2021 Annual Report

Fox Avenue Site

Seattle, Washington

Prepared for:
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October 2021

Project No. T0014128

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List of Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
bgs	Below ground surface
CAP	Cleanup Action Plan
CUL	Cleanup level
CVOC	Chlorinated volatile organic compound
DCE	Dichloroethene
Ecology	Washington State Department of Ecology
ERD	Enhanced reductive dechlorination
Loading Dock	Loading Dock Source Area
µg/L	Micrograms per liter
NW Corner	Northwest Corner Area
PCE	Tetrachloroethene
RL	Remediation Level
Site	Fox Avenue Site
TCE	Trichloroethene
TOC	Total organic carbon
VOC	Volatile organic compound
WBZ	Water Bearing Zone

1.0 Introduction

1.1 PURPOSE OF REPORT

The purpose of this report, prepared by CALIBRE Systems, Inc. (CALIBRE), is to document the cleanup activities and monitoring that occurred in 2021 at the Fox Avenue Site (the Site; Figure 1.1). The work described in this report was performed in accordance with Agreed Order No. 8985 between Fox Ave LLC and the Washington State Department of Ecology (Ecology; Ecology 2012). Per the Cleanup Action Plan (CAP) for the Site, bio-polishing is to be performed following thermal treatment of the chlorinated volatile organic compounds (CVOCs) until the groundwater remediation level (RL) is met. The Main Source Area was thermally treated as well as the Loading Dock Source Area (Loading Dock). One source area, the Northwest Corner Area (NW Corner), was not thermally treated; instead, this area underwent soil vapor extraction. Thermal treatment occurred from January to May of 2013 and achieved its goal of reducing source area soil contaminant concentrations to the RL of an average of 10 milligrams per kilogram (mg/kg) or less for the sum of tetrachloroethene (PCE) and trichloroethene (TCE) concentrations. Following thermal treatment, aquifer temperatures in the Main Source Area were too elevated to implement bio-polishing until mid-2014 (Floyd|Snider 2015). This report describes bio-polishing implemented in 2021.

1.2 GROUNDWATER PERFORMANCE CRITERIA FROM CLEANUP ACTION PLAN

At the Site, three environmental media were historically impacted from releases of solvents: soil, groundwater, and indoor air. RLs were established in the CAP for soil and groundwater that were technology-based.

The groundwater RL was set at a total CVOC concentration of 250 micrograms per liter (µg/L) as measured in wells located downgradient of Fox Avenue S., the conditional point of compliance for groundwater. Per the requirements of the CAP, the groundwater RL must be met within 10 years following the thermal remediation. Therefore, 2021 represents the eighth year toward this goal.

In addition to the RL for groundwater, cleanup levels (CULs) were established for the individual constituents found in groundwater. These CULs must be met at the seeps along the Myrtle Street Embayment within 15 years following thermal treatment (i.e., end of 2028). CULs must also be met throughout the plume upgradient of the seeps to the conditional point of compliance along Fox Avenue S. within 50 years (the end of 2063). The final Site-wide CULs for groundwater, as documented in the CAP, are presented in Table 1.1.

The RLs for Site soil were achieved in 2013 as documented in the *Construction Completion Report* (Floyd|Snider 2013). Documentation of the achievement of indoor air CULs, both on- and offsite, is contained in the *Construction Completion Report* as well.

Table 1.1
Site-Wide Cleanup Levels for Groundwater

Chemical of Concern	Seep or Groundwater Cleanup Level (µg/L)
Benzene	51
1,1-DCE	3.2
Pentachlorophenol	3.0
PCE	3.3
TCE	30
TPH (Mineral Spirits- to Heavy Oil-Range)	500
Vinyl Chloride	2.4

Abbreviations:
DCE Dichloroethene
TPH Total petroleum hydrocarbons

2.0 Remedial Actions Undertaken

Bio-polishing actions implemented in 2021 included injection of soluble sugar substrate in selected wells, bio-augmentation, and performance monitoring of groundwater. The following sections summarize the work completed in 2021. All work was completed in accordance with previously submitted and approved project work plans.

2.1 PERFORMANCE MONITORING

Performance monitoring included the collection of Site-wide groundwater samples in two events spread over June and July 2021. Results from those monitoring events are discussed in sections 3.0 and 4.0.

2.2 SUBSTRATE INJECTION

Soluble sugar substrate was injected in June and July 2021. Table 2.1 provides a summary of the substrate injections. The June 2021 substrate injection focused on the Source area and the July 2021 substrate injection focused on the Northwest Corner, Fox Avenue, the Former Whitehead Property, Seattle Boiler Works and the Myrtle St cul-de-sac areas.

Table 2.1
Substrate Injection Summary

Well ID	Area	Gallons Injected	Pounds of Sugar Injected
June 2021 Substrate Injections			
R0-IW1D	Source Area	250	233
R0-IW2D	Source Area	375	312
R0-IW3D	Source Area	375	312
	Total	**1,000**	**858**
July 2021 Substrate Injections			
R1-IW8	Northwest Corner	500	338
R1-IW9	Northwest Corner	500	326
R1-IW10	Northwest Corner	500	284
R1-IW11	Northwest Corner	500	396
R1-IW12	Northwest Corner	500	336
R1-IW13	Northwest Corner	500	317
R1-IW14	Northwest Corner	500	344
R1-IW15	Northwest Corner	500	334
R1-IW16	Northwest Corner	500	388

R1-IW3a	Fox Avenue	500	427
R1-IW4a	Fox Avenue	500	436
R1-IW5	Fox Avenue	500	427
MW-7	Former Whitehead Property	1,000	490
MW-9	Former Whitehead Property	1,000	473
R2-IW1	Seattle Boiler Works	2,011	1,399
R2-IW2	Seattle Boiler Works	2,007	1,396
R2-IW3	S. Myrtle Street Cul-de-Sac	2,004	1,430
R2-IW4	S. Myrtle Street Cul-de-Sac	2,023	1,442
R2-IW5	S. Myrtle Street Cul-de-Sac	2,009	1,444
R2-IW10	Seattle Boiler Works	2,001	1,391
R2-IW11	Seattle Boiler Works	2,004	1,393
	Total	**22,059**	**15,212**

3.0 Groundwater Monitoring Data

3.1 SAMPLING PROCEDURES

Samples from selected wells were collected using low-flow sampling procedures in accordance with the project work plans. In addition, two seeps in the Myrtle Street Embayment were sampled for volatile organic compounds (VOCs) during a minus low tide on July 21, 2021. All samples were analyzed for the selected list of Site VOCs and selected wells were additionally analyzed for total organic carbon (TOC) as an indicator of substrate availability. Field sample data sheets are included in Appendix A.

VOC and TOC samples were delivered under chain-of-custody to Fremont Analytical for analysis. The laboratory data packages are included in Appendix B. All investigation-derived waste from sampling was containerized and managed in accordance with the project work plans.

3.2 SUMMARY OF DATA FROM GROUNDWATER SAMPLING

The 2021 CVOC data are presented in Table 3.1. Recent benzene data collected from wells throughout the Site are presented in Table 3.2.

3.3 QUALITY ASSURANCE REVIEW AND ENVIRONMENTAL INFORMATION MANAGEMENT LOADING

A basic quality assurance review was performed by CALIBRE on all of the analytical laboratory reports received. The reviews concluded that all of the laboratory data were deemed acceptable for use. All data were subsequently uploaded to Ecology's Environmental Information Management database.

4.0 Groundwater Monitoring Data Discussion

Performance monitoring data that were collected in 2021 are discussed in this section by treatment area. The 2021 data included 21 wells sampled from both Water Bearing Zones (WBZs) along with two seeps at the Myrtle St. embayment. Previous monitoring in May 2018 indicated a significant number of wells throughout the Site with reduced total chlorinated volatile organic compounds (CVOC) concentrations. Subsequently, the recent sampling events (including 2021) were completed to focus on the remaining wells with elevated CVOC concentrations; specifically focusing on those locations are essential to remedial optimization of the continued remedial actions. The most recent 2021 data show two wells of the 21 monitored are above the remediation level (RL) of 250 µg/L total CVOCs and the seep data show concentrations below the cleanup level (CUL) of 2.4 µg/L for vinyl chloride (VC); overall the remediation is progressing as designed.

Figure 4.1 shows the sum of all four key CVOCs (PCE, TCE, cis-1,2-DCE, and VC) in the 1st and 2nd WBZ wells Site-wide from 2021. The sum of the four key CVOCs is the specific performance criterion for comparison with the RL of 250 µg/L.

4.1 MAIN SOURCE AREA AND DOWNGRADIENT TO FOX AVENUE S.

Aquifer conditions for both the 1st and 2nd WBZs were evaluated by comparing groundwater data collected from injection and monitoring wells to baseline data. Baseline data were collected prior to the July 2014 injection of substrate into the 2nd WBZ and the January 2015 injection into the 1st WBZ. These bioremediation activities in the Main Source Area followed thermal treatment that ended in May 2013.

Data through 2021 continue to indicate effective bioremediation in the Main Source Area, former Whitehead Property and Fox Avenue S. Of the eleven wells in the 1st and 2nd WBZs sampled, only source area well R0-IW3D had total CVOC concentrations greater than the Site RL of 250 µg/L. Total CVOC concentrations at this well were 500 µg/L. Daughter products cis-1,2-DCE and VC represent 98% of the total CVOCs detected in R0-IW3D in 2021; baseline daughter products represented approximately 25% of total CVOCs in 2014. This well along with source area wells R0-IW1D and R0-IW2D were re-developed in March 2021 in order to clear the well screens which were identified to be significantly plugged in 2020, likely from emulsified oil during a prior substrate injection event. Following well development, these wells were injected with a soluble sucrose substrate solution in June 2021. These wells were also bio-augmented approximately two weeks following the substrate injection in June 2021. The bio-augmentation was completed with a TSI-DC Bio-Augmentation Culture (TSI-DC®), a microbial culture containing species of Dehalococcoides. For the bio-augmentation process, tap water was mixed with sodium ascorbate following the manufacturer's recommendations to remove dissolved oxygen and chlorine. A pre-determined amount of TSI-DC® was added to the de-oxygenated water and then transferred into each screen interval following the substrate addition for the wells. The quantity of TSI-DC® added to each well was based on a target abundance of 3 x 10^6 organisms/liter (in-situ after mixing), an estimated radius of influence, thickness of the water column, and estimated

porosity of the surrounding soils. The bio-augmentation included 19 liters of TSI-DC® culture split between the three injection wells.

Total CVOCs for the remaining wells sampled in these areas range from 0.492 µg/L to 201 µg/L with CVOC reductions ranging from 47% to 99.9% from historical results. Of note are significant CVOC reductions observed at wells R0-IW7D which decreased to 201 µg/L in 2021 (compared with 1,684 µg/L in the prior July 2020 sampling) and MW-07 which decreased to 0.492 µg/L in 2021 (versus 67.8 µg/L in June 2020). Focused substrate injections were completed in these areas (source area, the former Whitehead property, and Fox Avenue S) in 1st WBZ wells MW-07, MW-09, R1-IW3a, R1-IW4a, and R1-IW5 and 2nd WBZ wells R0-IW1D, R0-IW2D, R0-IW3D in June and July 2021. Another round of substrate injections in the same wells recently used in June and July 2021 should be considered to continue driving the CVOC concentrations toward the CUL.

4.2 NW CORNER

In the NW Corner, CVOCs are only found in 1st WBZ groundwater based on prior monitoring events. Wells sampled in the 1st WBZ in 2021 showed total CVOC concentrations above the RL of 250 µg/L in well R1-IW9 at 771 µg/L; all other wells sampled in this area were below the RL. Well B-22 showed a significant decrease in total CVOCs from 1,089 µg/L in 2020 to 105 µg/L in 2021. In addition, parent products PCE and TCE remain at non-detect levels at NW1-1 and reduced significantly at B-22, indicating continued degradation is occurring. Focused treatment by injection of additional sugar substrate is recommended around these two wells similar to what was completed in July 2021 using wells R1-IW8, R1-IW9, R1-IW10, R1-IW11, R1-IW12, R1-IW13, R1-IW14, R1-IW15, and R1-IW16.

4.3 DOWNGRADIENT OF FOX AVENUE

Wells downgradient of Fox Avenue are located in the Seattle Boiler Works property and in Myrtle Street. Results from all six sampled wells in these areas show compliance with the RL and five of the six wells are in compliance with the CULs. CVOC reductions range from 69% to 99.99% at the wells sampled in these areas.

Of note is injection well R2-IW1 which showed total CVOC concentrations remain at near non-detect in 2021 in both 1st and 2nd WBZ samples, down from 237 µg/L and 349 µg/L in 2018. PCE has declined significantly in MW-6 (from 2020 sampling) and has been converted to DCE; continued ERD treatment is required to complete the dechlorination process steps in this area. Similar to the NW Corner, focused treatment by injection of additional substrate is recommended at this area similar to what was completed in July 2021 using wells R2-IW1, R2-IW2, R2-IW3, R2-IW4, R2-IW5, R2-IW10 and R2-IW11.

4.4 SEEPS

The CVOCs at the two embayment seeps met the CULs in 2021 with total CVOC concentrations ranging from non-detect to 2.43 µg/L. This is the second consecutive monitoring event where the CULs have been met at the seeps. The vinyl chloride concentrations in the seeps continue to show

recommended in the areas directly upgradient, as stated above, to continue degradation of CVOCs.

Table 4.1
Post-Thermal Vinyl Chloride Concentrations in the Seeps

Seep	2014 (µg/L)	2015 (µg/L)	2016 (µg/L)	2017 (µg/L)	2018 (µg/L)	2019 (µg/L)	2020 (µg/L)	2021 (µg/L)
S-2	ND	30.9	7.4	4.4	ND	NS	NS	NS
S-3	372	7.5	27.1	13.3	11.7	2.9	1.3	0.42
S-3b	136	72.8	46.4	10.9	39.8	3.9	2.3	ND
S-4	ND	ND	ND	NS	NS	NS	NS	NS

Abbreviations:
ND Non-detect
NS Not sampled

5.0 Recommendations

Recommendations for 2022 are as follows:

1. Repeat the Site-wide groundwater monitoring event again in Spring 2022. Recommend monitoring at similar wells for the Site, as this list is focused at wells or areas driving the need for remedial actions (continued ERD treatment). The monitoring event will be coordinated with a day light hour low tide to access the Seeps. The proposed list of wells for sampling along with target analytes is presented in Table 5.1.
2. Specific wells to be targeted for treatment in Summer 2022 will be identified after review of the data following the Spring 2022 groundwater sampling. The following areas are anticipated based on the most recent sampling data and past trends:
    - Main Source Area and downgradient on the former Whitehead property
    - Fox Avenue
    - NW Corner
    - Seattle Boiler Works
    - S. Myrtle Street

6.0 References

Floyd|Snider. 2012. *Engineering Design Report.* Fox Avenue Site, Seattle, Washington. Prepared for Fox Avenue Building LLC, Seattle, Washington. 9 October.

_____. 2013. *Construction Completion Report*. Fox Avenue Site, Seattle, Washington. Prepared for Fox Avenue Building LLC, Seattle, Washington. 3 October.

_____. 2017. *2016 Annual Report*. Fox Avenue Site, Seattle, Washington. Prepared for Fox Avenue Building LLC, Seattle, Washington. April.

Washington State Department of Ecology (Ecology). 2012. *Agreed Order No. DE 8985 in the Matter of Remedial Action by Fox Avenue Building, LLC*. 18 June.

Tables

Table 3.1 - 2021 Summary of Volatile Organic Compound Data in Groundwater

	WBZ	Sample Depth	Analyte	PCE		TCE		cis-1,2-DCE		trans-1,2-DCE		Vinyl chloride		Total CVOCs	TOC	
Location		**ft bgs**	**Sample Date**	**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**		**µg/L**	**mg/L**	
Source Area																
R0-IW02D	2nd	62	7/21/2021	<0.4	U	<0.5	U	13.7		<0.5	U	<0.2	U	**13.7**	3,280	D
R0-IW3D	2nd	63	7/21/2021	3.37		7.49		203	D	0.975		285	D	**500**	--	
R0-IW7D	2nd	63	7/21/2021	3.40		11.9		96.3	D	1.63		87.8	D	**201**	1,020	D
MW-18S	1st	18	7/21/2021	1.67		<0.5	U	13.6		<0.5	U	8.55		**23.8**	--	
Whitehead																
MW-9	1st	11	6/29/2021	<0.4	U	<0.5	U	2.26		0.836		11.9		**15.0**	12.5	
MW-7	1st	12	6/29/2021	<0.4	U	<0.5	U	<0.5	U	<0.5	U	0.492		**0.492**	--	
B-49	1st	13.5	6/29/2021	2.85		0.706		<0.5	U	<0.5	U	0.254		**3.81**	--	
Northwest Corner																
NW1-1	1st	11	6/29/2021	<0.4	U	<0.5	U	80.3	D	<0.5	U	77.6	D	**158**	--	
B-22	1st	10	6/29/2021	19.9		9.33		65.6	D	0.586		7.79		**103**	--	
DUP (B-22)	1st	10	6/29/2021	20.9		9.38		66.1	D	0.615		8.38		**105**	--	
B-57	1st	13	6/29/2021	7.67		0.643		0.565		<0.5	U	<0.2	U	**8.88**	--	
R1-IW9	1st	11	6/29/2021	480	D	212	D	57.8	D	0.663		20.7		**771**	--	
Fox Avenue Row 1 Injection Transect																
R1-IW4a	1st	11	6/29/2021	<0.4	U	4.34		8.66		<0.5	U	5.28		**18.3**	8.95	
B-20a	1st	14	6/29/2021	<0.4	U	<0.5	U	26.6		1.34		8.76		**36.7**	--	
B-19	2nd	45	6/29/2021	<0.4	U	<0.5	U	11.5		<0.5	U	17.4		**28.9**	--	
Fox Avenue Row 1 Monitoring Transect																
B-58	1st	11	6/29/2021	55.4	D	26.6		82.1	D	<0.5	U	11.2		**175**	--	
Seattle Boiler Works																
R2-IW1	1st	17	7/21/2021	<0.4	U	<0.5	U	1.32		<0.5	U	<0.2	U	**1.32**	8.79	
R2-IW1	2nd	45	7/21/2021	<0.4	U	<0.5	U	1.47		<0.5	U	<0.2	U	**1.47**	8.69	
MW-6	2nd	40	7/21/2021	11.7		14.1		70.9	D	0.835		1.74		**99.3**	--	
DUP (MW-6)	2nd	40	7/21/2021	11.7		14.0		70.5	D	0.871		1.83		**98.9**	--	
Myrtle St																
B-35	2nd	27	6/29/2021	<0.4	U	<0.5	U	<0.5	U	<0.5	U	<0.2	U	**ND**	--	
B-64	1st	10	6/29/2021	<0.4	U	<0.5	U	1.97		<0.5	U	1.49		**3.46**	--	
B-33a	2nd	30	6/29/2021	<0.4	U	<0.5	U	0.67		<0.5	U	1.59		**2.26**	--	
Embayment Seeps																
SP-03	--	--	7/21/2021	<0.4	U	<0.5	U	2.01		<0.5	U	0.42		**2.43**	--	
SP-03b	--	--	7/21/2021	<0.4	U	<0.5	U	<0.5	U	<0.5	U	<0.2	U	**ND**	--	

Abbreviations:

--	Not analyzed
DCE	Dichloroethene
PCE	Tetrachloroethene
TCE	Trichloroethene
TOC	Total Organic Carbon
µg/L	Micrograms per liter
ND	non-detect
ft bgs	feet below ground surface
WBZ	water bearing zone

Qualifiers:

D	Sample was diluted
U	Non-detect

Table 3.2 - Summary of Recent Benzene Data in Groundwater

Location	WBZ	Sample Depth ft bgs		2018 Benzene µg/L		2019 Benzene µg/L		2020 Benzene µg/L		2021 Benzene µg/L	
Source Area											
R0-IW02D	2nd	62		<1.00	U	<1.00	U	<1.00	U	<0.44	U
R0-IW3D	2nd	63		--		--		--		<0.44	U
R0-IW4D	2nd	63		--		--		1.86		--	
R0-IW4S	1st	17		--		--		<1.00	U	--	
R0-IW6D	2nd	63		<1.00	U	--		--		--	
R0-IW7D	2nd	63		--		--		<10.0	U	<0.44	U
R0-IW9S	1st	18		<1.00	U	--		--		--	
MW-15D	2nd	63		<1.00	U	--		--		--	
MW-16D	2nd	63		<1.00	U	--		--		--	
MW-17D	2nd	63		5.87		--		--		--	
MW-18S	1st	18		<1.00	U	<1.00	U	<1.00	U	0.81	
Whitehead											
MW-9	1st	11		<1.00	U	<1.00	U	<1.00	U	<0.44	U
MW-10	2nd	28		<1.00	U	--		--		--	
MW-7	1st	12		<1.00	U	<1.00	U	<1.00	U	<0.44	U
MW-8	2nd	28		<1.00	U	--		--		--	
B-49	1st	13.5		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-45	2nd	45		<1.00	U	--		--		--	
Fox Avenue Downgradient from Whitehead											
R1-IW7	2nd	41		<1.00	U	--		--		--	
B-20a	1st	14		<1.00	U	<1.00	U	9.22		<0.44	U
B-18	1st	14		1.39		--		--		--	
B-19	2nd	45		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-60	1st	11		<1.00	U	--		--		--	
B-61	2nd	42		1.59		--		--		--	
B-63	2nd	42		3.73		--		--		--	
R1-IW17	1st	12		<1.00	U	--		--		--	
R1-IW17	2nd	55		<1.00	U	--		--		--	
Northwest Corner											
NW1-1	1st	11		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-22	1st	10		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-57	1st	13		--		--		--		<0.44	U
R1-IW9	1st	11		--		--		--		<0.44	U
Fox Avenue Downgradient from Cascade											
R1-IW4a	1st	11		<1.00	U	<1.00	U	<1.00	U	<0.44	U
R1-IW4b	2nd	50		<1.00	U	--		--		--	
B-58	1st	11		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-59	2nd	27		<1.00	U	--		--		--	
R1-IW15	2nd	55		<1.00	U	--		--		--	

Table 3.2 - Summary of Recent Benzene Data in Groundwater

In SBW										
R2-IW1	1st	17		1.29		<1.00	U	<1.00	U	0.55	
R2-IW1	2nd	45		1.43		<1.00	U	4.67		0.65	
R2-IW8	2nd	63		1.17		--		--		--	
MW-5	1st	10		<1.00	U	--		--		--	
MW-6	2nd	40		<1.00	U	<1.00	U	<1.00	U	<0.44	U
Myrtle St										
B-35	2nd	27		2.51		1.84		<1.00	U	0.45	
B-64	1st	10		<1.00	U	<1.00	U	<1.00	U	<0.44	U
B-65	2nd	30		2.20		<1.00	U	<1.00	U	<0.44	U
B-33a	2nd	30		9.77		7.09		4.89		3.78	
Embayment Seeps										
SP-02	--	--		<1.00	U	--		--		--	
SP-03	--	--		7.34		3.96		2.94		2.34	
SP-03b	--	--		1.27		<1.00	U	<1.00	U	0.68	

Abbreviations:

--	Not analyzed
µg/L	Micrograms per liter
ft bgs	feet below ground surface
WBZ	water bearing zone

Qualifiers:

U	Non-detect

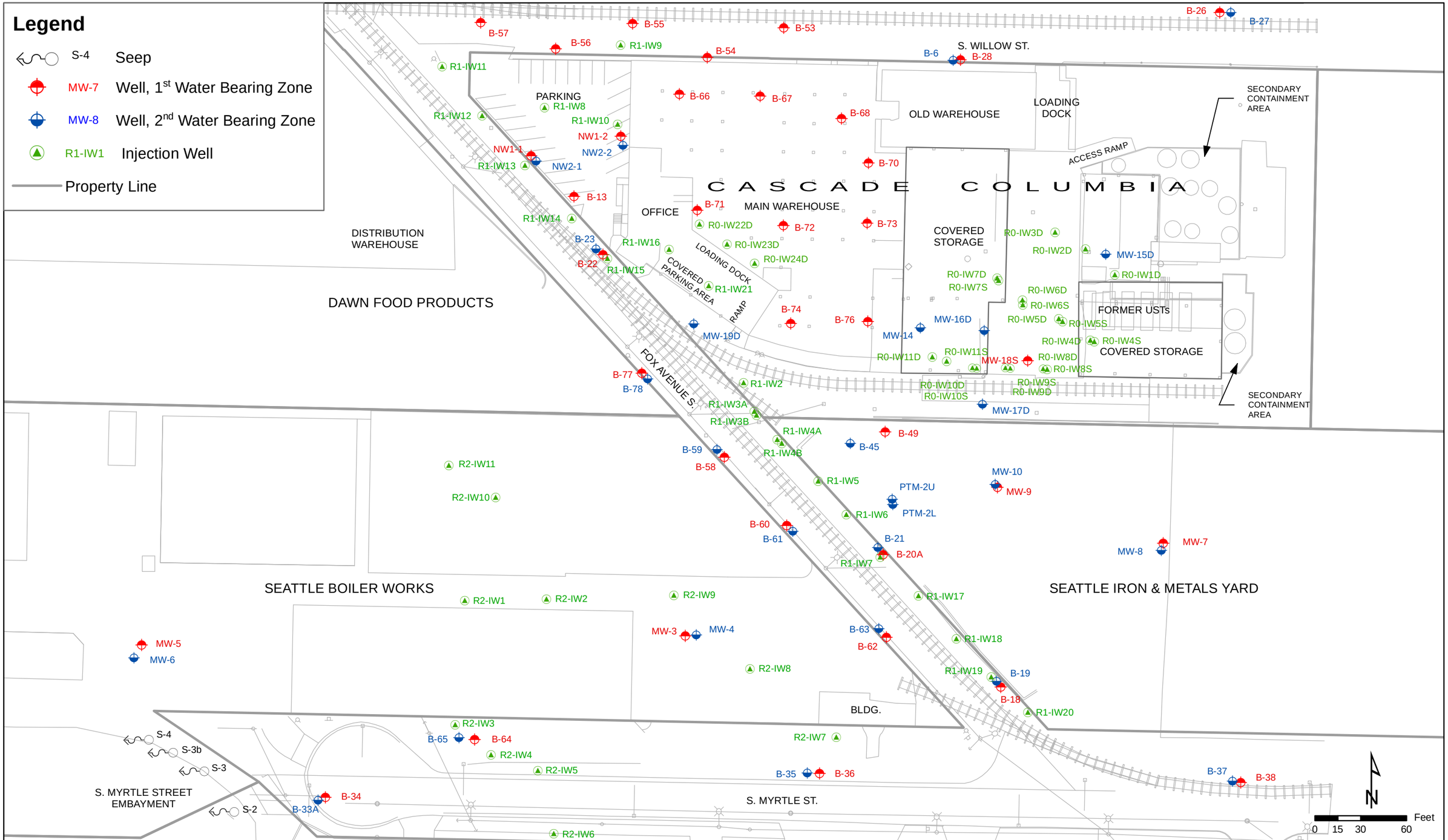
Table 5.1 - Spring 2022 Proposed Sample List

	WBZ	2021 Total CVOCs (µg/L)	2021 Sample VOCs	2021 Sample TOC
Location				
Main Source Area				
R0-IW02D	2nd	13.7	X	
R0-IW03D	2nd	500	X	X
R0-IW07D	2nd	201	X	X
MW-18S	1st	23.8	X	
Whitehead				
MW-9	1st	15.0	X	X
MW-7	1st	0.492	X	
B-49	1st	3.81	X	
Northwest Corner				
NW1-1	1st	158	X	
B-22	1st	105	X	
R1-IW9	1st	771	X	X
Fox Avenue				
R1-IW4a	1st	18.3	X	X
B-20a	1st	36.7	X	
B-19	2nd	28.9	X	
B-58	1st	175	X	
Seattle Boiler Works				
R2-IW1	1st	1.32	X	X
R2-IW1	2nd	1.47	X	X
MW-6	2nd	99.3	X	
Myrtle Street				
B-35	2nd	ND	X	
B-64	1st	3.46	X	
B-33a	2nd	2.26	X	
Embayment Seeps				
SP-03	--	2.43	X	
SP-03b	--	ND	X	

Abbreviations:

CVOC	Chlorinated volatile organic compound
TOC	Total organic carbon
µg/L	Micrograms per liter
VOC	Volatiles organic compound
WBZ	Water bearing zone
ND	non-detect
--	Not analyzed

Figures



CALIBRE

2021 Monitoring Summary
Fox Avenue Site
Seattle, Washington

Figure 1.1
Site Plan

Legend
Total CVOCs (µg/L)

- 0 - 1
- 1 - 10
- 10 - 100
- 100 - 1,000

Notes:
- Thermal treatment period from January–May 2013.
- Total CVOCs include tetrachlorethene (PCE), trichloroethene (TCE), vinyl chloride (VC), and cis-1,2-dichloroethene (cis-DCE).
- Data shown are from the June/July 2021 sampling event.

Abbreviations:
- CVOC = Chlorinated volatile organic compound
- µg/L = Micrograms per liter
- UST = Underground Storage Tank

Qualifier:
- U = The analyte was not detected greater than or equal to the concentration reported.

N

0 50 100

Scale in Feet

B-57
1st WBZ
8.88

R1-IW9
1st WBZ
771

S. WILLOW ST.

PARKING

NW 1-1
1st WBZ
158

OLD WAREHOUSE

LOADING DOCK

SECONDARY CONTAINMENT AREA

ACCESS RAMP

C A S C A D E C O L U M B I A

MAIN WAREHOUSE

OFFICE

B-22 / DUP
1st WBZ
103 / 105

DISTRIBUTION WAREHOUSE

COVERED PARKING AREA

LOADING DOCK

RAMP

COVERED STORAGE

R0-IW3D
2nd WBZ
500

R0-IW2D
2nd WBZ
13.7

R0-IW7D
2nd WBZ
201

FORMER USTs

MW-18S
1st WBZ
23.8

COVERED STORAGE

DAWN FOOD PRODUCTS

FOX AVENUE S.

SECONDARY CONTAINMENT AREA

R1-IW4A
1st WBZ
18.3

B-58
1st WBZ
175

B-49
1st WBZ
3.81

MW-09
1st WBZ
15.0

B-20A
1st WBZ
36.7

MW-07
1st WBZ
0.492

SEATTLE BOILER WORKS

R2-IW1
1st WBZ
1.32

R2-IW1
2nd WBZ
1.47

SEATTLE IRON & METALS YARD

MW-06 / DUP
2nd WBZ
99.3 / 98.9

B-19
2nd WBZ
28.9

B-64
1st WBZ
3.46

BLDG.

S-3b
Seep
0.5 U

S-13 (Calibre S-3)
Seep
2.42

B-35
2nd WBZ
0.5 U

B-33A
2nd WBZ
2.26

S. MYRTLE STREET EMBAYMENT

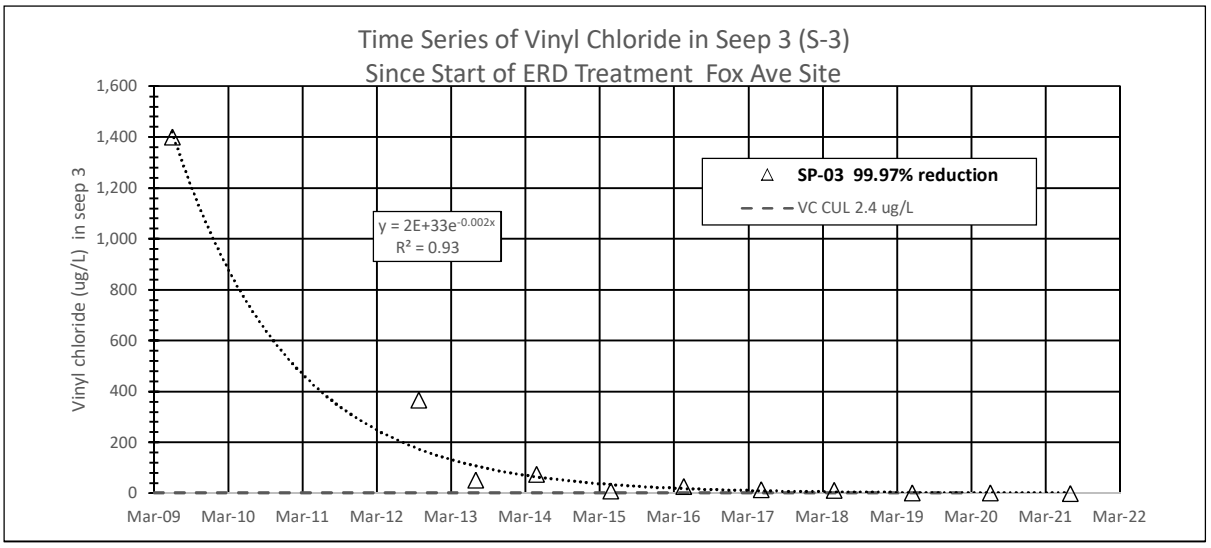
S. MYRTLE ST.

CALIBRE

2021 Monitoring Summary
Fox Avenue Site
Seattle, Washington

Figure 4.1
Total CVOCs Concentrations in Groundwater
1st and 2nd Water Bearing Zones
June and July 2021

Figure 4.2 Time Series of Vinyl Chloride in Seep S-3



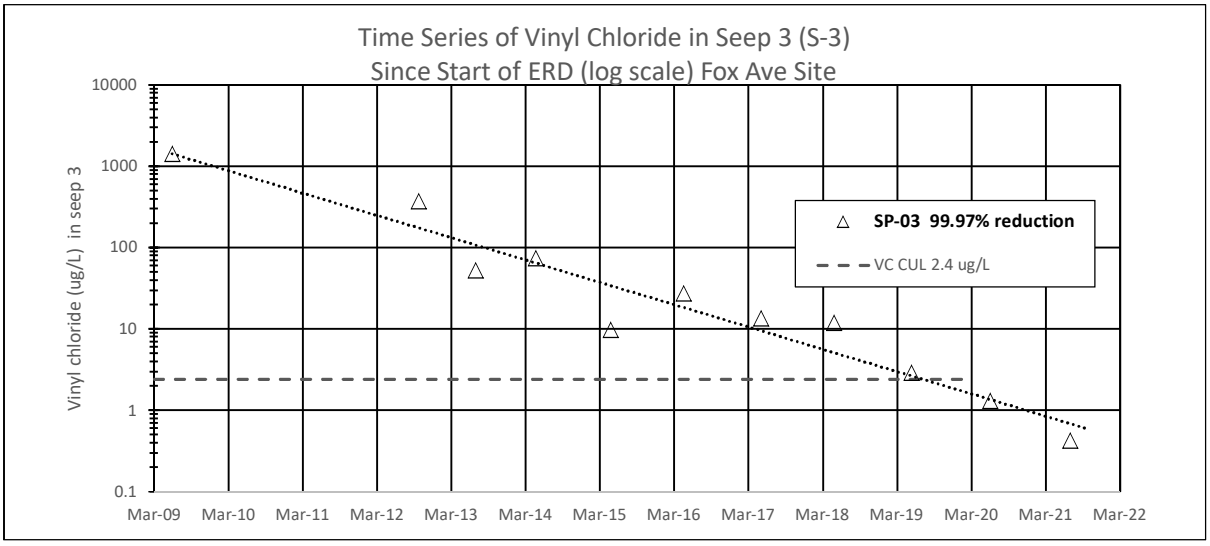
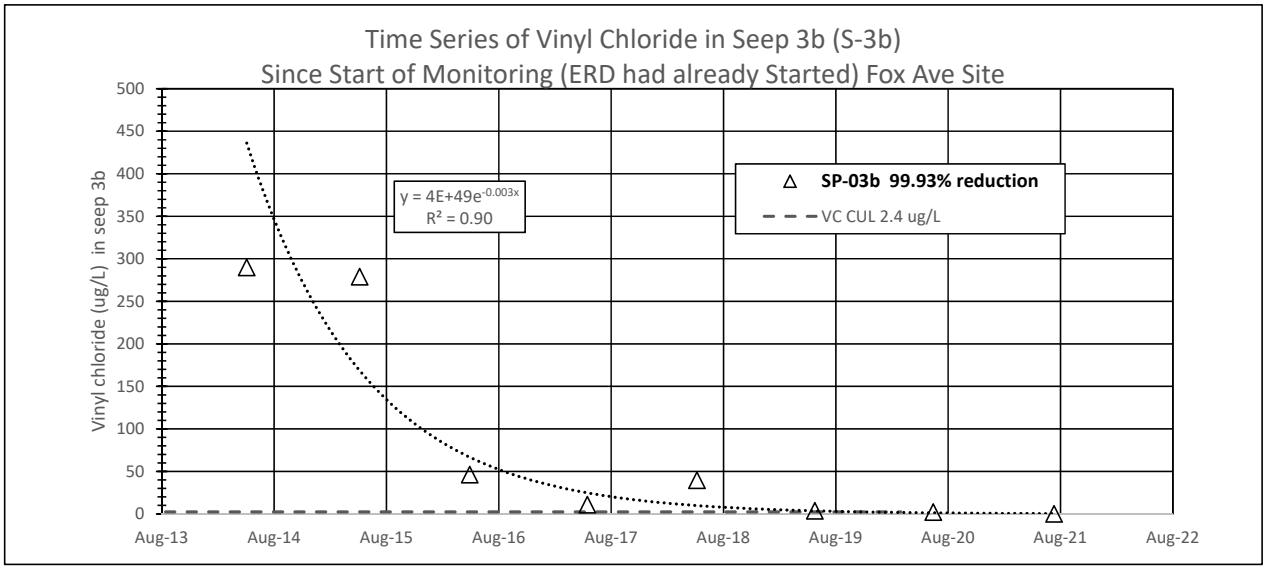
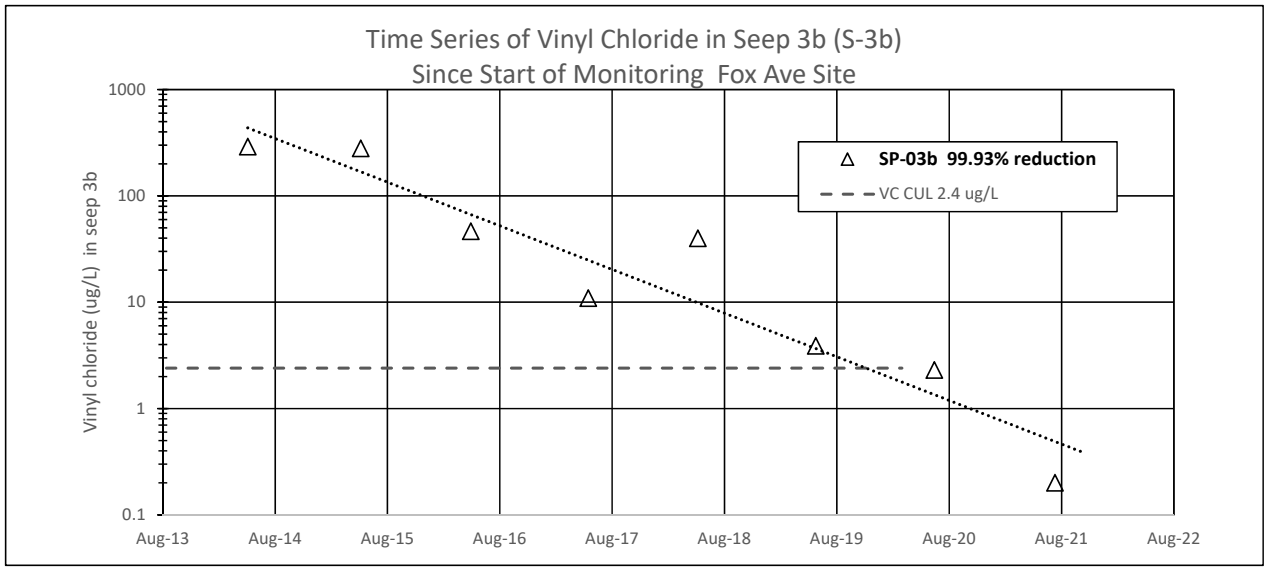


Figure 4.3 Time Series of Vinyl Chloride in Seep S-3b





Appendix A

Field Sampling Data Sheets

Well Sampling Data Sheet

Date	06/29/2021	Site Location	Fox
Samplers	KL JU	Well ID	NW1-1
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	

Field Measurements:

Time	0731	Depth Measured From:	
Depth to Water	9.35		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
0734	0	13.51	0.820	5.01	6.22	-83.5	—
0748	1.0	12.82	0.797	2.44	6.79	-84.5	—
0754	2.0	12.78	0.780	2.61	6.81	-90.7	—
0757	2.5	12.75	0.773	1.85	6.63	-85.6	—

Sampling Data:

Time	0800	Sample ID	~~062921~~ - NW1-1 062921
Vol. Purged	3.0	Duplicates	
Temperature (°C)	12.75	QA/QC Volumes	
Conductivity (mS/cm)	0.769		
D.O. (mg/L)	1.61		
pH	6.78		
ORP (mV)	-85.7		
Turbidity (NTU)	—		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump	X	Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:
Clear, No odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	Fox 4 mw
Samplers	JN	Well ID	B-22
Casing Material	Steel	Constructed Depth	11' Screen 6-11
Casing Diameter	2"	Condition of Well	Ok

Field Measurements:

Time	0738	Depth Measured From:	
Depth to Water	9.00		Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of case	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

water end

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
0740	0	18.20	1.39	1.22	5.95	78	143
0745	0.5	16.24	1.76	1.22	6.18	-8	19.5
0750	1.5	16.13	1.79	1.11	6.18	-15	15.4
0755	2.0	16.06	1.80	1.14	6.17	-18	15.3
0800	2.5	16.00	1.80	1.07	6.17	-20	15.5

Sampling Data:

Time	0805	Sample ID	B-22-062921
Vol. Purged (gal)	3.0	Duplicates	Dup 01-062921
Temperature (°C)	16.03	QA/QC Volumes	
Conductivity (mS/cm)	1.79		
D.O. (mg/L)	1.10		
pH	6.16		
ORP (mV)	-20		
Turbidity (NTU)	14.1		

@ 0800

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:
No odor, slightly effervescing, clear

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	Fox Ave
Samplers	JN	Well ID	RI-IW4A
Casing Material	PVC	Constructed Depth	14' Screen 9-14'
Casing Diameter	4"	Condition of Well	OK

Field Measurements:

Time	0845	Depth Measured From:	
Depth to Water	8.89		Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of case	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

Waterra

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
0847	0	17.65	1.19	2.12	6.83	-20	157
0852	1.0	16.73	1.10	0.86	6.81	-39	83.5
0857	1.5	16.47	1.09	0.35	6.87	-45	68.1
0902	2.0	16.44	1.09	0.19	6.67	-48	67.5
0907	2.5	16.49	1.08	0.03	6.65	-50	66.5

Sampling Data:

Time	0912	Sample ID	RI-IW4A-062921
Vol. Purged (gal)	3.0	Duplicates	
Temperature (°C)	16.49	QA/QC Volumes	
Conductivity (mS/cm)	1.08		
D.O. (mg/L)	0.02		
pH	6.65		
ORP (mV)	-51		
Turbidity (NTU)	65.9		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2	
Total Metals HCL		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)	
Dissolved Metals			Total Organic Carbon 415.1 H_2SO_4	X	Other	

Sampling Notes:

Reducing odor, clear

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/2015 2021	Site Location	Fox Ave
Samplers	RL	Well ID	B-57
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	Needs cleaning / redevel

Field Measurements:

Time	0830	Depth Measured From:	
Depth to Water	8.91		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic
Bailer:		PVC		Stainless Steel		Other:
Purge Start Time			Purge End Time			
Approximate Volume Purged						

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
0837	0	16.51	0.751	0.71	6.33	-95.8	—
0900	0.5	17.46	0.571	0.63	6.38	-79.1	—
0910	0.75	17.66	0.542	0.55	6.31	-57.0	—
0915	1.00	17.61	0.534	0.54	6.29	-54.1	—

Sampling Data:

Time	0920	Sample ID	~~B-57~~ B57-062921
Vol. Purged	1.25	Duplicates	
Temperature (°C)	17.53	QA/QC Volumes	
Conductivity (mS/cm)	0.528		
D.O. (mg/L)	0.55		
pH	6.27		
ORP (mV)	-50.6		
Turbidity (NTU)			

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump	X	Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Well ~~Fill~~ silty - clogged pump
Cleaned restart - low yield
Pumps dry

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/2015	Site Location	Fox Ave
Samplers	RC	Well ID	RI-IW9
Casing Material	PVC	Constructed Depth	
Casing Diameter	4"	Condition of Well	good

Field Measurements:

Time	0832	Depth Measured From:	
Depth to Water	9.98		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic
Bailer:		PVC		Stainless Steel		Other:
Purge Start Time			Purge End Time			
Approximate Volume Purged						

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
0836	0	16.29	0.581	2.15	6.40	-49.1	—
0942	1.0	14.81	0.390	1.35	6.11	-22.2	—
0952	2.0	14.87	0.419	1.56	6.14	-31.7	—

Sampling Data:

Time	10.00	Sample ID	RI-IW9-062921
Vol. Purged 2.5	~~14.84~~	Duplicates	
Temperature (°C)	14.84	QA/QC Volumes	
Conductivity (mS/cm)	0.422		
D.O. (mg/L)	1.49		
pH	6.14		
ORP (mV)	-33.5		
Turbidity (NTU)	—		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Clear No odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	Fox Ave
Samplers	JW	Well ID	B-49
Casing Material	~~PVC~~ Steel	Constructed Depth	15.5. Screen 9.5-15.5
Casing Diameter	2"	Condition of Well	OK

Field Measurements:

Time	0933	Depth Measured From:	
Depth to Water	9.60		Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of cast	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

watera

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
0935	0	17.64	1.05	2.60	6.64	-20	378
0940	0.5	14.80	1.05	0.87	6.58	-33	130
0945	1.0	14.48	1.03	0.26	6.60	-40	55.6
0950	1.5	14.34	1.02	0.31	6.62	-45	37.3
0955	2.0	14.43	1.01	0.30	6.63	-48	30.1

Sampling Data:

Time	1000	Sample ID	B-49-062921
Vol. Purged (gal)	2.5	Duplicates	
Temperature (°C)	14.35	QA/QC Volumes	
Conductivity (mS/cm)	1.01		
D.O. (mg/L)	0.31		
pH	6.63		
ORP (mV)	-50		
Turbidity (NTU)	26.1		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/~~2015~~ 2021	Site Location	Fox Ave
Samplers	RC	Well ID	B58
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	good

Field Measurements:

Time	1015	Depth Measured From:	
Depth to Water	9.99		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
1020	0	14.37	0.361	2.70	6.17	-39.2	-
1026	0.5	12.02	0.324	2.40	5.87	-31.6	-
1032	1.0	11.75	0.324	2.19	5.92	-39.2	-
1038	1.5	11.78	0.332	2.03	5.97	-51.4	-
1045	2.0	11.72	0.337	2.09	6.05	-58.7	

Sampling Data:

Time	1051	Sample ID	B58-062921
Vol. Purged	2.5	Duplicates	
Temperature (°C)	11.66	QA/QC Volumes	
Conductivity (mS/cm)	0.341		
D.O. (mg/L)	1.90		
pH	6.04		
ORP (mV)	-56.7		
Turbidity (NTU)	-		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump	X	Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:
clear, No odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/ 29 /2015 2021	Site Location	Fox Ave
Samplers	JW	Well ID	B-20A
Casing Material	PVC	Constructed Depth	16' Screen 6-16
Casing Diameter	2"	Condition of Well	ok

Field Measurements:

Time	1028	Depth Measured From:	
Depth to Water	9.00	-	Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of case	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time			Waterra	
Approximate Volume Purged							

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
1030	0	20.05	0.619	1.64	6.77	-45	162
1035	0.5	18.89	0.577	1.95	6.73	-54	45.0
1040	1.0	16.87	0.614	2.50	6.71	-55	21.5
1045	1.5	16.72	0.616	2.56	6.72	-55	19.2
1050	2.0	16.39	0.625	2.87	6.71	-55	11.7

Sampling Data:

Time	1055	Sample ID	B-20A-062921
Vol. Purged	2.5	Duplicates	
Temperature (°C)	16.33	QA/QC Volumes	
Conductivity (mS/cm)	0.627		
D.O. (mg/L)	2.82		
pH	6.10		
ORP (mV)	-54		
Turbidity (NTU)	10.7		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Reducing odor, clear

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	Fort Ave
Samplers	JN	Well ID	B-19
Casing Material	PVC	Constructed Depth	47.5 screen 37.5-47.5
Casing Diameter	2"	Condition of Well	Ok

Field Measurements:

Time	1120	Depth Measured From:	
Depth to Water	9.59		Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of case	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

watered

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
1124	0	16.77	0.533	1.31	6.69	-3	405
1129	0.5	16.30	0.486	1.15	6.60	-26	54.1
1134	1.5	15.95	0.476	0.99	6.60	-27	27.9
1139	2.0	15.93	0.487	0.89	6.59	-28	17.2
1144	2.5	15.70	0.509	0.81	6.59	-30	16.0

Sampling Data:

Time	1149	Sample ID	B-19-062921
Vol. Purged (gal)	3.0	Duplicates	
Temperature (°C)	15.69	QA/QC Volumes	
Conductivity (mS/cm)	0.525		
D.O. (mg/L)	0.79		
pH	6.60		
ORP (mV)	-32		
Turbidity (NTU)	11.0		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6 / 29 /2015	Site Location	Fox Ave
Samplers	RC	Well ID	MW-7
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	

Field Measurements:

Time	1115	Depth Measured From:	
Depth to Water	10.69		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
1118	0	15.71	1.579	1.89	5.93	-74.3	-
1212	1.0	13.51	1.281	0.61	6.25	-104.5	-
1226	2.25	13.10	1.288	0.53	6.29	-104.5	-
1231	2.75	13.11	1.286	0.51	6.32	-110.0	-

Sampling Data:

Time	1235	Sample ID	MW-7-062921
Vol. Purged	3.25	Duplicates	
Temperature (°C)	13.11	QA/QC Volumes	
Conductivity (mS/cm)	1.282		
D.O. (mg/L)	0.49		
pH	6.34		
ORP (mV)	-112.0		
Turbidity (NTU)	-		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump	X	Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:

Clear, mild odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	B-35 @ Fox Anch
Samplers	JN	Well ID	
Casing Material		Constructed Depth	screen 19.5 - 29.5
Casing Diameter	2"	Condition of Well	OK

Field Measurements:

Time	1229	Depth Measured From:	
Depth to Water	8.40		Top of access port
			Mark on PVC casing
			Mark of protective casing
		N side of case	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

evacuated

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
1244	0	18.06	0.192	1.97	7.04	25	>999
1249	1.0	16.01	0.230	1.01	6.69	-14	7990
1254	2.0	15.75	0.214	1.33	6.76	-28	414
1259	3.0	15.67	0.215	1.20	6.77	-30	302

Sampling Data:

Time	1304	Sample ID	B-35-062921
Vol. Purged (gal)	4.0	Duplicates	
Temperature (°C)	15.69	QA/QC Volumes	
Conductivity (mS/cm)	0.216		
D.O. (mg/L)	0.93		
pH	6.77		
ORP (mV)	-34		
Turbidity (NTU)	224		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other		

Sampling Notes:
No odor, black sediment initially but cleared up.

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29 ~~2015~~ 2021	Site Location	Fox Ave
Samplers	RL	Well ID	MW-9
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	Good

Field Measurements:

Time	1245	Depth Measured From:	
Depth to Water	11.17		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated	X	Peristaltic
Bailer:		PVC		Stainless Steel		Other:
Purge Start Time			Purge End Time			
Approximate Volume Purged						

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
1253	0	12.01	1.091	0.53	6.48	-116.8	—
1300	1.0	11.66	0.981	0.45	6.50	-118.1	—
1307	2.0	11.73	0.966	0.41	6.54	-119.8	—
1312	3.0	11.70	0.966	0.42	6.56	-120.9	

Sampling Data:

Time	1315	Sample ID	MW-9-062921
Vol. Purged	3.5	Duplicates	
Temperature (°C)	11.71	QA/QC Volumes	
Conductivity (mS/cm)	0.965		
D.O. (mg/L)	0.42		
pH	6.56		
ORP (mV)	-120.7		
Turbidity (NTU)	—		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1	X	Other		

Sampling Notes:

Clear, mild odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/29/21	Site Location	B-33A
Samplers	JN	Well ID	FORAM
Casing Material	Steel	Constructed Depth	34' Screen 28-34
Casing Diameter	2"	Condition of Well	OK

Field Measurements:

		Depth Measured From:	
Time	1352		Top of access port
Depth to Water	8.40		Mark on PVC casing
			Mark of protective casing
		N Sideface	Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

waterra

Water Monitoring Conditions:

Time	Vol. Purged (gal)	Temperature (°C)	Conductivity (mS/cm)	D.O. (mg/L)	pH	ORP (mV)	Turbidity (NTU)
1356	0	17.01	3.94	1.05	6.67	56	446
1401	1.0	15.29	4.16	1.03	6.52	26	90.8
1406	1.5	15.67	4.17	1.00	6.56	-25	40.6
1411	2.0	15.54	4.17	0.88	6.56	-28	40.7
1416	2.5	15.51	4.18	0.75	6.57	-32	34.1

Sampling Data:

Time	1421	Sample ID	B-33A-062921
Vol. Purged (gal)	3.0	Duplicates	
Temperature (°C)	15.51	QA/QC Volumes	
Conductivity (mS/cm)	4.18		
D.O. (mg/L)	0.73		
pH	6.58		
ORP (mV)	-36		
Turbidity (NTU)	32.2		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260	SVOCs by 8270C		Sulfate 375.2	
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)	
Dissolved Metals			Total Organic Carbon 415.1		Other	

Sampling Notes:

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	6/2/2015	Site Location	Fox Ave
Samplers		Well ID	B64
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	

Field Measurements:

Time	1350	Depth Measured From:	
Depth to Water	7.20		Top of access port
		x	Mark on PVC casing
see			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated		Non-dedicated		Peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Volume Purged							

Water Monitoring Conditions:

Time	Vol. Purged	Temperature (°C)	Conductivity (mS)	D.O. (mg/L)	pH	ORP (mV)	Turbidity
1354	0	18.60	0.935	0.71	6.51	-113.9	—
1400	1.0	13.40	0.543	0.75	6.40	-103.5	—
1406	1.5	13.80	0.541	0.70	6.43	-98.5	—
1413	2.0	13.00	0.511	0.64	6.48	-108.5	—
1419	2.5	12.56	0.498	0.62	6.47	-116.3	

Sampling Data:

Time	1426	Sample ID	
Vol. Purged	3.0	Duplicates	
Temperature (°C)	12.54	QA/QC Volumes	
Conductivity (mS)	0.497		
D.O. (mg/L)	0.59		
pH	6.50		
ORP (mV)	-120.3		
Turbidity (NTU)			

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	x	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2	
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)	
Dissolved Metals			Total Organic Carbon 415.1		Other	

Sampling Notes:

Clear, No ~~odor~~ to slight sea odor

Well Diam.	Well Volume (Gal/ft)	
1 inch	0.041	
2 inch	0.163	
4 inch	0.653	
6 inch	1.469	

Or: (total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21/2009 2021	Site Location	Fox Ave
Samplers	RL	Well ID	MW-18S
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	Good

Field Measurements:

Time	958	Depth Measured From:	
Depth to Water	14.19		Top of access port
		X	Mark on PVC casing
		-	Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic	X
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Gallons Purged							

Water Monitoring Conditions:

Time	1016	1022	1026				
pH	6.53	8.51	8.55				
Conductivity	1.894	1.795	1.855				
Turbidity	-	-	-				
D.O.	4.45	2.64	1.61				
Temperature	11.93	11.58	12.01				
ORP	-27	-49.1	-54.5				
Purge Rate							
Gallons Purged		1.0	2.0				

Sampling Data:

Time	1035	Sample ID	MW-18S-072121
pH	7.37	Duplicates	
Conductivity	2452	QA/QC Volumes	
Turbidity	-		
D.O.	4.11		
Temperature	12.08	2.5 gal Purged	
ORP	-59.0		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2	
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)	
Dissolved Metals			Total Organic Carbon 415.1		Other (Chlorides)	

Sampling Notes:

VOCs by diffusion bag

Pumped dry @ 2 gallon
slightly effervescent
no to no odor
clear/light yellow

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21 ~~2009~~ 2021	Site Location	~~R1-IW1~~
Samplers	JN	Well ID	R2-IW1 17' sample
Casing Material	PVC	Constructed Depth	
Casing Diameter	4"	Condition of Well	ok

Field Measurements:

Time	0915	Depth Measured From:	
Depth to Water	11.00		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Gallons Purged							

Waterra

Water Monitoring Conditions: Groundwater ~~contact~~ of gas.

Time	0940	1016	1024	1029	1034		
pH	6.80	6.66	6.74	6.77	6.69		
Conductivity	1.19 mS/cm	1.13	1.11	1.11	1.11		
Turbidity	32.3 NTU	10.0	6.8	7.9	8.3		
D.O.	2.50 mg/L	1.23	1.19	1.13	1.10		
Temperature	15.95°C	17.08	15.73	15.67	15.46		
ORP	26 mV	-104	-103	-105	-107		
Purge Rate							
Gallons Purged	0	0.5	1.0	1.5	2.0		

Sampling Data:

Time	1039	Sample ID	R2-IW1-17-072121
pH	6.65	Duplicates	
Conductivity	1.10	QA/QC Volumes	
Turbidity	8.6		
D.O.	1.13		
Temperature	15.42		
ORP	-109		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics HCl	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1 H_2SO_4	X	Other (Chlorides)		

Sampling Notes: Sampled steps 3 & 35 @ 0930 Low tide

~~VOCs by diffusion bag~~

Effervescing

Clear

Reducing odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21 /~~2009~~ 21	Site Location	Fortuna
Samplers	JW	Well ID	RZ-IW1 45'Sample
Casing Material	PVC	Constructed Depth	
Casing Diameter	4"	Condition of Well	OK

Field Measurements:

Time	0915
Depth to Water	11.00

Depth Measured From:

	Top of access port
X	Mark on PVC casing
	Mark of protective casing
	Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Gallons Purged							

Waterra

Water Monitoring Conditions:

Time	1052	1057	1102	1107	1112		
pH	6.57	6.54	6.54	6.53	6.53		
Conductivity	1.18 ms/cm	1.19	1.19	1.19	1.20		
Turbidity	12.2 NTU	8.6	8.3	7.3	7.5		
D.O.	1.85 mg/L	1.98	2.09	2.35	2.55		
Temperature	~~6.5~~ 15.78°C	15.57	15.54	15.53	15.57		
ORP	-104 mV	-106	-108	-110	-112		
Purge Rate							
Gallons Purged	0	0.5	1.0	1.5	2.0		

Sampling Data:

Time	1117	Sample ID	RZ-IW1-45-07121
pH	6.54	Duplicates	
Conductivity	1.20	QA/QC Volumes	
Turbidity	7.5		
D.O.	2.41		
Temperature	15.56		
ORP	-113		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1	X	Other (Chlorides)		

Sampling Notes:

~~VOCs by diffusion bag~~

Effervescing

Clear

Reducing odor

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21/~~2009~~ 21	Site Location	Fort Ave
Samplers	JW	Well ID	MW-6
Casing Material	PVC	Constructed Depth	
Casing Diameter	2"	Condition of Well	Ok

Field Measurements:

Time	0910	Depth Measured From:	
Depth to Water	14.60		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic
Bailer:		PVC		Stainless Steel		Other:
Purge Start Time			Purge End Time			
Approximate Gallons Purged						

water

Water Monitoring Conditions:

Time	1138	1143	1149	1154	1159		
pH	6.77	6.87	6.93	6.93	6.89		
Conductivity	12.7 ms/cm	13.8	12.9	10.6	7.76		
Turbidity	912 NTU	68.1	52.4	41.3	29.4		
D.O.	1.84 mg/L	0.73	0.69	0.63	0.57		
Temperature	15.76	14.67	14.61	14.63	14.57		
ORP	-70	-73	-72	-72	-72		
Purge Rate							
Gallons Purged	0	0.5	1.0	1.5	2.0		

Sampling Data:

Time	1204	Sample ID	MW-6-072121
pH	6.77	Duplicates	DUP01-072121 0800
Conductivity	4.78	QA/QC Volumes	
Turbidity	20.0		
D.O.	0.54		
Temperature	14.48		
ORP	-71		

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other (Chlorides)		

Sampling Notes: Brown cloudy water initially

~~VOCs by diffusion bag~~

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21 ~~2009~~ 2021	Site Location	Fox Ave
Samplers	RL	Well ID	RO - IW7D
Casing Material	PVC	Constructed Depth	65
Casing Diameter	2"	Condition of Well	good

Field Measurements:

Time	1052	Depth Measured From:	
Depth to Water	18.40		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic X	
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Gallons Purged							

Water Monitoring Conditions:

Time	1249	1257	1307	1319	1333		
pH	5.13	4.92	5.02	5.09	5.13		
Conductivity	1.766	2.498	1.917	1.881	1.865		
Turbidity	—						
D.O.	0.60	0.55	0.58	0.52	0.48		
Temperature	14.77	13.71	12.95	13.00	13.01		
ORP	-62.1	-55.8	-62.7	-65.8	-67.8		
Purge Rate							
Gallons Purged	0	1	1.5	2	2.5		

Sampling Data:

Time	1340	Sample ID	RO-IW7D-072421
pH	5.15	Duplicates	
Conductivity	1.850	QA/QC Volumes	
Turbidity	—		
D.O.	0.46		
Temperature	13.00		
ORP	-68.8		

Purge 3 gallon

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1	X	Other (Chlorides)		

Sampling Notes:

~~VOCs by diffusion bag~~ Pressurized

Reducing odor

Increase in water

Very slow flowing

effervescent

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21 ~~/2009~~ 21	Site Location	Fox Ave
Samplers		Well ID	RO-IW3D
Casing Material	PVC	Constructed Depth	65
Casing Diameter	4.2"	Condition of Well	Good

Field Measurements:

Time	1245	Depth Measured From:	
Depth to Water	20.96		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic	X
Bailer:		PVC		Stainless Steel		Other:	
Purge Start Time			Purge End Time				
Approximate Gallons Purged							

Water Monitoring Conditions:

Time	1407	1418	1430	1442	1519	1536	
pH	4.69	4.43	4.52	4.58	4.70	4.71	
Conductivity	2.151	2.271	2.291	2.312	2.440	2.492	
Turbidity	–	–	–	–	–	–	
D.O.	0.91	0.9	0.86	0.46	0.42	0.41	
Temperature	13.25	12.87	13.33	13.59	13.81	13.85	
ORP	-38.2	-35.3	-43.1	-48.7	-60.9	-64.1	
Purge Rate							
Gallons Purged	0	0.75	1.25	2.00	4.00	4.75	

Sampling Data:

Time	1545	Sample ID	RO IW3D-07121
pH	4.72	Duplicates	
Conductivity	2.440	QA/QC Volumes	
Turbidity	–		
D.O.	0.41		
Temperature	13.86		
ORP	-65.0		

5 gallon Purge

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1	X	Other (Chlorides)		

Sampling Notes:

VOCs by diffusion bag

Pressurized

Reducing odor

Grease in water

Very slow flow

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Well Sampling Data Sheet

Date	7/21/~~2009~~ 2024	Site Location	
Samplers	RL JR	Well ID	RO-~~33~~ IW2D
Casing Material	PVC	Constructed Depth	65
Casing Diameter	2"	Condition of Well	good

Field Measurements:

Time	1555	Depth Measured From:	
Depth to Water	14.55		Top of access port
		X	Mark on PVC casing
			Mark of protective casing
			Other

Purging Information:

Pump:		Dedicated	X	Non-dedicated		peristaltic
Bailer:		PVC		Stainless Steel		Other:
Purge Start Time			Purge End Time			
Approximate Gallons Purged						

Water Monitoring Conditions:

Time	1559	1608	1642	1649	1700		
pH	4.83	4.79	4.92	4.93	4.91		
Conductivity	1.857	1.374	1.493	1.564	1600		
Turbidity	—	—	—				
D.O.	0.77	0.64	0.54	0.39	0.4		
Temperature	15.10	14.27	14.71	14.63	14.50		
ORP	-65.3	-65.2	-79.4	-84.1	-86.4		
Purge Rate							
Gallons Purged	0	0.75	3.5	4.0	5.0		

Sampling Data:

Time	1705	Sample ID	
pH		Duplicates	
Conductivity		QA/QC Volumes	
Turbidity			
D.O.			
Temperature			
ORP			

Sampling Device:

PVC Bailer		SS Bailer		Dedicated Pump		Teflon Bailer	

Analyses to be Performed:

Volatile Organics	X	VOCs 8260B	SVOCs by 8270C		Sulfate 375.2		
Total Metals		RCRA 8 or Priority Pollutants	SVOCs by 8270C/SIM		RSK-175 (methane, ethane, ethene)		
Dissolved Metals			Total Organic Carbon 415.1		Other (Chlorides)		

Sampling Notes:

~~VOCs by diffusion bag~~ Pressurized reducing odor grease in water

Well Diameter	Well Volume (Gal/ft)
1 inch	0.041
2 inch	0.163
4 inch	0.653
6 inch	1.469

Or:(total depth(ft) - DTW(ft)) x Well Dia^2 x 0.0408 = 1 Well Volume

Appendix B

Laboratory Data Package

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

Calibre Systems
Tom McKeon
16935 SE 39th St.
Bellevue, WA 98008

RE: Fox Avenue
Work Order Number: 2106516

July 09, 2021

Attention Tom McKeon:

Fremont Analytical, Inc. received 16 sample(s) on 6/29/2021 for the analyses presented in the following report.

Total Organic Carbon by SM 5310C
Volatile Organic Compounds by EPA Method 8260D

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CC:
Justin Neste
Rune Lassen

Date: *07/09/2021*

CLIENT: Calibre Systems
Project: Fox Avenue
Work Order: 2106516

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2106516-001	NW1-1-062921	06/29/2021 8:00 AM	06/29/2021 3:27 PM
2106516-002	B-22-0629-21	06/29/2021 8:05 AM	06/29/2021 3:27 PM
2106516-003	Dup01-062921	06/29/2021 8:00 AM	06/29/2021 3:27 PM
2106516-004	B-57-062921	06/29/2021 9:20 AM	06/29/2021 3:27 PM
2106516-005	R1-IW4A-062921	06/29/2021 9:12 AM	06/29/2021 3:27 PM
2106516-006	R1-IW9-062921	06/29/2021 10:00 AM	06/29/2021 3:27 PM
2106516-007	B-49-062921	06/29/2021 10:00 AM	06/29/2021 3:27 PM
2106516-008	B-20A-062921	06/29/2021 10:55 AM	06/29/2021 3:27 PM
2106516-009	B-58-062921	06/29/2021 10:51 AM	06/29/2021 3:27 PM
2106516-010	MW-7-062921	06/29/2021 12:35 PM	06/29/2021 3:27 PM
2106516-011	B-19-062921	06/29/2021 11:49 AM	06/29/2021 3:27 PM
2106516-012	MW-9-062921	06/29/2021 1:15 PM	06/29/2021 3:27 PM
2106516-013	B-35-062921	06/29/2021 1:04 PM	06/29/2021 3:27 PM
2106516-014	B-64-062921	06/29/2021 2:26 PM	06/29/2021 3:27 PM
2106516-015	B-33A-062921	06/29/2021 2:21 PM	06/29/2021 3:27 PM
2106516-016	Trip Blank		06/29/2021 3:27 PM

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

Original

Case Narrative

WO#: **2106516**
Date: **7/9/2021**

CLIENT: Calibre Systems
Project: Fox Avenue

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 8:00:00 AM
Project: Fox Avenue
Lab ID: 2106516-001
Matrix: Groundwater
Client Sample ID: NW1-1-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	77.6	2.00	D	µg/L	10	7/7/2021 12:13:28 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 6:43:08 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
cis-1,2-Dichloroethene	80.3	5.00	D	µg/L	10	7/7/2021 12:13:28 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 6:43:08 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 6:43:08 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 6:43:08 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/7/2021 6:43:08 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 6:43:08 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 6:43:08 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 6:43:08 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 6:43:08 AM
Surr: Dibromofluoromethane	98.4	80 - 120		%Rec	1	7/7/2021 6:43:08 AM
Surr: Toluene-d8	96.3	80 - 120		%Rec	1	7/7/2021 6:43:08 AM
Surr: 1-Bromo-4-fluorobenzene	93.6	80 - 120		%Rec	1	7/7/2021 6:43:08 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 8:05:00 AM
Project: Fox Avenue
Lab ID: 2106516-002
Matrix: Groundwater
Client Sample ID: B-22-0629-21

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	7.79	0.200		µg/L	1	7/7/2021 7:13:18 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 7:13:18 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 7:13:18 AM
trans-1,2-Dichloroethene	0.586	0.500		µg/L	1	7/7/2021 7:13:18 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 7:13:18 AM
cis-1,2-Dichloroethene	65.6	5.00	D	µg/L	10	7/7/2021 5:42:52 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 7:13:18 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 7:13:18 AM
Trichloroethene (TCE)	9.33	0.500		µg/L	1	7/7/2021 7:13:18 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 7:13:18 AM
Tetrachloroethene (PCE)	19.9	0.400		µg/L	1	7/7/2021 7:13:18 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 7:13:18 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 7:13:18 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 7:13:18 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 7:13:18 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 7:13:18 AM
Surr: Dibromofluoromethane	99.4	80 - 120		%Rec	1	7/7/2021 7:13:18 AM
Surr: Toluene-d8	96.3	80 - 120		%Rec	1	7/7/2021 7:13:18 AM
Surr: 1-Bromo-4-fluorobenzene	93.2	80 - 120		%Rec	1	7/7/2021 7:13:18 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 8:00:00 AM
Project: Fox Avenue
Lab ID: 2106516-003
Matrix: Groundwater
Client Sample ID: Dup01-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	8.38	0.200		µg/L	1	7/7/2021 7:43:26 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 7:43:26 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 7:43:26 AM
trans-1,2-Dichloroethene	0.615	0.500		µg/L	1	7/7/2021 7:43:26 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 7:43:26 AM
cis-1,2-Dichloroethene	66.1	5.00	D	µg/L	10	7/7/2021 6:13:00 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 7:43:26 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 7:43:26 AM
Trichloroethene (TCE)	9.38	0.500		µg/L	1	7/7/2021 7:43:26 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 7:43:26 AM
Tetrachloroethene (PCE)	20.9	0.400		µg/L	1	7/7/2021 7:43:26 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 7:43:26 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 7:43:26 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 7:43:26 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 7:43:26 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 7:43:26 AM
Surr: Dibromofluoromethane	100	80 - 120		%Rec	1	7/7/2021 7:43:26 AM
Surr: Toluene-d8	96.3	80 - 120		%Rec	1	7/7/2021 7:43:26 AM
Surr: 1-Bromo-4-fluorobenzene	92.7	80 - 120		%Rec	1	7/7/2021 7:43:26 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 9:20:00 AM
Project: Fox Avenue
Lab ID: 2106516-004
Matrix: Groundwater
Client Sample ID: B-57-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	ND	0.200		µg/L	1	7/6/2021 10:43:04 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 10:43:04 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 10:43:04 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 10:43:04 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 10:43:04 PM
cis-1,2-Dichloroethene	0.565	0.500		µg/L	1	7/6/2021 10:43:04 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 10:43:04 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 10:43:04 PM
Trichloroethene (TCE)	0.643	0.500		µg/L	1	7/6/2021 10:43:04 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 10:43:04 PM
Tetrachloroethene (PCE)	7.67	0.400		µg/L	1	7/6/2021 10:43:04 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 10:43:04 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 10:43:04 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 10:43:04 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 10:43:04 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 10:43:04 PM
Surr: Dibromofluoromethane	97.5	80 - 120		%Rec	1	7/6/2021 10:43:04 PM
Surr: Toluene-d8	97.2	80 - 120		%Rec	1	7/6/2021 10:43:04 PM
Surr: 1-Bromo-4-fluorobenzene	93.5	80 - 120		%Rec	1	7/6/2021 10:43:04 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 9:12:00 AM
Project: Fox Avenue
Lab ID: 2106516-005
Matrix: Groundwater
Client Sample ID: R1-IW4A-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	5.28	0.200		µg/L	1	7/6/2021 6:11:59 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 6:11:59 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 6:11:59 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 6:11:59 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 6:11:59 PM
cis-1,2-Dichloroethene	8.66	0.500		µg/L	1	7/6/2021 6:11:59 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 6:11:59 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 6:11:59 PM
Trichloroethene (TCE)	4.34	0.500		µg/L	1	7/6/2021 6:11:59 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 6:11:59 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/6/2021 6:11:59 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 6:11:59 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 6:11:59 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 6:11:59 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 6:11:59 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 6:11:59 PM
Surr: Dibromofluoromethane	95.9	80 - 120		%Rec	1	7/6/2021 6:11:59 PM
Surr: Toluene-d8	96.8	80 - 120		%Rec	1	7/6/2021 6:11:59 PM
Surr: 1-Bromo-4-fluorobenzene	98.2	80 - 120		%Rec	1	7/6/2021 6:11:59 PM
Total Organic Carbon by SM 5310C				Batch ID: R68442		Analyst: TN
Total Organic Carbon	8.95	0.500		mg/L	1	7/8/2021 12:54:00 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 10:00:00 AM
Project: Fox Avenue
Lab ID: 2106516-006
Matrix: Groundwater
Client Sample ID: R1-IW9-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	20.7	0.200		µg/L	1	7/6/2021 11:43:20 PM
1,1-Dichloroethene	6.20	0.500		µg/L	1	7/6/2021 11:43:20 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 11:43:20 PM
trans-1,2-Dichloroethene	0.663	0.500		µg/L	1	7/6/2021 11:43:20 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 11:43:20 PM
cis-1,2-Dichloroethene	57.8	10.0	D	µg/L	20	7/7/2021 1:34:47 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 11:43:20 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 11:43:20 PM
Trichloroethene (TCE)	212	10.0	D	µg/L	20	7/7/2021 1:34:47 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 11:43:20 PM
Tetrachloroethene (PCE)	480	8.00	D	µg/L	20	7/7/2021 1:34:47 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 11:43:20 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 11:43:20 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 11:43:20 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 11:43:20 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 11:43:20 PM
Surr: Dibromofluoromethane	97.2	80 - 120		%Rec	1	7/6/2021 11:43:20 PM
Surr: Toluene-d8	94.9	80 - 120		%Rec	1	7/6/2021 11:43:20 PM
Surr: 1-Bromo-4-fluorobenzene	93.1	80 - 120		%Rec	1	7/6/2021 11:43:20 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 10:00:00 AM
Project: Fox Avenue
Lab ID: 2106516-007
Matrix: Groundwater
Client Sample ID: B-49-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	0.254	0.200		µg/L	1	7/6/2021 6:42:06 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 6:42:06 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 6:42:06 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 6:42:06 PM
Trichloroethene (TCE)	0.706	0.500		µg/L	1	7/6/2021 6:42:06 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 6:42:06 PM
Tetrachloroethene (PCE)	2.85	0.400		µg/L	1	7/6/2021 6:42:06 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 6:42:06 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 6:42:06 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 6:42:06 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 6:42:06 PM
Surr: Dibromofluoromethane	97.0	80 - 120		%Rec	1	7/6/2021 6:42:06 PM
Surr: Toluene-d8	95.1	80 - 120		%Rec	1	7/6/2021 6:42:06 PM
Surr: 1-Bromo-4-fluorobenzene	97.7	80 - 120		%Rec	1	7/6/2021 6:42:06 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 10:55:00 AM
Project: Fox Avenue
Lab ID: 2106516-008
Matrix: Groundwater
Client Sample ID: B-20A-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	8.76	0.200		µg/L	1	7/7/2021 8:13:35 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 8:13:35 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 8:13:35 AM
trans-1,2-Dichloroethene	1.34	0.500		µg/L	1	7/7/2021 8:13:35 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 8:13:35 AM
cis-1,2-Dichloroethene	26.6	0.500		µg/L	1	7/7/2021 8:13:35 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 8:13:35 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 8:13:35 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/7/2021 8:13:35 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 8:13:35 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/7/2021 8:13:35 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 8:13:35 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 8:13:35 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 8:13:35 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 8:13:35 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 8:13:35 AM
Surr: Dibromofluoromethane	100	80 - 120		%Rec	1	7/7/2021 8:13:35 AM
Surr: Toluene-d8	97.1	80 - 120		%Rec	1	7/7/2021 8:13:35 AM
Surr: 1-Bromo-4-fluorobenzene	93.2	80 - 120		%Rec	1	7/7/2021 8:13:35 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 10:51:00 AM
Project: Fox Avenue
Lab ID: 2106516-009
Matrix: Groundwater
Client Sample ID: B-58-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	11.2	0.200		µg/L	1	7/6/2021 7:12:12 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 7:12:12 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 7:12:12 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 7:12:12 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 7:12:12 PM
cis-1,2-Dichloroethene	82.1	5.00	D	µg/L	10	7/7/2021 1:04:39 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 7:12:12 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 7:12:12 PM
Trichloroethene (TCE)	26.6	0.500		µg/L	1	7/6/2021 7:12:12 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 7:12:12 PM
Tetrachloroethene (PCE)	55.4	4.00	D	µg/L	10	7/7/2021 1:04:39 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 7:12:12 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 7:12:12 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 7:12:12 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 7:12:12 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 7:12:12 PM
Surr: Dibromofluoromethane	94.0	80 - 120		%Rec	1	7/6/2021 7:12:12 PM
Surr: Toluene-d8	94.9	80 - 120		%Rec	1	7/6/2021 7:12:12 PM
Surr: 1-Bromo-4-fluorobenzene	95.8	80 - 120		%Rec	1	7/6/2021 7:12:12 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 12:35:00 PM
Project: Fox Avenue
Lab ID: 2106516-010
Matrix: Groundwater
Client Sample ID: MW-7-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	0.492	0.200		µg/L	1	7/7/2021 8:43:45 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 8:43:45 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 8:43:45 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 8:43:45 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 8:43:45 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/7/2021 8:43:45 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 8:43:45 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 8:43:45 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 8:43:45 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 8:43:45 AM
Surr: Dibromofluoromethane	103	80 - 120		%Rec	1	7/7/2021 8:43:45 AM
Surr: Toluene-d8	100	80 - 120		%Rec	1	7/7/2021 8:43:45 AM
Surr: 1-Bromo-4-fluorobenzene	94.4	80 - 120		%Rec	1	7/7/2021 8:43:45 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 11:49:00 AM
Project: Fox Avenue
Lab ID: 2106516-011
Matrix: Groundwater
Client Sample ID: B-19-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	17.4	0.200		µg/L	1	7/7/2021 9:13:54 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 9:13:54 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
cis-1,2-Dichloroethene	11.5	0.500		µg/L	1	7/7/2021 9:13:54 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 9:13:54 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 9:13:54 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 9:13:54 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/7/2021 9:13:54 AM
Ethylbenzene	ND	0.400		µg/L	1	7/7/2021 9:13:54 AM
m,p-Xylene	ND	1.00		µg/L	1	7/7/2021 9:13:54 AM
o-Xylene	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 9:13:54 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 9:13:54 AM
Surr: Dibromofluoromethane	99.6	80 - 120		%Rec	1	7/7/2021 9:13:54 AM
Surr: Toluene-d8	97.8	80 - 120		%Rec	1	7/7/2021 9:13:54 AM
Surr: 1-Bromo-4-fluorobenzene	92.1	80 - 120		%Rec	1	7/7/2021 9:13:54 AM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 1:15:00 PM
Project: Fox Avenue
Lab ID: 2106516-012
Matrix: Groundwater
Client Sample ID: MW-9-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	11.9	0.200		µg/L	1	7/7/2021 10:06:34 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/7/2021 10:06:34 AM
Acetone	ND	6.00		µg/L	1	7/7/2021 10:06:34 AM
trans-1,2-Dichloroethene	0.836	0.500		µg/L	1	7/7/2021 10:06:34 AM
1,1-Dichloroethane	1.44	0.500		µg/L	1	7/7/2021 10:06:34 AM
cis-1,2-Dichloroethene	2.26	0.500		µg/L	1	7/7/2021 10:06:34 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/7/2021 10:06:34 AM
Benzene	ND	0.440		µg/L	1	7/7/2021 10:06:34 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/7/2021 10:06:34 AM
Toluene	ND	0.750		µg/L	1	7/7/2021 10:06:34 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/7/2021 10:06:34 AM
Ethylbenzene	4.60	0.400		µg/L	1	7/7/2021 10:06:34 AM
m,p-Xylene	2.61	1.00		µg/L	1	7/7/2021 10:06:34 AM
o-Xylene	2.44	0.500		µg/L	1	7/7/2021 10:06:34 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/7/2021 10:06:34 AM
Naphthalene	ND	1.25		µg/L	1	7/7/2021 10:06:34 AM
Surr: Dibromofluoromethane	101	80 - 120		%Rec	1	7/7/2021 10:06:34 AM
Surr: Toluene-d8	98.8	80 - 120		%Rec	1	7/7/2021 10:06:34 AM
Surr: 1-Bromo-4-fluorobenzene	99.6	80 - 120		%Rec	1	7/7/2021 10:06:34 AM
Total Organic Carbon by SM 5310C				Batch ID: R68442		Analyst: TN
Total Organic Carbon	12.5	0.500		mg/L	1	7/8/2021 2:36:00 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 1:04:00 PM
Project: Fox Avenue
Lab ID: 2106516-013
Matrix: Groundwater
Client Sample ID: B-35-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	ND	0.200		µg/L	1	7/6/2021 7:42:18 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 7:42:18 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 7:42:18 PM
Benzene	0.447	0.440		µg/L	1	7/6/2021 7:42:18 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 7:42:18 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/6/2021 7:42:18 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 7:42:18 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 7:42:18 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 7:42:18 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 7:42:18 PM
Surr: Dibromofluoromethane	96.8	80 - 120		%Rec	1	7/6/2021 7:42:18 PM
Surr: Toluene-d8	97.0	80 - 120		%Rec	1	7/6/2021 7:42:18 PM
Surr: 1-Bromo-4-fluorobenzene	97.6	80 - 120		%Rec	1	7/6/2021 7:42:18 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 2:26:00 PM
Project: Fox Avenue
Lab ID: 2106516-014
Matrix: Groundwater
Client Sample ID: B-64-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	1.49	0.200		µg/L	1	7/6/2021 8:12:25 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 8:12:25 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
cis-1,2-Dichloroethene	1.97	0.500		µg/L	1	7/6/2021 8:12:25 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 8:12:25 PM
Benzene	ND	0.440		µg/L	1	7/6/2021 8:12:25 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 8:12:25 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/6/2021 8:12:25 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 8:12:25 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 8:12:25 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 8:12:25 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 8:12:25 PM
Surr: Dibromofluoromethane	99.1	80 - 120		%Rec	1	7/6/2021 8:12:25 PM
Surr: Toluene-d8	98.2	80 - 120		%Rec	1	7/6/2021 8:12:25 PM
Surr: 1-Bromo-4-fluorobenzene	94.4	80 - 120		%Rec	1	7/6/2021 8:12:25 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Collection Date: 6/29/2021 2:21:00 PM
Project: Fox Avenue
Lab ID: 2106516-015
Matrix: Groundwater
Client Sample ID: B-33A-062921

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32881		Analyst: KT
Vinyl chloride	1.59	0.200		µg/L	1	7/6/2021 8:42:33 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 8:42:33 PM
Acetone	ND	6.00		µg/L	1	7/6/2021 8:42:33 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/6/2021 8:42:33 PM
1,1-Dichloroethane	1.61	0.500		µg/L	1	7/6/2021 8:42:33 PM
cis-1,2-Dichloroethene	0.670	0.500		µg/L	1	7/6/2021 8:42:33 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/6/2021 8:42:33 PM
Benzene	3.78	0.440		µg/L	1	7/6/2021 8:42:33 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/6/2021 8:42:33 PM
Toluene	ND	0.750		µg/L	1	7/6/2021 8:42:33 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/6/2021 8:42:33 PM
Ethylbenzene	ND	0.400		µg/L	1	7/6/2021 8:42:33 PM
m,p-Xylene	ND	1.00		µg/L	1	7/6/2021 8:42:33 PM
o-Xylene	ND	0.500		µg/L	1	7/6/2021 8:42:33 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/6/2021 8:42:33 PM
Naphthalene	ND	1.25		µg/L	1	7/6/2021 8:42:33 PM
Surr: Dibromofluoromethane	98.0	80 - 120		%Rec	1	7/6/2021 8:42:33 PM
Surr: Toluene-d8	99.5	80 - 120		%Rec	1	7/6/2021 8:42:33 PM
Surr: 1-Bromo-4-fluorobenzene	95.5	80 - 120		%Rec	1	7/6/2021 8:42:33 PM

Analytical Report

Work Order: **2106516**
Date Reported: **7/9/2021**

Client: Calibre Systems
Project: Fox Avenue
Lab ID: 2106516-016
Client Sample ID: **Trip Blank**

Collection Date:
Matrix: Groundwater

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 32903		Analyst: KT
Vinyl chloride	ND	0.200		µg/L	1	7/2/2021 1:58:55 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
Acetone	ND	6.00		µg/L	1	7/2/2021 1:58:55 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/2/2021 1:58:55 PM
Benzene	ND	0.440		µg/L	1	7/2/2021 1:58:55 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
Toluene	ND	0.750		µg/L	1	7/2/2021 1:58:55 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/2/2021 1:58:55 PM
Ethylbenzene	ND	0.400		µg/L	1	7/2/2021 1:58:55 PM
m,p-Xylene	ND	1.00		µg/L	1	7/2/2021 1:58:55 PM
o-Xylene	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/2/2021 1:58:55 PM
Naphthalene	ND	1.25		µg/L	1	7/2/2021 1:58:55 PM
Surr: Dibromofluoromethane	102	80 - 120		%Rec	1	7/2/2021 1:58:55 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/2/2021 1:58:55 PM
Surr: 1-Bromo-4-fluorobenzene	91.6	80 - 120		%Rec	1	7/2/2021 1:58:55 PM

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-R68442**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **7/8/2021**	RunNo: **68442**
Client ID: **MBLKW**	Batch ID: **R68442**		Analysis Date: **7/8/2021**	SeqNo: **1382879**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									

Sample ID: **LCS-R68442**	SampType: **LCS**	Units: **mg/L**	Prep Date: **7/8/2021**	RunNo: **68442**
Client ID: **LCSW**	Batch ID: **R68442**		Analysis Date: **7/8/2021**	SeqNo: **1382880**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	4.94	0.500	5.000	0	98.8	90.6	113				

Sample ID: **2106516-005BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **7/8/2021**	RunNo: **68442**
Client ID: **R1-IW4A-062921**	Batch ID: **R68442**		Analysis Date: **7/8/2021**	SeqNo: **1382882**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	8.92	0.500						8.949	0.358	20	

Sample ID: **2106516-005BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **7/8/2021**	RunNo: **68442**
Client ID: **R1-IW4A-062921**	Batch ID: **R68442**		Analysis Date: **7/8/2021**	SeqNo: **1382883**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	13.5	0.500	5.000	8.949	92.0	69.1	124				

Sample ID: **2106516-005BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **7/8/2021**	RunNo: **68442**
Client ID: **R1-IW4A-062921**	Batch ID: **R68442**		Analysis Date: **7/8/2021**	SeqNo: **1382884**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	13.2	0.500	5.000	8.949	84.4	69.1	124	13.55	2.83	30	

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-32903** SampType: **LCS** Units: **µg/L** Prep Date: **7/7/2021** RunNo: **68387**
Client ID: **LCSW** Batch ID: **32903** Analysis Date: **7/2/2021** SeqNo: **1381802**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	26.9	0.200	20.00	0	134	80	120				S
1,1-Dichloroethene	23.8	0.500	20.00	0	119	80	120				
Acetone	44.8	6.00	50.00	0	89.5	80	120				
trans-1,2-Dichloroethene	22.8	0.500	20.00	0	114	80	120				
1,1-Dichloroethane	23.1	0.500	20.00	0	115	80	120				
cis-1,2-Dichloroethene	22.9	0.500	20.00	0	114	80	120				
2-Butanone (MEK)	40.1	1.50	50.00	0	80.2	80	120				
Benzene	22.2	0.440	20.00	0	111	80	120				
Trichloroethene (TCE)	21.4	0.500	20.00	0	107	80	120				
Toluene	22.1	0.750	20.00	0	111	80	120				
Tetrachloroethene (PCE)	21.8	0.400	20.00	0	109	80	120				
Ethylbenzene	21.2	0.400	20.00	0	106	80	120				
m,p-Xylene	42.9	1.00	40.00	0	107	80	120				
o-Xylene	20.8	0.500	20.00	0	104	80	120				
1,2,4-Trimethylbenzene	20.9	0.500	20.00	0	105	80	120				
Naphthalene	16.0	1.25	20.00	0	80.0	80	120				
Surr: Dibromofluoromethane	27.4		25.00		110	80	120				
Surr: Toluene-d8	27.1		25.00		108	80	120				
Surr: 1-Bromo-4-fluorobenzene	26.0		25.00		104	80	120				

NOTES:
S - Outlying spike recovery observed (high bias). Detections will be qualified with a Q.

Sample ID: **MB-32903** SampType: **MBLK** Units: **µg/L** Prep Date: **7/7/2021** RunNo: **68387**
Client ID: **MBLKW** Batch ID: **32903** Analysis Date: **7/2/2021** SeqNo: **1381801**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
1,1-Dichloroethene	ND	0.500									
Acetone	ND	6.00									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **MB-32903** SampType: **MBLK** Units: **µg/L** Prep Date: **7/7/2021** RunNo: **68387**
Client ID: **MBLKW** Batch ID: **32903** Analysis Date: **7/2/2021** SeqNo: **1381801**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,2-Dichloroethene	ND	0.500									
2-Butanone (MEK)	ND	1.50									
Benzene	ND	0.440									
Trichloroethene (TCE)	ND	0.500									
Toluene	ND	0.750									
Tetrachloroethene (PCE)	ND	0.400									
Ethylbenzene	ND	0.400									
m,p-Xylene	ND	1.00									
o-Xylene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
Naphthalene	ND	1.25									
Surr: Dibromofluoromethane	25.2		25.00		101	80	120				
Surr: Toluene-d8	25.1		25.00		100	80	120				
Surr: 1-Bromo-4-fluorobenzene	22.9		25.00		91.7	80	120				

Sample ID: **LCS-32881** SampType: **LCS** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **LCSW** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381846**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	17.7	0.200	20.00	0	88.6	80	120				
1,1-Dichloroethene	19.2	0.500	20.00	0	95.9	80	120				
Acetone	49.8	6.00	50.00	0	99.6	80	120				
trans-1,2-Dichloroethene	19.3	0.500	20.00	0	96.6	80	120				
1,1-Dichloroethane	18.6	0.500	20.00	0	93.0	80	120				
cis-1,2-Dichloroethene	19.0	0.500	20.00	0	95.0	80	120				
2-Butanone (MEK)	52.1	1.50	50.00	0	104	80	120				
Benzene	19.0	0.440	20.00	0	95.2	80	120				
Trichloroethene (TCE)	19.4	0.500	20.00	0	96.9	80	120				
Toluene	19.1	0.750	20.00	0	95.7	80	120				
Tetrachloroethene (PCE)	19.3	0.400	20.00	0	96.7	80	120				

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-32881** SampType: **LCS** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **LCSW** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381846**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethylbenzene	19.6	0.400	20.00	0	97.9	80	120				
m,p-Xylene	39.3	1.00	40.00	0	98.2	80	120				
o-Xylene	19.7	0.500	20.00	0	98.4	80	120				
1,2,4-Trimethylbenzene	19.5	0.500	20.00	0	97.6	80	120				
Naphthalene	22.9	1.25	20.00	0	115	80	120				
Surr: Dibromofluoromethane	24.0		25.00		96.0	80	120				
Surr: Toluene-d8	24.4		25.00		97.8	80	120				
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	80	120				

Sample ID: **MB-32881** SampType: **MBLK** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **MBLKW** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381845**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
1,1-Dichloroethene	ND	0.500									
Acetone	ND	6.00									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									
cis-1,2-Dichloroethene	ND	0.500									
2-Butanone (MEK)	ND	1.50									
Benzene	ND	0.440									
Trichloroethene (TCE)	ND	0.500									
Toluene	ND	0.750									
Tetrachloroethene (PCE)	ND	0.400									
Ethylbenzene	ND	0.400									
m,p-Xylene	ND	1.00									
o-Xylene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
Naphthalene	ND	1.25									
Surr: Dibromofluoromethane	23.3		25.00		93.3	80	120				

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **MB-32881** SampType: **MBLK** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **MBLKW** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381845**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Toluene-d8	23.7		25.00		95.0	80	120				
Surr: 1-Bromo-4-fluorobenzene	24.3		25.00		97.2	80	120				

Sample ID: **2107020-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **BATCH** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381841**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Acetone	ND	6.00						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
cis-1,2-Dichloroethene	ND	0.500						0		30	
2-Butanone (MEK)	ND	1.50						0		30	
Benzene	ND	0.440						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
Toluene	ND	0.750						0		30	
Tetrachloroethene (PCE)	ND	0.400						0		30	
Ethylbenzene	ND	0.400						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	0.500						0		30	
1,2,4-Trimethylbenzene	ND	0.500						0		30	
Naphthalene	ND	1.25						0		30	
Surr: Dibromofluoromethane	23.9		25.00		95.7	80	120		0		
Surr: Toluene-d8	24.2		25.00		96.7	80	120		0		
Surr: 1-Bromo-4-fluorobenzene	23.7		25.00		94.6	80	120		0		

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2106516-004ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **B-57-062921** Batch ID: **32881** Analysis Date: **7/6/2021** SeqNo: **1381823**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Acetone	ND	6.00						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
cis-1,2-Dichloroethene	0.577	0.500						0.5648	2.17	30	
2-Butanone (MEK)	ND	1.50						0		30	
Benzene	ND	0.440						0		30	
Trichloroethene (TCE)	0.628	0.500						0.6432	2.43	30	
Toluene	ND	0.750						0		30	
Tetrachloroethene (PCE)	7.72	0.400						7.674	0.533	30	
Ethylbenzene	ND	0.400						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	0.500						0		30	
1,2,4-Trimethylbenzene	ND	0.500						0		30	
Naphthalene	ND	1.25						0		30	
Surr: Dibromofluoromethane	24.6		25.00		98.5	80	120		0		
Surr: Toluene-d8	24.5		25.00		97.9	80	120		0		
Surr: 1-Bromo-4-fluorobenzene	23.6		25.00		94.3	80	120		0		

Sample ID: **2106516-009AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **B-58-062921** Batch ID: **32881** Analysis Date: **7/7/2021** SeqNo: **1381830**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	27.1	0.200	20.00	11.19	79.3	46.4	150				
1,1-Dichloroethene	21.3	0.500	20.00	0	106	74.3	134				
Acetone	50.9	6.00	50.00	0	102	61.6	142				
trans-1,2-Dichloroethene	21.5	0.500	20.00	0.4833	105	77.3	130				
1,1-Dichloroethane	20.9	0.500	20.00	0	104	74.9	136				
cis-1,2-Dichloroethene	127	0.500	20.00	119.1	39.2	75.1	134				S

Work Order: 2106516
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2106516-009AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/6/2021** RunNo: **68389**
Client ID: **B-58-062921** Batch ID: **32881** Analysis Date: **7/7/2021** SeqNo: **1381830**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone (MEK)	54.5	1.50	50.00	0	109	62.2	135				
Benzene	21.3	0.440	20.00	0	106	79	131				
Trichloroethene (TCE)	58.6	0.500	20.00	26.63	160	72.2	132				S
Toluene	20.9	0.750	20.00	0	105	79.4	132				
Tetrachloroethene (PCE)	97.1	0.400	20.00	56.19	205	78.9	132				S
Ethylbenzene	21.2	0.400	20.00	0	106	64.2	145				
m,p-Xylene	42.2	1.00	40.00	0	106	80	128				
o-Xylene	20.8	0.500	20.00	0	104	80	125				
1,2,4-Trimethylbenzene	20.9	0.500	20.00	0	105	52.2	152				
Naphthalene	21.3	1.25	20.00	0	106	57.3	145				
Surr: Dibromofluoromethane	24.7		25.00		98.7	80	121				
Surr: Toluene-d8	25.4		25.00		102	80	120				
Surr: 1-Bromo-4-fluorobenzene	27.0		25.00		108	80	120				

NOTES:
S - Analyte concentration was too high for accurate spike recovery(ies).

Sample Log-In Check List

Client Name:	**CLBRE**	Work Order Number:	**2106516**
Logged by:	**Gabrielle Coeuille**	Date Received:	**6/29/2021 3:27:00 PM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample 1	5.0

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

Chain of Custody Record & Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Client: CALIBRE	Date: 6/29/21 Page: 1 of: 2
Address: 6354 Walker Ln Ste 500	Project Name: Fox Avenue
City, State, Zip: Alexandria, VA 22310	Project No:
Telephone: 425-241-8449	Collected by: R Lassen + J Neste
Fax:	Location: Fox Ave
	Report To (PM): Tom McKeon
	PM Email: Tom.Mckeon@calibresys.com

Laboratory Project No (internal): 2106514

Special Remarks:
cc Justin.neste@calibresys.com
Rune.Lassen@calibresys.com

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	VOCs (EPA 8260 / 624)	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	TOC				Comments
1 NW1-1-062921	6/29/21	[illegible]	GW	3	X																
2 B-22-062921	↓	0805	↓	3	X																
3 Dup01-062921		0800		3	X																
4 B-57-062921		0920		3	X																
5 RI-IW4A-062921		0912		4	X												X				
6 RI-IW9-062921		1000		3	X																
7 B-49-062921		1000		3	X																
8 B-20A-062921		1055		3	X																
9 B-58-062921		1051		3	X																
10 MW-7-062921	↓	1235	↓	3	X																

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:
☒ Standard ☐ Next Day
☐ 3 Day ☐ Same Day
☐ 2 Day ______ (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished (Signature)	Print Name	Date/Time	Received (Signature)	Print Name	Date/Time
x [signature]	Rune Lassen	6/29/21 1525	x [signature]	Oliver Khan	6/29/21 1527
x			x		

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 6/29/21 Page: 2 of: 2

Laboratory Project No (internal): M06574

Special Remarks: cc Justin Neste + Russ Lassen

Project Name: Fox Avenue

Project No:

Client: CALIBRE

Address: 6354 Walker Ln Ste 600

City, State, Zip: Alexandria, VA 22310

Telephone: 425-241-8449

Fax:

Collected by: R Lassen J Neste

Location: Fox Ave

Report To (PM): Tom McKeon

PM Email: Tom.McKeon@calibresys.com

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	VOCs (EPA 8260 / 624)	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T)	Dissolved (D)	Anions (IC)***	EDB (8011)	TOC				Comments
1	B-19-062921	6/29/21	1149	GW	3	X																	
2	MW-9-062921		1315		4	X													X				
3	B-35-062921		1304		3	X																	
4	B-64-062921		1426		3	X																	
5	B-33A-062921		1421		3	X																	
6	Trip Blank					X																	
7																							
8																							
9																							
10																							

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL *Individual:* Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:
☒ Standard ☐ Next Day
☐ 3 Day ☐ Same Day
☐ 2 Day (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished (Signature)	Print Name	Date/Time	Received (Signature)	Print Name	Date/Time
x	Russ Lassen	6/29/21 1525	x	Overnight	6/29/21 1527
Relinquished (Signature)	Print Name	Date/Time	Received (Signature)	Print Name	Date/Time
x			x		

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

Calibre Systems
Tom McKeon
16935 SE 39th St.
Bellevue, WA 98008

RE: Fox Avenue
Work Order Number: 2107336

July 29, 2021

Attention Tom McKeon:

Fremont Analytical, Inc. received 11 sample(s) on 7/22/2021 for the analyses presented in the following report.

Total Organic Carbon by SM 5310C
Volatile Organic Compounds by EPA Method 8260D

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Brianna Barnes
Project Manager

CC:
Justin Neste
Rune Lassen

Date: *07/29/2021*

CLIENT: Calibre Systems
Project: Fox Avenue
Work Order: 2107336

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
2107336-001	SP-03-072121	07/21/2021 9:30 AM	07/22/2021 8:26 AM
2107336-002	SP-03B-072121	07/21/2021 9:35 AM	07/22/2021 8:26 AM
2107336-003	R2-IW1-17-072121	07/21/2021 10:39 AM	07/22/2021 8:26 AM
2107336-004	R2-IW1-45-072121	07/21/2021 11:17 AM	07/22/2021 8:26 AM
2107336-005	MW-6-072121	07/21/2021 12:04 PM	07/22/2021 8:26 AM
2107336-006	DUP01-072121	07/21/2021 8:00 AM	07/22/2021 8:26 AM
2107336-007	Trip Blank	07/19/2021 1:41 PM	07/22/2021 8:26 AM
2107336-008	MW-18S-072121	07/21/2021 10:35 AM	07/22/2021 8:26 AM
2107336-009	RO-IW7D-072121	07/21/2021 1:40 PM	07/22/2021 8:26 AM
2107336-010	RO-IW3D-072121	07/21/2021 3:45 PM	07/22/2021 8:26 AM
2107336-011	RO-IW2D-072121	07/21/2021 5:05 PM	07/22/2021 8:26 AM

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

Case Narrative

WO#: **2107336**
Date: **7/29/2021**

CLIENT: Calibre Systems
Project: Fox Avenue

I. SAMPLE RECEIPT:
Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

* - Flagged value is not within established control limits
B - Analyte detected in the associated Method Blank
D - Dilution was required
E - Value above quantitation range
H - Holding times for preparation or analysis exceeded
I - Analyte with an internal standard that does not meet established acceptance criteria
J - Analyte detected below Reporting Limit
N - Tentatively Identified Compound (TIC)
Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria
S - Spike recovery outside accepted recovery limits
ND - Not detected at the Reporting Limit
R - High relative percent difference observed

Acronyms:

%Rec - Percent Recovery
CCB - Continued Calibration Blank
CCV - Continued Calibration Verification
DF - Dilution Factor
DUP - Sample Duplicate
HEM - Hexane Extractable Material
ICV - Initial Calibration Verification
LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
MCL - Maximum Contaminant Level
MB or MBLANK - Method Blank
MDL - Method Detection Limit
MS/MSD - Matrix Spike / Matrix Spike Duplicate
PDS - Post Digestion Spike
Ref Val - Reference Value
REP - Sample Replicate
RL - Reporting Limit
RPD - Relative Percent Difference
SD - Serial Dilution
SGT - Silica Gel Treatment
SPK - Spike
Surr - Surrogate

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 9:30:00 AM
Project: Fox Avenue
Lab ID: 2107336-001
Matrix: Aqueous
Client Sample ID: SP-03-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	0.415	0.200		µg/L	1	7/26/2021 12:56:35 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 12:56:35 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 12:56:35 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 12:56:35 PM
1,1-Dichloroethane	0.563	0.500		µg/L	1	7/26/2021 12:56:35 PM
cis-1,2-Dichloroethene	2.01	0.500		µg/L	1	7/26/2021 12:56:35 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 12:56:35 PM
Benzene	2.34	0.440		µg/L	1	7/26/2021 12:56:35 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 12:56:35 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 12:56:35 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 12:56:35 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 12:56:35 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 12:56:35 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 12:56:35 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 12:56:35 PM
Naphthalene	1.48	1.25		µg/L	1	7/26/2021 12:56:35 PM
Surr: Dibromofluoromethane	103	80 - 120		%Rec	1	7/26/2021 12:56:35 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 12:56:35 PM
Surr: 1-Bromo-4-fluorobenzene	98.5	80 - 120		%Rec	1	7/26/2021 12:56:35 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 9:35:00 AM
Project: Fox Avenue
Lab ID: 2107336-002
Matrix: Aqueous
Client Sample ID: SP-03B-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	ND	0.200		µg/L	1	7/26/2021 1:56:07 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 1:56:07 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 1:56:07 PM
Benzene	0.682	0.440		µg/L	1	7/26/2021 1:56:07 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 1:56:07 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 1:56:07 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 1:56:07 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 1:56:07 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 1:56:07 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 1:56:07 PM
Surr: Dibromofluoromethane	102	80 - 120		%Rec	1	7/26/2021 1:56:07 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 1:56:07 PM
Surr: 1-Bromo-4-fluorobenzene	98.2	80 - 120		%Rec	1	7/26/2021 1:56:07 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 10:39:00 AM
Project: Fox Avenue
Lab ID: 2107336-003
Matrix: Aqueous
Client Sample ID: R2-IW1-17-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	ND	0.200		µg/L	1	7/26/2021 2:25:59 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 2:25:59 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
cis-1,2-Dichloroethene	1.32	0.500		µg/L	1	7/26/2021 2:25:59 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 2:25:59 PM
Benzene	0.545	0.440		µg/L	1	7/26/2021 2:25:59 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
Toluene	26.2	0.750		µg/L	1	7/26/2021 2:25:59 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 2:25:59 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 2:25:59 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 2:25:59 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 2:25:59 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 2:25:59 PM
Surr: Dibromofluoromethane	103	80 - 120		%Rec	1	7/26/2021 2:25:59 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 2:25:59 PM
Surr: 1-Bromo-4-fluorobenzene	99.6	80 - 120		%Rec	1	7/26/2021 2:25:59 PM
Total Organic Carbon by SM 5310C				Batch ID: R68902		Analyst: SS
Total Organic Carbon	8.79	0.500		mg/L	1	7/28/2021 6:12:00 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 11:17:00 AM
Project: Fox Avenue
Lab ID: 2107336-004
Matrix: Aqueous
Client Sample ID: R2-IW1-45-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	ND	0.200		µg/L	1	7/26/2021 2:55:50 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 2:55:50 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 2:55:50 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 2:55:50 PM
1,1-Dichloroethane	0.565	0.500		µg/L	1	7/26/2021 2:55:50 PM
cis-1,2-Dichloroethene	1.47	0.500		µg/L	1	7/26/2021 2:55:50 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 2:55:50 PM
Benzene	0.646	0.440		µg/L	1	7/26/2021 2:55:50 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 2:55:50 PM
Toluene	46.3	7.50	D	µg/L	10	7/27/2021 10:37:31 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 2:55:50 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 2:55:50 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 2:55:50 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 2:55:50 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 2:55:50 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 2:55:50 PM
Surr: Dibromofluoromethane	104	80 - 120		%Rec	1	7/26/2021 2:55:50 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 2:55:50 PM
Surr: 1-Bromo-4-fluorobenzene	100	80 - 120		%Rec	1	7/26/2021 2:55:50 PM
Total Organic Carbon by SM 5310C				Batch ID: R68902		Analyst: SS
Total Organic Carbon	8.69	0.500		mg/L	1	7/28/2021 7:45:00 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 12:04:00 PM
Project: Fox Avenue
Lab ID: 2107336-005
Matrix: Aqueous
Client Sample ID: MW-6-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	1.74	0.200		µg/L	1	7/26/2021 7:24:41 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 7:24:41 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 7:24:41 PM
trans-1,2-Dichloroethene	0.835	0.500		µg/L	1	7/26/2021 7:24:41 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 7:24:41 PM
cis-1,2-Dichloroethene	70.9	5.00	D	µg/L	10	7/26/2021 3:25:41 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 7:24:41 PM
Benzene	ND	0.440		µg/L	1	7/26/2021 7:24:41 PM
Trichloroethene (TCE)	14.1	0.500		µg/L	1	7/26/2021 7:24:41 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 7:24:41 PM
Tetrachloroethene (PCE)	11.7	0.400		µg/L	1	7/26/2021 7:24:41 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 7:24:41 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 7:24:41 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 7:24:41 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 7:24:41 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 7:24:41 PM
Surr: Dibromofluoromethane	104	80 - 120		%Rec	1	7/26/2021 7:24:41 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 7:24:41 PM
Surr: 1-Bromo-4-fluorobenzene	102	80 - 120		%Rec	1	7/26/2021 7:24:41 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 8:00:00 AM
Project: Fox Avenue
Lab ID: 2107336-006
Matrix: Aqueous
Client Sample ID: DUP01-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	1.83	0.200		µg/L	1	7/27/2021 9:33:29 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 6:25:00 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 6:25:00 PM
trans-1,2-Dichloroethene	0.871	0.500		µg/L	1	7/26/2021 6:25:00 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 6:25:00 PM
cis-1,2-Dichloroethene	70.5	5.00	D	µg/L	10	7/27/2021 11:07:18 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 6:25:00 PM
Benzene	ND	0.440		µg/L	1	7/26/2021 6:25:00 PM
Trichloroethene (TCE)	14.0	0.500		µg/L	1	7/26/2021 6:25:00 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 6:25:00 PM
Tetrachloroethene (PCE)	11.7	0.400		µg/L	1	7/26/2021 6:25:00 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 6:25:00 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 6:25:00 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 6:25:00 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 6:25:00 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 6:25:00 PM
Surr: Dibromofluoromethane	104	80 - 120		%Rec	1	7/26/2021 6:25:00 PM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 6:25:00 PM
Surr: 1-Bromo-4-fluorobenzene	102	80 - 120		%Rec	1	7/26/2021 6:25:00 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/19/2021 1:41:00 PM
Project: Fox Avenue
Lab ID: 2107336-007
Matrix: Aqueous
Client Sample ID: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	ND	0.200		µg/L	1	7/26/2021 11:57:00 AM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
Acetone	ND	6.00		µg/L	1	7/26/2021 11:57:00 AM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
cis-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 11:57:00 AM
Benzene	ND	0.440		µg/L	1	7/26/2021 11:57:00 AM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
Toluene	ND	0.750		µg/L	1	7/26/2021 11:57:00 AM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 11:57:00 AM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 11:57:00 AM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 11:57:00 AM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 11:57:00 AM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 11:57:00 AM
Surr: Dibromofluoromethane	101	80 - 120		%Rec	1	7/26/2021 11:57:00 AM
Surr: Toluene-d8	101	80 - 120		%Rec	1	7/26/2021 11:57:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	80 - 120		%Rec	1	7/26/2021 11:57:00 AM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 10:35:00 AM
Project: Fox Avenue
Lab ID: 2107336-008
Matrix: Aqueous
Client Sample ID: MW-18S-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	8.55	0.200		µg/L	1	7/26/2021 3:55:31 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 3:55:31 PM
Acetone	ND	6.00		µg/L	1	7/26/2021 3:55:31 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 3:55:31 PM
1,1-Dichloroethane	5.11	0.500		µg/L	1	7/26/2021 3:55:31 PM
cis-1,2-Dichloroethene	13.6	0.500		µg/L	1	7/26/2021 3:55:31 PM
2-Butanone (MEK)	ND	1.50		µg/L	1	7/26/2021 3:55:31 PM
Benzene	0.811	0.440		µg/L	1	7/26/2021 3:55:31 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 3:55:31 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 3:55:31 PM
Tetrachloroethene (PCE)	1.67	0.400		µg/L	1	7/26/2021 3:55:31 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 3:55:31 PM
m,p-Xylene	2.88	1.00		µg/L	1	7/26/2021 3:55:31 PM
o-Xylene	1.84	0.500		µg/L	1	7/26/2021 3:55:31 PM
1,2,4-Trimethylbenzene	0.535	0.500		µg/L	1	7/26/2021 3:55:31 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 3:55:31 PM
Surr: Dibromofluoromethane	105	80 - 120		%Rec	1	7/26/2021 3:55:31 PM
Surr: Toluene-d8	103	80 - 120		%Rec	1	7/26/2021 3:55:31 PM
Surr: 1-Bromo-4-fluorobenzene	99.0	80 - 120		%Rec	1	7/26/2021 3:55:31 PM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 1:40:00 PM
Project: Fox Avenue
Lab ID: 2107336-009
Matrix: Aqueous
Client Sample ID: RO-IW7D-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	87.8	2.00	D	µg/L	10	7/26/2021 5:25:18 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/27/2021 10:07:45 AM
Acetone	217	60.0	D	µg/L	10	7/26/2021 5:25:18 PM
trans-1,2-Dichloroethene	1.63	0.500		µg/L	1	7/27/2021 10:07:45 AM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/27/2021 10:07:45 AM
cis-1,2-Dichloroethene	96.3	5.00	D	µg/L	10	7/26/2021 5:25:18 PM
2-Butanone (MEK)	165	15.0	D	µg/L	10	7/26/2021 5:25:18 PM
Benzene	ND	0.440		µg/L	1	7/27/2021 10:07:45 AM
Trichloroethene (TCE)	11.9	0.500		µg/L	1	7/27/2021 10:07:45 AM
Toluene	ND	0.750		µg/L	1	7/27/2021 10:07:45 AM
Tetrachloroethene (PCE)	3.40	0.400		µg/L	1	7/27/2021 10:07:45 AM
Ethylbenzene	ND	0.400		µg/L	1	7/27/2021 10:07:45 AM
m,p-Xylene	ND	1.00		µg/L	1	7/27/2021 10:07:45 AM
o-Xylene	ND	0.500		µg/L	1	7/27/2021 10:07:45 AM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/27/2021 10:07:45 AM
Naphthalene	ND	1.25		µg/L	1	7/27/2021 10:07:45 AM
Surr: Dibromofluoromethane	103	80 - 120		%Rec	1	7/27/2021 10:07:45 AM
Surr: Toluene-d8	100	80 - 120		%Rec	1	7/27/2021 10:07:45 AM
Surr: 1-Bromo-4-fluorobenzene	104	80 - 120		%Rec	1	7/27/2021 10:07:45 AM
Total Organic Carbon by SM 5310C				Batch ID: R68902		Analyst: SS
Total Organic Carbon	1,020	20.0	D	mg/L	40	7/29/2021 9:12:00 AM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 3:45:00 PM
Project: Fox Avenue
Lab ID: 2107336-010
Matrix: Aqueous
Client Sample ID: RO-IW3D-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	285	2.00	D	µg/L	10	7/27/2021 9:03:42 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 5:55:08 PM
Acetone	110	60.0	D	µg/L	10	7/27/2021 9:03:42 PM
trans-1,2-Dichloroethene	0.975	0.500		µg/L	1	7/26/2021 5:55:08 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 5:55:08 PM
cis-1,2-Dichloroethene	203	5.00	D	µg/L	10	7/27/2021 9:03:42 PM
2-Butanone (MEK)	39.4	1.50		µg/L	1	7/26/2021 5:55:08 PM
Benzene	ND	0.440		µg/L	1	7/26/2021 5:55:08 PM
Trichloroethene (TCE)	7.49	0.500		µg/L	1	7/26/2021 5:55:08 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 5:55:08 PM
Tetrachloroethene (PCE)	3.37	0.400		µg/L	1	7/26/2021 5:55:08 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 5:55:08 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 5:55:08 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 5:55:08 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 5:55:08 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 5:55:08 PM
Surr: Dibromofluoromethane	103	80 - 120		%Rec	1	7/26/2021 5:55:08 PM
Surr: Toluene-d8	105	80 - 120		%Rec	1	7/26/2021 5:55:08 PM
Surr: 1-Bromo-4-fluorobenzene	110	80 - 120		%Rec	1	7/26/2021 5:55:08 PM
Total Organic Carbon by SM 5310C				Batch ID: R68902		Analyst: SS
Total Organic Carbon	3,280	50.0	D	mg/L	100	7/29/2021 9:35:00 AM

Analytical Report

Work Order: **2107336**
Date Reported: **7/29/2021**

Client: Calibre Systems
Collection Date: 7/21/2021 5:05:00 PM
Project: Fox Avenue
Lab ID: 2107336-011
Matrix: Aqueous
Client Sample ID: RO-IW2D-072121

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Volatile Organic Compounds by EPA Method 8260D				Batch ID: 33122		Analyst: CR
Vinyl chloride	ND	0.200		µg/L	1	7/26/2021 6:54:53 PM
1,1-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
Acetone	73.3	6.00		µg/L	1	7/26/2021 6:54:53 PM
trans-1,2-Dichloroethene	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
1,1-Dichloroethane	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
cis-1,2-Dichloroethene	13.7	0.500		µg/L	1	7/26/2021 6:54:53 PM
2-Butanone (MEK)	136	15.0	D	µg/L	10	7/26/2021 4:55:26 PM
Benzene	ND	0.440		µg/L	1	7/26/2021 6:54:53 PM
Trichloroethene (TCE)	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
Toluene	ND	0.750		µg/L	1	7/26/2021 6:54:53 PM
Tetrachloroethene (PCE)	ND	0.400		µg/L	1	7/26/2021 6:54:53 PM
Ethylbenzene	ND	0.400		µg/L	1	7/26/2021 6:54:53 PM
m,p-Xylene	ND	1.00		µg/L	1	7/26/2021 6:54:53 PM
o-Xylene	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
1,2,4-Trimethylbenzene	ND	0.500		µg/L	1	7/26/2021 6:54:53 PM
Naphthalene	ND	1.25		µg/L	1	7/26/2021 6:54:53 PM
Surr: Dibromofluoromethane	105	80 - 120		%Rec	1	7/26/2021 6:54:53 PM
Surr: Toluene-d8	103	80 - 120		%Rec	1	7/26/2021 6:54:53 PM
Surr: 1-Bromo-4-fluorobenzene	109	80 - 120		%Rec	1	7/26/2021 6:54:53 PM

Work Order: 2107336
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Total Organic Carbon by SM 5310C

Sample ID: **MB-R68902**	SampType: **MBLK**	Units: **mg/L**	Prep Date: **7/28/2021**	RunNo: **68902**
Client ID: **MBLKW**	Batch ID: **R68902**		Analysis Date: **7/28/2021**	SeqNo: **1394009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	ND	0.500									

Sample ID: **LCS-R68902**	SampType: **LCS**	Units: **mg/L**	Prep Date: **7/28/2021**	RunNo: **68902**
Client ID: **LCSW**	Batch ID: **R68902**		Analysis Date: **7/28/2021**	SeqNo: **1394010**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	5.01	0.500	5.000	0	100	93.1	106				

Sample ID: **2107336-003BDUP**	SampType: **DUP**	Units: **mg/L**	Prep Date: **7/28/2021**	RunNo: **68902**
Client ID: **R2-IW1-17-072121**	Batch ID: **R68902**		Analysis Date: **7/28/2021**	SeqNo: **1394012**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	8.93	0.500						8.794	1.48	20	

Sample ID: **2107336-003BMS**	SampType: **MS**	Units: **mg/L**	Prep Date: **7/28/2021**	RunNo: **68902**
Client ID: **R2-IW1-17-072121**	Batch ID: **R68902**		Analysis Date: **7/28/2021**	SeqNo: **1394013**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	13.6	0.500	5.000	8.794	96.0	69.1	124				

Sample ID: **2107336-003BMSD**	SampType: **MSD**	Units: **mg/L**	Prep Date: **7/28/2021**	RunNo: **68902**
Client ID: **R2-IW1-17-072121**	Batch ID: **R68902**		Analysis Date: **7/28/2021**	SeqNo: **1394014**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Organic Carbon	13.5	0.500	5.000	8.794	93.7	69.1	124	13.60	0.872	30	

Work Order: 2107336
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **LCS-33122** SampType: **LCS** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **LCSW** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393068**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	17.7	0.200	20.00	0	88.6	80	120				
1,1-Dichloroethene	19.0	0.500	20.00	0	95.0	80	120				
Acetone	43.4	6.00	50.00	0	86.7	80	120				
trans-1,2-Dichloroethene	19.6	0.500	20.00	0	98.0	80	120				
1,1-Dichloroethane	20.0	0.500	20.00	0	99.8	80	120				
cis-1,2-Dichloroethene	19.5	0.500	20.00	0	97.7	80	120				
2-Butanone (MEK)	46.0	1.50	50.00	0	92.1	80	120				
Benzene	19.9	0.440	20.00	0	99.7	80	120				
Trichloroethene (TCE)	19.9	0.500	20.00	0	99.3	80	120				
Toluene	20.1	0.750	20.00	0	101	80	120				
Tetrachloroethene (PCE)	20.0	0.400	20.00	0	99.8	80	120				
Ethylbenzene	19.8	0.400	20.00	0	99.2	80	120				
m,p-Xylene	39.2	1.00	40.00	0	98.0	80	120				
o-Xylene	19.7	0.500	20.00	0	98.6	80	120				
1,2,4-Trimethylbenzene	19.7	0.500	20.00	0	98.7	80	120				
Naphthalene	17.8	1.25	20.00	0	88.8	80	120				
Surr: Dibromofluoromethane	25.5		25.00		102	80	120				
Surr: Toluene-d8	26.0		25.00		104	80	120				
Surr: 1-Bromo-4-fluorobenzene	25.7		25.00		103	80	120				

Sample ID: **MB-33122** SampType: **MBLK** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **MBLKW** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393067**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200									
1,1-Dichloroethene	ND	0.500									
Acetone	ND	6.00									
trans-1,2-Dichloroethene	ND	0.500									
1,1-Dichloroethane	ND	0.500									
cis-1,2-Dichloroethene	ND	0.500									

Work Order: 2107336
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **MB-33122** SampType: **MBLK** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **MBLKW** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393067**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Butanone (MEK)	ND	1.50									
Benzene	ND	0.440									
Trichloroethene (TCE)	ND	0.500									
Toluene	ND	0.750									
Tetrachloroethene (PCE)	ND	0.400									
Ethylbenzene	ND	0.400									
m,p-Xylene	ND	1.00									
o-Xylene	ND	0.500									
1,2,4-Trimethylbenzene	ND	0.500									
Naphthalene	ND	1.25									
Surr: Dibromofluoromethane	25.2		25.00		101	80	120				
Surr: Toluene-d8	25.0		25.00		100	80	120				
Surr: 1-Bromo-4-fluorobenzene	24.5		25.00		98.1	80	120				

Sample ID: **2107336-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **SP-03-072121** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393046**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.411	0.200						0.4151	0.891	30	
1,1-Dichloroethene	ND	0.500						0		30	
Acetone	ND	6.00						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	0.516	0.500						0.5634	8.78	30	
cis-1,2-Dichloroethene	2.02	0.500						2.013	0.312	30	
2-Butanone (MEK)	ND	1.50						0		30	
Benzene	2.16	0.440						2.336	7.76	30	
Trichloroethene (TCE)	ND	0.500						0		30	
Toluene	ND	0.750						0		30	
Tetrachloroethene (PCE)	ND	0.400						0		30	
Ethylbenzene	ND	0.400						0		30	

Work Order: 2107336
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2107336-001ADUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **SP-03-072121** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393046**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	0.500						0		30	
1,2,4-Trimethylbenzene	ND	0.500						0		30	
Naphthalene	1.53	1.25						1.484	2.99	30	
Surr: Dibromofluoromethane	25.7		25.00		103	80	120		0		
Surr: Toluene-d8	25.3		25.00		101	80	120		0		
Surr: 1-Bromo-4-fluorobenzene	24.8		25.00		99.4	80	120		0		

Sample ID: **2107336-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **SP-03B-072121** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393048**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	22.1	0.200	20.00	0	110	46.4	150				
1,1-Dichloroethene	24.0	0.500	20.00	0	120	74.3	134				
Acetone	54.3	6.00	50.00	0	109	61.6	142				
trans-1,2-Dichloroethene	24.0	0.500	20.00	0	120	77.3	130				
1,1-Dichloroethane	24.4	0.500	20.00	0.2703	121	74.9	136				
cis-1,2-Dichloroethene	23.7	0.500	20.00	0.2996	117	75.1	134				
2-Butanone (MEK)	50.6	1.50	50.00	0	101	62.2	135				
Benzene	24.1	0.440	20.00	0.6818	117	79	131				
Trichloroethene (TCE)	23.4	0.500	20.00	0	117	72.2	132				
Toluene	22.6	0.750	20.00	0	113	79.4	132				
Tetrachloroethene (PCE)	21.9	0.400	20.00	0	109	78.9	132				
Ethylbenzene	22.1	0.400	20.00	0	110	64.2	145				
m,p-Xylene	43.4	1.00	40.00	0	108	80	128				
o-Xylene	21.7	0.500	20.00	0	108	80	125				
1,2,4-Trimethylbenzene	21.2	0.500	20.00	0	106	52.2	152				
Naphthalene	22.0	1.25	20.00	0.7149	106	57.3	145				
Surr: Dibromofluoromethane	26.0		25.00		104	80	121				
Surr: Toluene-d8	25.6		25.00		102	80	120				

Work Order: 2107336
CLIENT: Calibre Systems
Project: Fox Avenue

QC SUMMARY REPORT

Volatile Organic Compounds by EPA Method 8260D

Sample ID: **2107336-002AMS** SampType: **MS** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **SP-03B-072121** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393048**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: 1-Bromo-4-fluorobenzene	26.3		25.00		105	80	120				

Sample ID: **2107356-001DDUP** SampType: **DUP** Units: **µg/L** Prep Date: **7/26/2021** RunNo: **68858**
Client ID: **BATCH** Batch ID: **33122** Analysis Date: **7/26/2021** SeqNo: **1393062**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.200						0		30	
1,1-Dichloroethene	ND	0.500						0		30	
Acetone	ND	6.00						0		30	
trans-1,2-Dichloroethene	ND	0.500						0		30	
1,1-Dichloroethane	ND	0.500						0		30	
cis-1,2-Dichloroethene	ND	0.500						0		30	
2-Butanone (MEK)	ND	1.50						0		30	
Benzene	ND	0.440						0		30	
Trichloroethene (TCE)	ND	0.500						0		30	
Toluene	ND	0.750						0		30	
Tetrachloroethene (PCE)	ND	0.400						0		30	
Ethylbenzene	ND	0.400						0		30	
m,p-Xylene	ND	1.00						0		30	
o-Xylene	ND	0.500						0		30	
1,2,4-Trimethylbenzene	ND	0.500						0		30	
Naphthalene	ND	1.25						0		30	
Surr: Dibromofluoromethane	25.3		25.00		101	80	120		0		
Surr: Toluene-d8	25.1		25.00		100	80	120		0		
Surr: 1-Bromo-4-fluorobenzene	24.7		25.00		98.7	80	120		0		

Sample Log-In Check List

Client Name:	**CLBRE**	Work Order Number:	**2107336**
Logged by:	**Clare Griggs**	Date Received:	**7/22/2021 8:26:00 AM**

Chain of Custody

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

Log In

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

Special Handling (if applicable)

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

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

19. Additional remarks:

Item Information

Item #	Temp ºC
Sample	5.6

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

Chain of Custody Record & Laboratory Services Agreement

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Date: 7/21/21 Page: 1 of: 2

Laboratory Project No (internal): 2107336

Special Remarks: cc Justin Neste Reinclassen

Project Name: Fox Avenue

Project No:

Client: CALIBRE

Address: 6354 Walker Ln Ste 500

City, State, Zip: Alexandria, VA 22310

Telephone: 425 241 8449

Fax:

Collected by: R Lassen JNeste

Location: Fox Avenue, Seattle

Report To (PM): Tom Mckeon

PM Email: Tom.Mckeon@calibresys.com

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	VOCs (EPA 8260 / 624)	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	TOC				Comments
1	SP-03-072121	7/21/21	0930	Aq	3	X															
2	SP-03B-072121		0935		3	X															
3	R2-IW1-17-072121		1039		4	X										X					
4	R2 IW1-45-072121		1117		4	X										X					
5	MW-6-072121		1204		3	X															
6	DUP01-072121		0800		3	X															
7	Trip Blank					X															
8	MW-18S-072121		1035		3	X															
9	RO-IW7D-072121		1340		4	X										X					
10	RO-IW3D-072121		1545		4	X										X					

*Matrix: A = Air, AQ = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

**Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual: Ag Al As B Ba Be Ca Cd Co Cr Cu Fe Hg K Mg Mn Mo Na Ni Pb Sb Se Sr Sn Ti Tl V Zn

***Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate+Nitrite

Turn-around Time:
☐ Standard ☐ Next Day
☐ 3 Day ☐ Same Day
☐ 2 Day 7 Day (specify)

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above, that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished (Signature)	Print Name	Date/Time	Received (Signature)	Print Name	Date/Time
x	Justin Neste	7/22/21 0610	x Justine Mantz	Justine Mantz	7/22 8:26
Relinquished (Signature)	Print Name	Date/Time	Received (Signature)	Print Name	Date/Time
x			x		

Fremont Analytical
3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
Fax: 206-352-7178

Chain of Custody Record & Laboratory Services Agreement

Date: 7/21/21 Page: 2 of: 2

Laboratory Project No (internal): 2107336

Special Remarks:

Project Name: Fox Ave

Project No:

Client: CALIBRE

Address: 6354 Walker Ln Ste 500

City, State, Zip: Alexandria, VA 22310

Telephone: 425 241 8449

Fax:

Collected by: R Lassen Invesm

Location: Fox Avenue

Report To (PM): Tom McKeon

PM Email:

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

	Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	# of Cont.	VOCs (EPA 8260 / 624)	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HCID)	Diesel/Heavy Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8) Total (T) | Dissolved (D)	Anions (IC)***	EDB (8011)	Comments
1	RO-IW2D-072121	7/21/21	1705	Aq	3	X											
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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Tel: 206-352-3790
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Date: 7/21/21 Page: 1 of: 2

Laboratory Project No (internal): 2107336

Project Name: Fox Avenue

Special Remarks:
cc Justin Neste
Reinclassen

Project specific VOC list per historical 7/22/21 -CG

Client: CALIBRE

Project No:

Address: 6354 Walker Ln Ste 500

Collected by: R Lassen JNeste

City, State, Zip: Alexandria, VA 22310

Location: Fox Avenue, Seattle

Telephone: 425 241 8449

Report To (PM): Tom McKeon

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Fax:

PM Email: Tom.McKeon@calibresys.com

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Date: 7/21/21 Page: 2 of: 2

Laboratory Project No (internal): 2107336

Project Name: Fox Ave

Special Remarks:

Project No:

Client: CALIBRE

Collected by: R Lassen Invest

Address: 6354 Walker Ln Ste 500

Location: Fox Avenue

City, State, Zip: Alexandria, VA 22310

Report To (PM): Tom McKeon

Sample Disposal: ☐ Return to client ☐ Disposal by lab (after 30 days)

Telephone: 425 241 8449

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