/22	15:45	✓	✓	✓	✓	✓	✓	✓
CCW-4C-0222	202021-02	1/31/22	10:05	✓	✓	✓	✓	✓	✓	✓
CCW-1C-0222	202021-03	1/31/22	12:00	✓	✓	✓	✓	✓	✓	✓
CCW-1B-0222	202021-04	1/31/22	13:45	✓	✓	✓	✓	✓	✓	✓
CCW-1A-0222	202021-05	1/31/22	15:00	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK 4-0222	202021-06	1/31/22	-	✓	-	-	-	✓	-	-
CCW-8B-0222	202037-01	2/2/22	09:45	✓	✓	✓	✓	✓	✓	✓
CCW-7C-0222	202037-02	2/2/22	11:30	✓	✓	✓	✓	✓	✓	✓
CCW-7B-0222	202037-03	2/2/22	12:45	✓	✓	✓	✓	✓	✓	✓
CCW-6C-0222	202037-04	2/2/22	14:45	✓	✓	✓	✓	✓	✓	✓
TRIP BLANK 5-0222	202037-05	2/2/22	-	✓	-	-	-	✓	-	-
FIELD BLANK 2-0222	202037-06	2/2/22	14:00	✓	✓	✓	✓	✓	✓	✓
CCW-6B-0222	202069-01	2/2/22	16:00	✓	✓	✓	✓	✓	✓	✓
CCW-9-6B-0222	202069-02	2/2/22	16:05	✓	✓	✓	✓	✓	✓	✓
TWA-4D-0222	202069-03	2/3/22	10:20	-	✓	✓	✓	-	-	-
TWA-8D-0222	202069-04	2/3/22	12:30	✓	✓	✓	✓	✓	✓	✓
TWA-7D-0222	202069-05	2/3/22	14:50	-	✓	✓	✓	-	-	-
TRIP BLANK 6-0222	202069-06	2/3/22	-	✓	-	-	-	✓	-	-
				30	26	26	26	30	24	24

Notes

Dx - diesel-range and oil-range hydrocarbons

Gx - gasoline-range hydrocarbons

NWTPH - Northwest Total Petroleum Hydrocarbons

PCBs - polychlorinated biphenyls

SVOC - semivolatile organic compound

VOC - volatile organic compound

WDOE - Washington Department of Ecology

* - samples for 8270E analyses were filtered at the laboratory

Table 2. Summary of Qualified Data

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
Diesel-Range Extended Hydrocarbons								
TWA-9D-0122	201265-01	Diesel Range Organics w/o SGT	140	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-2B-0122	201265-02	Diesel Range Organics w/o SGT	2300	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	900	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-9-2B-0122	201265-03	Diesel Range Organics w/o SGT	2500	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	1000	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-2A-0122	201287-01	Diesel Range Organics w/o SGT	2700	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	850	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-2C-0122	201287-02	Diesel Range Organics w/o SGT	550	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	340	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-5C-0122	201287-03	Diesel Range Organics w/o SGT	1800	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	570	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-5B-0122	201287-04	Diesel Range Organics w/o SGT	2400	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	940	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-3C-0122	201446-01	Diesel Range Organics w/o SGT	530	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-3A-0122	201446-02	Diesel Range Organics w/o SGT	11000	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	3300	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-3B-0122	201446-03	Diesel Range Organics w/o SGT	2700	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	880	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
MW-4-0122	202021-01	Diesel Range Organics w/o SGT	6900	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	3200	ug/L	250	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-4C-0222	202021-02	Diesel Range Organics w/o SGT	1000	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	340	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-1C-0222	202021-03	Diesel Range Organics w/o SGT	900	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	300	ug/L	300	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-1B-0222	202021-04	Diesel Range Organics w/o SGT	360	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-1A-0222	202021-05	Diesel Range Organics w/o SGT	210	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-8B-0222	202037-01	Diesel Range Organics w/o SGT	6100	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
	202037-01	Lube Oil w/o SGT	610	ug/L	250	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-7C-0222	202037-02	Diesel Range Organics w/o SGT	550	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-7B-0222	202037-03	Diesel Range Organics w/o SGT	1400	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
		Lube Oil w/o SGT	290	ug/L	250	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-6C-0222	202037-04	Diesel Range Organics w/o SGT	790	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-6B-0222	202069-01	Diesel Range Organics w/o SGT	780	ug/L	55	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-9-6B-0222	202069-02	Diesel Range Organics w/o SGT	660	ug/L	55	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
TWA-4D-0222	202069-03	Diesel Range Organics w/o SGT	240	ug/L	55	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-2B-0122	201265-02	Diesel Range Organics w/SGT	330	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-9-2B-0122	201265-03	Diesel Range Organics w/SGT	360	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
CCW-2A-0122	201287-01	Diesel Range Organics w/SGT	690	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
CCW-5B-0122	201287-04	Diesel Range Organics w/SGT	320	ug/L	60	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
MW-4-0122	202021-01	Diesel Range Organics w/SGT	350	ug/L	50	x	NJ	The sample chromatographic pattern does not resemble the fuel standard used for quantitation.
Polychlorinated Biphenyls								
TWA-9D-0122	201265-01	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-5B-0122	201287-04	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-3A-0122	201446-02-04	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.03	ug/L	0.004		J-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0067	ug/L	0.004		J-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-4C-0222	202021-02	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-1C-0222	202021-03	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-1B-0222	202021-04	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-1A-0222	202021-05	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-8B-0222	202037-01	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-7C-0222	202037-02	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-7B-0222	202037-03	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-6C-0222	202037-04	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
FIELD BLANK 2-0222	202037-06	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-6B-0222	202069-01	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
CCW-9-6B-0222	202069-02	PCB-Aroclor 1016	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1221	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1232	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1242	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1248	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1254	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1260	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1262	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
		PCB-Aroclor 1268	0.0035	ug/L	0.004	U	UJ-	Recovery of surrogate compound below lower control limit of 25%
Volatile Organic Compounds								
CCW-2C-0122	201287-02	Methylene chloride	8.9	ug/L	5		U	Detected in associated field blank at 8.9 ug/L
CCW-5C-0122	201287-03	Methylene chloride	8.9	ug/L	5		U	Detected in associated field blank at 8.9 ug/L
CCW-5B-0122	201287-04	Methylene chloride	8.9	ug/L	5		U	Detected in associated field blank at 8.9 ug/L
Semivolatile Organic Compounds								
TWA-9D-0122	201265-01	4-Nitrophenol	3 jl	ug/L	3	U	R	LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		Benzoic acid	5 jl ca	ug/L	5	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Phenol	1 jl	ug/L	1	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.37	ug/L	1.6	j fb	U	Detected in method blank at 0.12 ug/L
		2,4-Dinitrophenol	3 ca	ug/L	3 ca	U	UJ	Calibration results for this analyte was outside of acceptance criteria as noted by laboratory
CCW-2B-0122	201265-02	4-Nitrophenol	3 jl	ug/L	0.15	U	R	LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		Benzoic acid	5 jl ca	ug/L	0.25	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Phenol	1 jl	ug/L	0.05	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.4	ug/L	0.08	j fb	U	Detected in method blank at 0.12 ug/L
CCW-9-2B-0122	201265-03	4-Nitrophenol	3 jl	ug/L	0.15	U	R	LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		Benzoic acid	5 jl ca	ug/L	0.25	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Phenol	1 jl	ug/L	0.05	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.32	ug/L	0.08	j fb	U	Detected in method blank at 0.12 ug/L
CCW-2A-0122	201287-01	Phenol	1.2	ug/L	0.05	U	J-	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		4-Nitrophenol	3 jl	ug/L	0.15	U	R	LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		Benzoic acid	5 ca jl	ug/L	0.25	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Bis(2-ethylhexyl) phthalate	0.64	ug/L	0.08	fb	U	Detected in method blank at 0.12 ug/L and the field blank at 0.14 ug/L
		2,4-Dinitrophenol	3 ca	ug/L	3 ca	U	UJ	Calibration results for this analyte was outside of acceptance criteria as noted by laboratory

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		Di-n-octyl phthalate	1 ca	ug/L	1 ca	U	UJ	Calibration results for this analyte was outside of acceptance criteria as noted by laboratory
CCW-2C-0122	201287-02	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3 ca	ug/L	3 ca	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and calibration results for this analyte was outside of acceptance criteria as noted by laboratory
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3 jl	ug/L	0.15	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5 ca jl	ug/L	0.25	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1 jl	ug/L	0.05	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.18	ug/L	0.08	j fb	U	Detected in method blank at 0.12 ug/L and the field blank at 0.14 ug/L
CCW-5C-0122	201287-03	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3 ca	ug/L	3 ca	U	R	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and <10 percent and calibration results for this analyte was outside of acceptance criteria as noted by laboratory
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3 jl	ug/L	0.15	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5 ca jl	ug/L	0.25	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1 jl	ug/L	0.05	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.17	ug/L	0.08	j fb	U	Detected in method blank at 0.12 ug/L and the field blank at 0.14 ug/L
CCW-5B-0122	201287-04	1-Methylnaphthalene	6.9	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		1,2-Dichlorobenzene	0.45	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		1,4-Dichlorobenzene	0.32	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2-Methylnaphthalene	1.1	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Acenaphthene	1.2	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Anthracene	0.02	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Carbazole	0.3	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Dibenzofuran	0.41	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Fluoranthene	0.012	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Fluorene	0.74	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Naphthalene	1.8	ug/L	0.005		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Phenanthrene	0.18	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Pyrene	0.011	ug/L	5E-04		J-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dinitrophenol	3 ca	ug/L	3 ca	U	R	Recoveries of 2 of 3 acid surrogate compounds at lower control limit and <10 percent and calibration results for this analyte was outside of acceptance criteria as noted by laboratory
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3 jl	ug/L	0.15	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		Benzoic acid	5 ca jl	ug/L	0.25	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
		Pentachlorophenol	0.5	ug/L	0.5	U	R	
		Phenol	1 jl	ug/L	0.05	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent and LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
		Bis(2-ethylhexyl) phthalate	0.4	ug/L	0.08	j fb	UJ-	Detected in method blank at 0.12 ug/L and the field blank at 0.14 ug/L and recoveries of 2 of 3 base/neutral surrogate compounds at lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		1,3-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2-Chloronaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2-Nitroaniline	0.5	ug/L	0.5	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2,4-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		2,6-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		3-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		4-Chloroaniline	10	ug/L	10	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		4-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(b)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Benzyl alcohol	1	ug/L	1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethyl) ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Butylbenzyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Chrysene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-butyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-octyl phthalate	1 ca	ug/L	1 ca	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit and <10 percent and calibration results for this analyte was outside of acceptance criteria as noted by laboratory
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Diethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Dimethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorobutadiene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorocyclopentadiene	0.3	ug/L	0.3	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Isophorone	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 2 of 3 base/neutral surrogate compounds below lower control limit

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
FIELD BLANK 1-0122	201287-06	Bis(2-ethylhexyl) phthalate	0.14	ug/L	0.08	j fb	J	Lab flagged as estimated because also detected in method blank
		4-Nitrophenol	3 jl	ug/L	0.15	U	R	LCS and LCS duplicate percent recoveries and RPD were below lower control limits and recoveries were <10 percent.
		Benzoic acid	5 ca jl	ug/L	0.25	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent. Calibration results for this analyte was outside of acceptance criteria as noted by laboratory.
FIELD BLANK 1-0122	201287-06	Phenol	1 jl	ug/L	0.05	U	R	LCS and LCS duplicate percent recoveries were below lower control limits and recoveries were <10 percent.
CCW-3C-0122	201446-01	Bis(2-ethylhexyl) phthalate	0.27	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
CCW-3A-0122	201446-02	Bis(2-ethylhexyl) phthalate	0.75	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
CCW-3B-0122	201446-03	Bis(2-ethylhexyl) phthalate	0.19	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
MW-4-0122	202021-01	Bis(2-ethylhexyl) phthalate	1.1	ug/L	1.6	fb	U	Detected in method blank at 0.20 ug/L
CCW-4C-0222	202021-02	Acenaphthene	0.047	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Fluorene	0.013	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and/or <10 percent
		Bis(2-ethylhexyl) phthalate	0.2	ug/L	1.6	j fb	UJ-	Detected in method blank at 0.20 ug/L and recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1-Methylnaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,2-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,3-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,4-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Chloronaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Methylnaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Nitroaniline	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,4-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,6-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		3-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Chloroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(b)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzyl alcohol	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethyl) ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Butylbenzyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Carbazole	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		Chrysene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-butyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-octyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dibenzofuran	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Diethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dimethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorobutadiene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorocyclopentadiene	0.3	ug/L	0.3	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Isophorone	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Naphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Phenanthrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
CCW-1C-0222	202021-03	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Bis(2-ethylhexyl) phthalate	0.28	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
CCW-1B-0222	202021-04	Acenaphthene	0.59	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Fluoranthene	0.017	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Fluorene	0.089	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Phenanthrene	0.1	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Pyrene	0.012	ug/L	0.01		J-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Bis(2-ethylhexyl) phthalate	0.38	ug/L	1.6	j fb	UJ-	Detected in method blank at 0.20 ug/L and recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1-Methylnaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
		1,2-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,2,4-Trichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,3-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		1,4-Dichlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Chloronaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Methylnaphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2-Nitroaniline	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,2'-Oxybis(1-chloropropane)	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,4-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		2,6-Dinitrotoluene	0.5	ug/L	0.5	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		3-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Bromophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Chloroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Chlorophenyl phenyl ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		4-Nitroaniline	10	ug/L	10	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Acenaphthylene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benz[a]anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(a)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(b)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(ghi)perylene	0.02	ug/L	0.02	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzo(k)fluoranthene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Benzyl alcohol	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethoxy)methane	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Bis(2-chloroethyl) ether	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Butylbenzyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Carbazole	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Chrysene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-butyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Di-n-octyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dibenzo(a,h)anthracene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dibenzofuran	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Diethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Dimethyl phthalate	1	ug/L	1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachlorocyclopentadiene	0.3	ug/L	0.3	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Hexachloroethane	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Indeno(1,2,3-cd)pyrene	0.01	ug/L	0.01	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Isophorone	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitroso-di-n-propylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		N-Nitrosodiphenylamine	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Naphthalene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
		Nitrobenzene	0.1	ug/L	0.1	U	UJ-	Recoveries of 3 of 3 base/neutral surrogate compounds below lower control limit
CCW-1A-0222	202021-05	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 3 of 3 acid surrogate compounds below lower control limit and <10 percent
		Bis(2-ethylhexyl) phthalate	0.33	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L

Table 2, continued

Sample ID	Laboratory ID	Chemical	Concentration	Units	RL	Lab Qualifier	Final DV Qualifier	Reason for Qualification
CCW-8B-0222	202037-01	Bis(2-ethylhexyl) phthalate	0.38	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L and the field blank at 0.38 ug/L
CCW-7C-0222	202037-02	Bis(2-ethylhexyl) phthalate	0.38	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L and the field blank at 0.38 ug/L
CCW-7B-0222	202037-03	Bis(2-ethylhexyl) phthalate	0.38	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L and the field blank at 0.38 ug/L
CCW-6C-0222	202037-04	Bis(2-ethylhexyl) phthalate	0.39	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L and the field blank at 0.38 ug/L
FIELD BLANK 2-0222	202037-06	Bis(2-ethylhexyl) phthalate	0.38	ug/L	1.6	j fb	J	Lab flagged as estimated because also detected in method blank
CCW-6B-0222	202069-01	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Bis(2-ethylhexyl) phthalate	0.2	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
CCW-9-6B-0222	202069-02	Bis(2-ethylhexyl) phthalate	0.2	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L
CWA-8D-0222	202069-04	2-Chlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2-Nitrophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dimethylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4-Dinitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,5-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		2,4,6-Trichlorophenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		3-Methylphenol + 4-Methylpheno	2	ug/L	2	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Chloro-3-methylphenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4-Nitrophenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		4,6-Dinitro-2-methylphenol	3	ug/L	3	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Benzoic acid	5	ug/L	5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Pentachlorophenol	0.5	ug/L	0.5	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Phenol	1	ug/L	1	U	R	Recoveries of 2 of 3 acid surrogate compounds below lower control limit and <10 percent
		Bis(2-ethylhexyl) phthalate	0.2	ug/L	1.6	j fb	U	Detected in method blank at 0.20 ug/L

Notes:

Data Validation Assigned Data Qualifiers and Definitions

J = estimated
J- = estimated with negative bias
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

Total results qualified "J" =	2
Total results qualified "J-" =	23
Total results qualified "NJ"	40
Total results qualified "UJ"	3
Total results qualified "UJ-"	256
Total results qualified "U"	22
Total results qualified "R"	149

Assigned Data Qualifiers and Definitions

ca = calibration results for this analyte were outside of acceptance criteria; result is an estimate

fb = The analyte was detected in the method blank.
j = The analyte concentration is reported below the lowest calibration standard. The value reported 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.
x = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

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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March 25, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

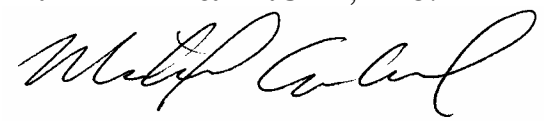
Dear Ms Hackett:

Included is the amended report from the testing of material submitted on January 24, 2022 from the TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329 project. A "j" qualifier was added to the bis(2-ethylhexyl) phthalate for sample TWA-3-0122. In addition, the trip blank sample IDs were updated.

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: Julianna Wetmore, Carolyn Wise
MFA0208R.DOC

FRIEDMAN & BRUYA, INC.

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February 8, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

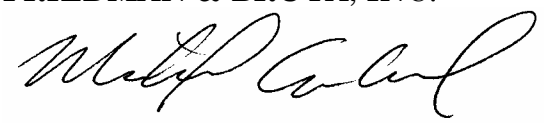
Dear Ms Hackett:

Included are the results from the testing of material submitted on January 24, 2022 from the TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329 project. There are 40 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
MFA0208R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 24, 2022 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
201329 -01	TWA-1-0122
201329 -02	TWA-2-0122
201329 -03	TWA-3-0122
201329 -04	Trip Blank #1-0122
201329 -05	Trip Blank #2-0122

The NWTPH-Gx reporting limit for sample TWA-3-0122 was raised due to the dilution necessary due to the matrix (foamy).

Methylene chloride was detected in the 8260D analysis of samples TWA-1-0122, TWA-2-0122, TWA-3-0122, and Trip Blank #2-0122. The data were flagged as due to laboratory contamination.

The 8270E calibration standard, matrix spike, and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

The 8270E bis(2-ethylhexyl) phthalate reporting limits for samples TWA-1-0122, TWA-2-0122, and TWA-3-0122 is 1.6 ug/L. The results were reported between the method detection limit and the reporting limit.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged as a common field and laboratory contaminant.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8082 matrix spike and matrix spike duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-1-0122 201329-01	<100	96
TWA-2-0122 201329-02	<100	91
TWA-3-0122 201329-03 1/5	<500	92
Trip Blank #1-0122 201329-04	<100	92
Trip Blank #2-0122 201329-05	<100	92
Method Blank 02-0161 MB	<100	94

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-1-0122 201329-01	<50	<250	130
TWA-2-0122 201329-02	<50	<250	138
TWA-3-0122 201329-03	<50	<250	131
Method Blank 02-250 MB	<50	<250	128

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329
Date Extracted: 01/27/22
Date Analyzed: 01/27/22

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-1-0122 201329-01	860 x	460 x	129
TWA-2-0122 201329-02	150 x	<250	136
TWA-3-0122 201329-03	220 x	420 x	134
Method Blank 02-250 MB	<50	<250	118

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-01
Date Analyzed:	01/27/22	Data File:	201329-01.124
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.59
Cadmium	<1
Chromium	<1
Copper	1.98
Lead	<1
Nickel	4.81
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-01 x10
Date Analyzed:	01/27/22	Data File:	201329-01 x10.154
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Manganese	1,870

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-2-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-02
Date Analyzed:	01/27/22	Data File:	201329-02.125
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	22.1
Cadmium	<1
Chromium	<1
Copper	1.39
Lead	<1
Manganese	433
Nickel	6.12
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-3-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-03
Date Analyzed:	01/27/22	Data File:	201329-03.126
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	11.4
Cadmium	<1
Chromium	1.87
Copper	2.90
Lead	<1
Manganese	457
Nickel	6.85
Zinc	<5

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 201329
Date Extracted:	01/27/22	Lab ID:	I2-71 mb
Date Analyzed:	01/28/22	Data File:	I2-71 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<1
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-1-0122 201329-01	<0.02
TWA-2-0122 201329-02	<0.02
TWA-3-0122 201329-03	<0.02
Method Blank i2-72 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	02/01/22	Lab ID:	201329-01
Date Analyzed:	02/01/22	Data File:	020109.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	98	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.34	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	10	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-2-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	02/01/22	Lab ID:	201329-02
Date Analyzed:	02/01/22	Data File:	020110.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	94	87	115
4-Bromofluorobenzene	97	92	112

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:	TWA-3-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	02/01/22	Lab ID:	201329-03
Date Analyzed:	02/02/22	Data File:	020243.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	96	92	112

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:	Trip Blank #1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	02/01/22	Lab ID:	201329-04
Date Analyzed:	02/01/22	Data File:	020112.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	96	92	112

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:	Trip Blank #2-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	02/01/22	Lab ID:	201329-05
Date Analyzed:	02/01/22	Data File:	020113.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	78	126
Toluene-d8	99	87	115
4-Bromofluorobenzene	98	92	112

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	5.2 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 201329
Date Extracted:	02/01/22	Lab ID:	02-226 mb
Date Analyzed:	02/01/22	Data File:	020107.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	99	92	112

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-1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/31/22	Lab ID:	201329-01
Date Analyzed:	01/31/22	Data File:	013118.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	88	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	104	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.65

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-2-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/31/22	Lab ID:	201329-02
Date Analyzed:	01/31/22	Data File:	013119.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	103	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-3-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/31/22	Lab ID:	201329-03
Date Analyzed:	01/31/22	Data File:	013120.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	93	50	150
Toluene-d8	105	50	150
4-Bromofluorobenzene	105	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 201329
Date Extracted:	01/31/22	Lab ID:	02-0223 mb
Date Analyzed:	01/31/22	Data File:	013106.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	103	50	150
4-Bromofluorobenzene	101	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-1-0122 f	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/25/22	Lab ID:	201329-01 1/0.5
Date Analyzed:	01/26/22	Data File:	012618.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	10 ip	11	65
Phenol-d6	8 ip	11	65
Nitrobenzene-d5	58	50	150
2-Fluorobiphenyl	58	44	108
2,4,6-Tribromophenol	32	10	140
Terphenyl-d14	60	50	150

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	0.41
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1	Diethyl phthalate	<1
2-Methylphenol	<1	Fluorene	0.28
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 jl	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	0.32 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-2-0122 f	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/25/22	Lab ID:	201329-02 1/0.5
Date Analyzed:	01/26/22	Data File:	012619.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	83	50	150
2-Fluorobiphenyl	80	44	108
2,4,6-Tribromophenol	72	10	140
Terphenyl-d14	82	50	150

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	0.015
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl	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
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	0.41 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-3-0122 f	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/25/22	Lab ID:	201329-03 1/0.5
Date Analyzed:	01/26/22	Data File:	012620.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	12	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	74	50	150
2-Fluorobiphenyl	75	44	108
2,4,6-Tribromophenol	73	10	140
Terphenyl-d14	80	50	150

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 ca
1,4-Dichlorobenzene	<0.1	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1	4-Nitrophenol	<3 jl
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 jl	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	0.69 j fb
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/25/22	Lab ID:	02-245 mb2 1/0.5
Date Analyzed:	01/26/22	Data File:	012609.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	8 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	85	44	108
2,4,6-Tribromophenol	86	10	140
Terphenyl-d14	89	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js jl	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3 ca
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3 jl
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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 jl	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	0.28 j lc
Hexachlorocyclopentadiene	<0.3	Di-n-octyl phthalate	<1 ca
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-1-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-01 1/0.25
Date Analyzed:	01/28/22	Data File:	012827.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	34	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:	TWA-2-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-02 1/0.25
Date Analyzed:	01/28/22	Data File:	012828.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	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:	TWA-3-0122	Client:	Maul Foster Alongi
Date Received:	01/24/22	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	201329-03 1/0.25
Date Analyzed:	01/28/22	Data File:	012829.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	35	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:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201329
Date Extracted:	01/27/22	Lab ID:	02-254 mb 1/0.25
Date Analyzed:	01/28/22	Data File:	012822.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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

Laboratory Code: 201323-01 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

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: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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	112	120	63-142	7

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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	108	108	63-142	0

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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

Laboratory Code: 201356-02 (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	1.37	104	105	75-125	1
Cadmium	ug/L (ppb)	5	<1	101	104	75-125	3
Chromium	ug/L (ppb)	20	<1	101	99	75-125	2
Copper	ug/L (ppb)	20	<5	95	93	75-125	2
Lead	ug/L (ppb)	10	<1	90	90	75-125	0
Manganese	ug/L (ppb)	20	154	86 b	69 b	75-125	22 b
Nickel	ug/L (ppb)	20	4.35	100	99	75-125	1
Zinc	ug/L (ppb)	50	<5	91	89	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	101	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	97	80-120
Nickel	ug/L (ppb)	20	97	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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

Laboratory Code: 201265-01 (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	85	85	71-125	1

Laboratory Code: 201356-02 (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	91	91	71-125	0

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	99	103	78-125	4

Date of Report: 02/08/22
Date Received: 01/24/22
Project: TWAAFA - Groundwater Sampling 0615.20.04-03, F&BI 201329

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

Laboratory Code: 201329-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	93	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	0.34	94	50-150
Bromomethane	ug/L (ppb)	10	<5	112	50-150
Chloroethane	ug/L (ppb)	10	<1	107	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	103	50-150
Acetone	ug/L (ppb)	50	<50	88	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Hexane	ug/L (ppb)	10	<5	100	50-150
Methylene chloride	ug/L (ppb)	10	10	115 b	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	118	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
Chloroform	ug/L (ppb)	10	<1	98	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	102	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	0.26	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	97	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	104	50-150
Benzene	ug/L (ppb)	10	10	92 b	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	105	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	95	50-150
Dibromomethane	ug/L (ppb)	10	<1	102	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	102	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	93	50-150
Toluene	ug/L (ppb)	10	<1	109	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	102	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	101	50-150
2-Hexanone	ug/L (ppb)	50	<10	99	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	111	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	106	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	101	50-150
Chlorobenzene	ug/L (ppb)	10	<1	101	50-150
Ethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	107	50-150
m,p-Xylene	ug/L (ppb)	20	<2	106	50-150
o-Xylene	ug/L (ppb)	10	<1	106	50-150
Styrene	ug/L (ppb)	10	<1	110	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	112	50-150
Bromoform	ug/L (ppb)	10	<5	105	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	90	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	92	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	100	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	100	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	109	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	102	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	105	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	101	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	103	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	106	50-150
Naphthalene	ug/L (ppb)	10	<1	98	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	104	50-150

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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	105	107	46-206	2
Chloromethane	ug/L (ppb)	10	98	102	70-142	4
Vinyl chloride	ug/L (ppb)	10	89	90	70-130	1
Bromomethane	ug/L (ppb)	10	100	96	56-197	4
Chloroethane	ug/L (ppb)	10	96	98	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	84	86	70-130	2
Acetone	ug/L (ppb)	50	90	91	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	94	106	70-130	12
Hexane	ug/L (ppb)	10	97	100	54-136	3
Methylene chloride	ug/L (ppb)	10	107	116	43-134	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	100	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	94	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	95	97	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	83	85	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	95	70-130	2
Chloroform	ug/L (ppb)	10	93	97	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	103	97	17-154	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	107	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	96	98	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	94	95	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	96	98	70-130	2
Benzene	ug/L (ppb)	10	91	93	70-130	2
Trichloroethene	ug/L (ppb)	10	99	101	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	100	103	70-130	3
Bromodichloromethane	ug/L (ppb)	10	92	110	70-130	18
Dibromomethane	ug/L (ppb)	10	95	99	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	100	106	68-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	97	98	69-131	1
Toluene	ug/L (ppb)	10	102	102	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	99	98	70-130	1
2-Hexanone	ug/L (ppb)	50	96	96	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	94	96	70-130	2
Tetrachloroethene	ug/L (ppb)	10	104	104	70-130	0
Dibromochloromethane	ug/L (ppb)	10	105	104	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	100	100	70-130	0
Chlorobenzene	ug/L (ppb)	10	95	97	70-130	2
Ethylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	96	97	70-130	1
m,p-Xylene	ug/L (ppb)	20	97	97	70-130	0
o-Xylene	ug/L (ppb)	10	95	96	70-130	1
Styrene	ug/L (ppb)	10	106	107	70-130	1
Isopropylbenzene	ug/L (ppb)	10	100	99	70-130	1
Bromoform	ug/L (ppb)	10	109	105	69-138	4
n-Propylbenzene	ug/L (ppb)	10	91	92	70-130	1
Bromobenzene	ug/L (ppb)	10	89	89	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	104	98	70-130	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	87	88	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	88	89	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	92	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	99	95	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	93	94	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	102	102	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	99	100	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	93	94	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	91	91	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	93	92	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	93	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	99	100	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	99	100	70-130	1
Naphthalene	ug/L (ppb)	10	94	94	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	103	104	70-130	1

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

Laboratory Code: 201356-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
1,4-Dioxane	ug/L (ppb)	2	<0.4	129	50-150

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	99	105	70-130	6

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

Laboratory Code: 201265-01 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	9 vo	10 vo	50-150	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2-Chlorophenol	ug/L (ppb)	2.5	<1	44 vo	48 vo	50-150	9
1,3-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
1,4-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	72	69	50-150	4
1,2-Dichlorobenzene	ug/L (ppb)	2.5	<0.1	73	70	50-150	4
Benzyl alcohol	ug/L (ppb)	13	<1	29 vo	30 vo	50-150	3
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	<0.1	77	75	50-150	3
2-Methylphenol	ug/L (ppb)	2.5	<1	36 vo	36 vo	50-150	0
Hexachloroethane	ug/L (ppb)	2.5	<0.1	68	68	50-150	0
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	<0.1	84	83	50-150	1
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	<2	29 vo	30 vo	50-150	3
Nitrobenzene	ug/L (ppb)	2.5	<0.1	77	81	50-150	5
Isophorone	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2-Nitrophenol	ug/L (ppb)	2.5	<1	61	69	50-150	12
2,4-Dimethylphenol	ug/L (ppb)	2.5	<1	48 vo	53	50-150	10
Benzoic acid	ug/L (ppb)	20	<5	0 vo	0 vo	50-150	nm
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	<0.1	81	85	50-150	5
2,4-Dichlorophenol	ug/L (ppb)	2.5	<1	57	63	50-150	10
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	<0.1	70	71	50-150	1
Naphthalene	ug/L (ppb)	2.5	<0.1	73	73	50-150	0
Hexachlorobutadiene	ug/L (ppb)	2.5	<0.1	63	63	50-150	0
4-Chloroaniline	ug/L (ppb)	13	<10	38 vo	48 vo	50-150	23 vo
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	<1	54	56	50-150	4
2-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	71	69	50-150	3
1-Methylnaphthalene	ug/L (ppb)	2.5	<0.1	73	71	50-150	3
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	<0.3	69	77	50-150	11
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	<1	43 vo	53	50-150	21 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	<1	53	64	50-150	19
2-Chloronaphthalene	ug/L (ppb)	2.5	<0.1	75	76	50-150	1
2-Nitroaniline	ug/L (ppb)	13	<0.5	80	85	50-150	6
Dimethyl phthalate	ug/L (ppb)	2.5	<1	84	85	50-150	1
Acenaphthylene	ug/L (ppb)	2.5	<0.01	75	76	50-150	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	84	89	50-150	6
3-Nitroaniline	ug/L (ppb)	13	<10	55	66	50-150	18
Acenaphthene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
2,4-Dinitrophenol	ug/L (ppb)	5	<3	11 vo	13 vo	50-150	17
Dibenzofuran	ug/L (ppb)	2.5	<0.1	80	80	50-150	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	<0.5	70	73	50-150	4
4-Nitrophenol	ug/L (ppb)	5	<3	4 vo	5 vo	50-150	22 vo
Diethyl phthalate	ug/L (ppb)	2.5	<1	79	83	50-150	5
Fluorene	ug/L (ppb)	2.5	<0.01	78	78	50-150	0
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	73	74	50-150	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	<0.1	78	79	50-150	1
4-Nitroaniline	ug/L (ppb)	13	<10	62	69	50-150	11
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	<3	33 vo	42 vo	50-150	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	<0.1	74	74	50-150	0
Hexachlorobenzene	ug/L (ppb)	2.5	<0.1	66	66	50-150	0
Pentachlorophenol	ug/L (ppb)	2.5	<0.5	29 vo	37 vo	50-150	24 vo
Phenanthrene	ug/L (ppb)	2.5	<0.01	76	77	50-150	1
Anthracene	ug/L (ppb)	2.5	<0.01	74	73	50-150	1
Carbazole	ug/L (ppb)	2.5	<0.1	83	84	50-150	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	<1	82	85	50-150	4
Fluoranthene	ug/L (ppb)	2.5	<0.01	75	74	50-150	1
Pyrene	ug/L (ppb)	2.5	<0.01	80	74	50-150	8
Benzyl butyl phthalate	ug/L (ppb)	2.5	<1	71	71	50-150	0
Benz(a)anthracene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Chrysene	ug/L (ppb)	2.5	<0.01	69	72	50-150	4
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	<1.6	55	66	50-150	18
Di-n-octyl phthalate	ug/L (ppb)	2.5	<1	43 vo	49 vo	50-150	13
Benzo(a)pyrene	ug/L (ppb)	2.5	<0.01	60	64	50-150	6
Benzo(b)fluoranthene	ug/L (ppb)	2.5	<0.01	68	70	50-150	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	<0.01	65	69	50-150	6
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	<0.01	71	76	50-150	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	<0.01	73	80	50-150	9
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	<0.02	74	81	50-150	9

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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)	2.5	9 vo	10	10-86	11
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	82	82	60-88	0
2-Chlorophenol	ug/L (ppb)	2.5	41	47	10-89	14
1,3-Dichlorobenzene	ug/L (ppb)	2.5	81	79	48-91	2
1,4-Dichlorobenzene	ug/L (ppb)	2.5	81	80	48-91	1
1,2-Dichlorobenzene	ug/L (ppb)	2.5	81	80	52-92	1
Benzyl alcohol	ug/L (ppb)	13	26	28	10-72	7
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	82	82	59-86	0
2-Methylphenol	ug/L (ppb)	2.5	32	35	10-75	9
Hexachloroethane	ug/L (ppb)	2.5	82	81	47-92	1
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	84	91	70-130	8
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	25	27	10-66	8
Nitrobenzene	ug/L (ppb)	2.5	79	80	60-90	1
Isophorone	ug/L (ppb)	2.5	85	92	70-130	8
2-Nitrophenol	ug/L (ppb)	2.5	59	73	27-104	21 vo
2,4-Dimethylphenol	ug/L (ppb)	2.5	52	58	10-84	11
Benzoic acid	ug/L (ppb)	20	3 vo	3 vo	10-102	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	84	87	55-103	4
2,4-Dichlorophenol	ug/L (ppb)	2.5	56	66	23-103	16
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	80	80	56-93	0
Naphthalene	ug/L (ppb)	2.5	83	81	62-90	2
Hexachlorobutadiene	ug/L (ppb)	2.5	74	72	48-85	3
4-Chloroaniline	ug/L (ppb)	13	49	53	35-108	8
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	53	59	18-109	11
2-Methylnaphthalene	ug/L (ppb)	2.5	81	82	64-93	1
1-Methylnaphthalene	ug/L (ppb)	2.5	83	85	64-93	2
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	91	85	49-112	7
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	52	72	16-112	32 vo
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	60	75	26-113	22 vo
2-Chloronaphthalene	ug/L (ppb)	2.5	85	85	67-97	0
2-Nitroaniline	ug/L (ppb)	13	81	84	31-168	4
Dimethyl phthalate	ug/L (ppb)	2.5	93	93	70-130	0
Acenaphthylene	ug/L (ppb)	2.5	85	86	70-130	1
2,6-Dinitrotoluene	ug/L (ppb)	2.5	92	93	70-130	1
3-Nitroaniline	ug/L (ppb)	13	59	62	33-120	5
Acenaphthene	ug/L (ppb)	2.5	87	88	70-130	1
2,4-Dinitrophenol	ug/L (ppb)	5	36	50	10-120	33 vo
Dibenzofuran	ug/L (ppb)	2.5	82	82	67-107	0
2,4-Dinitrotoluene	ug/L (ppb)	2.5	83	83	53-132	0
4-Nitrophenol	ug/L (ppb)	5	5 vo	8 vo	10-89	46 vo
Diethyl phthalate	ug/L (ppb)	2.5	98	97	70-130	1
Fluorene	ug/L (ppb)	2.5	92	91	70-130	1
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	88	89	70-130	1
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	85	87	70-130	2
4-Nitroaniline	ug/L (ppb)	13	57	61	32-122	7
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	54	70	10-139	26 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	86	86	70-130	0
Hexachlorobenzene	ug/L (ppb)	2.5	78	78	65-95	0
Pentachlorophenol	ug/L (ppb)	2.5	55	73	10-129	28 vo
Phenanthrene	ug/L (ppb)	2.5	90	89	70-130	1
Anthracene	ug/L (ppb)	2.5	87	89	70-130	2
Carbazole	ug/L (ppb)	2.5	94	93	70-130	1
Di-n-butyl phthalate	ug/L (ppb)	2.5	87	101	28-147	15
Fluoranthene	ug/L (ppb)	2.5	96	93	70-130	3
Pyrene	ug/L (ppb)	2.5	91	92	70-130	1
Benzyl butyl phthalate	ug/L (ppb)	2.5	85	84	34-142	1
Benz(a)anthracene	ug/L (ppb)	2.5	92	90	70-130	2
Chrysene	ug/L (ppb)	2.5	91	90	70-130	1
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	98	95	53-133	3
Di-n-octyl phthalate	ug/L (ppb)	2.5	71	69	49-119	3
Benzo(a)pyrene	ug/L (ppb)	2.5	84	84	70-130	0
Benzo(b)fluoranthene	ug/L (ppb)	2.5	94	91	70-130	3
Benzo(k)fluoranthene	ug/L (ppb)	2.5	91	92	70-130	1
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	86	92	70-130	7
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	90	92	70-130	2
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	90	91	70-130	1

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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: 201265-01 1/0.25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	<0.0038	29 vo	23 vo	50-150	23 vo
Aroclor 1260	ug/L (ppb)	0.063	<0.0038	38 vo	31 vo	50-150	20

Laboratory Code: 201356-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	33	49	50-150	39 vo
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	46	64	50-150	32 vo

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	44	25-165
Aroclor 1260	ug/L (ppb)	0.063	55	25-163

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.

201329

SAMPLE CH N OF CUSTODY

1-24-22

D01 IVW3 AIS

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	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	Total Metals by 6020/1631E	Mercury by 1613E	1,4-Dioxane - 8260D		Notes
						ANALYSES REQUESTED										
TWA-1-0122	01A-P	1/24/22	1100	W	16	X	X	X	X	X	X	X	X	X		
TWA-2-0122	02	"	1105	"	16	X	X	X	X	X	X	X	X	X		
TWA-3-0122	03	"	1250	"	16	X	X	X	X	X	X	X	X	X		
Trip Blank #1-0122	04 A/B	"	N/A	"	1			X	X							
Trip Blank #2-0122	05	1/24/22	N/A	"	1			X	X							

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Evelyn Lundeen	MFA	01/24/22	1400
Received by:	[illegible]	FBI	1/24/22	1400
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 # 201329 CLIENT Maul Foster INITIALS: RV DATE: 1/24/22

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 _____ 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	☐ 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? (explain "no" answer below)		☒ YES	☐ NO
If custody seals are present on samples, are they intact?	☒ NA	☐ YES	☐ NO
Are samples requiring no headspace, headspace free?	TWC 1/25/22 ~~☒ 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)

2 VOA's recieved for trip blanks

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

March 25, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

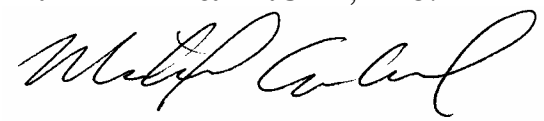
Dear Ms Hackett:

Included is the amended report from the testing of material submitted on January 25, 2022 from the TWAAFA-0615.20.04-03, F&BI 201356 project. "j" qualifiers were added to the bis(2-ethylhexyl) phthalate results below the 1.6 ug/L reporting limit. In addition, the Trip Blank and Field Blank sample IDs have been updated.

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
MFA0208R.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

February 8, 2022

Audrey Hackett, Project Manager
Maul Foster Alongi
2815 2nd Ave, Suite 540
Seattle, WA 98121

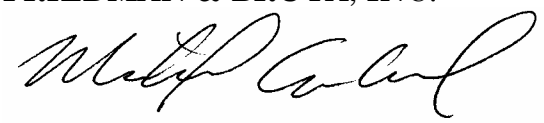
Dear Ms Hackett:

Included are the results from the testing of material submitted on January 25, 2022 from the TWAAFA-0615.20.04-03, F&BI 201356 project. There are 78 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
MFA0208R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on January 25, 2022 by Friedman & Bruya, Inc. from the Maul Foster Alongi TWAAFA-0615.20.04-03, F&BI 201356 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Maul Foster Alongi
201356 -01	TWA-10-0122
201356 -02	SB-1A-0122
201356 -03	SB-2A-0122
201356 -04	Field Blank #1-0122
201356 -05	MW-1-0122
201356 -06	SB-3A-0122
201356 -07	SB-9-3A-0122
201356 -08	Trip Blank #3-0122
201356 -09	Trip Blank #4-0122
201356 -10	TWA-5-0122
201356 -11	TWA-6-0122
201356 -12	Trip Blank #3-0122
201356 -13	Trip Blank #4-0122

Methylene chloride was detected in the 8260D analysis of samples TWA-10-0122, SB-1A-0122, SB-2A-0122, Field Blank #1-0122, MW-1-0122, SB-3A-0122, SB-9-3A-0122, TWA-5-0122, TWA-6-0122, and Trip Blank #3-0122. The data were flagged as due to laboratory contamination.

The 8270E calibration standard, matrix spike, and matrix spike duplicate failed the acceptance criteria for several analytes. The data were flagged accordingly.

Bis(2-ethylhexyl)phthalate was detected in the 8270 method blank and samples. The data were flagged as a common field and laboratory contaminant.

The 8270E bis(2-ethylhexyl) phthalate reporting limits for samples TWA-10-0122, SB-1A-0122, SB-2A-0122, Field Blank #1-0122, MW-1-0122, SB-3A-0122, SB-9-3A-0122, TWA-5-0122, and TWA-6-0122 is 1.6 ug/L. The results were reported between the method detection limit and the reporting limit.

An 8270 surrogate in the method blank did not pass the acceptance criteria. The affected compounds were qualified accordingly.

The 8270D samples were filtered at Friedman and Bruya on January 28, 2022 prior to extraction.

The 8082 matrix spike and matrix spike duplicate failed the relative percent difference for Aroclor 1016 and 1260. PCBs were not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356
Date Extracted: 01/27/22
Date Analyzed: 01/27/22 and 01/31/22

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-10-0122 201356-01	<100	99
SB-1A-0122 201356-02	<100	93
SB-2A-0122 201356-03	<100	92
Field Blank #1-0122 201356-04	<100	92
MW-1-0122 201356-05	200	95
SB-3A-0122 201356-06	<100	93
SB-9-3A-0122 201356-07	<100	92
Trip Blank #3-0122 201356-08	<100	89
Trip Blank #4-0122 201356-09	<100	89
TWA-5-0122 201356-10	<100	94
TWA-6-0122 201356-11	<100	91

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356
Date Extracted: 01/27/22
Date Analyzed: 01/27/22 and 01/31/22

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 #3-0122 201356-12	<100	88
Trip Blank #4-0122 201356-13	<100	89
Method Blank 02-0160 MB	<100	93

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356
Date Extracted: 01/28/22
Date Analyzed: 02/02/22

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-10-0122 201356-01	<50	<250	118
SB-1A-0122 201356-02	<50	<250	120
SB-2A-0122 201356-03	<50	<250	108
Field Blank #1-0122 201356-04	<50	<250	123
MW-1-0122 201356-05	810 x	380 x	104
SB-3A-0122 201356-06	<50	<250	120
SB-9-3A-0122 201356-07	<50	<250	116
TWA-5-0122 201356-10	<50	<250	103
TWA-6-0122 201356-11	<50	<250	ip
Method Blank 02-0259 MB	<50	<250	126

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356
Date Extracted: 01/28/22
Date Analyzed: 01/28/22

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-10-0122 201356-01	750 x	<250	135
SB-1A-0122 201356-02	<50	<250	122
SB-2A-0122 201356-03	<50	<250	111
Field Blank #1-0122 201356-04	<50	<250	119
MW-1-0122 201356-05	9,600 x	1,800 x	141
SB-3A-0122 201356-06	670 x	380 x	129
SB-9-3A-0122 201356-07	560 x	300 x	133
TWA-5-0122 201356-10	4,900 x	3,500 x	107
TWA-6-0122 201356-11	390 x	<250	44
Method Blank 02-259 MB	<50	<250	140

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-01
Date Analyzed:	01/27/22	Data File:	201356-01.127
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	6.12
Copper	1.82
Manganese	93.5
Nickel	2.70
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-10-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-01 x10
Date Analyzed:	01/27/22	Data File:	201356-01 x10.157
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	12.8
Cadmium	<10
Lead	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-1A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-02
Date Analyzed:	01/27/22	Data File:	201356-02.128
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.37
Cadmium	<1
Chromium	<1
Copper	3.23
Lead	<1
Manganese	154
Nickel	4.35
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-2A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-03
Date Analyzed:	01/27/22	Data File:	201356-03.133
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	2.31
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<1
Manganese	359
Nickel	4.37
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	Field Blank #1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-04
Date Analyzed:	01/27/22	Data File:	201356-04.134
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<0.5
Cadmium	<1
Chromium	<1
Copper	3.82
Lead	<1
Manganese	<1
Nickel	<1
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-05
Date Analyzed:	01/27/22	Data File:	201356-05.135
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	3.99
Cadmium	<1
Chromium	1.35
Copper	6.17
Lead	1.25
Manganese	186
Nickel	2.97
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-06
Date Analyzed:	01/27/22	Data File:	201356-06.145
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.54
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<1
Manganese	206
Nickel	2.86
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	SB-9-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-07
Date Analyzed:	01/27/22	Data File:	201356-07.146
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	1.51
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<1
Manganese	205
Nickel	2.88
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-10
Date Analyzed:	01/27/22	Data File:	201356-10.147
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Chromium	6.46
Copper	1.08
Lead	<1
Manganese	170
Nickel	1.59
Zinc	<5

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-5-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-10 x10
Date Analyzed:	01/27/22	Data File:	201356-10 x10.172
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	6.77
Cadmium	<10

Analysis For Total Metals By EPA Method 6020B

Client ID:	TWA-6-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-11
Date Analyzed:	01/27/22	Data File:	201356-11.148
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	10.1
Cadmium	<1
Chromium	29.1
Copper	2.40
Lead	<1
Manganese	811
Nickel	2.75
Zinc	<5

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 201356
Date Extracted:	01/27/22	Lab ID:	I2-71 mb
Date Analyzed:	01/28/22	Data File:	I2-71 mb.070
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
Arsenic	<0.5
Cadmium	<1
Chromium	<1
Copper	<0.4
Lead	<0.5
Manganese	<1
Nickel	<1
Zinc	<5

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356
Date Extracted: 01/27/22
Date Analyzed: 01/28/22

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-10-0122 201356-01	<0.02
SB-1A-0122 201356-02	<0.02
SB-2A-0122 201356-03	<0.02
Field Blank #1-0122 201356-04	<0.02
MW-1-0122 201356-05	<0.02
SB-3A-0122 201356-06	<0.02
SB-9-3A-0122 201356-07	<0.02
TWA-5-0122 201356-10	<0.02
TWA-6-0122 201356-11	<0.02
Method Blank i2-72 MB	<0.02

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	TWA-10-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-01
Date Analyzed:	02/03/22	Data File:	020335.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	88 ip	92	112

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	<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-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-02
Date Analyzed:	02/02/22	Data File:	020229.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	98	92	112

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	8.6 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-2A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-03
Date Analyzed:	02/02/22	Data File:	020233.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	115	78	126
Toluene-d8	94	87	115
4-Bromofluorobenzene	95	92	112

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	5.9 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:	Field Blank #1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-04
Date Analyzed:	02/02/22	Data File:	020234.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	109	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	97	92	112

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	7.8 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:	MW-1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-05
Date Analyzed:	02/03/22	Data File:	020336.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	90 ip	92	112

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.033	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	29	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-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-06
Date Analyzed:	02/02/22	Data File:	020239.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	93	87	115
4-Bromofluorobenzene	96	92	112

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	8.5 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:	SB-9-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-07
Date Analyzed:	02/02/22	Data File:	020240.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	108	78	126
Toluene-d8	98	87	115
4-Bromofluorobenzene	96	92	112

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	8.7 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:	Trip Blank #3-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-08
Date Analyzed:	02/01/22	Data File:	020128.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	115	78	126
Toluene-d8	97	87	115
4-Bromofluorobenzene	97	92	112

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:	Trip Blank #4-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-09
Date Analyzed:	02/01/22	Data File:	020129.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	112	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	94	92	112

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-5-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-10
Date Analyzed:	02/02/22	Data File:	020241.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	95	92	112

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:	TWA-6-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-11
Date Analyzed:	02/02/22	Data File:	020242.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	93	87	115
4-Bromofluorobenzene	95	92	112

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:	Trip Blank #3-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-12
Date Analyzed:	02/01/22	Data File:	020132.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	116	78	126
Toluene-d8	98	87	115
4-Bromofluorobenzene	94	92	112

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	<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 #4-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	201356-13
Date Analyzed:	02/01/22	Data File:	020133.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	111	78	126
Toluene-d8	96	87	115
4-Bromofluorobenzene	97	92	112

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:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/01/22	Lab ID:	02-226 mb
Date Analyzed:	02/01/22	Data File:	020107.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	95	87	115
4-Bromofluorobenzene	99	92	112

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:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	02-282 mb
Date Analyzed:	02/02/22	Data File:	020207.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	RF

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	107	78	126
Toluene-d8	92	87	115
4-Bromofluorobenzene	95	92	112

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-10-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-01
Date Analyzed:	02/02/22	Data File:	020219.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	93	50	150

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

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	SB-1A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-02
Date Analyzed:	02/02/22	Data File:	020220.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	103	50	150

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

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	SB-2A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-03
Date Analyzed:	02/02/22	Data File:	020221.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	92	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	100	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 #1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-04
Date Analyzed:	02/02/22	Data File:	020222.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	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-1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-05
Date Analyzed:	02/02/22	Data File:	020223.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	98	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-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-06
Date Analyzed:	02/02/22	Data File:	020224.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	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-9-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-07
Date Analyzed:	02/02/22	Data File:	020225.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	89	50	150
Toluene-d8	106	50	150
4-Bromofluorobenzene	103	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-5-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-10
Date Analyzed:	02/02/22	Data File:	020226.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	0.72

Analysis For Volatile Compounds By EPA Method 8260D SIM

Client Sample ID:	TWA-6-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	02/02/22	Lab ID:	201356-11
Date Analyzed:	02/02/22	Data File:	020227.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	91	50	150
Toluene-d8	101	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration ug/L (ppb)
1,4-Dioxane	6.0

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 201356
Date Extracted:	02/02/22	Lab ID:	02-0285 mb
Date Analyzed:	02/02/22	Data File:	020218.D
Matrix:	Water	Instrument:	GCMS13
Units:	ug/L (ppb)	Operator:	WE

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	90	50	150
Toluene-d8	104	50	150
4-Bromofluorobenzene	102	50	150

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

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	TWA-10-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-01 1/0.5
Date Analyzed:	01/31/22	Data File:	013117.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	6 ip	11	65
Phenol-d6	6 ip	11	65
Nitrobenzene-d5	65	50	150
2-Fluorobiphenyl	64	44	108
2,4,6-Tribromophenol	28	10	140
Terphenyl-d14	76	50	150

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 jl	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	0.30 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-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-02 1/0.5
Date Analyzed:	01/31/22	Data File:	013118.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	15	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	73	50	150
2-Fluorobiphenyl	78	44	108
2,4,6-Tribromophenol	86	10	140
Terphenyl-d14	85	50	150

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 jl	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	0.47 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-2A-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-03 1/0.5
Date Analyzed:	01/31/22	Data File:	013119.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	7 ip	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	77	50	150
2-Fluorobiphenyl	80	44	108
2,4,6-Tribromophenol	54	10	140
Terphenyl-d14	90	50	150

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 jl	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	0.71 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:	Field Blank #1-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-04 1/0.5
Date Analyzed:	01/31/22	Data File:	013120.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	11	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	69	50	150
2-Fluorobiphenyl	74	44	108
2,4,6-Tribromophenol	72	10	140
Terphenyl-d14	88	50	150

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 jl	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	0.62 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-1-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-05 1/0.5
Date Analyzed:	01/31/22	Data File:	013121.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	9 ip	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	60	50	150
2-Fluorobiphenyl	66	44	108
2,4,6-Tribromophenol	81	10	140
Terphenyl-d14	76	50	150

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	0.79
1,3-Dichlorobenzene	<0.1	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1	Dibenzofuran	0.32
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	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	<0.5
Benzoic acid	<5 jl	Phenanthrene	0.56
Bis(2-chloroethoxy)methane	<0.1	Anthracene	0.47
2,4-Dichlorophenol	<1	Carbazole	1.1
1,2,4-Trichlorobenzene	<0.1	Di-n-butyl phthalate	<1
Naphthalene	0.15	Fluoranthene	0.092
Hexachlorobutadiene	<0.1	Pyrene	0.18
4-Chloroaniline	<10	Benzyl butyl phthalate	<1
4-Chloro-3-methylphenol	<1	Benz(a)anthracene	0.013
2-Methylnaphthalene	<0.1	Chrysene	0.036
1-Methylnaphthalene	5.0	Bis(2-ethylhexyl) phthalate	0.68 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-3A-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-06 1/0.5
Date Analyzed:	01/31/22	Data File:	013122.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	11	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	71	50	150
2-Fluorobiphenyl	78	44	108
2,4,6-Tribromophenol	89	10	140
Terphenyl-d14	90	50	150

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	0.068
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 jl	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	0.42 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-9-3A-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-07 1/0.5
Date Analyzed:	01/31/22	Data File:	013123.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	7 ip	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	73	50	150
2-Fluorobiphenyl	78	44	108
2,4,6-Tribromophenol	45	10	140
Terphenyl-d14	86	50	150

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	0.064
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 jl	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	0.25 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-5-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-10 1/0.5
Date Analyzed:	01/31/22	Data File:	013124.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	6 ip	11	65
Phenol-d6	7 ip	11	65
Nitrobenzene-d5	40 ip	50	150
2-Fluorobiphenyl	51	44	108
2,4,6-Tribromophenol	81	10	140
Terphenyl-d14	67	50	150

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 jl	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	0.39 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-6-0122 f	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	201356-11 1/0.5
Date Analyzed:	01/31/22	Data File:	013125.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	14	11	65
Phenol-d6	9 ip	11	65
Nitrobenzene-d5	58	50	150
2-Fluorobiphenyl	47	44	108
2,4,6-Tribromophenol	74	10	140
Terphenyl-d14	43 ip	50	150

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 jl	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	0.27 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:	Method Blank f	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/28/22	Lab ID:	02-260 mb 1/0.5
Date Analyzed:	01/31/22	Data File:	013114.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	16	11	65
Phenol-d6	9 vo	11	65
Nitrobenzene-d5	87	50	150
2-Fluorobiphenyl	84	44	108
2,4,6-Tribromophenol	93	10	140
Terphenyl-d14	93	50	150

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Phenol	<1 js	2,6-Dinitrotoluene	<0.5
Bis(2-chloroethyl) ether	<0.1 js	3-Nitroaniline	<10
2-Chlorophenol	<1 js	Acenaphthene	<0.01
1,3-Dichlorobenzene	<0.1 js	2,4-Dinitrophenol	<3
1,4-Dichlorobenzene	<0.1 js	Dibenzofuran	<0.1
1,2-Dichlorobenzene	<0.1 js	2,4-Dinitrotoluene	<0.5
Benzyl alcohol	<1 js	4-Nitrophenol	<3
2,2'-Oxybis(1-chloropropane)	<0.1 js	Diethyl phthalate	<1
2-Methylphenol	<1 js	Fluorene	<0.01
Hexachloroethane	<0.1 js	4-Chlorophenyl phenyl ether	<0.1
N-Nitroso-di-n-propylamine	<0.1 js	N-Nitrosodiphenylamine	<0.1
3-Methylphenol + 4-Methylphenol	<2 js	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 jl	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	0.36 j fc
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-10-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-01 1/0.25
Date Analyzed:	01/28/22	Data File:	012831.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	12	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:	SB-1A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-02 1/0.25
Date Analyzed:	01/28/22	Data File:	012832.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	31	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:	SB-2A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-03 1/0.25
Date Analyzed:	01/28/22	Data File:	012833.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	17	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 #1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-04 1/0.25
Date Analyzed:	01/28/22	Data File:	012834.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	27	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:	MW-1-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-05 1/0.25
Date Analyzed:	01/28/22	Data File:	012835.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	12	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:	SB-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-06 1/0.25
Date Analyzed:	01/28/22	Data File:	012836.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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:	SB-9-3A-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-07 1/0.25
Date Analyzed:	01/28/22	Data File:	012837.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	28	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:	TWA-5-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-10 1/0.25
Date Analyzed:	01/28/22	Data File:	012838.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	14	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:	TWA-6-0122	Client:	Maul Foster Alongi
Date Received:	01/25/22	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	201356-11 1/0.25
Date Analyzed:	01/28/22	Data File:	012839.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
TCMX	12	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:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	0615.20.04-03, F&BI 201356
Date Extracted:	01/27/22	Lab ID:	02-254 mb 1/0.25
Date Analyzed:	01/28/22	Data File:	012822.D
Matrix:	Water	Instrument:	GC9
Units:	ug/L (ppb)	Operator:	VM

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	<0.0035
Aroclor 1248	<0.0035
Aroclor 1254	<0.0035
Aroclor 1260	<0.0035
Aroclor 1262	<0.0035
Aroclor 1268	<0.0035

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 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	91	95	53-117	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	101	69-134

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 (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)	5,400	<50	130	131	50-150	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	120	63-142

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 (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)	5400	<50	123	115	50-150	7

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: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 (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	1.37	104	105	75-125	1
Cadmium	ug/L (ppb)	5	<1	101	104	75-125	3
Chromium	ug/L (ppb)	20	<1	101	99	75-125	2
Copper	ug/L (ppb)	20	<5	95	93	75-125	2
Lead	ug/L (ppb)	10	<1	90	90	75-125	0
Manganese	ug/L (ppb)	20	154	86 b	69 b	75-125	22 b
Nickel	ug/L (ppb)	20	4.35	100	99	75-125	1
Zinc	ug/L (ppb)	50	<5	91	89	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	87	80-120
Cadmium	ug/L (ppb)	5	101	80-120
Chromium	ug/L (ppb)	20	97	80-120
Copper	ug/L (ppb)	20	97	80-120
Lead	ug/L (ppb)	10	95	80-120
Manganese	ug/L (ppb)	20	97	80-120
Nickel	ug/L (ppb)	20	97	80-120
Zinc	ug/L (ppb)	50	97	80-120

Date of Report: 02/08/22
Date Received: 01/25/22
Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201265-01 (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	85	85	71-125	1

Laboratory Code: 201356-02 (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	91	91	71-125	0

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	99	103	78-125	4

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

Laboratory Code: 201329-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	93	50-150
Chloromethane	ug/L (ppb)	10	<10	105	50-150
Vinyl chloride	ug/L (ppb)	10	0.34	94	50-150
Bromomethane	ug/L (ppb)	10	<5	112	50-150
Chloroethane	ug/L (ppb)	10	<1	107	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	103	50-150
Acetone	ug/L (ppb)	50	<50	88	50-150
1,1-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
Hexane	ug/L (ppb)	10	<5	100	50-150
Methylene chloride	ug/L (ppb)	10	10	115 b	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	95	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	95	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	118	50-150
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
Chloroform	ug/L (ppb)	10	<1	98	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	102	50-150
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	0.26	106	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	97	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	104	50-150
Benzene	ug/L (ppb)	10	10	92 b	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	105	50-150
1,2-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	95	50-150
Dibromomethane	ug/L (ppb)	10	<1	102	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	102	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	93	50-150
Toluene	ug/L (ppb)	10	<1	109	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	102	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	101	50-150
2-Hexanone	ug/L (ppb)	50	<10	99	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	95	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	111	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	106	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	101	50-150
Chlorobenzene	ug/L (ppb)	10	<1	101	50-150
Ethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	107	50-150
m,p-Xylene	ug/L (ppb)	20	<2	106	50-150
o-Xylene	ug/L (ppb)	10	<1	106	50-150
Styrene	ug/L (ppb)	10	<1	110	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	112	50-150
Bromoform	ug/L (ppb)	10	<5	105	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	98	50-150
Bromobenzene	ug/L (ppb)	10	<1	90	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	90	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	92	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	98	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	100	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	100	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	109	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	102	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	105	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	95	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	98	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	101	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	103	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	106	50-150
Naphthalene	ug/L (ppb)	10	<1	98	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	104	50-150

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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	105	107	46-206	2
Chloromethane	ug/L (ppb)	10	98	102	70-142	4
Vinyl chloride	ug/L (ppb)	10	89	90	70-130	1
Bromomethane	ug/L (ppb)	10	100	96	56-197	4
Chloroethane	ug/L (ppb)	10	96	98	70-130	2
Trichlorofluoromethane	ug/L (ppb)	10	84	86	70-130	2
Acetone	ug/L (ppb)	50	90	91	10-140	1
1,1-Dichloroethene	ug/L (ppb)	10	94	106	70-130	12
Hexane	ug/L (ppb)	10	97	100	54-136	3
Methylene chloride	ug/L (ppb)	10	107	116	43-134	8
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	98	100	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	91	94	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	95	97	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	83	85	70-130	2
cis-1,2-Dichloroethene	ug/L (ppb)	10	93	95	70-130	2
Chloroform	ug/L (ppb)	10	93	97	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	103	97	17-154	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	105	107	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	96	98	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	94	95	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	96	98	70-130	2
Benzene	ug/L (ppb)	10	91	93	70-130	2
Trichloroethene	ug/L (ppb)	10	99	101	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	100	103	70-130	3
Bromodichloromethane	ug/L (ppb)	10	92	110	70-130	18
Dibromomethane	ug/L (ppb)	10	95	99	70-130	4
4-Methyl-2-pentanone	ug/L (ppb)	50	100	106	68-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	97	98	69-131	1
Toluene	ug/L (ppb)	10	102	102	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	100	100	70-130	0
1,1,2-Trichloroethane	ug/L (ppb)	10	99	98	70-130	1
2-Hexanone	ug/L (ppb)	50	96	96	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	94	96	70-130	2
Tetrachloroethene	ug/L (ppb)	10	104	104	70-130	0
Dibromochloromethane	ug/L (ppb)	10	105	104	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	100	100	70-130	0
Chlorobenzene	ug/L (ppb)	10	95	97	70-130	2
Ethylbenzene	ug/L (ppb)	10	95	96	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	96	97	70-130	1
m,p-Xylene	ug/L (ppb)	20	97	97	70-130	0
o-Xylene	ug/L (ppb)	10	95	96	70-130	1
Styrene	ug/L (ppb)	10	106	107	70-130	1
Isopropylbenzene	ug/L (ppb)	10	100	99	70-130	1
Bromoform	ug/L (ppb)	10	109	105	69-138	4
n-Propylbenzene	ug/L (ppb)	10	91	92	70-130	1
Bromobenzene	ug/L (ppb)	10	89	89	70-130	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	104	98	70-130	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	87	88	70-130	1
1,2,3-Trichloropropane	ug/L (ppb)	10	88	89	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	92	93	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	99	95	70-130	4
tert-Butylbenzene	ug/L (ppb)	10	93	94	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	102	102	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	95	96	70-130	1
p-Isopropyltoluene	ug/L (ppb)	10	99	100	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	93	94	70-130	1
1,4-Dichlorobenzene	ug/L (ppb)	10	91	91	70-130	0
1,2-Dichlorobenzene	ug/L (ppb)	10	93	92	70-130	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	93	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	99	100	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	99	100	70-130	1
Naphthalene	ug/L (ppb)	10	94	94	70-130	0
1,2,3-Trichlorobenzene	ug/L (ppb)	10	103	104	70-130	1

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

Laboratory Code: 201265-01 (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	116	117	50-150	1
Chloromethane	ug/L (ppb)	10	<10	108	105	50-150	3
Vinyl chloride	ug/L (ppb)	10	<0.02	102	101	50-150	1
Bromomethane	ug/L (ppb)	10	<5	115	114	50-150	1
Chloroethane	ug/L (ppb)	10	<1	112	111	50-150	1
Trichlorofluoromethane	ug/L (ppb)	10	<1	106	98	50-150	8
Acetone	ug/L (ppb)	50	<50	88	78	50-150	12
1,1-Dichloroethene	ug/L (ppb)	10	<1	103	102	50-150	1
Hexane	ug/L (ppb)	10	<5	109	108	50-150	1
Methylene chloride	ug/L (ppb)	10	11	74 b	62 b	50-150	18 b
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	101	100	50-150	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	98	50-150	1
1,1-Dichloroethane	ug/L (ppb)	10	<1	101	99	50-150	2
2,2-Dichloropropane	ug/L (ppb)	10	<1	106	107	50-150	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	101	99	50-150	2
Chloroform	ug/L (ppb)	10	<1	99	97	50-150	2
2-Butanone (MEK)	ug/L (ppb)	50	<20	84	89	50-150	6
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	107	106	50-150	1
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	99	98	50-150	1
1,1-Dichloropropene	ug/L (ppb)	10	<1	102	100	50-150	2
Carbon tetrachloride	ug/L (ppb)	10	<0.5	99	100	50-150	1
Benzene	ug/L (ppb)	10	<0.35	96	94	50-150	2
Trichloroethene	ug/L (ppb)	10	<0.5	106	104	50-150	2
1,2-Dichloropropane	ug/L (ppb)	10	<1	97	96	50-150	1
Bromodichloromethane	ug/L (ppb)	10	<0.5	109	90	50-150	19
Dibromomethane	ug/L (ppb)	10	<1	96	95	50-150	1
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	96	98	50-150	2
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	94	50-150	1
Toluene	ug/L (ppb)	10	<1	107	107	50-150	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	96	97	50-150	1
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	97	97	50-150	0
2-Hexanone	ug/L (ppb)	50	<10	94	94	50-150	0
1,3-Dichloropropane	ug/L (ppb)	10	<1	94	93	50-150	1
Tetrachloroethene	ug/L (ppb)	10	<1	107	107	50-150	0
Dibromochloromethane	ug/L (ppb)	10	<0.5	101	101	50-150	0
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	96	96	50-150	0
Chlorobenzene	ug/L (ppb)	10	<1	103	100	50-150	3
Ethylbenzene	ug/L (ppb)	10	<1	103	102	50-150	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	101	50-150	0
m,p-Xylene	ug/L (ppb)	20	<2	103	103	50-150	0
o-Xylene	ug/L (ppb)	10	<1	103	103	50-150	0
Styrene	ug/L (ppb)	10	<1	109	109	50-150	0
Isopropylbenzene	ug/L (ppb)	10	<1	107	109	50-150	2
Bromoform	ug/L (ppb)	10	<5	100	101	50-150	1
n-Propylbenzene	ug/L (ppb)	10	<1	99	99	50-150	0
Bromobenzene	ug/L (ppb)	10	<1	90	90	50-150	0
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	111	108	50-150	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	88	89	50-150	1
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	91	91	50-150	0
2-Chlorotoluene	ug/L (ppb)	10	<1	99	99	50-150	0
4-Chlorotoluene	ug/L (ppb)	10	<1	99	102	50-150	3
tert-Butylbenzene	ug/L (ppb)	10	<1	101	100	50-150	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	108	108	50-150	0
sec-Butylbenzene	ug/L (ppb)	10	<1	103	103	50-150	0
p-Isopropyltoluene	ug/L (ppb)	10	<1	107	106	50-150	1
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	96	96	50-150	0
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	93	93	50-150	0
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	97	97	50-150	0
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	93	96	50-150	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	99	101	50-150	2
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	99	100	50-150	1
Naphthalene	ug/L (ppb)	10	<1	99	97	50-150	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	102	102	50-150	0

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

Laboratory Code: 201356-02 (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	121	126	50-150	4
Chloromethane	ug/L (ppb)	10	<10	112	118	50-150	5
Vinyl chloride	ug/L (ppb)	10	<0.02	103	109	50-150	6
Bromomethane	ug/L (ppb)	10	<5	115	124	50-150	8
Chloroethane	ug/L (ppb)	10	<1	112	118	50-150	5
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	112	50-150	5
Acetone	ug/L (ppb)	50	<50	88	92	50-150	4
1,1-Dichloroethene	ug/L (ppb)	10	<1	101	105	50-150	4
Hexane	ug/L (ppb)	10	<5	110	124	50-150	12
Methylene chloride	ug/L (ppb)	10	11	99	117	50-150	17
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	100	104	50-150	4
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	101	50-150	4
1,1-Dichloroethane	ug/L (ppb)	10	<1	99	103	50-150	4
2,2-Dichloropropane	ug/L (ppb)	10	<1	108	112	50-150	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	104	50-150	5
Chloroform	ug/L (ppb)	10	<1	99	100	50-150	1
2-Butanone (MEK)	ug/L (ppb)	50	<20	105	90	50-150	15
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	108	108	50-150	0
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	99	103	50-150	4
1,1-Dichloropropene	ug/L (ppb)	10	<1	103	102	50-150	1
Carbon tetrachloride	ug/L (ppb)	10	<0.5	100	105	50-150	5
Benzene	ug/L (ppb)	10	<0.35	96	97	50-150	1
Trichloroethene	ug/L (ppb)	10	<0.5	106	107	50-150	1
1,2-Dichloropropane	ug/L (ppb)	10	<1	101	99	50-150	2
Bromodichloromethane	ug/L (ppb)	10	<0.5	110	96	50-150	14
Dibromomethane	ug/L (ppb)	10	<1	98	98	50-150	0
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	105	101	50-150	4
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	98	96	50-150	2
Toluene	ug/L (ppb)	10	<1	108	108	50-150	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	100	98	50-150	2
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	100	97	50-150	3
2-Hexanone	ug/L (ppb)	50	<10	106	95	50-150	11
1,3-Dichloropropane	ug/L (ppb)	10	<1	99	93	50-150	6
Tetrachloroethene	ug/L (ppb)	10	<1	107	108	50-150	1
Dibromochloromethane	ug/L (ppb)	10	<0.5	103	99	50-150	4
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<1	100	98	50-150	2
Chlorobenzene	ug/L (ppb)	10	<1	100	99	50-150	1
Ethylbenzene	ug/L (ppb)	10	<1	104	103	50-150	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	100	105	50-150	5
m,p-Xylene	ug/L (ppb)	20	<2	105	104	50-150	1
o-Xylene	ug/L (ppb)	10	<1	103	105	50-150	2
Styrene	ug/L (ppb)	10	<1	111	109	50-150	2
Isopropylbenzene	ug/L (ppb)	10	<1	109	110	50-150	1
Bromoform	ug/L (ppb)	10	<5	104	102	50-150	2
n-Propylbenzene	ug/L (ppb)	10	<1	102	97	50-150	5
Bromobenzene	ug/L (ppb)	10	<1	93	86	50-150	8
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	106	103	50-150	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	93	89	50-150	4
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	97	89	50-150	9
2-Chlorotoluene	ug/L (ppb)	10	<1	102	98	50-150	4
4-Chlorotoluene	ug/L (ppb)	10	<1	103	97	50-150	6
tert-Butylbenzene	ug/L (ppb)	10	<1	103	99	50-150	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	111	107	50-150	4
sec-Butylbenzene	ug/L (ppb)	10	<1	106	102	50-150	4
p-Isopropyltoluene	ug/L (ppb)	10	<1	109	106	50-150	3
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	101	95	50-150	6
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	97	92	50-150	5
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	99	96	50-150	1
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	106	98	50-150	8
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	101	100	50-150	1
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	103	101	50-150	2
Naphthalene	ug/L (ppb)	10	<1	100	98	50-150	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	103	104	50-150	1

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Project: TWAAFA-0615.20.04-03, F&BI 201356

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	112	116	46-206	4
Chloromethane	ug/L (ppb)	10	114	115	70-142	1
Vinyl chloride	ug/L (ppb)	10	103	104	70-130	1
Bromomethane	ug/L (ppb)	10	118	116	56-197	2
Chloroethane	ug/L (ppb)	10	114	115	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	106	103	70-130	3
Acetone	ug/L (ppb)	50	90	93	10-140	3
1,1-Dichloroethene	ug/L (ppb)	10	103	104	70-130	1
Hexane	ug/L (ppb)	10	99	104	54-136	5
Methylene chloride	ug/L (ppb)	10	101	104	43-134	3
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	100	101	70-130	1
trans-1,2-Dichloroethene	ug/L (ppb)	10	99	100	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	100	102	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	110	111	70-130	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	102	70-130	0
Chloroform	ug/L (ppb)	10	99	99	70-130	0
2-Butanone (MEK)	ug/L (ppb)	50	91	94	17-154	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	106	108	70-130	2
1,1,1-Trichloroethane	ug/L (ppb)	10	101	102	70-130	1
1,1-Dichloropropene	ug/L (ppb)	10	101	100	70-130	1
Carbon tetrachloride	ug/L (ppb)	10	101	102	70-130	1
Benzene	ug/L (ppb)	10	95	97	70-130	2
Trichloroethene	ug/L (ppb)	10	104	106	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	96	99	70-130	3
Bromodichloromethane	ug/L (ppb)	10	108	93	70-130	15
Dibromomethane	ug/L (ppb)	10	98	95	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	98	101	68-130	3
cis-1,3-Dichloropropene	ug/L (ppb)	10	91	95	69-131	4
Toluene	ug/L (ppb)	10	106	108	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	96	99	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	96	98	70-130	2
2-Hexanone	ug/L (ppb)	50	96	98	45-138	2
1,3-Dichloropropane	ug/L (ppb)	10	92	95	70-130	3
Tetrachloroethene	ug/L (ppb)	10	106	108	70-130	2
Dibromochloromethane	ug/L (ppb)	10	99	102	60-148	3
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	96	98	70-130	2
Chlorobenzene	ug/L (ppb)	10	97	99	70-130	2
Ethylbenzene	ug/L (ppb)	10	101	103	70-130	2
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	100	106	70-130	6
m,p-Xylene	ug/L (ppb)	20	102	105	70-130	3
o-Xylene	ug/L (ppb)	10	103	105	70-130	2
Styrene	ug/L (ppb)	10	107	109	70-130	2
Isopropylbenzene	ug/L (ppb)	10	106	110	70-130	4
Bromoform	ug/L (ppb)	10	104	105	69-138	1
n-Propylbenzene	ug/L (ppb)	10	97	100	70-130	3
Bromobenzene	ug/L (ppb)	10	88	92	70-130	4
1,3,5-Trimethylbenzene	ug/L (ppb)	10	111	109	70-130	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	90	92	70-130	2
1,2,3-Trichloropropane	ug/L (ppb)	10	93	96	70-130	3
2-Chlorotoluene	ug/L (ppb)	10	99	102	70-130	3
4-Chlorotoluene	ug/L (ppb)	10	97	102	70-130	5
tert-Butylbenzene	ug/L (ppb)	10	99	103	70-130	4
1,2,4-Trimethylbenzene	ug/L (ppb)	10	107	112	70-130	5
sec-Butylbenzene	ug/L (ppb)	10	102	106	70-130	4
p-Isopropyltoluene	ug/L (ppb)	10	105	109	70-130	4
1,3-Dichlorobenzene	ug/L (ppb)	10	94	98	70-130	4
1,4-Dichlorobenzene	ug/L (ppb)	10	93	95	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	95	99	70-130	4
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	100	101	70-130	1
1,2,4-Trichlorobenzene	ug/L (ppb)	10	97	102	70-130	5
Hexachlorobutadiene	ug/L (ppb)	10	98	102	70-130	4
Naphthalene	ug/L (ppb)	10	94	99	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	101	104	70-130	3

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Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 (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	<0.4	118	108	50-150	9

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	119	110	70-130	8

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Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201356-02 (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	13 vo	5 vo	50-150	89 vo
Bis(2-chloroethyl) ether	ug/L (ppb)	5	<0.1	77	65	50-150	17
2-Chlorophenol	ug/L (ppb)	5	<1	49 vo	39 vo	50-150	23 vo
1,3-Dichlorobenzene	ug/L (ppb)	5	<0.1	70	57	50-150	20
1,4-Dichlorobenzene	ug/L (ppb)	5	<0.1	73	57	50-150	25 vo
1,2-Dichlorobenzene	ug/L (ppb)	5	<0.1	74	59	50-150	23 vo
Benzyl alcohol	ug/L (ppb)	25	<1	43 vo	39 vo	50-150	10
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	5	<0.1	77	65	50-150	17
2-Methylphenol	ug/L (ppb)	5	<1	43 vo	40 vo	50-150	7
Hexachloroethane	ug/L (ppb)	5	<0.1	69	58	50-150	17
N-Nitroso-di-n-propylamine	ug/L (ppb)	5	<0.1	88	85	50-150	3
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	5	<2	37 vo	35 vo	50-150	6
Nitrobenzene	ug/L (ppb)	5	<0.1	81	82	50-150	1
Isophorone	ug/L (ppb)	5	<0.1	85	86	50-150	1
2-Nitrophenol	ug/L (ppb)	5	<1	60	53	50-150	12
2,4-Dimethylphenol	ug/L (ppb)	5	<1	61	54	50-150	12
Benzoic acid	ug/L (ppb)	40	<5	0 vo	0 vo	50-150	0
Bis(2-chloroethoxy)methane	ug/L (ppb)	5	<0.1	82	81	50-150	1
2,4-Dichlorophenol	ug/L (ppb)	5	<1	63	56	50-150	12
1,2,4-Trichlorobenzene	ug/L (ppb)	5	<0.1	74	65	50-150	13
Naphthalene	ug/L (ppb)	5	<0.1	78	71	50-150	9
Hexachlorobutadiene	ug/L (ppb)	5	<0.1	68	60	50-150	12
4-Chloroaniline	ug/L (ppb)	25	<10	71	69	50-150	3
4-Chloro-3-methylphenol	ug/L (ppb)	5	<1	65	68	50-150	5
2-Methylnaphthalene	ug/L (ppb)	5	<0.1	82	79	50-150	4
1-Methylnaphthalene	ug/L (ppb)	5	<0.1	84	82	50-150	2
Hexachlorocyclopentadiene	ug/L (ppb)	5	<0.3	82	90	50-150	9
2,4,6-Trichlorophenol	ug/L (ppb)	5	<1	37 vo	32 vo	50-150	14
2,4,5-Trichlorophenol	ug/L (ppb)	5	<1	55	52	50-150	6
2-Chloronaphthalene	ug/L (ppb)	5	<0.1	83	84	50-150	1
2-Nitroaniline	ug/L (ppb)	25	<0.5	87	118	50-150	30 vo
Dimethyl phthalate	ug/L (ppb)	5	<1	98	97	50-150	1
Acenaphthylene	ug/L (ppb)	5	<0.01	84	86	50-150	2
2,6-Dinitrotoluene	ug/L (ppb)	5	<0.5	90	94	50-150	4
3-Nitroaniline	ug/L (ppb)	25	<10	85	82	50-150	4
Acenaphthene	ug/L (ppb)	5	<0.01	87	88	50-150	1
2,4-Dinitrophenol	ug/L (ppb)	10	<3	14 vo	9 vo	50-150	43 vo
Dibenzofuran	ug/L (ppb)	5	<0.1	92	93	50-150	1
2,4-Dinitrotoluene	ug/L (ppb)	5	<0.5	85	86	50-150	1
4-Nitrophenol	ug/L (ppb)	10	<3	2 vo	4 vo	50-150	67 vo
Diethyl phthalate	ug/L (ppb)	5	<1	103	104	50-150	1
Fluorene	ug/L (ppb)	5	<0.01	93	95	50-150	2
4-Chlorophenyl phenyl ether	ug/L (ppb)	5	<0.1	90	91	50-150	1
N-Nitrosodiphenylamine	ug/L (ppb)	5	<0.1	86	91	50-150	6
4-Nitroaniline	ug/L (ppb)	25	<10	78	77	50-150	1
4,6-Dinitro-2-methylphenol	ug/L (ppb)	5	<3	33 vo	26 vo	50-150	24 vo
4-Bromophenyl phenyl ether	ug/L (ppb)	5	<0.1	86	89	50-150	3
Hexachlorobenzene	ug/L (ppb)	5	<0.1	78	81	50-150	4
Pentachlorophenol	ug/L (ppb)	5	<0.5	22 vo	13 vo	50-150	51 vo
Phenanthrene	ug/L (ppb)	5	<0.01	90	92	50-150	2
Anthracene	ug/L (ppb)	5	<0.01	89	92	50-150	3
Carbazole	ug/L (ppb)	5	<0.1	97	100	50-150	3
Di-n-butyl phthalate	ug/L (ppb)	5	<1	82	105	50-150	25 vo
Fluoranthene	ug/L (ppb)	5	<0.01	91	97	50-150	6
Pyrene	ug/L (ppb)	5	<0.01	98	92	50-150	6
Benzyl butyl phthalate	ug/L (ppb)	5	<1	93	86	50-150	8
Benz(a)anthracene	ug/L (ppb)	5	<0.01	95	97	50-150	2
Chrysene	ug/L (ppb)	5	<0.01	94	97	50-150	3
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	5	<1.6	98	128	50-150	27 vo
Di-n-octyl phthalate	ug/L (ppb)	5	<1	72	86	50-150	18
Benzo(a)pyrene	ug/L (ppb)	5	<0.01	87	91	50-150	4
Benzo(b)fluoranthene	ug/L (ppb)	5	<0.01	94	96	50-150	2
Benzo(k)fluoranthene	ug/L (ppb)	5	<0.01	91	100	50-150	9
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	5	<0.01	109	109	50-150	0
Dibenz(a,h)anthracene	ug/L (ppb)	5	<0.01	113	114	50-150	1
Benzo(g,h,i)perylene	ug/L (ppb)	5	<0.02	113	114	50-150	1

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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	10	10-86
Bis(2-chloroethyl) ether	ug/L (ppb)	2.5	88	60-88
2-Chlorophenol	ug/L (ppb)	2.5	57	10-89
1,3-Dichlorobenzene	ug/L (ppb)	2.5	83	48-91
1,4-Dichlorobenzene	ug/L (ppb)	2.5	83	48-91
1,2-Dichlorobenzene	ug/L (ppb)	2.5	84	52-92
Benzyl alcohol	ug/L (ppb)	13	31	10-72
2,2'-Oxybis(1-chloropropane)	ug/L (ppb)	2.5	84	59-86
2-Methylphenol	ug/L (ppb)	2.5	37	10-75
Hexachloroethane	ug/L (ppb)	2.5	86	47-92
N-Nitroso-di-n-propylamine	ug/L (ppb)	2.5	91	70-130
3-Methylphenol + 4-Methylphenol	ug/L (ppb)	2.5	30	10-66
Nitrobenzene	ug/L (ppb)	2.5	85	60-90
Isophorone	ug/L (ppb)	2.5	91	70-130
2-Nitrophenol	ug/L (ppb)	2.5	84	27-104
2,4-Dimethylphenol	ug/L (ppb)	2.5	56	10-84
Benzoic acid	ug/L (ppb)	20	2 vo	10-102
Bis(2-chloroethoxy)methane	ug/L (ppb)	2.5	90	55-103
2,4-Dichlorophenol	ug/L (ppb)	2.5	79	23-103
1,2,4-Trichlorobenzene	ug/L (ppb)	2.5	84	56-93
Naphthalene	ug/L (ppb)	2.5	87	62-90
Hexachlorobutadiene	ug/L (ppb)	2.5	78	48-85
4-Chloroaniline	ug/L (ppb)	13	82	35-108
4-Chloro-3-methylphenol	ug/L (ppb)	2.5	64	18-109
2-Methylnaphthalene	ug/L (ppb)	2.5	88	64-93
1-Methylnaphthalene	ug/L (ppb)	2.5	91	64-93
Hexachlorocyclopentadiene	ug/L (ppb)	2.5	94	49-112
2,4,6-Trichlorophenol	ug/L (ppb)	2.5	84	16-112
2,4,5-Trichlorophenol	ug/L (ppb)	2.5	88	26-113
2-Chloronaphthalene	ug/L (ppb)	2.5	90	67-97
2-Nitroaniline	ug/L (ppb)	13	97	31-168
Dimethyl phthalate	ug/L (ppb)	2.5	108	70-130
Acenaphthylene	ug/L (ppb)	2.5	93	70-130
2,6-Dinitrotoluene	ug/L (ppb)	2.5	109	70-130
3-Nitroaniline	ug/L (ppb)	13	92	33-120
Acenaphthene	ug/L (ppb)	2.5	96	70-130
2,4-Dinitrophenol	ug/L (ppb)	5	100	10-120
Dibenzofuran	ug/L (ppb)	2.5	102	67-107
2,4-Dinitrotoluene	ug/L (ppb)	2.5	96	53-132
4-Nitrophenol	ug/L (ppb)	5	14	10-89
Diethyl phthalate	ug/L (ppb)	2.5	113	70-130
Fluorene	ug/L (ppb)	2.5	103	70-130
4-Chlorophenyl phenyl ether	ug/L (ppb)	2.5	99	70-130
N-Nitrosodiphenylamine	ug/L (ppb)	2.5	95	70-130
4-Nitroaniline	ug/L (ppb)	13	82	32-122
4,6-Dinitro-2-methylphenol	ug/L (ppb)	2.5	106	10-139
4-Bromophenyl phenyl ether	ug/L (ppb)	2.5	93	70-130
Hexachlorobenzene	ug/L (ppb)	2.5	84	65-95
Pentachlorophenol	ug/L (ppb)	2.5	95	10-129
Phenanthrene	ug/L (ppb)	2.5	97	70-130
Anthracene	ug/L (ppb)	2.5	96	70-130
Carbazole	ug/L (ppb)	2.5	103	70-130
Di-n-butyl phthalate	ug/L (ppb)	2.5	90	28-147
Fluoranthene	ug/L (ppb)	2.5	98	70-130
Pyrene	ug/L (ppb)	2.5	95	70-130
Benzyl butyl phthalate	ug/L (ppb)	2.5	77	34-142
Benz(a)anthracene	ug/L (ppb)	2.5	98	70-130
Chrysene	ug/L (ppb)	2.5	98	70-130
Bis(2-ethylhexyl) phthalate	ug/L (ppb)	2.5	94	53-133
Di-n-octyl phthalate	ug/L (ppb)	2.5	72	49-119
Benzo(a)pyrene	ug/L (ppb)	2.5	89	70-130
Benzo(b)fluoranthene	ug/L (ppb)	2.5	95	70-130
Benzo(k)fluoranthene	ug/L (ppb)	2.5	94	70-130
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	2.5	113	70-130
Dibenz(a,h)anthracene	ug/L (ppb)	2.5	121	70-130
Benzo(g,h,i)perylene	ug/L (ppb)	2.5	122	70-130

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Project: TWAAFA-0615.20.04-03, F&BI 201356

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

Laboratory Code: 201265-01 1/0.25 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.063	<0.0038	29 vo	23 vo	50-150	23 vo
Aroclor 1260	ug/L (ppb)	0.063	<0.0038	38 vo	31 vo	50-150	20

Laboratory Code: 201356-02 1/0.5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Aroclor 1016	ug/L (ppb)	0.13	<0.0035	33	49	50-150	39 vo
Aroclor 1260	ug/L (ppb)	0.13	<0.0035	46	64	50-150	32 vo

Laboratory Code: Laboratory Control Sample 1/0.25

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Aroclor 1016	ug/L (ppb)	0.063	44	25-165
Aroclor 1260	ug/L (ppb)	0.063	55	25-163

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.

SAMPLE CHAIN OF CUSTODY

01-25-22

LTC2 D02 (MW6/CD1

(201356

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	PO #
TWAAFA - Groundwater Sampling	0615.20.04-03
REMARKS: SVOCs lab filtered at 0.7 micron before analysis; Project Specific RLs - (Yes) / No	INVOICE TO: A. Hackett, MFA

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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	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	Total Metals by 6020/1631E	Mercury by 1613E	1,4-Dioxane - 8260D		Notes
						ANALYSES REQUESTED										
TWA-10-0122	01 A-D	1/24/22		W	15	X	X	X	X	X	X	X	X	X		
SB-1A-0122	02 A-AP	1/24/22		W	32	X	X	X	X	X	X	X	X	X		* MS/MSD
SB-2A-0122	03 A-P	1/25/22		W	16	X	X	X	X	X	X	X	X	X		
Field Blank #1-0122	04 ↓	1/25/22		W	16	X	X	X	X	X	X	X	X	X		
~~MW-9-1-0122~~		~~1/25/22~~														
MW-1-0122	05 A-P	1/25/22		W	16	X	X	X	X	X	X	X	X	X	X	
SB-3A-0122*	06	1/25/22		W	16	X	X	X	X	X	X	X	X	X	X	* 2L amber provided in place of 0.5L amber
SB-9-3A-0122*	07 ↓	1/25/22		W	16	X	X	X	X	X	X	X	X	X	X	SAA
TripBlank #3-0122	08 A-B	1/25/22		W	2			X	X							
TripBlank #4-0122	09 ↓	1/25/22		W	2			X	X							

RM

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Friedman & Bruya, Inc.	Relinquished by:	Sean Maloney	MFA	1/25/22	1510
3012 16th Avenue West	Received by:	VINH	FBI	1/25/22	1510
Seattle, WA 98119-2029	Relinquished by:				
Ph. (206) 285-8282	Received by:			Samples received at	4 °C

201356

1/25/22 LTC2/DO2/VW6/ CJ4

SAMPLE CHAIN OF CUSTODY

Page # 2 of 2

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 #: 0615.20.04-05

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	TPH-Diesel w/SG	TPH-Diesel	TPH-Gasoline	VOCs by 8260D	SVOCs by 8270E	LL PCBs by 8082	Total Metals by (6020/1631E	Mn/Fe only by 1613E	1,4-Dioxane - 8260D	Notes
TWA-S-0122	10A-P	1/25/22	0920	W	16	X	X	X	X	X	X	X	X	X	
TWA-6-0122	11A-P	1/25/22	1125	W	16	X	X	X	X	X	X	X	X	X	
TripBlank#3-0122	12A-B	1/25/22		W	2			X	X						
TripBlank#4-0122	13A-B	1/25/22		W	2			X	X						

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Sean Maloney	MFA	1/25/22	1540
Received by:	VINH	FBI	1/25/22	1510
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 # 201356 CLIENT MFA INITIALS/ DATE: NR 1/25/22

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? (explain "no" answer below) ☒ YES ☐ NO

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)

2 extra sets of samples received - 2nd COC emailed to M. Erdahl from Sean Malcolm on 1/26/22

DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. M0615.20.004 | APRIL 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 (QC) samples collected at the Taylor Way and Alexander Avenue Fill Area in January 2022.

Friedman & Bruya, Inc. (FBI), performed the analyses. FBI report numbers 201329 and 201356 were reviewed. The analyses performed and samples analyzed are listed below.

Analysis	Reference
Diesel- and oil-range hydrocarbons	NWTPH-Dx
Diesel- and 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 201329	**Report 201356**	
TWA-1-0122	TWA-10-0122	Trip Blank #3-0122[a]
TWA-2-0122	SB-1A-0122	Trip Blank #4-0122[b]
TWA-3-0122	SB-2A-0122	TWA-5-0122
Trip Blank #1-0122	Field Blank #1-0122	TWA-6-0122
Trip Blank #2-0122	MW-1-0122	Trip Blank #3-0122[c]
--	SB-3A-0122	Trip Blank #4-0122[d]
--	SB-9-3A-0122	--

[a]Laboratory sample identification number 201356-08.
[b]Laboratory sample identification number 201356-09.
[c]Laboratory sample identification number 201356-12.
[d]Laboratory sample identification number 201356-13.

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 QC requirements for methods that EPA data review procedures do not specifically address (e.g., 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.
  - U = result is non-detect at the method reporting limit (MRL).
  - UJ = result is non-detect with an estimated MRL.
  - R = result is rejected.

According to reports 201329 and 201356, all NWTPH-Dx and NWTPH-Dx-SIL diesel-range and/or oil-range hydrocarbons detected results from TWA-1-0122, TWA-2-0122, TWA-3-0122, MW-1-0122, SB-3A-0122, SB-9-3A-0122, TWA-5-0122, and TWA-6-0122 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 oil-range hydrocarbons instead of specific fuel products; thus, qualification was not required.

According to report 201356, the NWTPH-Dx silica gel extraction diesel-range and oil-range hydrocarbons results from MW-1-0122 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 oil-range hydrocarbons instead of specific fuel products; thus, qualification was not required.

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 201329 and 201356, 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 report 201329, the EPA Method 8270E laboratory method blank (012609) had a bis(2-ethylhexyl) phthalate detection between the method detection limit (MDL) and the MRL at a concentration of 0.28 micrograms per liter (ug/L). The associated bis(2-ethylhexyl)phthalate sample results were qualified with "U" as non-detect at the MRL, as shown in the following table.

Report	Sample	Component	Method Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-1-0122	Bis(2-ethylhexyl) phthalate	0.28 J	0.32 J	1.6 U
	TWA-2-0122			0.41 J	1.6 U
	TWA-3-0122			0.69 J	1.6 U

NOTES:
J = result is estimated.
U = result is non-detect at method reporting limit.
ug/L = micrograms per liter.

According to report 201356, the EPA Method 8270E laboratory method blank (013114) had a bis(2-ethylhexyl) phthalate detection between the MDL and the MRL, at a concentration of 0.36 ug/L. The associated bis(2-ethylhexyl)phthalate sample results were qualified with "U" as non-detect at the MRL, as shown in the following table.

Report	Sample	Component	Method Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
201356	TWA-10-0122	Bis(2-ethylhexyl) phthalate	0.36	0.30 J	1.6 U
	SB-1A-0122			0.47 J	1.6 U
	SB-2A-0122			0.71 J	1.6 U
	SB-3A-0122			0.42 J	1.6 U
	SB-9-3A-0122			0.25 J	1.6 U
	TWA-5-0122			0.39 J	1.6 U
	TWA-6-0122			0.27 J	1.6 U

Report	Sample	Component	Method Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
	Field Blank #1-0122			0.62 J	1.6 U
	MW-1-0122			0.68 J	1.6 U
NOTES: J = result is estimated. U = result is non-detect at 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 or during shipment between the sampling location and the laboratory.

Six trip blanks were submitted for EPA Method 8260D and NWTPH-Gx analysis: two (Trip Blank #1-0122 and Trip Blank #2-0122) were submitted with the sample delivery group 201329, and four (Trip Blank #3-0122, Trip Blank #4-0122, Trip Blank #3-0122, and Trip Blank #4-0122) were submitted with sample delivery group 201356. Neither the laboratory report nor the field notes documented the trip blank associated with each sample cooler, so the trip blank detections were applied to all samples listed on the associated chain-of-custody (COC) form. The reviewer confirmed that two sets of trip blanks with the same sample names were submitted with the sample delivery group for 201356, and they have been distinguished by laboratory sample identification number.

According to report 201329, the EPA Method 8260D trip blank (Trip Blank #2-0122) had a methylene chloride detection above the MRL, at a concentration of 5.2 ug/L. Additionally, the laboratory flagged the associated methylene chloride results due to potential laboratory contamination. The associated methylene chloride results were qualified by the reviewer with "U" as non-detect at the reported concentrations, as shown in the table below.

According to report 201356, the EPA Method 8260D trip blank (Trip Blank #3-0122, lab sample identification 201356-12) had a methylene chloride detection above the MRL, at a concentration of 6.3 ug/L. Additionally, the laboratory flagged the associated methylene chloride results due to potential laboratory contamination. The associated methylene chloride results were qualified with "U" as non-detect at the reported concentrations, as shown in the following table.

Report	Sample	Component	Trip Blank Detection (ug/L)	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-1-0122	Methylene chloride	5.2	10	10 U
	TWA-2-0122			13	13 U
	TWA-3-0122			13	13 U
201356	TWA-10-0122		6.3	12	12 U
	SB-1A-0122			8.6	8.6 U
	SB-2A-0122			5.9	5.9 U
	Field Blank #1-0122			7.8	7.8 U
	MW-1-0122			10	10 U
	TWA-5-0122			10	10 U
	TWA-6-0122			10	10 U
	SB-3A-0122			8.5	8.5 U
	SB-9-3A-0122			8.7	8.7 U

NOTES:
U = result is non-detect at reported concentration.
ug/L = micrograms per liter.

The remaining trip blank results were non-detect to MRL for all target analytes.

Field Blanks

Field blanks are used to evaluate contamination from the field. According to report 201356, one field blank (Field Blank #1-0122) was submitted for analysis. The field blank is associated with the sample results provided in reports 201329 and 201356 because all aqueous samples, including the field blank sample, were collected using consistent sampling protocols. The field blank had an EPA Method 6020B total copper detection above the MRL, at a concentration of 3.82 ug/L. The associated sample results with detections of total copper less than ten times the field 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)
201329	TWA-1-0122	Copper	3.82	1.98	1.98 U
	TWA-2-0122			1.39	1.39 U
	TWA-3-0122			2.90	2.90 U
201356	TWA-10-0122			1.82	1.82 U
	SB-1A-0122			3.23	3.23 U
	TWA-5-0122			1.08	1.08 U
	TWA-6-0122			2.40	2.40 U
	MW-1-0122			6.17	6.17 U

NOTES:
U = result is non-detect at reported concentration.
ug/L = micrograms per liter.

The remaining field blank results were non-detect to the MRL for all target analytes.

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 and LCSD samples were extracted and analyzed at the required frequency.

According to report 201329, the EPA Method 8270E LCS and/or LCSD results for phenol, benzoic acid, and 4-nitrophenol, ranging from 5 percent to 9 percent, were below the lower percent recovery acceptance limit of 10 percent. Additionally, the RPDs between the LCS and the LCSD ranged from 21 percent to 46 percent for 2-nitrophenol; 2,4,6-trichlorophenol; 2,4,5-trichlorophenol; 2,4-dinitrophenol; 4-nitrophenol; 4,6-dinitro-2-methylphenol; and pentachlorophenol—all exceeding the 20 percent limit. Associated non-detect results did not require qualification. Because of high RPD recovery, associated sample phenol and benzoic acid results have been qualified by the reviewer based on surrogate percent recovery exceedances (discussed in the surrogate section below). The reviewer qualified associated non-detect 4-nitrophenol sample results with "R" as rejected, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-1-0122	4-Nitrophenol	3 U	R
	TWA-2-0122		3 U	R
	TWA-3-0122		3 U	R

NOTES:
R = result is rejected.
U = result is non-detect at method reporting limit.
ug/L = micrograms per liter.

According to report 201356, the EPA Method 8270E LCS benzoic acid recovery was below the lower acceptance limit of 10 percent, at 2 percent. The associated benzoic acid results were qualified by the reviewer with "R" as rejected, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-10-0122	Benzoic acid	5 U	R
	SB-1A-0122		5 U	R
	SB-2A-0122		5 U	R
	Field Blank #1-0122		5 U	R
	MW-1-0122		5 U	R
	SB-3A-0122		5 U	R

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
	SB-9-3A-0122		5 U	R
	TWA-5-0122		5 U	R
	TWA-6-0122		5 U	R

NOTES:
R = result is rejected.
U = result is non-detect at method reporting limit.
ug/L = micrograms per liter.

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 201356, the EPA Method 8270E MS and MSD recoveries ranged from 2 percent to 49 percent for phenol; 2-chlorophenol; benzyl alcohol; 2-methylphenol; 3-methylphenol+4-methylphenol; 2,4,6-trichlorophenol; 2,4-dinitrophenol; 4-nitrophenol; 4,6-dinitro-2-methylphenol; and pentachlorophenol—all below the lower acceptance limit of 50 percent. Benzoic acid did not recover in either the MS or the MSD. Additionally, the RPD ranged from 23 percent to 89 percent for phenol; 2-chlorophenol; 1,4-dichlorobenzene; 1,2-dichlorobenzene; 2-nitroaniline; 2,4-dinitrophenol; 4-nitrophenol; 4,6-dinitro-2-methylphenol; pentachlorophenol; di-n-butyl phthalate; and bis(2-ethylhexyl) phthalate—all exceedances of the 20 percent limit. The associated non-detect results with only RPD control limit exceedances did not require qualification. The associated results from the source sample (SB-1A-0122), not qualified based on surrogate recovery, were

qualified with "UJ" as non-detect with an estimated reporting limit, or with "R" as rejected when the recovery was less than 10 percent.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201356	SB-1A-0122	2,4,6-Trichlorophenol	1 U	1 UJ
		2,4-Dinitrophenol	3 U	3 UJ
		4,6-Dinitro-2-methylphenol	3 U	3 UJ
		Pentachlorophenol	0.5 U	0.5 UJ
		4-Nitrophenol	3 U	R

NOTES:
R = result is rejected.
U = result is non-detect at method reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated reporting limit.

According to reports 201329 and 201356, the EPA Method 8082A MS and MSD (201356-02 MS and MSD) Aroclor 1016 recoveries, at 33 percent and 49 percent, respectively, were below the lower acceptance limit of 50 percent. Additionally, the RPD between the MS and the MSD for Aroclor 1016 exceeded the 20 percent limit, at 39 percent. The MS Aroclor 1260 recovery was below the lower acceptance limit of 50 percent, at 46 percent, and the RPD between the MSD and the MSD exceeded the 20 percent limit, at 32 percent. The associated Aroclor 1016 and Aroclor 1260 results from the source sample (SB-1A-0122) were qualified by the reviewer 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)
201356	SB-1A-0122	Aroclor 1016	0.0035 U	0.0035 UJ
		Aroclor 1260	0.0035 U	0.0035 UJ

NOTES:
U = result is non-detect at method reporting limit.
ug/L = micrograms per liter.
UJ = result is non-detect with an estimated 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 took no action based on surrogate percent recoveries that were outside acceptance limits because of dilutions necessary to quantify high concentrations of target analytes present in the samples. The reviewer confirmed that batch quality assurance/QC results for samples with surrogate outliers were within acceptance limits.

According to report 201329, the EPA Method 8270E surrogate compounds 2-fluorophenol and phenol-d6 were below the lower acceptance limit of 11 percent, at 10 percent and 8 percent, respectively, for sample TWA-1-0122. The reviewer confirmed with the laboratory that the phenol, 2-chlorophenol, benzyl alcohol, 2-methylphenol, and 3-methylphenol + 4-methylphenol results are associated with the surrogate compound phenol-d6. The reviewer confirmed with the laboratory that 2-fluorophenol was not associated with any reported analytes; therefore, no qualification was required based on 2-fluorophenol recovery. The phenol-d6–associated sample results were rejected and qualified with "R," as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-1-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R

NOTES:
R = result is rejected.
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.

According to reports 201329 and 201356, the laboratory method blanks were flagged by the laboratory because of low phenol-d6 recovery at 8 percent and 9 percent. The laboratory flagged basic fractions based on retention time grouping, but the reviewer confirmed with the laboratory that only acidic fractions would be affected by the phenol-d6 exceedance. Batch QC qualification by the reviewer was not required.

According to reports 201329 and 201356, the EPA Method 8270E surrogate compound phenol-d6 percent recovery ranged from 7 percent to 9 percent for TWA-2-0122, TWA-3-0122, SB-1A-0122, Field Blank #1-0122, SB-3A-0122, TWA-6-0122, and the method blank (013114)—below the lower acceptance limit of 11 percent. One of the three acid-fraction surrogates (2-fluorophenol, phenol-d6, and 2,4,6-tribromophenol) can be outside acceptance limits without requiring associated result qualification; however, due to the significantly low recovery, the reviewer qualified sample results associated with phenol-d6 with "R" as rejected, as shown in the following table. FBI reported the laboratory method blank with bis(2-chloroethyl)ether, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 2,2'-oxybis(1-chloropropane), hexachloroethane, and N-nitroso-di-n-propylamine results flagged as estimated because of the low phenol-d6 recovery; however, the reviewer confirmed that these compounds were associated with basic- or neutral-fraction surrogates that had acceptable percent recovery, and qualification of these analytes was not required. Results for the remaining acid-fraction-related analytes, phenol, 2-chlorophenol, benzyl alcohol, 2-methylphenol, and 3-methylphenol + 4-methylphenol, in all of the associated samples were qualified; additional qualification based on the method blank results was not required.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-2-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R
	TWA-3-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R
201356	SB-1A-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R
	Field Blank #1-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R
	SB-3A-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R
	TWA-6-0122	Phenol	1 U	R
		2-Chlorophenol	1 U	R
		Benzyl alcohol	1 U	R
		2-Methylphenol	1 U	R
		3-Methylphenol+4-Methylphenol	2 U	R

NOTES:
R = result is rejected.
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.

According to report 201356, the NWTPH-Dx-SG surrogate compound was flagged by the laboratory as outside control limits due to matrix effects. The reviewer confirmed that the surrogate was o-terphenyl. The associated diesel-range and oil-range hydrocarbons 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)
201356	TWA-6-0122	Diesel-range hydrocarbons	50 U	50 UJ
		Oil-range hydrocarbons	250 U	250 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.

According to report 201356, the EPA Method 8260D surrogate compound 4-bromofluorobenzene recoveries were below the 92 percent lower limit, at 88 percent and 90 percent, respectively, for TWA-10-0122 and MW-1-0122. The reviewer confirmed with the laboratory that these samples were reanalyzed because of low surrogate recovery, and the confirmation analysis also had low recovery. The associated 4-bromofluorobenzene sample results were qualified, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201356	TWA-10-0122	n-Propylbenzene	1 U	1 UJ
		Bromobenzene	1 U	1 UJ
		1,3,5-Trimethylbenzene	1 U	1 UJ
		1,1,2,2-Tetrachloroethane	0.2 U	0.2 UJ
		1,2,3-Trichloropropane	1 U	1 UJ
		2-Chlorotoluene	1 U	1 UJ
		4-Chlorotoluene	1 U	1 UJ
		tert-Butylbenzene	1 U	1 UJ
		1,2,4-Trimethylbenzene	1 U	1 UJ
		sec-Butylbenzene	1 U	1 UJ
		p-Isopropyltoluene	1 U	1 UJ
		1,3-Dichlorobenzene	1 U	1 UJ
		1,4-Dichlorobenzene	1 U	1 UJ
		1,2-Dichlorobenzene	1 U	1 UJ
		1,2-Dibromo-3-chloropropane	10 U	10 UJ
		1,2,4-Trichlorobenzene	1 U	1 UJ
		Hexachlorobutadiene	0.5 U	0.5 UJ
		Naphthalene	1 U	1 UJ
		1,2,3-Trichlorobenzene	1 U	1 UJ
	MW-1-0122	n-Propylbenzene	1 U	1 UJ
		Bromobenzene	1 U	1 UJ
		1,3,5-Trimethylbenzene	1 U	1 UJ
		1,1,2,2-Tetrachloroethane	0.2 U	0.2 UJ
		1,2,3-Trichloropropane	1 U	1 UJ
		2-Chlorotoluene	1 U	1 UJ

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
		4-Chlorotoluene	1 U	1 UJ
		tert-Butylbenzene	1 U	1 UJ
		1,2,4-Trimethylbenzene	1 U	1 UJ
		sec-Butylbenzene	1 U	1 UJ
		p-Isopropyltoluene	1 U	1 UJ
		1,3-Dichlorobenzene	1 U	1 UJ
		1,4-Dichlorobenzene	1 U	1 UJ
		1,2-Dichlorobenzene	1 U	1 UJ
		1,2-Dibromo-3-chloropropane	10 U	10 UJ
		1,2,4-Trichlorobenzene	1 U	1 UJ
		Hexachlorobutadiene	0.5 U	0.5 UJ
		Naphthalene	1 U	1 UJ
		1,2,3-Trichlorobenzene	1 U	1 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.

According to report 201356, the EPA Method 8270E surrogate compounds 2-fluorophenol and phenol-d6, ranging from 6 percent to 9 percent, were below the lower acceptance limit of 11 percent for samples TWA-10-0122, SB-2A-0122, MW-01-0122, SB-9-3A-0122, and TWA-5-0122. The reviewer confirmed with the laboratory that the phenol, 2-chlorophenol, benzyl alcohol, 2-methylphenol, and 3-methylphenol + 4-methylphenol results are associated with the surrogate compound phenol-d6. The reviewer confirmed with the laboratory that 2-fluorophenol was not associated with any reported analytes; therefore, no qualification was required based on 2-fluorophenol recovery. The phenol-d6–associated sample results were qualified by the reviewer with "R" as rejected, as shown in the table below. Additionally, the surrogate compound nitrobenzene-d5 was below the lower acceptance limit of 50 percent, at 40 percent and 43 percent, respectively, for TWA-5-0122 and TWA-6-0122. One of the three basic/neutral surrogate compounds (nitrobenzene-d5, 2-fluorobiphenyl, and terphenyl-d14) can be outside acceptable limits without requiring associated result qualification; thus, no qualifications were necessary.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201356	TWA-10-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
	SB-2A-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
	MW-1-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
	SB-9-3A-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R
	TWA-5-0122	Phenol	1.0 U	R
		2-Chlorophenol	1.0 U	R
		Benzyl alcohol	1.0 U	R
		2-Methylphenol	1.0 U	R
		3-Methylphenol + 4-Methylphenol	2.0 U	R

NOTES:
R = result is rejected.
U = result is non-detect at the method reporting limit.
ug/L = micrograms per liter.

According to report 201356, the EPA Method 8082A surrogate compound tetrachloro-m-xylene recoveries were below the lower acceptance limit of 25 percent, at 12 percent, 17 percent, 12 percent, 14 percent, and 12 percent, respectively, for TWA-10-0122, SB-2A-0122, MW-1-0122, TWA-5-0122, and TWA-6-0122. 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)
201356	TWA-10-0122	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

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
	SB-2A-0122	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-1-0122	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
	TWA-5-0122	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
	TWA-6-0122	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 report 201329, FBI flagged the EPA Method 8270E benzoic acid, 2,4-dinitrophenol, and di-n-octyl phthalate results for samples TWA-1-0122, TWA-2-0122, and TWA-3-0122 because CCV results were outside acceptance criteria. The reviewer qualified the results with "UJ" as non-detect with estimated reporting limits, as shown in the following table.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
201329	TWA-1-0122	Benzoic acid	5 U	5 UJ
		2,4-Dinitrophenol	3 U	3 UJ
		Di-n-octyl phthalate	1 U	1 UJ
	TWA-2-0122	Benzoic acid	5 U	5 UJ
		2,4-Dinitrophenol	3 U	3 UJ
		Di-n-octyl phthalate	1 U	1 UJ
	TWA-3-0122	Benzoic acid	5 U	5 UJ
		2,4-Dinitrophenol	3 U	3 UJ
		Di-n-octyl phthalate	1 U	1 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 reporting limit.

FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. According to report 201356, one field parent and duplicate sample pair (SB-3A-0122 and SB-9-3A-0122) was submitted for analysis. 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. The bis(2-ethylhexyl)phthalate RPD exceeded the 50 percent limit, at 51 percent, between SB-3A-0122 and SB-9-3A-0122. Qualification of these sample results is discussed in the Blank section above, and additional qualifications were not necessary.

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. 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.

In the "sample condition upon receipt" checklist included with report 201356, the laboratory noted that two set of samples were submitted to the laboratory before the second page of the COC was emailed to the laboratory. No further action by the reviewer was required.

The reviewer confirmed that samples TWA-10-0122, TWA-6-0122, and TWA-5-0122 provided with sample delivery group 201356 were collected from monitoring wells TWA-10D, TWA-6D, and TWA-5D, respectively. The sample names included in laboratory report 201356 are consistent with those provided on the associated COC form.

No additional issues were found.

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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.

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FBI. 2019. Quality assurance manual. Rev. 17. Friedman & Bruya, Inc., Seattle, Washington. November 6.