

# WHITMAN Environmental Sciences

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November 8, 2023

Centric Partners LLC  
c/o Trent Development  
1420 Fifth Avenue, Suite 2200  
Seattle, WA 98101

Attention: Mr. Michael Pollard

Subject: 3<sup>rd</sup> Quarter 2023 Groundwater and  
Sub-Slab Vapor Monitoring Summary  
104-124 12<sup>th</sup> Avenue & 1209 E. Fir Street  
Seattle, Washington

Dear Mr. Pollard:

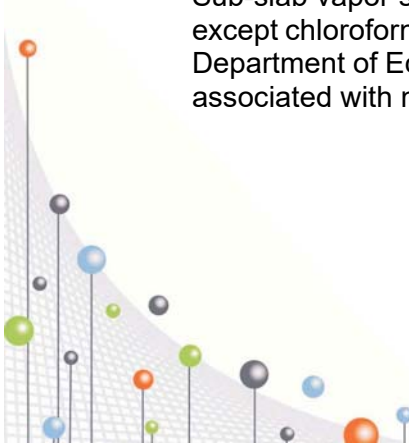
As you have authorized, **Whitman Environmental Sciences, (WES)** has conducted additional groundwater and sub-slab vapor sampling at the above referenced site in Seattle, Washington. Figure 1 shows the site location and surrounding area. This letter summarizes the sampling and results of laboratory testing on the groundwater and vapor samples taken during the 3<sup>rd</sup> Quarter of 2023.

On June 30<sup>th</sup>, 2023, a new well was installed near the eastern edge of the property. Monitoring well MW-1R was constructed as a replacement for former monitoring wells MW-1 and MW-1S which were decommissioned due to construction interference. The new well is located at the closest practical downgradient location from the former wells. A monitoring well construction diagram is included in Appendix A. The new well location is shown in Figures 2 and 3.

The findings of this round of testing indicate that groundwater from one of the ten tested wells contained vinyl chloride at a concentration of 0.069 ug/l (units equivalent to parts per billion (ppb)), less than the Washington State groundwater cleanup level of 0.2 ug/l under the Model Toxics Control Act (MTCA), Chapter 173-340 WAC. No other volatile organic compounds (VOCs) were detected in any groundwater sample.

Eleven wells were sampled for dissolved concentrations of arsenic. Samples from ten wells exceeded the 5 ug/l MTCA groundwater cleanup criteria for arsenic and nine exceeded the 8.0 ug/l Puget Sound Basin threshold value of the natural background level of arsenic as calculated in Ecology publication "Natural Background Groundwater Arsenic Concentrations in Washington State" (Publication 14-09-044), dated January 2022.

Sub-slab vapor sampling found no detectable concentrations of any of the analyzed parameters except chloroform, which was found in all three vapor sampling points at concentrations below the Department of Ecology's sub-slab soil gas screening level of 3.6 ug/m<sup>3</sup>. Chloroform is commonly associated with municipal drinking water supplies.



## **GROUNDWATER MONITORING**

A total of eleven monitoring wells were sampled as part of this monitoring event; wells MW-1R, MW-5R, MW-10, MW-12R, MW-13, MW-15R, MW-17, MW-18, MW-19 (for arsenic only), GEO B-7R and GEO B-9R. Figure 2 shows the approximate locations of the wells in relation to the former features of the property.

### **Groundwater Level Measurements**

As part of monitoring, WES measured the depth to groundwater in the on-site monitoring wells. The measurements were obtained after the wells caps had been removed for a period of time to allow water levels to stabilize and before any of the wells were purged of standing groundwater. Table 1 summarizes the depth to groundwater at each well. However, the current top of pipe elevations are known only for MW-10 and MW-13. The top of pipe elevations of all other wells have been periodically altered (and will be altered again as final grades and sidewalks are established around the building). The final top-of pipe elevations will be determined by a licensed surveyor once final configurations have been set.

The current measurements show that groundwater was at depths of 5.71 to 15.80 feet below the current top of pipe of the monitoring wells. The depths suggest an overall gradient to the southeast, similar to that previously measured when reference elevations were established. However, no more definitive groundwater elevation contours can be determined without additional surveyed reference points.

### **Groundwater Sampling**

Passive diffusion bag samplers (PDBS) were used to obtain representative samples for volatile organic compounds in ten of the sampled wells. The PDBS were filled with laboratory-prepared de-ionized water and suspended mid-screen in each well. The samplers were allowed to equilibrate in the wells for a period of at least three weeks before removal. After removing each bag from the well, the sampler was opened and the water was transferred to laboratory-prepared 40-ml septum sealed vials. The samples were labeled, chilled and transported to the laboratory under chain-of-custody for analyses.

Samples for dissolved arsenic were taken using a peristaltic pump with dedicated polyethylene tubing. Samples were taken directly from the tubing at a low flow rate, filtered through 0.45 micron single-use filters in the field, before preservation. Field measurements of pH, ORP, dissolved oxygen and conductivity were used to evaluate when stabilized conditions were reached in the pump discharge water.

## **SUB-SLAB VAPOR MONITORING**

Although still under construction, the ground floor of the slab-on-grade portion of the building has been fully enclosed, so it represents conditions that will be comparable to the final building. Sub-slab vapor monitoring is part of the performance monitoring to be conducted under the Compliance Monitoring Plan (CMP) Update dated June 21, 2023.

The construction of three vapor monitoring points was documented in our November 5<sup>th</sup>, 2022 Independent Remedial Action Summary Report. The vapor points are accessed by teflon tubing in conduits that extend to outside the perimeter foundation of the building.

### ***Vapor Sampling Procedure***

Samples from the vapor points were obtained by attaching laboratory-prepared 1-liter Summa vacuum canisters and purge pumps to the tubing, first purging approximately four liters of soil vapor to clear the lengthy tubing of standing air. A five to ten-minute shut-in test was then conducted to evaluate the system for leaks. After that, the canister valve was opened, drawing sub-slab vapors into the sampler. The sample canisters were closed and the start time, starting vacuum, end time and ending vacuum were recorded.

### ***LABORATORY ANALYTICAL PROGRAM***

All samples were submitted to Friedman & Bruya, Inc., a Washington-state certified laboratory, for environmental analyses following Washington State approved methods.

Ten groundwater samples were analyzed for a list of 63 VOCs by EPA Method 8260D. Eleven samples (including MW-19) were analyzed for dissolved arsenic by EPA Method 6020B. The three soil vapor samples were analyzed for a list of nine volatile organic compounds by EPA Compendium Method TO-15. The list of analyzed vapor compounds was selected based on the findings of prior site soil gas sampling and the updated site Compliance Monitoring Plan.

All laboratory testing met the quality assurance/quality control requirements of the project. The sample analyses were completed within holding times, with reporting limits that allowed direct comparison to Department of Ecology established groundwater cleanup levels and sub-slab soil vapor screening levels.

### ***Laboratory Analytical Results***

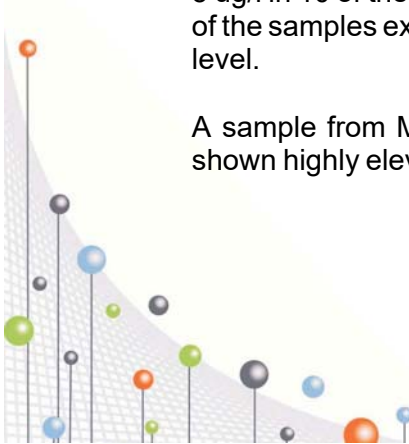
The results of laboratory testing on groundwater samples are summarized in Table 2 and illustrated in Figure 3. The laboratory reports of the analytical results are included in Appendix B.

The groundwater samples from nine of the ten tested monitoring wells contained no detectable VOCs. The sample from MW-17 contained a concentration of 0.069 ug/l of vinyl chloride, with no other VOCs. The reported concentration is below the applicable MTCA Method A groundwater cleanup level of 0.2 ug/l.

The results of this testing indicate the groundwater remedial actions have been effective to reduce groundwater concentrations of VOCs. No upgradient contamination has been detected in the monitoring wells along the northern boundary of the property, adjacent to the King County warehouse.

Arsenic concentrations remain elevated above the MTCA Method A groundwater cleanup level of 5 ug/l in 10 of the 11 tested wells. The reported concentrations ranged from 2.47 to 749 ug/l. Nine of the samples exceeded the 8.0 ug/l Puget Sound Basin threshold value of the natural background level.

A sample from MW-12R contained a reported arsenic concentration of 201 ug/l. The well has shown highly elevated arsenic concentrations since the initial groundwater treatment in 2020. The



reported concentration continues an overall downward trend that has been occurring since the 1<sup>st</sup> Quarter 2021.

A sample from MW-13 contained a reported arsenic concentration of 29.4 ug/l. In eight prior analyses, this well only exceeded the MTCA Method A cleanup level once; with a maximum prior reported concentration of 5.75 ug/l in September 1990.

A sample from monitoring well MW-17 contained a reported arsenic concentration of 749 ug/l. This well is relatively new and has shown increasing concentrations in three samples dating from 1<sup>st</sup> Quarter 2023. Additional monitoring will be needed to establish long-term trends in arsenic concentrations.

A sample from upgradient monitoring well MW-19 contained a reported arsenic concentration of 27.0 ug/l. This is the third consecutive sample from this well demonstrating elevated arsenic in groundwater, indicating upgradient groundwater contains arsenic at concentrations that exceed the MTCA Method A cleanup level, unrelated to any on-site condition.

Table 3 summarizes the groundwater sample analytical results from all wells in our prior monitoring events along with the current data.

Time trend plots for arsenic in monitoring wells MW-5R, MW-10, MW-12R, MW-13, MW-15R, MW-17 MW-18, MW-19, GEO B-7R and GEO B-9R are included in Appendix C. All other wells have been decommissioned, or do not have sufficient data to demonstrate longer-term trends.

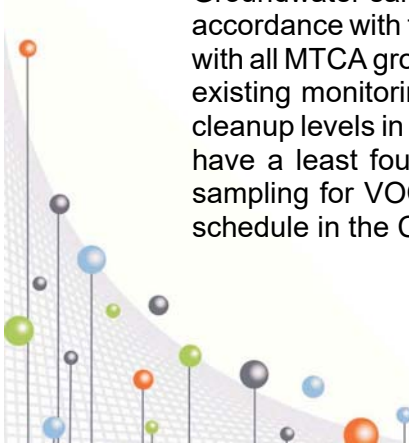
Two wells (MW-12R and GEO B-7) show decreasing arsenic trends over time. The plots suggest that eight of the sampled wells show at least some increase in the reported arsenic concentrations compared to the most recent prior analyses. Four wells demonstrate an upward trend over two or more consecutive quarterly rounds of testing. This may indicate seasonal variations and increasing concentrations during the drier times of the year when groundwater recharge is more limited. MW-5R in particular demonstrates seasonally fluctuating conditions, with higher arsenic concentrations in September sampling for the last three years.

#### *Vapor Sample Analyses*

The three sub-slab vapor samples contained low but detectable concentrations of chloroform, ranging from 0.29 to 1.5 ug/m<sup>3</sup>. No other target VOCs were detected in any of the three samples. The reported concentrations were all below the Department of Ecology sub-slab soil gas screening level of 3.6 ug/m<sup>3</sup>.

## **CONCLUSIONS**

Groundwater sampling and analysis are important parts of compliance monitoring for this site. In accordance with the Compliance Monitoring Plan Update, sampling has demonstrated compliance with all MTCA groundwater cleanup levels for VOCs for four or more consecutive quarters in all pre-existing monitoring wells. Those in place for less than four quarters have not exceeded MTCA cleanup levels in any sample. After 4<sup>th</sup> Quarter 2023 sampling, all but the newest well (MW-1R) will have a least four consecutive quarters of sampling. If conditions remain as currently shown, sampling for VOCs can be reduced in accordance with the extended confirmational monitoring schedule in the CMP Update.



Additional quarterly monitoring for dissolved arsenic will continue.

Sub-slab vapor testing found no evidence of soil vapors related to the groundwater remediation of chlorinated solvents in the underlying groundwater treatment area. Chloroform detections in soil vapor may be attributed to past leaking municipal water supplies, but regardless of source are at concentrations below the applicable sub-slab screening level. Chloroform has not been detected in any groundwater samples from the groundwater treatment area monitoring wells since sampling began in 2017.

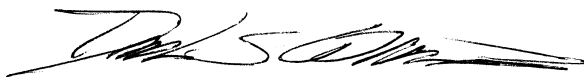
Another round of sub-slab vapor monitoring will be conducted in approximately six months as part of performance monitoring under the CMP Update.

Once the building is fully enclosed and construction is substantially complete WES will conduct indoor air monitoring. This is likely to begin in the 1<sup>st</sup> Quarter 2024. The indoor air sampling will be considered compliance confirmational sampling for regulatory purposes.

**Closure**

Thank you for the opportunity to be of service to you in this matter. If you have any questions regarding this letter, or if I may be of any further assistance, please feel free to contact me.

Respectfully submitted,  
**Whitman Environmental Sciences**



Daniel S. Whitman  
Principal



DANIEL S. WHITMAN

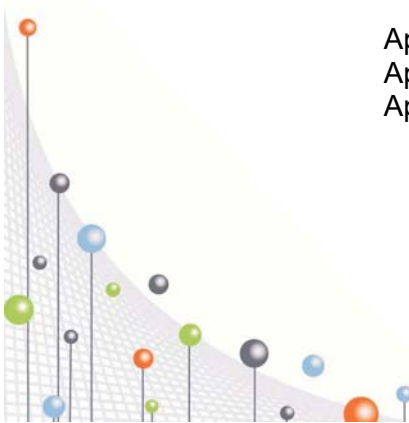
**TABLES**

- Table 1 - Summary of 3<sup>rd</sup> Quarter 2023 Groundwater Level Measurements
- Table 2 - Summary of 3<sup>rd</sup> Quarter 2023 Groundwater Sample Analytical Results
- Table 3 - 2017-2023 Summary of Groundwater Sample Analytical Results

**FIGURES**

- Figure 1 - Site Location Map
- Figure 2 - Site and Monitoring Well Location Plan
- Figure 3 - Groundwater and Sub-Slab Vapor Analytical Results

- Appendix A - Monitoring Well Construction Diagram - MW-1R
- Appendix B - Laboratory Analytical Reports - Friedman & Bruya, Inc.
- Appendix C - Arsenic Concentration Time Series Plots



**TABLE 1**  
**Summary of Groundwater Level Measurements**  
**104 - 124 12<sup>th</sup> Avenue and 1209 E. Fir Street, Seattle, Washington**

<b>Monitoring Well</b>	<b>Date</b>	<b>Top of Pipe Elevation*</b>	<b>Water Level Below T.O.P.</b>	<b>Water Elevation</b>	<b>Comments</b>
MW-1R	9/19/2023	Approx 200	-8.59	Approx 191	2" Well, 21' deep
MW-5R	9/19/2023	Approx 202	-7.40	Approx 195	2" Well, 20' deep
MW-10	9/19/2023	196.88	-10.36	186.52	2" Well, 15' deep
MW-12R	9/19/2023	Approx 198	-7.30	Approx 191	2" Well, 20' deep
MW-13	9/19/2023	201.80	-9.49	192.31	2" Well, 20' deep
MW-15R	9/19/2023	Approx 201	-6.88	Approx 194	2" Well, 25' deep
MW-17	9/19/2023	Approx 197	-9.11	Approx 188	2" Well, 20' deep
MW-18	9/19/2023	Approx 198	-5.71	Approx 192	2" Well, 20' deep
MW-19	9/19/2023	Approx 213	-15.80	Approx 197	2" Well, 20' deep
GEO B-7R	9/19/2023	Approx 201	-5.96	Approx 195	2" Well, 20' deep
GEO B-9	9/19/2023	Approx 201	-7.57	Approx 193	2" Well, 20' deep

Table Notes:

\*Top of Pipe elevation of MW-10 determined by site survey, Terrane, Inc., August 2019. MW-13 top of pipe elevation by WES, back-sighted to previously surveyed monitoring wells. All other monitoring well top-of-pipes have been altered and elevations are estimated. Water elevations based on estimated elevations are also considered estimates.

**TABLE 2**  
**3<sup>rd</sup> Quarter 2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Other VOCs	Arsenic (Dissolved)
MW-1	Decommissioned Q4 2021						
MW-1S	Decommissioned Q1 2022						
MW-1D	Decommissioned Q1 2022						
MW-1R	6/30/23	Installed Replacement Well					
	9/13/23	<1	<0.5	<1	<0.02	ND	<b>6.93</b>
MW-2	Decommissioned Q3 2021						
MW-3	Decommissioned Q1 2021						
MW-4	Decommissioned Q2 2021						
MW-5R	12/23/21	Installed Replacement Well					
	9/13/23	<1	<0.5	<1	<0.02	ND	<b>15.3</b>
MW-6	Decommissioned Q1 2021						
MW-7	Decommissioned Q1 2021						
MW-8	Decommissioned Q1 2021						
MW-9	Decommissioned Q1 2021						
MW-10	9/5/23	<1	<0.5	<1	< 0.02	ND	<b>20.0</b>
MW-11	Decommissioned Q3 2022						
MW-12R	12/23/21	Installed Replacement Well					
	9/5/23	<1	<0.5	<1	<0.02	ND	<b>201</b>
MW-13	9/19/23	<1	<0.5	<1	< 0.02	ND	<b>29.4</b>
MW-14	Decommissioned Q1 2021						
MW-15R	12/23/21	Installed Replacement Well					
	9/5/23	<1	<0.5	<1	<0.02	ND	<b>29.1</b>
MW-16	Q1 2022	Decommissioned Q1 2022					
MW-17	3/18/23	Installed Well					
	9/13/23	<1	<0.5	<1	0.069	ND	<b>794</b>
MW-18	3/18/23	Installed Well					
	9/13/23	<1	<0.5	<1	<0.02	ND	<b>29.6</b>
MW-19	3/18/23	Installed Well					
	9/19/23	NA	NA	NA	NA	NA	<b>27.0</b>
GEO B-7R	12/23/21	Installed Replacement Well					
	9/5/23	<1	<0.5	<1	<0.02	ND	2.47
GEO B-8	Decommissioned Q1 2021						
GEO B-9R	12/23/21	Installed Replacement Well					
	9/5/23	<1	<0.5	<1	< 0.02	ND	<b>56.0</b>
<b>MTCA Groundwater Cleanup Levels</b>		<b>5<sup>A</sup></b>	<b>5<sup>A</sup></b>	<b>16<sup>B</sup></b>	<b>0.2<sup>A</sup></b>	<b>--</b>	<b>5<sup>A</sup></b>

Table Notes:

<XXX - Parameter not detected at concentrations at or above the noted reporting limit.

Volatile organic compounds by EPA Method 8260C. See laboratory report for full list of analyzed parameters.

Dissolved arsenic by EPA Method 6020B on field filtered samples using 0.45 micron single-use filters.

ND - No other volatile organic compounds detected.

NA - Not analyzed for the listed compound.

MTCA Groundwater cleanup criteria per Chapter 173-340-720 WAC. Method A criteria presented where available. Method B standard formula values shown where no Method A criteria available. Method B standard formula values from Dept. of Ecology January 2023 Cleanup Levels and Risk Calculation (CLARC) database.

A - Method A listed or State or Federal MCL

B - Method B Direct Contact

Sample results exceeding applicable cleanup criteria are noted in ***Bold Italic***.

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-1	6/30/17	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	0.20	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	10/30/17	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<b>0.27</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/6/18	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/22/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	2.1	<b>0.55</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	2.3	<b>0.73</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	<b>13</b>	NA	<1	<1	
	3/5/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	1.8	<b>0.47</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	<b>9.49</b>	<b>10.8</b>	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	31	<1	<1	<1	<1	<1	<1	ND	<1	<1	NA	NA	
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	29	<1	<1	<1	<1	<1	<1	ND	<1	<1	NA	NA	
	3/18/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	30	<1	<1	<1	<1	<1	<1	ND	1.59	<1	NA	NA	
	5/24/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<1	NA	NA	
	Q3 2021	Inaccessible due to Construction																											
11/22/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1.11	NA	NA		
11/22/21	Well Decommissioned for Construction																												
MW-1S	8/6/19	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<b>0.21</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/5/19	<100	72 <sup>x</sup>	340	<0.35	<1	<1	<3	<1	<1	<1	<b>0.29</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	<b>16.5</b>	NA	<1	1.16	
	2/26/20	<100	100 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	51 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<b>0.21</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	<b>12.5</b>	<b>13.3</b>	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	33	<1	<1	<1	<1	<1	<1	ND	<b>47.4</b>	<b>50.8</b>	NA	NA	
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	86	<5	<1	46	<1	<1	<1	<1	<1	<1	ND	<b>39.2</b>	<b>41.0</b>	NA	NA	
	3/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	20	<1	<1	<1	<1	<1	<1	ND	<b>24.4</b>	<b>21.5</b>	NA	NA	
	5/12/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>14.4</b>	NA	NA	
	9/14/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>23.7</b>	NA	NA	
	12/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	2.78	NA	NA	
	Q1 2022	Inaccessible Due to Construction																											
3/16/22	Well Decommissioned for Construction																												

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-1D	8/6/19	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/5/19	<100	<50	340	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	9.14	NA	<1	<1	
	3/3/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	10.3	NA	<1	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	9.65	10.1	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	10.1	9.68	NA	NA
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	11.1	10.3	NA	NA
	3/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	9.41	9.56	NA	NA
	5/12/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	9.34	NA	NA
	9/14/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	9.94	NA	NA
	12/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	9.04	NA	NA
	3/9/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	9.64	NA	NA
3/16/22	Well Decommissioned for Construction																												
MW-1R <sub>PDBS</sub>	9/13/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	6.93	NA	NA	
MW-2	4/4/17	NA	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	10/30/17	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/22/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/17/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	82	<1	<1	<1	<1	<1	<1	ND	2.88	1.21	NA	NA	
	12/9/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	47	<1	<1	<1	<1	<1	<1	ND	44.5	30.8	NA	NA	
	3/16/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	105	90.7	NA	NA	
	6/4/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	20.6	NA	NA	
7/16/21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.24	NA	NA	
7/16/21	Well Decommissioned for Construction																												

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-3	4/3/17	110	400 <sup>x</sup>	<250	<0.35	2.5	<1	7.9	<1	<1	<1	0.34	<1	11	<1	<1	<10	<1	4.7	<1	<1	4.9	1.1	ND	NA	NA	NA	NA	
	10/30/17	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	210 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	2/25/19	<100	400 <sup>x</sup>	<300	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	5.35	NA	<1	NA	
	4/3/19	NA	420 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	170 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	<1	NA
	12/4/19	<100	280 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	3/17/20	<100	210 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	5/19/20	<100	390 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	9/28/20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10.2	9.15	NA	NA
	12/23/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	2.11	1.79	NA	NA
Q1 2021	Inaccessible due to Construction																												
3/30/21	Well Decommissioned for Construction																												
MW-4	4/5/17	NA	67 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	10/30/17	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/9/19	<100	180 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/17/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	66.8	64.9	NA	NA
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	78.0	53.5	NA	NA	
	3/26/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	64.6	64.1	NA	NA	
	4/30/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	18.9	NA	NA	
Q3 2021	Well Decommissioned for Construction																												

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-5	4/5/17	NA	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	12	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	10/30/17	NA	NA	NA	<0.35	<1	<1	<3	1.4	<b>9.1</b>	10	<b>0.29</b>	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	1.3	5.0	8.3	<b>0.25</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/6/18	NA	NA	NA	<0.35	<1	<1	<3	2.1	<b>11</b>	8.4	<b>0.37</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/22/19	<100	<50	<250	<0.35	<1	<1	<3	1.1	<b>6.5</b>	10	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	<1	NA	
	12/4/19	<100	52 <sup>x</sup>	<250	<0.35	<1	<1	<3	1.3	2.2	3.5	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/5/20	<100	<50	<250	<0.35	<1	<1	<3	<1	2.2	1.4	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	2.8	3.6	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	<b>5.85</b>	4.07	NA	NA	
	3/16/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	<b>8.23</b>	<b>5.54</b>	NA	NA	
	5/24/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	4.49	NA	NA	
	9/30/21	NA	NA	NA	<0.35	<1	<1	<3	<1	1.1	4.3	<b>0.27</b>	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>10.8</b>	NA	NA	
	11/15/21	NA	NA	NA	<0.35	<1	<1	<3	<1	1.4	3.8	<b>0.41</b>	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>5.04</b>	NA	NA	
11/22/21	NA	NA	NA	<0.35	<1	<1	<3	<1	1.9	4.6	<b>0.61</b>	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1.49	NA	NA		
11/22/21	Well Decommissioned for Construction - Replaced with Well MW-5R on 12/23/2021																												
MW-5R	2/18/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<b>0.60</b>	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	2.50	NA	NA	
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<b>0.21</b>	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>5.44</b>	NA	NA	
	PDBS	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	ND	NA	<b>14.4</b>	NA	NA	
	PDBS	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	ND	NA	<b>6.70</b>	NA	NA	
	PDBS	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	ND	NA	3.59	NA	NA	
	PDBS	6/16/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	ND	NA	4.68	NA	NA	
	PDBS	9/13/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	ND	NA	<b>15.3</b>	NA	NA	
MW-6	4/5/17	NA	<50	<250	<0.35	1.2	<1	5.5	<1	<1	1.3	<0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	3.4	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	1.2	<1	9.6	<0.2	1.1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	<50	<250	<0.35	<1	<1	<3	<1	1.7	<b>17</b>	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	78 <sup>x</sup>	<250	<0.35	<1	<1	<3	1.3	<1	5.7	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-6 Continued	3/17/20	<100	<50	<250	<0.35	<1	<1	<3	1.1	<1	3.3	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	1.1	<1	4.5	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	1.65	1.21	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	3.5	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/23/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	4.3	<0.2	3.8	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	2.15	2.16	NA	NA	
	3/18/21	NA	NA	NA	<0.35	<1	<1	<3	<1	1.2	10	< 0.2	1.6	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	2.44	1.92	NA	NA	
	3/30/21	Well Decommissioned for Construction																											
MW-7	6/30/17	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<10	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/17/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	189	153	NA	NA
	12/23/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	109	117	NA	NA	
	3/18/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	127	127	NA	NA	
3/30/21	Well Decommissioned for Construction																												
MW-8	8/30/17	3,200	790 <sup>x</sup>	<250	11	<1	71	419	<1	<1	<1	< 0.2	<1	<10	<1	12	<10	24	8.9	1.1	1.8	180	59	ND	NA	NA	NA	NA	
	6/28/18	2,400	160 <sup>x</sup>	<250	2.9	<1	85	384	<1	<1	<1	< 0.2	<1	<50	<1	14	<10	33	1.6	1.1	1.9	150	54	ND	NA	NA	NA	NA	
	7/23/19	740	64 <sup>x</sup>	<250	<0.35	<1	10	96	<1	<1	<1	< 0.2	<1	<50	<1	3.1	<10	8.1	<1	<1	1.0	67	27	ND	NA	NA	<1	NA	
	12/9/19	350	62 <sup>x</sup>	<250	<0.35	<1	4.3	49.7	<1	<1	<1	< 0.2	<1	<50	<1	1.3	<10	2.1	<1	<1	<1	34	14	ND	9.21	NA	<1	<1	
	2/24/20	640	79 <sup>x</sup>	<250	0.64	<1	7.5	74	<1	<1	<1	< 0.2	<1	<50	<1	3.2	<10	4.0	<1	<1	<1	57	23	ND	NA	NA	NA	NA	
	5/19/20	700	96 <sup>x</sup>	<250	0.52	<1	3.2	69	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	26	20	ND	4.93	3.44	NA	NA	
	9/28/20	130	NA	NA	0.47	<1	4.7	20	<1	<1	<1	< 0.2	<1	<50	<5	1.1	<20	1.3	<1	<1	<1	7.3	2.8	ND	NA	NA	NA	NA	
	12/1/20	100	NA	NA	<1	<1	2.4	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.01	8.72	NA	NA	
	3/26/21	220	130 <sup>x</sup>	<250	<0.35	<1	6.0	20.9	<1	<1	<1	< 0.2	<1	<50	<5	1.9	<20	2.6	<1	<1	<1	9.6	2.9	ND	9.51	10.6	NA	NA	
3/30/21	Well Decommissioned for Construction																												

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)		
MW-9	8/3/17	500	270 <sup>x</sup>	<250	6.8	1.3	6.3	4.3	<1	<1	<1	< 0.2	<1	<10	4.3	7.2	<10	17	<1	<1	1.5	1.3	1.4	ND	NA	NA	NA	NA		
	7/13/18	470	180 <sup>x</sup>	<250	5.0	<1	8.5	3.2	<1	<1	<1	< 0.2	<1	<50	<1	12	<10	23	<1	<1	1.9	1.1	<1	ND	NA	NA	NA	NA		
	7/23/19	500	210 <sup>x</sup>	<250	2.1	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	1.4	16	<10	48	<1	<1	3.9	<1	<1	ND	NA	NA	<1	NA		
	12/5/19	2,900	620 <sup>x</sup>	<250	9.5	4.3	31	9.3	<1	<1	<1	< 0.2	<1	<50	10	82	<10	210	1.2	1.4	19	1.7	<1	ND	NA	NA	NA	NA		
	2/24/20	3,900	1,100 <sup>x</sup>	<250	9.5	3.7	43	6.7	<1	<1	<1	< 0.2	<1	<50	7.2	110	<10	310	<1	<1	22	1.7	<1	ND	NA	NA	NA	NA		
	5/19/20	2,100	1,200 <sup>x</sup>	290 <sup>x</sup>	5.5	2.3	17	5.0	<1	<1	<1	< 0.2	<1	<50	14	74	<10	220	<1	1.5	16	<1	<1	ND	NA	NA	NA	NA		
	9/28/20	910	270 <sup>x</sup>	<250	8.0	9.3	1.6	6.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	12/1/20	3,700	1,100 <sup>x</sup>	<250	11	37	48	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3/26/21	1,400	680 <sup>x</sup>	<250	6.5	8.0	7.2	6.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.8	NA	NA	
3/30/21	Well Decommissioned for Construction																													
MW-10	11/3/17	<100	69 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	6/14/18	<100	66 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	1.2	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/22/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	<1	NA	
	12/5/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	9.3	NA	<1	<1	
	2/26/20	<100	66 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	<1	ND	5.41	5.18	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	16.6	15.0	NA	NA	
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	1.4	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	6.50	6.06	NA	NA	
	3/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	1.1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	8.69	7.00	NA	NA	
	5/12/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	1.0	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	6.58	NA	NA	
	9/14/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	1.17	NA	NA	
	12/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	5.71	NA	NA	
	3/9/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	9.62	NA	NA	
6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	4.74	NA	NA		
PDBS	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	7.69	NA	NA	
PDBS	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	1.19	NA	NA	

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)		
MW-10 PDBS Continued PDBS	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	12.0	NA	NA		
	6/30/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	9.63	NA	NA		
	9/5/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	20.0	NA	NA		
MW-11	8/15/19	<100	400 <sup>x</sup>	370 <sup>x</sup>	<0.35	<1	<1	<3	<1	<1	1.9	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA		
	12/5/19	<100	61 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	2.9	<b>0.22</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	15	NA	<1	<1		
	3/3/20	<100	130 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	2.8	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA		
	5/19/20	<100	99 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	3.1	<b>0.27</b>	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	8.96	7.98	NA	NA		
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	69	<5	<1	170	<1	<1	<1	<1	<1	<1	ND	69.3	55.7	NA	NA		
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	82	<5	<1	130	<1	<1	<1	<1	<1	<1	ND	569	728	NA	NA		
	3/23/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	61	<5	<1	77	<1	<1	<1	<1	<1	<1	ND	966	776	NA	NA		
	5/14/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	38	<1	<1	<1	<1	<1	<1	ND	NA	267	NA	NA		
	9/30/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	67.6	NA	NA		
	Q4 2021	Inaccessible Due to Construction - *Well Damaged and Filled with Dirt - Only partially cleared and remains turbid																												
	3/25/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.039	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	327*	NA	NA		
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	210*	NA	NA		
8/4/2022	Well Decommissioned for Construction																													
MW-12	8/19/19	<100	140 <sup>x</sup>	270 <sup>x</sup>	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA		
	12/4/19	<100	120 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	4.53	NA	<1	<1		
	3/17/20	<100	120 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA		
	5/19/20	<100	130 <sup>x</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	4.40	4.39	NA	NA		
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	240	<5	<1	130	<1	<1	<1	<1	<1	<1	ND	1,240	506	NA	NA		
	12/1/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	94	<5	<1	59	<1	<1	<1	<1	<1	<1	ND	1,380	1,260	NA	NA		
	3/18/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	33	<1	<1	<1	<1	<1	<1	ND	1,900	2,110	NA	NA		
	6/4/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1,600	NA	NA		
	Q3 2021	Inaccessible Due to Construction																												
12/23/21	Well Damaged and Inaccessible - Decommissioned For Construction- Replaced with Well MW-12R on 12/23/2021																													

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-12R	3/8/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.1	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	845	NA	NA	
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	468	NA	NA	
	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	909	NA	NA	
	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.031	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1,090	NA	NA	
	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.022	<1	<50	<5	<1	24	<1	<1	<1	<1	<1	<1	ND	NA	1,100	NA	NA	
	6/16/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.029	<1	<50	<5	<1	24	<1	<1	<1	<1	<1	<1	ND	NA	1,220	NA	NA	
	9/5/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	201	NA	NA	
MW-13	10/3/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/9/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/17/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<10	<1	<1	<1	<1	<1	<1	ND	11.5	5.75	NA	NA	
	12/23/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	1.91	2.06	NA	NA	
	3/26/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	<5	<5	NA	NA	
	5/26/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	3.50	NA	NA	
	9/29/21	Well Dry due to Nearby Dewatering Wells																											
	12/23/21	Well Dry due to Nearby Dewatering Wells																											
	3/8/22	Well Dry due to Nearby Dewatering Wells																											
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	2.11	NA	NA	
	Q3/22	Inaccessible due to Construction																											
	11/4/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	2.20	NA	NA	
3/28/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<1	NA	NA		
6/30/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	3.20	NA	NA		
9/19/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	29.4	NA	NA		

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)
MW-14	8/15/19	<100	130 <sup>x</sup>	<250	1.8	<1	<1	<3	<1	<1	2.3	0.65	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	12/4/19	<100	110 <sup>x</sup>	<250	1.3	<1	<1	<3	<1	<1	1.8	0.25	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	2/24/20	<100	64 <sup>x</sup>	<250	1.8	<1	<1	<3	<1	<1	2.1	0.66	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	5/19/20	<100	110 <sup>x</sup>	<250	0.89	<1	<1	<3	<1	<1	1.3	0.28	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	9/28/20	NA	NA	NA	0.74	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	12/1/20	NA	NA	NA	0.57	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	60.4	45.4	NA	NA
	3/26/21	Inaccessible due to Construction																										
3/30/21	Well Decommissioned for Construction																											
MW-15	4/2/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	1.3	0.23	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	14.6	11.1	NA	NA
	12/9/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	11.9	11.7	NA	NA
	3/16/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	11.6	11.4	NA	NA
	5/26/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	12.7	NA	NA
	7/1/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	9.91	NA	NA
Q4 2021	Well Damaged - Decommissioned For Construction- Replaced with Well MW-15R on 12/23/2021																											
MW-15R  PDBS PDBS PDBS PDBS PDBS	3/2/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	1.1	0.14	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	13.1	NA	NA
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	0.59	<1	0.036	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	10.6	NA	NA
	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.096	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	58.2	NA	NA
	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	32.7	NA	NA
	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	23.7	NA	NA
	6/16/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	18.3	NA	NA
	9/5/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	29.1	NA	NA
MW-16	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	71	<5	<1	28	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	12/9/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	120	<5	<1	62	<1	<1	<1	<1	<1	<1	ND	289	299	NA	NA
	3/26/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	<0.2	<1	<50	<5	<1	24	<1	<1	<1	<1	<1	<1	ND	218	29.4	NA	NA

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
MW-16	6/4/2021	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	140	NA	NA	
Continued	Q3 2021	Inaccessible due to Construction																											
	Q4 2021	Well Decommissioned For Construction																											
MW-17 PDBS	3/28/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	168	NA	NA	
	6/30/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	327	NA	NA	
	9/13/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.069	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	794	NA	NA	
MW-18 PDBS	3/28/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.021	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	14.2	NA	NA	
	6/30/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	14.1	NA	NA	
	9/13/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	29.6	NA	NA	
MW-19	3/30/23	<100	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	23.2	NA	NA	
	4/25/23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.43	NA	NA	
	9/19/23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27.0	NA	NA	
GEO B-7	12/6/18	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	1.1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/22/19	<100	<50	<250	<0.35	<1	<1	<3	<1	2.3	3.0	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	<50	<250	<0.35	<1	<1	<3	<1	1.8	2.7	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	3/5/20	<100	<50	<250	<0.35	<1	<1	<3	<1	2.9	3.2	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	<50	<250	<0.35	<1	<1	<3	<1	1.8	2.5	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/9/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	27.0	29.0	NA	NA	
	3/16/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	20.6	16.0	NA	NA	
	5/24/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	24.8	NA	NA	
6/15/21	Well Decommissioned for Construction - Replaced with Well GEO B-7R on 12/23/2021																												
GEO B-7R	3/2/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	4.0	1.1	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	33.8	NA	NA	
	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	1.6	1.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	92.5	NA	NA	
	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	0.022	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	163	NA	NA	
	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	9.93	NA	NA	

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumine	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)	
GEO PDBS	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	10.9	NA	NA	
B-7R PDBS	6/16/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	5.94	NA	NA	
Continued PDBS	9/5/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	2.47	NA	NA	
GEO B-8	12/6/18	<100	210 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	1.1	<10	1.8	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	140 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	<1	NA	
	12/5/19	150	410 <sup>X</sup>	360 <sup>X</sup>	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	4.0	<10	7.1	<1	<1	1.1	<1	<1	ND	NA	NA	NA	NA	
	2/28/20	110	180 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	1.4	<10	2.7	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	380 <sup>X</sup>	350 <sup>X</sup>	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	<100	150 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	12/1/20	<100	NA	NA	<1	<1	<1	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99.6	74.1	NA	NA	
	3/26/21	<100	310 <sup>X</sup>	320 <sup>X</sup>	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	2.5	<20	8.8	<1	<1	<1	<1	<1	<1	ND	NA	14.7	NA	NA
	3/30/21	Well Decommissioned for Construction																											
GEO B-9	12/6/18	<100	76 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	2.4	0.36	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	7/23/19	<100	59 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	1.4	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	12/4/19	<100	<50	<250	<0.35	<1	<1	<3	<1	<1	1.5	0.22	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	2/28/20	<100	73 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	1.1	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	5/19/20	<100	63 <sup>X</sup>	<250	<0.35	<1	<1	<3	<1	<1	1.0	< 0.2	<1	<50	<1	<1	<10	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA	
	9/28/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	56	<1	<1	<1	<1	<1	<1	<1	ND	NA	NA	NA	NA
	12/9/20	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	<1	<1	NA	NA	
	3/18/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	1.27	<1	NA	NA	
	5/24/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<1	<1	< 0.2	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1.58	NA	NA	
	9/30/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	33	<1	<1	<1	<1	<1	<1	ND	NA	2.12	NA	NA	
	11/22/21	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	1.61	NA	NA	
11/22/21	Well Decommissioned For Construction- Replaced with Well GEO B-9R on 12/23/2021																												

**TABLE 3**  
**2017-2023 Summary of Groundwater Sample Analytical Results**  
**104 - 124 12<sup>th</sup> Avenue & 1209 E. Fir Street, Seattle, Washington**

Well ID	Sample Date	TPH-G	TPH-D	TPH-O	Benzene	Toluene	Ethylbenzene	Xylenes	PCE	TCE	Cis 1,2 DCE	Vinyl Chloride	Chloroform	Acetone	Hexane	Cumene	MEK	n-propylbenzene	Naphthalene	p-isopropyltoluene	sec-butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Other VOCs	Arsenic (Total)	Arsenic (Dissolved)	Lead (Total)	Chromium (Total)
GEO	3/2/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>5.30</b>	NA	NA
B-9R	6/30/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	< 0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>56.8</b>	NA	NA
PBS	9/23/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>25.5</b>	NA	NA
PBS	12/16/22	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>21.4</b>	NA	NA
PBS	3/21/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>44.1</b>	NA	NA
PBS	6/16/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>34.3</b>	NA	NA
PBS	9/5/23	NA	NA	NA	<0.35	<1	<1	<3	<1	<0.5	<1	<0.02	<1	<50	<5	<1	<20	<1	<1	<1	<1	<1	<1	ND	NA	<b>56.0</b>	NA	NA
<b>MTCA Groundwater Cleanup Levels</b>		<b>800<sup>A</sup></b>	<b>500<sup>A</sup></b>	<b>500<sup>A</sup></b>	<b>5<sup>A</sup></b>	<b>1,000<sup>A</sup></b>	<b>700<sup>A</sup></b>	<b>1,000<sup>A</sup></b>	<b>5<sup>A</sup></b>	<b>5<sup>A</sup></b>	<b>16<sup>B</sup></b>	<b>0.2<sup>A</sup></b>	<b>80<sup>A</sup></b>	<b>7,200<sup>B</sup></b>	<b>480<sup>B</sup></b>	<b>800<sup>B</sup></b>	<b>4,800<sup>B</sup></b>	<b>800<sup>B</sup></b>	<b>160<sup>B</sup></b>	<b>NV</b>	<b>800<sup>B</sup></b>	<b>80<sup>B</sup></b>	<b>80<sup>B</sup></b>	<b>--</b>	<b>5<sup>A</sup></b>	<b>5<sup>A</sup></b>	<b>15<sup>A</sup></b>	<b>50<sup>A</sup></b>

Table Notes:

<XXX - Parameter not detected at concentrations at or above the noted reporting limit.

NA - Sample not analyzed for the listed parameter.

Gasoline Range Total Petroleum Hydrocarbons by Method NWTPH-G.

Diesel and Motor Oil Range Total Petroleum Hydrocarbons by Method NWTPH-D(x).

<sup>x</sup> - Indicates sample chromatogram does not resemble fuel standard used for analysis. Most likely carry over from gasoline range hydrocarbons, or non-petroleum organic matter.

<sup>PBS</sup> Volatile organic compound samples collected using passive diffusion bag samplers, suspended in the wells for a minimum of three weeks prior to removal.

Volatile Organic Compounds by EPA Method 8260C or 8021B. All detected compounds summarized here. See laboratory report for full list of analyzed parameters.

Total Lead and Chromium on unfiltered samples by EPA Method 6020B.

Dissolved and total arsenic by EPA Method 6020B. Total arsenic on unfiltered samples. Dissolved arsenic on field filtered samples using 0.45 micron single-use filters.

MTCA Groundwater cleanup criteria per Chapter 173-340-720 WAC. Method A criteria presented where available. Method B standard formula values shown where no Method A criteria available. Method B standard formula values from Dept. of Ecology 2022 Cleanup Levels and Risk Calculation (CLARC) database. NV indicates no value available from CLARC.

A - Method A listed or State or Federal MCL

B - Method B Direct Contact

NV - No published value

Sample results exceeding applicable cleanup criteria are noted in ***Bold Italic***.



Scale 1 : 24,000

From USGS

Figure 1 - Site Map

104-124 12th Avenue & 1209 E. Fir Street  
Seattle, Washington 98122

Project No.	WES 1591
Date	June 11, 2017
File ID.	1591F1

**WHITMAN**  
Environmental Sciences

**Legend**

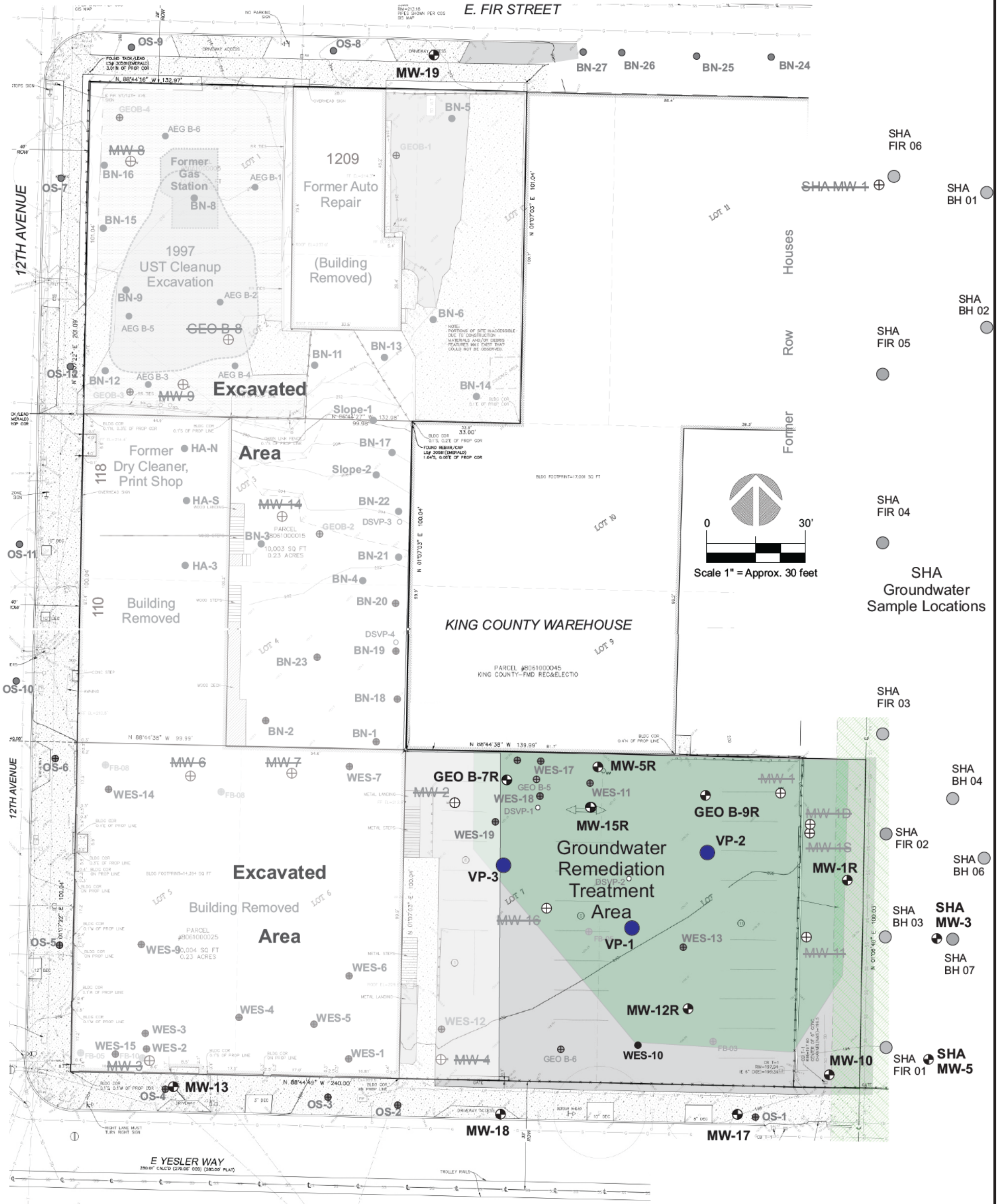
- Approximate Location of Monitoring Well
- Approximate Location of Soil Borings (2016 -2020)
- MW-2 ⊕ Approximate Location and I.D. of Decommissioned Monitoring Well
- Approximate Location of Sub-Slab Vapor Monitoring Point Under New Construction

Figure 2 - Site and Sample Location Plan

12th & Yesler Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	July 5, 2023
File ID.	1591F2

**WHITMAN**  
 Environmental Sciences



**Legend**

- Approximate Location of Monitoring Well
- Approximate Location of Sub-Slab Vapor Monitoring Point
- ▲ Approximate Location of Proposed Indoor Air Samples

**GEO B-7**  
 TCE - 2.9  
 C12DCE - 3.2  
 As (D) - 1.49  
**Sample Location I.D.**  
 Analytical Parameter  
 Concentrations (ug/l)  
 (Detected Compounds Only)

**VP-1**  
 Chloroform - 0.36  
**Sub-slab Vapor Sample Location ID**  
 Analytical Parameter  
 Concentrations (ug/m<sup>3</sup>)  
 (Detected Compounds Only)

**Bold Italic Exceeds CUL**

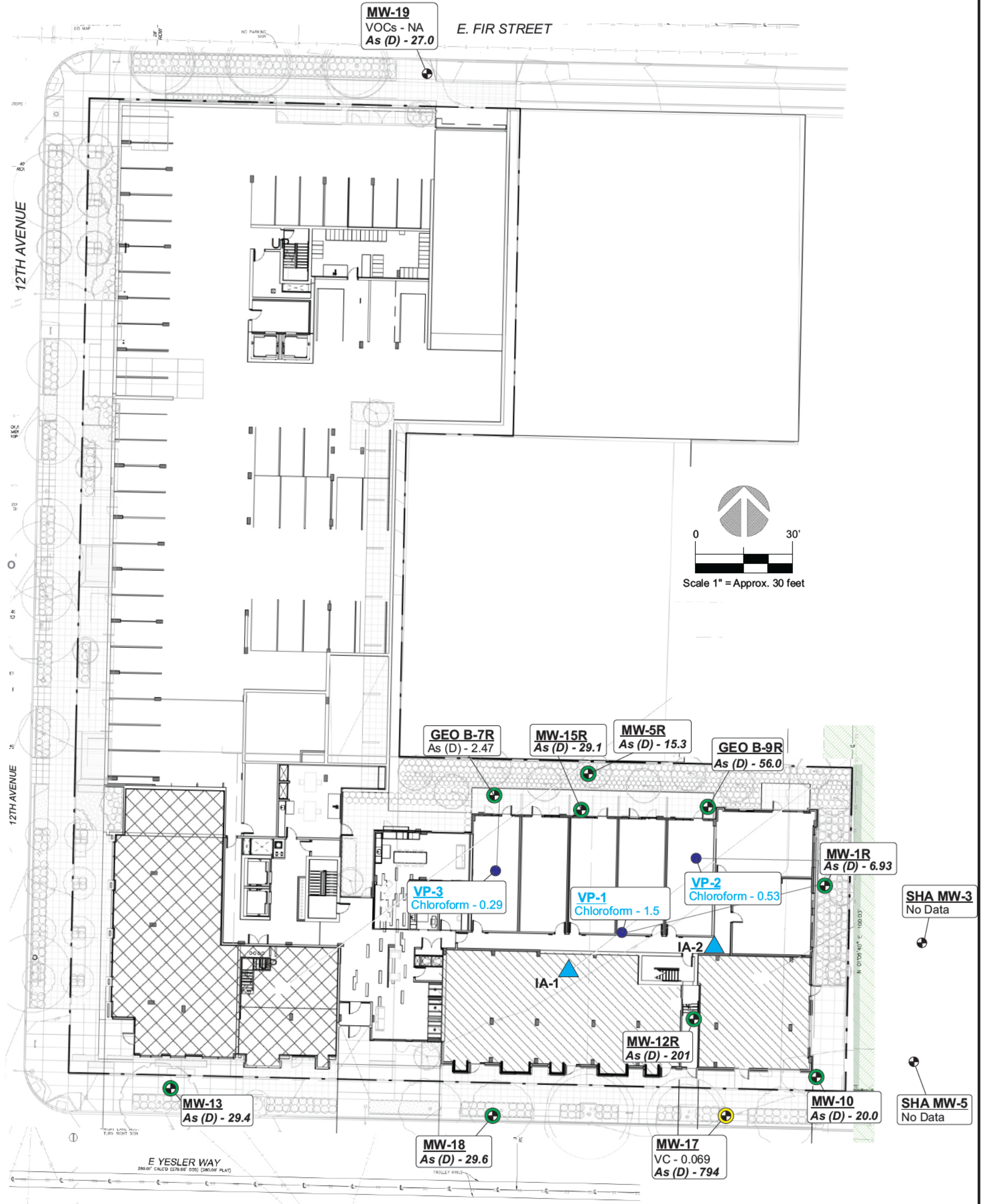
- ⊕ Monitoring Well with No Detected CVOCs or Petroleum Compounds in Groundwater in 3rd Quarter 2023 Sampling
- ⊕ Monitoring Well with Detected CVOCs or Petroleum Compounds in Groundwater in 3rd Quarter 2023 Sampling
- ⊕ Monitoring Well with CVOCs or Petroleum Compounds above MTCA Method A in Groundwater in 3rd Quarter 2023 Sampling

Figure 3 - 3rd Quarter 2023 Groundwater and Vapor Sampling Analytical Results

12th & Yesler Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	Sept 22, 2023
File ID.	1591Q323F3

**WHITMAN**  
 Environmental Sciences



# ***APPENDIX A***

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## ***Monitoring Well Construction Diagram MW-1R***

Project: 12th & Yesler Development 104 12th Avenue Seattle, WA	Client: Centric Partners LLC		Boring: <b>MW-1R</b>
	Driller: Holocene Drilling	Method: Geoprobe	Project No. WES-1591
	Elevation: Top of Pipe:	Reference: -	

Sample Data					Soil Description	
No.	Type	Depth	Recovery	N	Lab Sample	
						<p>No Soil Sampling; see prior well logs for MW-1S, MW-1D and MW-11 for soil conditions in the immediate area.</p> <p>2" Sch. 40 PVC well screen installed from depth of 11 to 21 feet below ground surface, surrounded with pre-packed silica sand filter in fine mesh. #10-20 silica sand added to 8'. Bentonite seal and flush-mounted steel monument set in concrete at ground surface.</p> <p>End of Boring at 21.0 ft</p>

Date Drilled: 6-30-2023	Water Level Data	Depth	Date/Time	<b>WHITMAN</b> Environmental Sciences
	First Encountered:			
	Stabilized:			

## ***APPENDIX B***

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***Laboratory Analytical Reports  
Friedman & Bruya, Inc.***

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South  
Seattle, WA 98108  
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www.friedmanandbruya.com

September 13, 2023

Dan Whitman, Project Manager  
Whitman Environmental Sciences  
6812 16<sup>th</sup> Ave NE  
Seattle, WA 98115

Dear Mr Whitman:

Included are the results from the testing of material submitted on September 6, 2023 from the 12th and Yesler WES 1591, F&BI 309055 project. There are 16 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



---

Michael Erdahl  
Project Manager

Enclosures  
WES0913R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 6, 2023 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences 12th and Yesler WES 1591, F&BI 309055 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Whitman Environmental Sciences</u>
309055 -01	MW-1R-GW
309055 -02	MW-5R-GW
309055 -03	MW-10-GW
309055 -04	MW-12R-GW
309055 -05	MW-15R-GW
309055 -06	GEO-B7-GW
309055 -07	GEO-B9-GW

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

The 8260D acetone and 2-butanone calibration standard exceeded the acceptance criteria. The compounds were detected, therefore this did not represent an out of control condition.

The 8260D laboratory control sample exceeded the acceptance criteria for several analytes. The compounds were not detected, therefore the data were acceptable.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-15R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/11/23	Lab ID:	309055-05
Date Analyzed:	09/11/23	Data File:	309055-05.131
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	29.1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	GEO-B7-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/11/23	Lab ID:	309055-06
Date Analyzed:	09/11/23	Data File:	309055-06.134
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	2.47
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Whitman Environmental Sciences
Date Received:	Not Applicable	Project:	12th and Yesler WES 1591
Date Extracted:	09/11/23	Lab ID:	I3-699 mb
Date Analyzed:	09/11/23	Data File:	I3-699 mb.093
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
----------	-----------------------------

Arsenic	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-1R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	309055-01
Date Analyzed:	09/08/23	Data File:	090847.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-5R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	309055-02
Date Analyzed:	09/08/23	Data File:	090848.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-10-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	309055-03
Date Analyzed:	09/09/23	Data File:	090849.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	78	126
Toluene-d8	97	84	115
4-Bromofluorobenzene	104	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-12R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	309055-04
Date Analyzed:	09/09/23	Data File:	090850.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-15R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/06/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	309055-05
Date Analyzed:	09/09/23	Data File:	090851.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	99	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: GEO-B7-GW	Client: Whitman Environmental Sciences
Date Received: 09/06/23	Project: 12th and Yesler WES 1591
Date Extracted: 09/08/23	Lab ID: 309055-06
Date Analyzed: 09/09/23	Data File: 090852.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: GEO-B9-GW	Client: Whitman Environmental Sciences
Date Received: 09/06/23	Project: 12th and Yesler WES 1591
Date Extracted: 09/08/23	Lab ID: 309055-07
Date Analyzed: 09/09/23	Data File: 090853.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	99	84	115
4-Bromofluorobenzene	98	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5 ca	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5 ca
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Whitman Environmental Sciences
Date Received:	Not Applicable	Project:	12th and Yesler WES 1591
Date Extracted:	09/08/23	Lab ID:	03-2101 mb
Date Analyzed:	09/08/23	Data File:	090808.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1 k	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/13/23

Date Received: 09/06/23

Project: 12th and Yesler WES 1591, F&BI 309055

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

Laboratory Code: 309055-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	29.1	94 b	97 b	75-125	3 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	90	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/13/23

Date Received: 09/06/23

Project: 12th and Yesler WES 1591, F&BI 309055

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

Laboratory Code: 309055-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<1	105	30-221
Chloromethane	ug/L (ppb)	10	<10	106	50-150
Vinyl chloride	ug/L (ppb)	10	<0.02	106	50-150
Bromomethane	ug/L (ppb)	10	<5	106	50-150
Chloroethane	ug/L (ppb)	10	<1	109	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	107	50-150
Acetone	ug/L (ppb)	50	<50	91	18-161
1,1-Dichloroethene	ug/L (ppb)	10	<1	93	50-150
Hexane	ug/L (ppb)	10	<5	101	50-150
Methylene chloride	ug/L (ppb)	10	<5	96	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	107	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	108	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	106	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	121	43-171
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	102	10-211
Chloroform	ug/L (ppb)	10	<1	104	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	115	10-192
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	109	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	110	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	108	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	112	50-150
Benzene	ug/L (ppb)	10	<0.35	109	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	104	35-149
1,2-Dichloropropane	ug/L (ppb)	10	<1	105	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	104	50-150
Dibromomethane	ug/L (ppb)	10	<1	103	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	110	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	98	50-150
Toluene	ug/L (ppb)	10	<1	106	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	90	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	101	50-150
2-Hexanone	ug/L (ppb)	50	<10	135	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	101	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	106	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	97	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<0.01	100	50-150
Chlorobenzene	ug/L (ppb)	10	<1	102	50-150
Ethylbenzene	ug/L (ppb)	10	<1	107	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	102	50-150
m,p-Xylene	ug/L (ppb)	20	<2	105	50-150
o-Xylene	ug/L (ppb)	10	<1	103	50-150
Styrene	ug/L (ppb)	10	<1	100	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	100	50-150
Bromoform	ug/L (ppb)	10	<5	85	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	104	50-150
Bromobenzene	ug/L (ppb)	10	<1	103	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	104	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	103	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	102	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	103	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	102	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	104	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	104	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	103	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	107	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	105	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	97	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	98	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	100	50-150
Naphthalene	ug/L (ppb)	10	<1	91	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	97	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/13/23

Date Received: 09/06/23

Project: 12th and Yesler WES 1591, F&BI 309055

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCS/D	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	116	105	46-206	10
Chloromethane	ug/L (ppb)	10	111	105	59-132	6
Vinyl chloride	ug/L (ppb)	10	111	106	64-142	5
Bromomethane	ug/L (ppb)	10	110	102	50-197	8
Chloroethane	ug/L (ppb)	10	116	111	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	113	105	51-159	7
Acetone	ug/L (ppb)	50	95	93	10-140	2
1,1-Dichloroethene	ug/L (ppb)	10	96	93	64-140	3
Hexane	ug/L (ppb)	10	105	103	54-136	2
Methylene chloride	ug/L (ppb)	10	96	100	43-134	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	109	106	70-130	3
trans-1,2-Dichloroethene	ug/L (ppb)	10	112	108	70-130	4
1,1-Dichloroethane	ug/L (ppb)	10	109	106	70-130	3
2,2-Dichloropropane	ug/L (ppb)	10	132	126	64-148	5
cis-1,2-Dichloroethene	ug/L (ppb)	10	103	101	70-130	2
Chloroform	ug/L (ppb)	10	105	104	70-130	1
2-Butanone (MEK)	ug/L (ppb)	50	126 vo	111	47-112	13
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	108	70-130	3
1,1,1-Trichloroethane	ug/L (ppb)	10	114	110	70-130	4
1,1-Dichloropropene	ug/L (ppb)	10	104	101	70-130	3
Carbon tetrachloride	ug/L (ppb)	10	115	112	70-130	3
Benzene	ug/L (ppb)	10	110	108	70-130	2
Trichloroethene	ug/L (ppb)	10	106	104	70-130	2
1,2-Dichloropropane	ug/L (ppb)	10	103	100	70-130	3
Bromodichloromethane	ug/L (ppb)	10	104	105	70-130	1
Dibromomethane	ug/L (ppb)	10	103	101	70-130	2
4-Methyl-2-pentanone	ug/L (ppb)	50	107	101	68-130	6
cis-1,3-Dichloropropene	ug/L (ppb)	10	99	92	69-131	7
Toluene	ug/L (ppb)	10	111	107	70-130	4
trans-1,3-Dichloropropene	ug/L (ppb)	10	97	88	70-130	10
1,1,2-Trichloroethane	ug/L (ppb)	10	105	101	70-130	4
2-Hexanone	ug/L (ppb)	50	141 vo	121	45-138	15
1,3-Dichloropropane	ug/L (ppb)	10	104	100	70-130	4
Tetrachloroethene	ug/L (ppb)	10	113	109	70-130	4
Dibromochloromethane	ug/L (ppb)	10	102	96	60-148	6
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	106	100	70-130	6
Chlorobenzene	ug/L (ppb)	10	109	103	70-130	6
Ethylbenzene	ug/L (ppb)	10	113	108	70-130	5
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	111	108	70-130	3
m,p-Xylene	ug/L (ppb)	20	110	106	70-130	4
o-Xylene	ug/L (ppb)	10	109	104	70-130	5
Styrene	ug/L (ppb)	10	104	98	70-130	6
Isopropylbenzene	ug/L (ppb)	10	107	100	70-130	7
Bromoform	ug/L (ppb)	10	88	81	69-138	8
n-Propylbenzene	ug/L (ppb)	10	106	101	70-130	5
Bromobenzene	ug/L (ppb)	10	101	98	70-130	3
1,3,5-Trimethylbenzene	ug/L (ppb)	10	105	99	70-130	6
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	107	100	70-130	7
1,2,3-Trichloropropane	ug/L (ppb)	10	105	98	70-130	7
2-Chlorotoluene	ug/L (ppb)	10	104	100	70-130	4
4-Chlorotoluene	ug/L (ppb)	10	103	100	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	106	100	70-130	6
1,2,4-Trimethylbenzene	ug/L (ppb)	10	104	101	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	108	102	70-130	6
p-Isopropyltoluene	ug/L (ppb)	10	108	102	70-130	6
1,3-Dichlorobenzene	ug/L (ppb)	10	105	101	70-130	4
1,4-Dichlorobenzene	ug/L (ppb)	10	108	103	70-130	5
1,2-Dichlorobenzene	ug/L (ppb)	10	109	101	70-130	8
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	98	92	70-130	6
1,2,4-Trichlorobenzene	ug/L (ppb)	10	104	98	70-130	6
Hexachlorobutadiene	ug/L (ppb)	10	108	103	70-130	5
Naphthalene	ug/L (ppb)	10	96	91	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	104	97	70-130	7

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The analyte is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits due to sample matrix effects.
- j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

309055

SAMPLE CHAIN OF CUSTODY

09/06/23

VW2/L2

Page # of

Report To Mr. Williams

Company Williams Air Services

Address 5111 15th Ave NE

City, State, ZIP Seattle, WA 98115

Phone \_\_\_\_\_ Email williams@wms.com

SAMPLERS (signature)		PROJECT NAME <u>FRM + Cassie</u>	PO # <u>005 / 159 /</u>
REMARKS <u>FRM + Cassie</u>		INVOICE TO	
Project specific RIs? Yes / No			

TURNAROUND TIME	<input checked="" type="checkbox"/> Standard turnaround
RUSH	<input type="checkbox"/> RUSH
Rush charges authorized by:	
SAMPLE DISPOSAL	<input type="checkbox"/> Archive samples
	<input type="checkbox"/> Other _____
Default: Dispose after 30 days	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes		
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082			
MWD-1R-GLD	01 A-2	9-5-23	2:00	EMER	3										Needle
MWD-5R-GLD	02		1:00		3										SAMPLES ALREADY FILTERED
MWD-10-GLD	03		2:10		3										
MWD-1RR-GLD	04		1:30		3										
MWD-1SR-GLD	05 A-1		1:10		4										
GLD-07-GLD	06 A-2		1:20		4										
GLD-09-GLD	07 A-2		1:15		3										
															Samples received at 3 oC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>		<u>AMHPHAN</u>		<u>DES</u>		<u>9-5-23</u>	<u>5:25</u>
Received by: <u>[Signature]</u>		<u>AMHPHAN</u>		<u>FRH</u>		<u>09/06/23</u>	<u>15:45</u>
Relinquished by:							
Received by:							

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

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South  
Seattle, WA 98108  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

September 19, 2023

Dan Whitman, Project Manager  
Whitman Environmental Sciences  
6812 16<sup>th</sup> Ave NE  
Seattle, WA 98115

Dear Mr Whitman:

Included are the results from the testing of material submitted on September 13, 2023 from the 12th and Yesler WES 1591, F&BI 309170 project. There are 13 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



---

Michael Erdahl  
Project Manager

Enclosures  
WES0919R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 13, 2023 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences 12th and Yesler WES 1591, F&BI 309170 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Whitman Environmental Sciences</u>
309170 -01	MW-1R-GW
309170 -02	MW-5R-GW
309170 -03	MW-12R-GW
309170 -04	MW-17-GW
309170 -05	MW-18-GW
309170 -06	GEO-BR9-GW

The 8260D calibration standard failed the acceptance criteria for acetone and 2-butanone. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-1R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/13/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/14/23	Lab ID:	309170-01 x5
Date Analyzed:	09/15/23	Data File:	309170-01 x5.086
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	6.57
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-5R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/13/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/14/23	Lab ID:	309170-02 x10
Date Analyzed:	09/15/23	Data File:	309170-02 x10.087
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	15.3
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	MW-12R-GW	Client:	Whitman Environmental Sciences
Date Received:	09/13/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/14/23	Lab ID:	309170-03 x10
Date Analyzed:	09/16/23	Data File:	309170-03 x10.259
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	201
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	GEO-BR9-GW	Client:	Whitman Environmental Sciences
Date Received:	09/13/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/14/23	Lab ID:	309170-06 x10
Date Analyzed:	09/16/23	Data File:	309170-06 x10.260
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	56.0
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Whitman Environmental Sciences
Date Received:	Not Applicable	Project:	12th and Yesler WES 1591
Date Extracted:	09/14/23	Lab ID:	I3-705 mb2
Date Analyzed:	09/14/23	Data File:	I3-705 mb2.104
Matrix:	Water	Instrument:	ICPMS2
Units:	ug/L (ppb)	Operator:	SP

Analyte:	Concentration ug/L (ppb)
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Arsenic	<1
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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID: MW-17-GW	Client: Whitman Environmental Sciences
Date Received: 09/13/23	Project: 12th and Yesler WES 1591
Date Extracted: 09/15/23	Lab ID: 309170-04
Date Analyzed: 09/15/23	Data File: 091514.D
Matrix: Water	Instrument: GCMS11
Units: ug/L (ppb)	Operator: LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	78	126
Toluene-d8	101	84	115
4-Bromofluorobenzene	101	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	0.069	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 ca	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	MW-18-GW	Client:	Whitman Environmental Sciences
Date Received:	09/13/23	Project:	12th and Yesler WES 1591
Date Extracted:	09/15/23	Lab ID:	309170-05
Date Analyzed:	09/15/23	Data File:	091515.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	106	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 ca	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Whitman Environmental Sciences
Date Received:	Not Applicable	Project:	12th and Yesler WES 1591
Date Extracted:	09/15/23	Lab ID:	03-2134 mb
Date Analyzed:	09/15/23	Data File:	091508.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	LM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	78	126
Toluene-d8	100	84	115
4-Bromofluorobenzene	100	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 ca	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 ca	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.5	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/19/23

Date Received: 09/13/23

Project: 12th and Yesler WES 1591, F&BI 309170

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

Laboratory Code: 308303-11 x10 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	ug/L (ppb)	10	67.8	69 b	95 b	75-125	32 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	ug/L (ppb)	10	97	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/19/23

Date Received: 09/13/23

Project: 12th and Yesler WES 1591, F&BI 309170

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

Laboratory Code: 309170-04 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	10	<1	94	30-221
Chloromethane	ug/L (ppb)	10	<10	96	50-150
Vinyl chloride	ug/L (ppb)	10	0.069	100	50-150
Bromomethane	ug/L (ppb)	10	<5	91	50-150
Chloroethane	ug/L (ppb)	10	<1	95	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	94	50-150
Acetone	ug/L (ppb)	50	<50	40	18-161
1,1-Dichloroethene	ug/L (ppb)	10	<1	100	50-150
Hexane	ug/L (ppb)	10	<5	97	50-150
Methylene chloride	ug/L (ppb)	10	<5	95	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	99	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	97	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	102	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	106	43-171
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	104	10-211
Chloroform	ug/L (ppb)	10	<1	97	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	63	10-192
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	110	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	104	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	101	50-150
Benzene	ug/L (ppb)	10	<0.35	112	50-150
Trichloroethene	ug/L (ppb)	10	<0.5	107	35-149
1,2-Dichloropropane	ug/L (ppb)	10	<1	105	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	101	50-150
Dibromomethane	ug/L (ppb)	10	<1	103	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	104	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	50-150
Toluene	ug/L (ppb)	10	<1	111	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	103	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	103	50-150
2-Hexanone	ug/L (ppb)	50	<10	88	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	107	50-150
Tetrachloroethene	ug/L (ppb)	10	<1	110	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	105	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<0.01	109	50-150
Chlorobenzene	ug/L (ppb)	10	<1	106	50-150
Ethylbenzene	ug/L (ppb)	10	<1	112	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	101	50-150
m,p-Xylene	ug/L (ppb)	20	<2	107	50-150
o-Xylene	ug/L (ppb)	10	<1	107	50-150
Styrene	ug/L (ppb)	10	<1	104	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	108	50-150
Bromoform	ug/L (ppb)	10	<5	103	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	108	50-150
Bromobenzene	ug/L (ppb)	10	<1	104	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	107	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	105	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	108	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	107	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	108	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	107	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	108	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	108	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	108	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	108	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	103	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	106	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	95	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	101	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	101	50-150
Naphthalene	ug/L (ppb)	10	<1	102	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	100	50-150

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 09/19/23

Date Received: 09/13/23

Project: 12th and Yesler WES 1591, F&BI 309170

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	91	100	46-206	9
Chloromethane	ug/L (ppb)	10	96	100	59-132	4
Vinyl chloride	ug/L (ppb)	10	96	104	64-142	8
Bromomethane	ug/L (ppb)	10	101	103	50-197	2
Chloroethane	ug/L (ppb)	10	98	102	70-130	4
Trichlorofluoromethane	ug/L (ppb)	10	98	102	51-159	4
Acetone	ug/L (ppb)	50	40	44	10-140	10
1,1-Dichloroethene	ug/L (ppb)	10	101	104	64-140	3
Hexane	ug/L (ppb)	10	103	105	54-136	2
Methylene chloride	ug/L (ppb)	10	100	104	43-134	4
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	101	103	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	98	101	70-130	3
1,1-Dichloroethane	ug/L (ppb)	10	103	105	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	110	114	64-148	4
cis-1,2-Dichloroethene	ug/L (ppb)	10	102	104	70-130	2
Chloroform	ug/L (ppb)	10	99	102	70-130	3
2-Butanone (MEK)	ug/L (ppb)	50	65	70	47-112	7
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	111	111	70-130	0
1,1,1-Trichloroethane	ug/L (ppb)	10	100	102	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	104	106	70-130	2
Carbon tetrachloride	ug/L (ppb)	10	101	101	70-130	0
Benzene	ug/L (ppb)	10	113	113	70-130	0
Trichloroethene	ug/L (ppb)	10	107	107	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	101	102	70-130	1
Bromodichloromethane	ug/L (ppb)	10	102	103	70-130	1
Dibromomethane	ug/L (ppb)	10	104	103	70-130	1
4-Methyl-2-pentanone	ug/L (ppb)	50	103	113	68-130	9
cis-1,3-Dichloropropene	ug/L (ppb)	10	112	108	69-131	4
Toluene	ug/L (ppb)	10	110	110	70-130	0
trans-1,3-Dichloropropene	ug/L (ppb)	10	110	107	70-130	3
1,1,2-Trichloroethane	ug/L (ppb)	10	103	103	70-130	0
2-Hexanone	ug/L (ppb)	50	89	98	45-138	1
1,3-Dichloropropane	ug/L (ppb)	10	104	103	70-130	1
Tetrachloroethene	ug/L (ppb)	10	108	110	70-130	2
Dibromochloromethane	ug/L (ppb)	10	102	103	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	108	109	70-130	1
Chlorobenzene	ug/L (ppb)	10	105	106	70-130	1
Ethylbenzene	ug/L (ppb)	10	112	113	70-130	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	98	105	70-130	7
m,p-Xylene	ug/L (ppb)	20	107	109	70-130	2
o-Xylene	ug/L (ppb)	10	107	111	70-130	4
Styrene	ug/L (ppb)	10	105	105	70-130	0
Isopropylbenzene	ug/L (ppb)	10	107	113	70-130	5
Bromoform	ug/L (ppb)	10	104	105	69-138	1
n-Propylbenzene	ug/L (ppb)	10	108	106	70-130	2
Bromobenzene	ug/L (ppb)	10	102	104	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	106	106	70-130	0
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	102	102	70-130	0
1,2,3-Trichloropropane	ug/L (ppb)	10	107	106	70-130	1
2-Chlorotoluene	ug/L (ppb)	10	106	104	70-130	2
4-Chlorotoluene	ug/L (ppb)	10	108	105	70-130	3
tert-Butylbenzene	ug/L (ppb)	10	105	106	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	106	106	70-130	0
sec-Butylbenzene	ug/L (ppb)	10	107	107	70-130	0
p-Isopropyltoluene	ug/L (ppb)	10	107	109	70-130	2
1,3-Dichlorobenzene	ug/L (ppb)	10	104	104	70-130	0
1,4-Dichlorobenzene	ug/L (ppb)	10	102	102	70-130	2
1,2-Dichlorobenzene	ug/L (ppb)	10	100	105	70-130	5
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	96	94	70-130	2
1,2,4-Trichlorobenzene	ug/L (ppb)	10	100	104	70-130	4
Hexachlorobutadiene	ug/L (ppb)	10	94	105	70-130	11
Naphthalene	ug/L (ppb)	10	100	105	70-130	5
1,2,3-Trichlorobenzene	ug/L (ppb)	10	95	102	70-130	7

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The analyte is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits due to sample matrix effects.
- j - The analyte concentration is reported below the standard reporting limit. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- k - The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

309170

SAMPLE CHAIN OF CUSTODY

09-13-23

Ww1 / L 4

Page # of

SAMPLERS (signature)

PROJECT NAME

PO #

REMARKS

INVOICE TO

Protect specific PLS? Yes / No

TURNAROUND TIME

Standard turnaround

RUSH

Rush charges authorized by:

SAMPLE DISPOSAL

Archive samples

Other

Default: Dispose after 30 days

Report To: *[Signature]*

Company: *[Signature]*

Address: *[Signature]*

City, State, ZIP: *[Signature]*

Phone: *[Signature]*

Email: *[Signature]*

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED							Notes
						NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	
<i>MD-1R-003</i>	<i>01</i>	<i>9-13</i>	<i>PM</i>	<i>Water</i>	<i>1</i>								<input checked="" type="checkbox"/> per DW 9/14/23 MCE
<i>MD-5R-002</i>	<i>02</i>	<i>9-13</i>	<i>PM</i>	<i>Water</i>	<i>1</i>								<i>As samples</i>
<i>MD-1RR-003</i>	<i>03</i>	<i>9-13</i>	<i>PM</i>	<i>Water</i>	<i>1</i>								<i>As samples</i>
<i>MD-17-004</i>	<i>04</i>	<i>9-13</i>	<i>PM</i>	<i>Water</i>	<i>3</i>								<i>FIELD</i>
<i>MD-15-005</i>	<i>05 AC</i>	<i>9-13</i>	<i>PM</i>	<i>Water</i>	<i>3</i>								<i>FIELD</i>
<i>Geo-BR9-GW</i>	<i>06 AC</i>	<i>9-12-23</i>	<i>2:12</i>	<i>Water</i>	<i>1</i>							<input checked="" type="checkbox"/>	<i>Added at lab</i> <i>9/13/23</i>
<b>Samples received at 2°C</b>													

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

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>9-13</i>	<i>1:49</i>
Received by:	<i>[Signature]</i>	Received by:	<i>[Signature]</i>	Company:	<i>[Signature]</i>	<i>9-13</i>	<i>1:49</i>
Relinquished by:	<i>[Signature]</i>	Relinquished by:	<i>[Signature]</i>	Company:	<i>[Signature]</i>	<i>9-13</i>	<i>1:49</i>
Received by:		Received by:		Company:			

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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

5500 4th Avenue South  
Seattle, WA 98108  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

October 3, 2023

Dan Whitman, Project Manager  
Whitman Environmental Sciences  
6812 16<sup>th</sup> Ave NE  
Seattle, WA 98115

Dear Mr Whitman:

Included are the results from the testing of material submitted on September 19, 2023 from the 12th and Yesler WES 1591, F&BI 309261 project. There are 7 pages included in this report.

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

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures  
WES1003R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on September 19, 2023 by Friedman & Bruya, Inc. from the Whitman Environmental Sciences 12th and Yesler WES 1591, F&BI 309261 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Whitman Environmental Sciences</u>
309261 -01	VP-1
309261 -02	VP-2
309261 -03	VP-3

All quality control requirements were acceptable.

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-1	Client:	Whitman Environmental Sciences
Date Received:	09/19/23	Project:	12th and Yesler WES 1591
Date Collected:	09/19/23	Lab ID:	309261-01 1/5.3
Date Analyzed:	09/25/23	Data File:	092518.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	89	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.53
cis-1,2-Dichloroethene	<2.1	<0.53
Chloroform	1.5	0.31
Benzene	<1.7	<0.53
Bromodichloromethane	<0.36	<0.053
Trichloroethene	<0.57	<0.11
Tetrachloroethene	<36	<5.3
1,2,4-Trimethylbenzene	<26	<5.3
Naphthalene	<1.4	<0.26

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-2	Client:	Whitman Environmental Sciences
Date Received:	09/19/23	Project:	12th and Yesler WES 1591
Date Collected:	09/19/23	Lab ID:	309261-02 1/5.4
Date Analyzed:	09/25/23	Data File:	092520.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.54
cis-1,2-Dichloroethene	<2.1	<0.54
Chloroform	0.53	0.11
Benzene	<1.7	<0.54
Bromodichloromethane	<0.36	<0.054
Trichloroethene	<0.58	<0.11
Tetrachloroethene	<37	<5.4
1,2,4-Trimethylbenzene	<27	<5.4
Naphthalene	<1.4	<0.27

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	VP-3	Client:	Whitman Environmental Sciences
Date Received:	09/19/23	Project:	12th and Yesler WES 1591
Date Collected:	09/19/23	Lab ID:	309261-03 1/5.4
Date Analyzed:	09/25/23	Data File:	092521.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	90	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<1.4	<0.54
cis-1,2-Dichloroethene	<2.1	<0.54
Chloroform	0.29	0.059
Benzene	<1.7	<0.54
Bromodichloromethane	<0.36	<0.054
Trichloroethene	<0.58	<0.11
Tetrachloroethene	<37	<5.4
1,2,4-Trimethylbenzene	<27	<5.4
Naphthalene	<1.4	<0.27

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By Method TO-15

Client Sample ID:	Method Blank	Client:	Whitman Environmental Sciences
Date Received:	Not Applicable	Project:	12th and Yesler WES 1591
Date Collected:	Not Applicable	Lab ID:	03-2158 MB
Date Analyzed:	09/25/23	Data File:	092514.D
Matrix:	Air	Instrument:	GCMS7
Units:	ug/m3	Operator:	bat

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
4-Bromofluorobenzene	88	70	130

Compounds:	Concentration	
	ug/m3	ppbv
Vinyl chloride	<0.26	<0.1
cis-1,2-Dichloroethene	<0.4	<0.1
Chloroform	<0.049	<0.01
Benzene	<0.32	<0.1
Bromodichloromethane	<0.067	<0.01
Trichloroethene	<0.11	<0.02
Tetrachloroethene	<6.8	<1
1,2,4-Trimethylbenzene	<4.9	<1
Naphthalene	<0.26	<0.05

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 10/03/23

Date Received: 09/19/23

Project: 12th and Yesler WES 1591, F&BI 309261

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF AIR SAMPLES  
FOR VOLATILES BY METHOD TO-15**

Laboratory Code: 309261-01 1/5.3 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 30)
Vinyl chloride	ug/m3	<1.4	<1.4	nm
cis-1,2-Dichloroethene	ug/m3	<2.1	<2.1	nm
Chloroform	ug/m3	1.5	1.5	0
Benzene	ug/m3	<1.7	<1.7	nm
Bromodichloromethane	ug/m3	<0.36	<0.36	nm
Trichloroethene	ug/m3	<0.57	<0.57	nm
Tetrachloroethene	ug/m3	<36	<36	nm
1,2,4-Trimethylbenzene	ug/m3	<26	<26	nm
Naphthalene	ug/m3	<1.4	<1.4	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Vinyl chloride	ug/m3	35	104	70-130
cis-1,2-Dichloroethene	ug/m3	54	99	70-130
Chloroform	ug/m3	66	101	70-130
Benzene	ug/m3	43	97	70-130
Bromodichloromethane	ug/m3	90	104	70-130
Trichloroethene	ug/m3	73	104	70-130
Tetrachloroethene	ug/m3	92	123	70-130
1,2,4-Trimethylbenzene	ug/m3	66	108	70-130
Naphthalene	ug/m3	71	104	70-130

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

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- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

309261

SAMPLE CHAIN OF CUSTODY

09-19-23

Report To: Mr. Friedman  
 Company: Friedman & Bruya, Inc.  
 Address: 812 1st Ave SE  
 City, State, ZIP: Seattle WA 98108  
 Phone: \_\_\_\_\_  
 Email: chris.friedman@friedman.com

SAMPLERS (signature)		PROJECT NAME & ADDRESS		PO #	
<u>[Signature]</u>		<u>1st Ave</u>		<u>265</u>	
NOTES:		INVOICE TO		INVOICE TO	
SAMPLE DISPOSAL		TO15 Full Scan		TO15 BTEXN	
Default: Clean following final report delivery Hold (Fee may apply):					
RUSH		TO15 cVOCs		APH	
Rush charges authorized by:				Helium	
Standard					
TANKAROUND TIME					
# _____ of _____					

Sample Name	Lab ID	Canister ID	Flow Cont. ID	Reporting Level: IA=Indoor Air SG=Soil Gas (Circle One)	Date Sampled	Initial Vac. (°Hg)	Field Initial Time	Final Vac. (°Hg)	Field Final Time	ANALYSIS REQUESTED				Notes	
										TO15 Full Scan	TO15 BTEXN	TO15 cVOCs	APH		
VP-1	01	3448	70	IA SG	9-19	30	3:05	5	3:11			X			Notes: <u>VP-1</u>
VP-2	02	2431	72	IA SG	11	29.5	3:30	5	3:36			X			<u>VP-2</u>
VP-3	03	3317	61	IA SG	11	30	3:48	5	3:54			X			<u>VP-3</u>
				IA / SG											
				IA / SG											
				IA / SG											
				IA / SG											
				IA / SG											

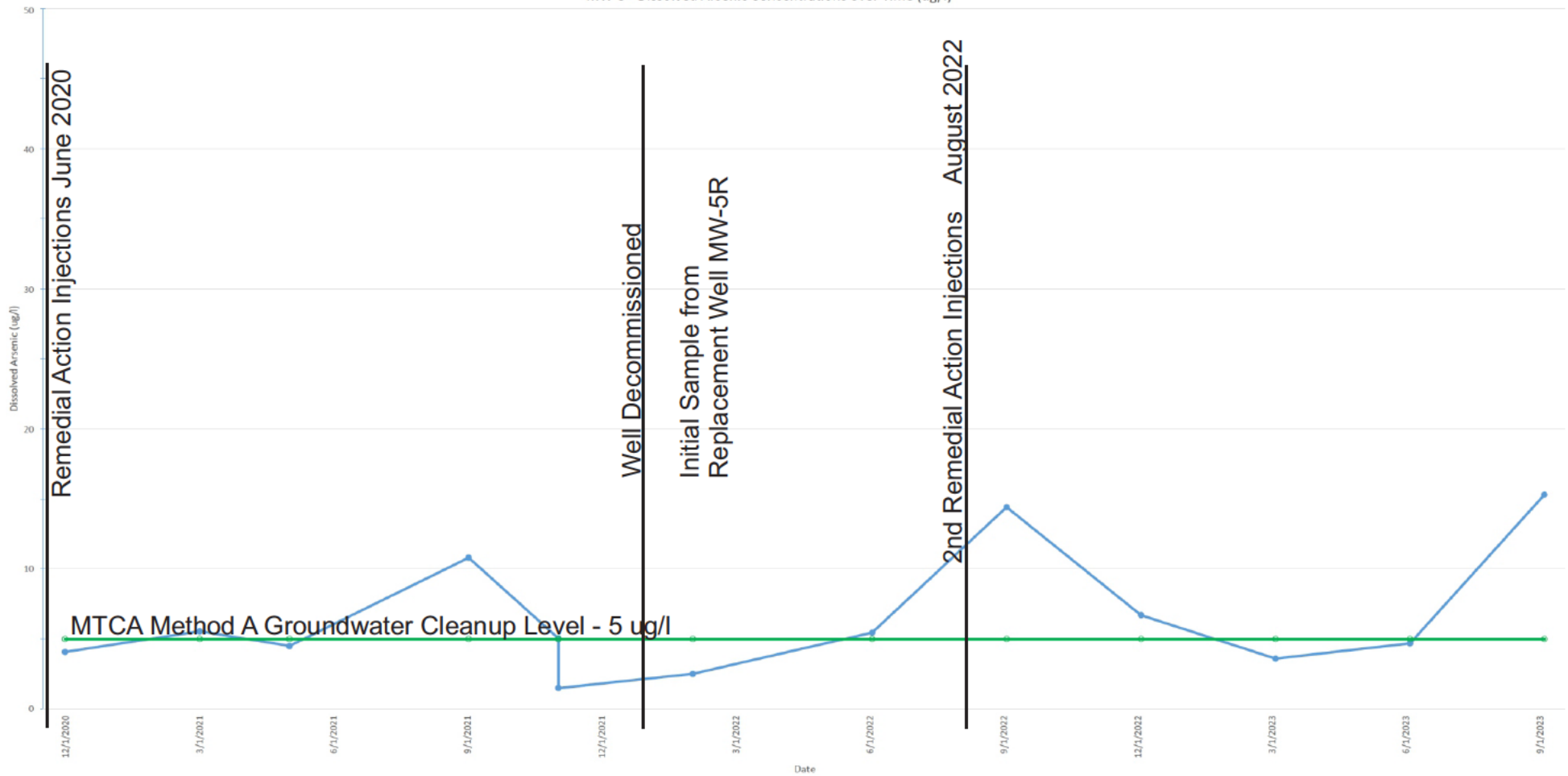
SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: <u>[Signature]</u>							
Received by: <u>[Signature]</u>		<u>Wadeyter</u>		<u>CRS</u>		<u>9-19-23</u>	<u>5:11</u>
Relinquished by:				<u>FR</u>		<u>09-19-23</u>	<u>5:14</u>
Received by:							

## ***APPENDIX C***

---

### ***Dissolved Arsenic Time Series Plots***

MW-5 - Dissolved Arsenic Concentrations over Time (ug/l)



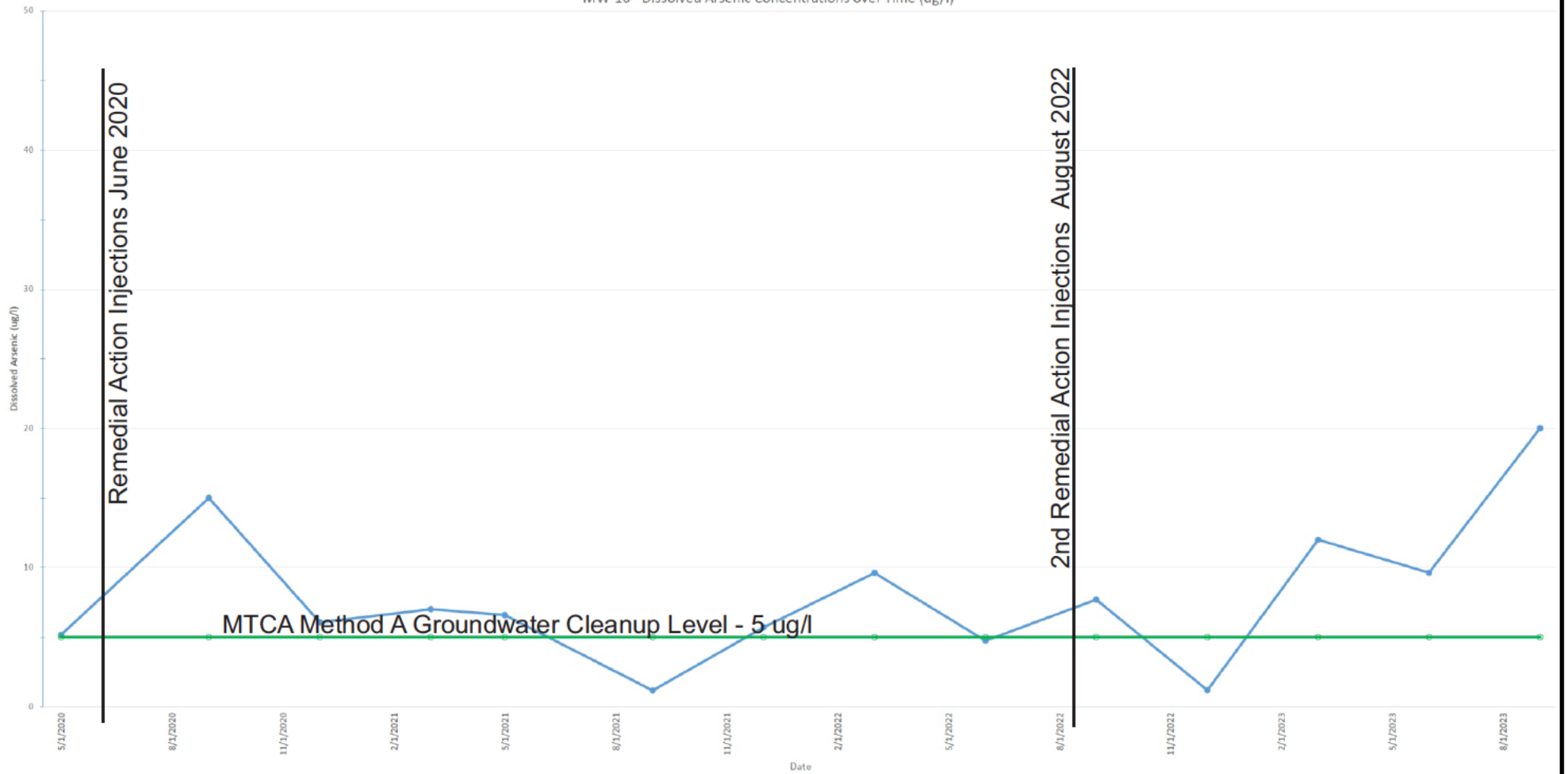
Dissolved Arsenic Over Time - MW-5/5R

Proposed Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	Oct 20, 2023
File ID.	1591TSMW5

**WHITMAN**  
 Environmental Sciences

MW-10 - Dissolved Arsenic Concentrations over Time (ug/l)



Dissolved Arsenic Over Time - MW-10

Proposed Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

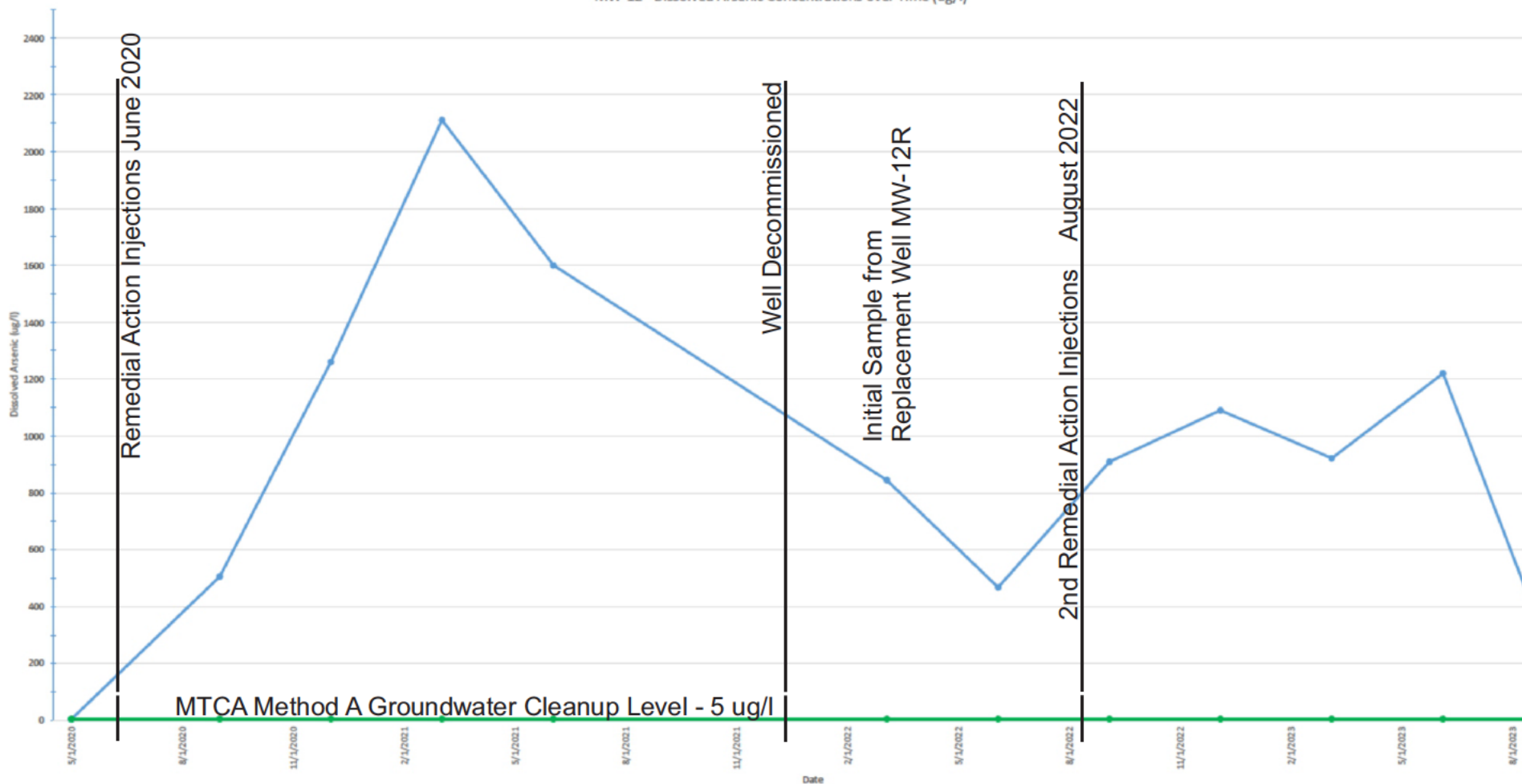
Project No. WES 1591A

Date Oct 20, 2023

File ID. 1591TSMW10

**WHITMAN**  
 Environmental Sciences

MW-12 - Dissolved Arsenic Concentrations over Time (ug/l)



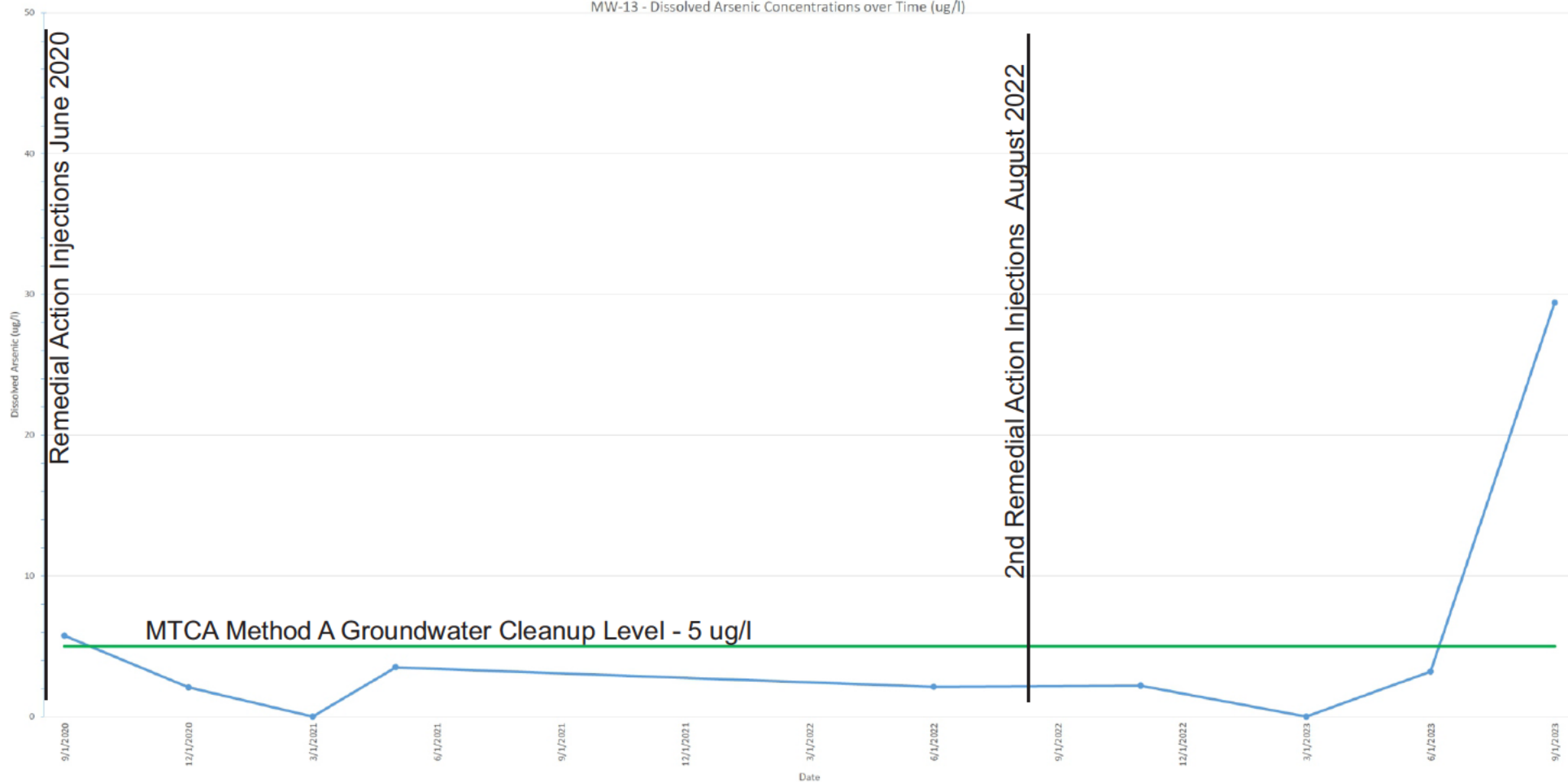
Dissolved Arsenic Over Time - MW-12/12R

Proposed Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	Oct 20, 2023
File ID.	1591TSMW12

**WHITMAN**  
 Environmental Sciences

MW-13 - Dissolved Arsenic Concentrations over Time (ug/l)



Dissolved Arsenic Over Time - MW-13

Proposed Redevelopment Property  
104-124 12th Avenue & 1209 E. Fir Street  
Seattle, WA

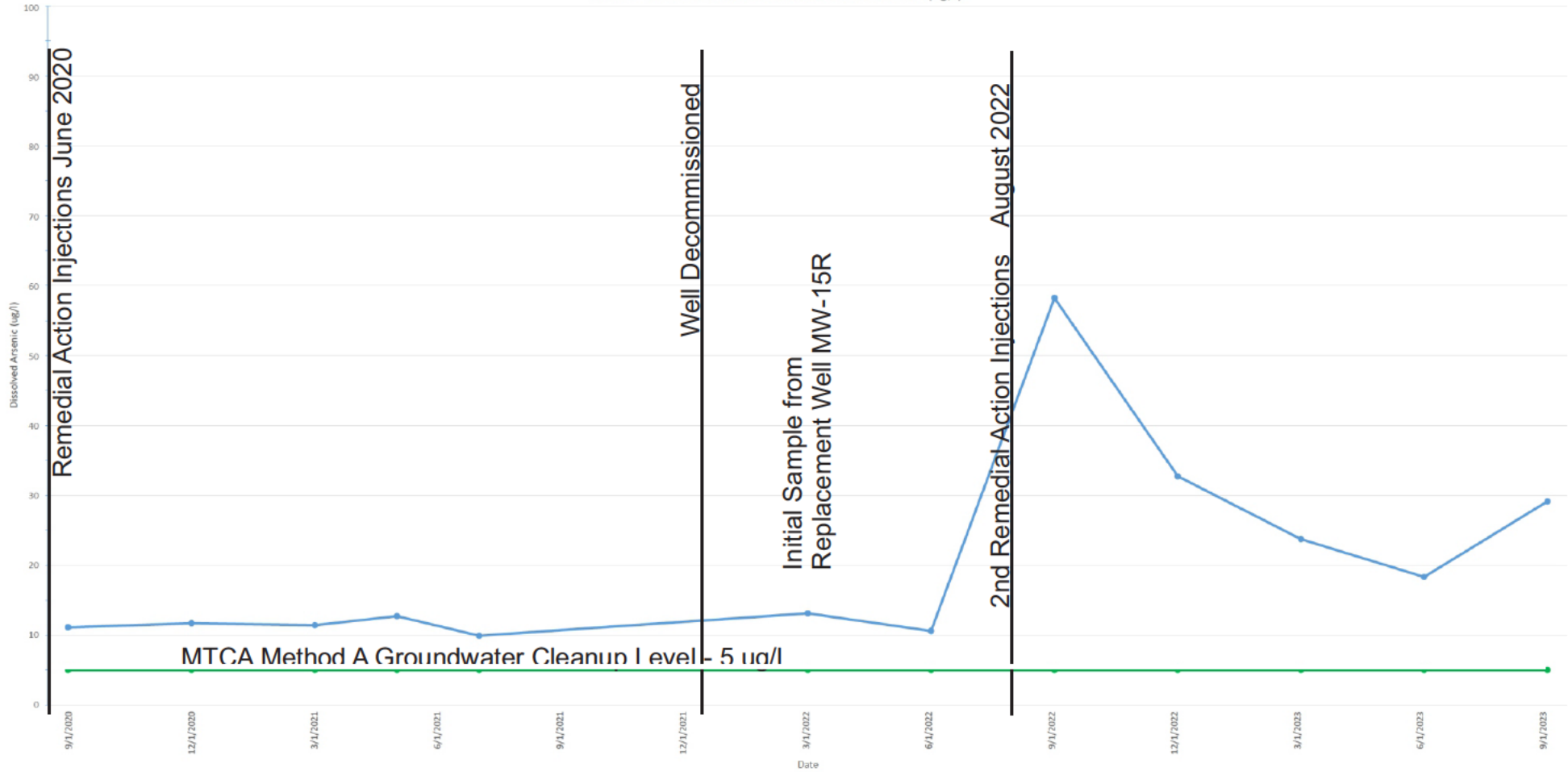
Project No. WES 1591A

Date Oct 20, 2023

File ID. 1591TSMW13

WHITMAN  
Environmental Sciences

MW-15 - Dissolved Arsenic Concentrations over Time (ug/l)



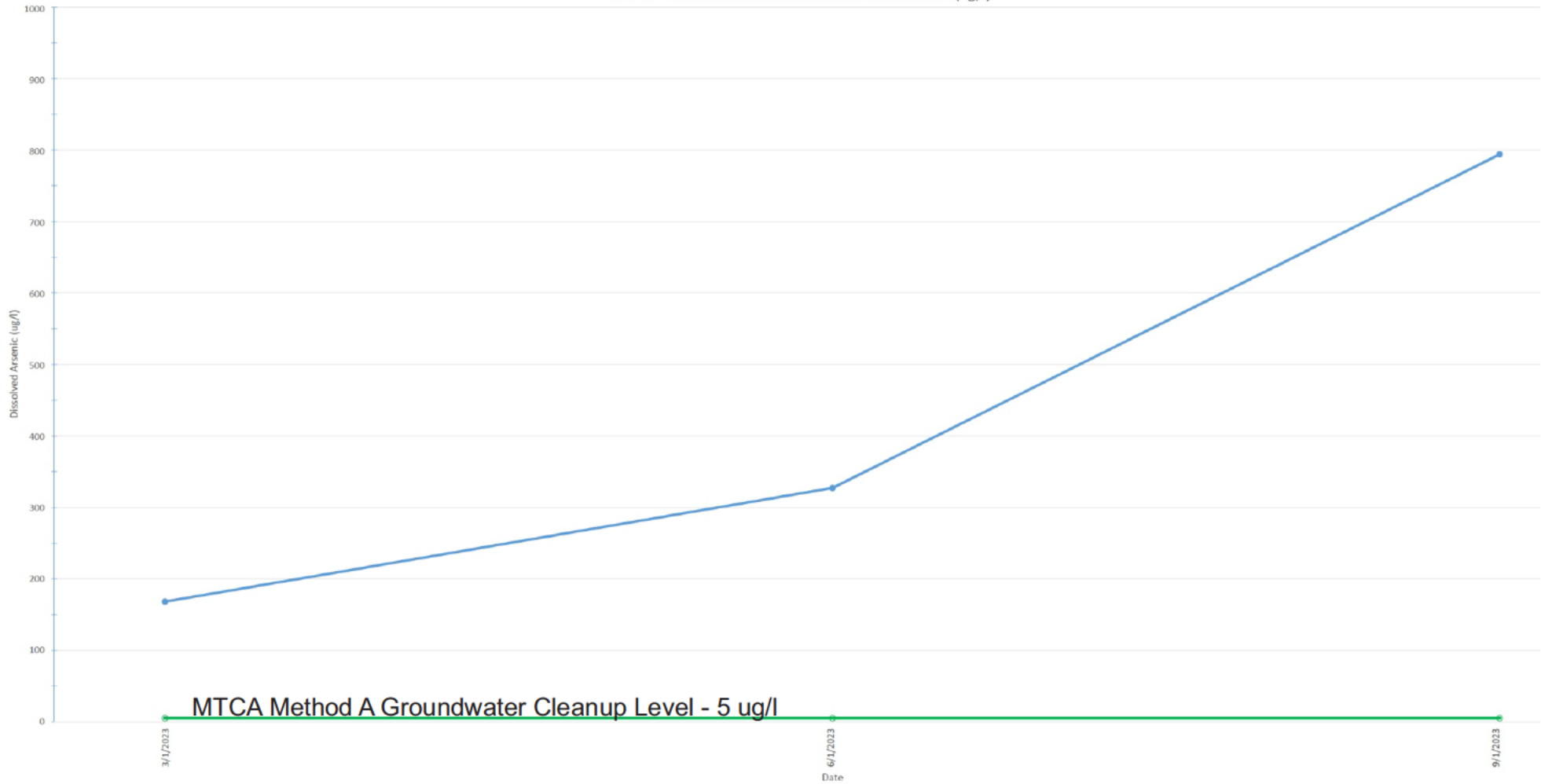
Dissolved Arsenic Over Time - MW-15/15R

Proposed Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	Oct 20, 2023
File ID.	1591TSMW15

**WHITMAN**  
 Environmental Sciences

MW-17 - Dissolved Arsenic Concentrations over Time (ug/l)



Dissolved Arsenic Over Time - MW-17

Proposed Redevelopment Property  
104-124 12th Avenue & 1209 E. Fir Street  
Seattle, WA

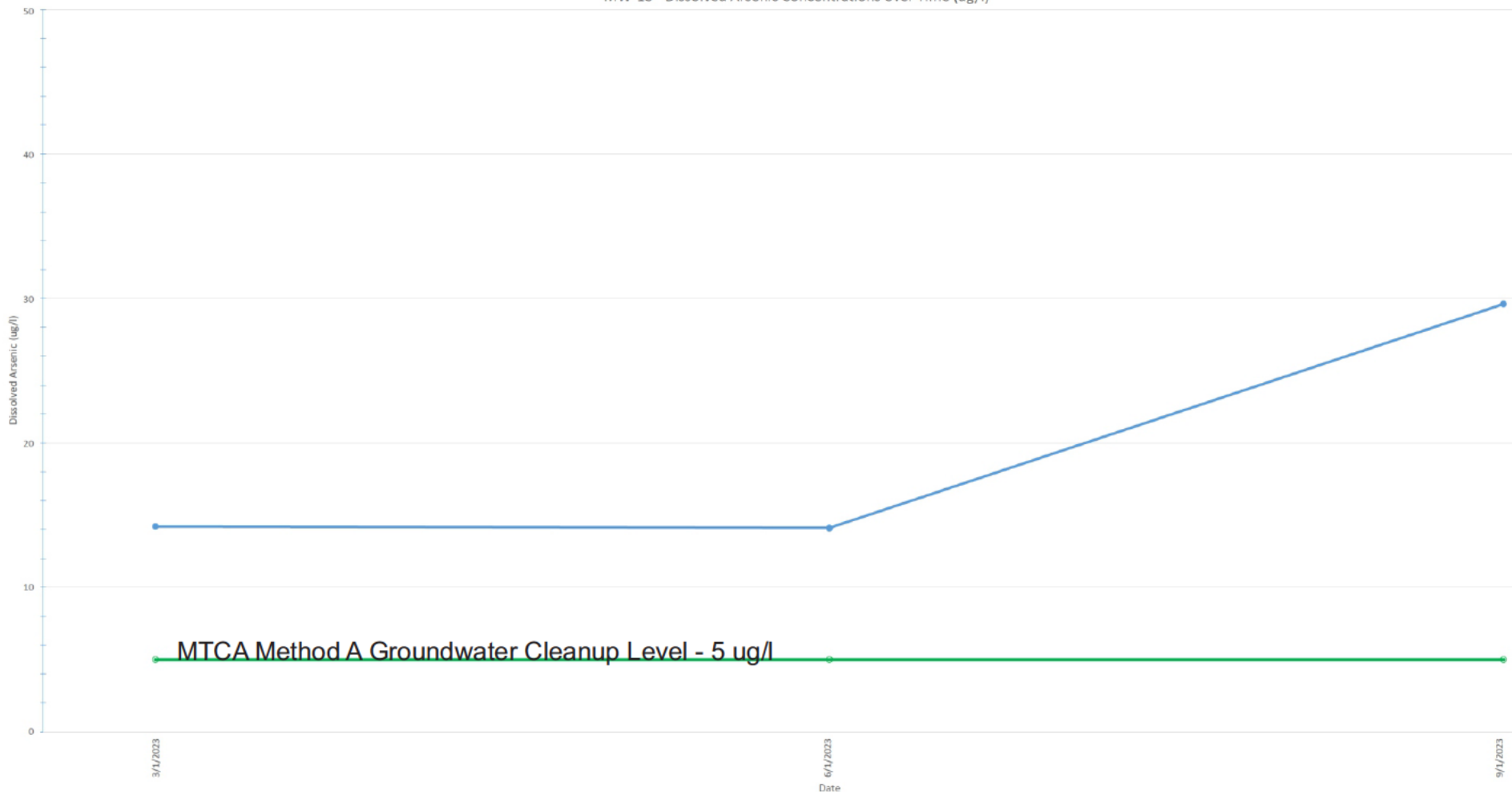
Project No. WES 1591A

Date Oct 20, 2023

File ID. 1591TSMW17

WHITMAN  
Environmental Sciences

MW-18 - Dissolved Arsenic Concentrations over Time (ug/l)



Dissolved Arsenic Over Time - MW-18

Proposed Redevelopment Property  
104-124 12th Avenue & 1209 E. Fir Street  
Seattle, WA

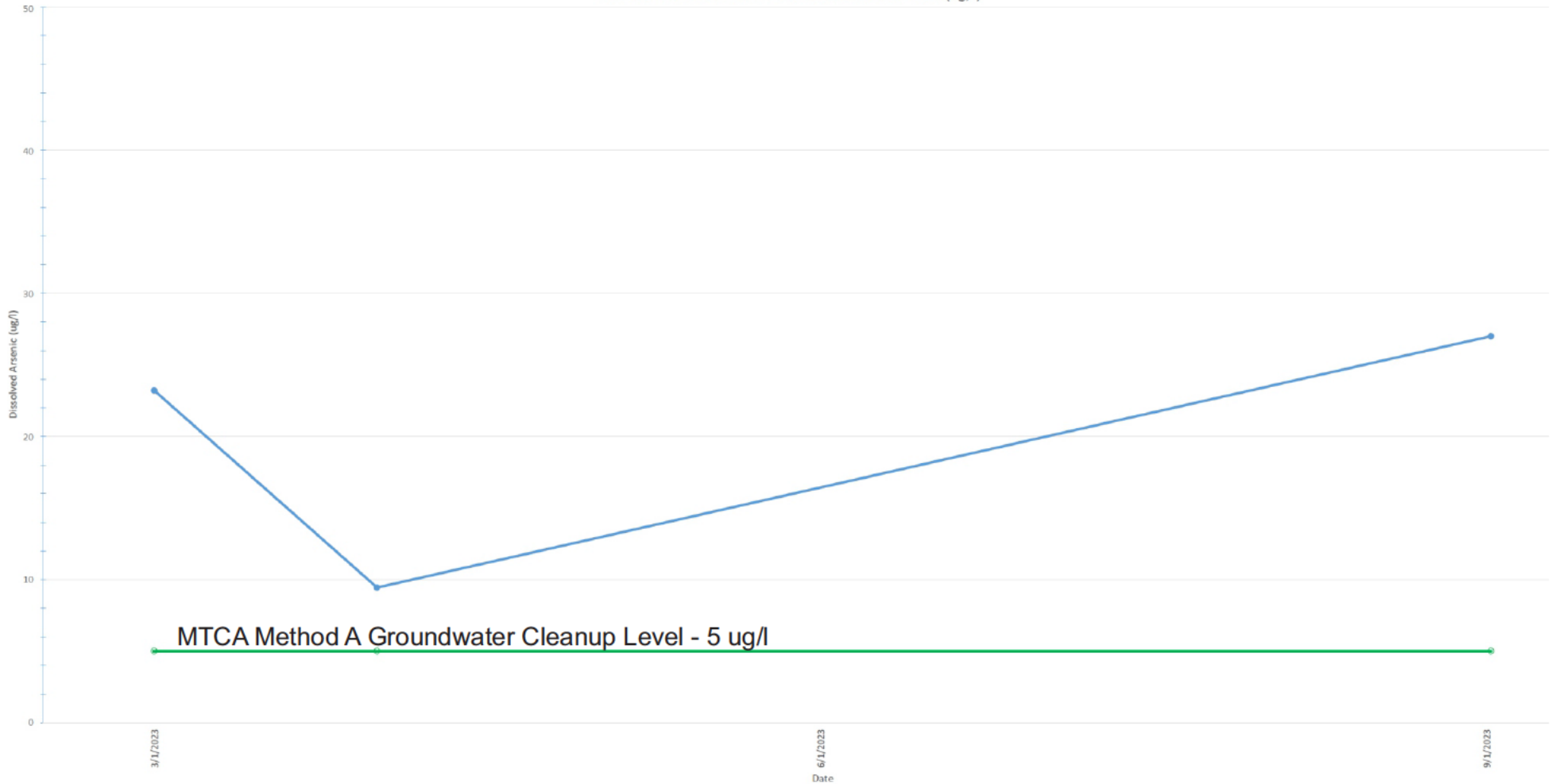
Project No. WES 1591A

Date Oct 20, 2023

File ID. 1591TSMW18

WHITMAN  
Environmental Sciences

MW-19 - Dissolved Arsenic Concentrations over Time (ug/l)



Dissolved Arsenic Over Time - MW-19

Proposed Redevelopment Property  
104-124 12th Avenue & 1209 E. Fir Street  
Seattle, WA

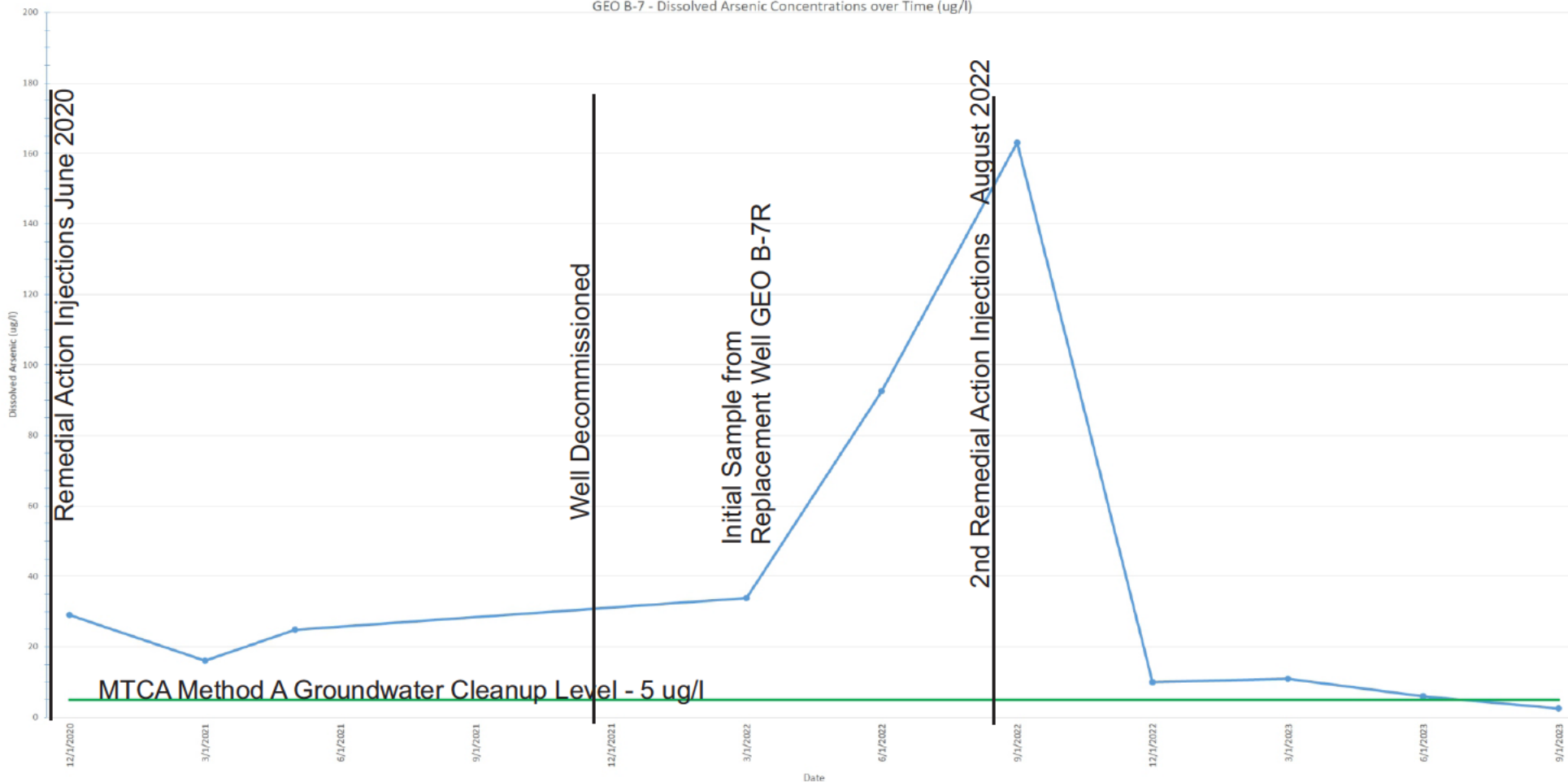
Project No. WES 1591A

Date Oct 20, 2023

File ID. 1591TSMW19

WHITMAN  
Environmental Sciences

GEO B-7 - Dissolved Arsenic Concentrations over Time (ug/l)



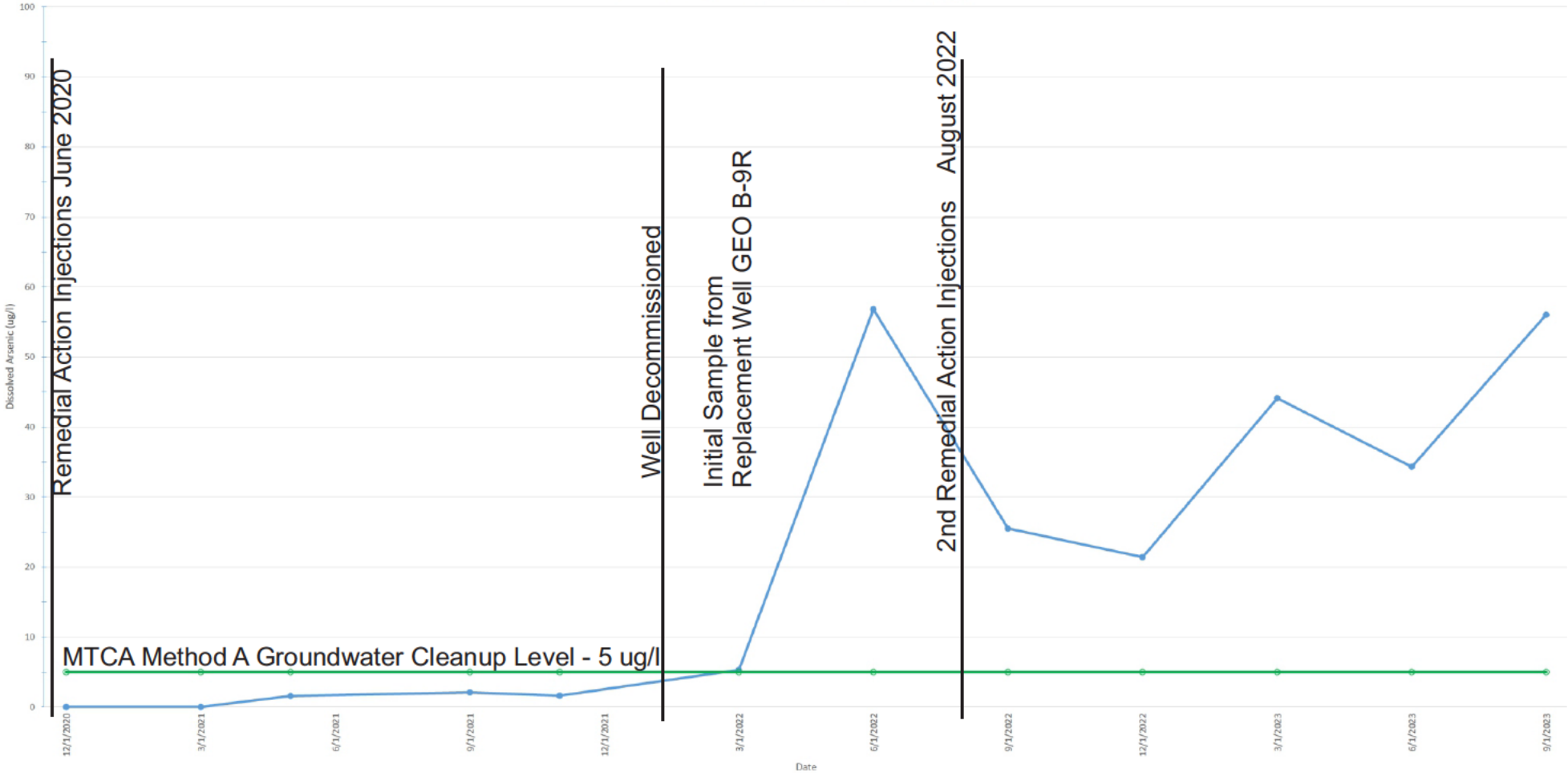
Dissolved Arsenic over Time - GEO B-7

Proposed Redevelopment Property  
 104-124 12th Avenue & 1209 E. Fir Street  
 Seattle, WA

Project No.	WES 1591A
Date	Oct 20, 2023
File ID.	1591TSGEOB7

**WHITMAN**  
 Environmental Sciences

GEO B-9 - Dissolved Arsenic Concentrations over Time (ug/l)



**Dissolved Arsenic Over Time - GEO B-9/9R**

Proposed Redevelopment Property  
104-124 12th Avenue & 1209 E. Fir Street  
Seattle, WA

Project No. WES 1591A	<b>WHITMAN</b> Environmental Sciences
Date Oct 20, 2023	
File ID. 1591TSGEOB9	