

TECHNICAL MEMORANDUM

TO: Sandy Smith, PE, LHG, Washington State Department of Ecology
CC: Eric Huseby, City of Tacoma
FROM: Katie Gauglitz, LG, and Joshua Burbach, EIT
DATE: March 7, 2024
RE: Long-Term Groundwater Monitoring Status Report No. 11
2024 Annual Groundwater Monitoring
Former Sauro's Cleanerama Site
Tacoma, Washington
Project No. 0094048.100.107

INTRODUCTION

On behalf of the City of Tacoma (City), Landau Associates, Inc. (Landau) is providing results for long-term groundwater monitoring activities at the former Sauro's Cleanerama site (site). Figure 1 shows the site location.

The City is implementing a Cleanup Action Plan (CAP; Ecology 2014), which is part of Agreed Order (AO) No. DE 11080 between the City and the Washington State Department of Ecology (Ecology). Under the CAP, the City is implementing the monitored natural attenuation (MNA) remedy selected in the feasibility study, which has a total 30-year timeframe. As identified in the AO (Ecology 2015), 2013 is the first year of MNA; year 30 will be 2043. Following completion of the AO and CAP, the City conducted 2 years of semiannual groundwater monitoring beginning in January 2016 and continuing through July 2017. After completion of semiannual monitoring, winter was identified as the appropriate sampling timeframe because higher volatile organic compound (VOC) concentrations generally occur during the winter (Landau 2017). The City received approval from Ecology (Coleman 2018), and commenced the annual sampling in January 2018.

This technical memorandum summarizes the eleventh groundwater monitoring event under the CAP, conducted on January 9 and 11, 2024. Monitoring includes collection of groundwater samples and analysis for VOCs and MNA geochemical parameters, in accordance with the CAP.

GROUNDWATER MONITORING PROGRAM SUMMARY

The existing site groundwater monitoring well network includes 17 wells. Of the 17 wells, nine were selected for long-term monitoring under the CAP. Figure 2 shows the locations of the nine wells selected for long-term monitoring. Table 1 presents a sampling matrix for the long-term monitoring wells.

During the January 2024 sampling event, groundwater samples were collected in accordance with the *Sampling and Analysis Plan* (Landau 2013). Samples for VOC and MNA analysis were collected using a peristaltic pump at MW-2. The other eight wells were sampled using passive diffusion bags for VOCs and dedicated Waterra foot valves for MNA parameters. VOC samples at RNS-MW6 are collected at two discrete depths because of the relatively long screen (20 feet) and because prior sampling has demonstrated stratification within the well; all other wells were sampled at a single depth. All samples were submitted for analysis under proper chain-of-custody protocols to Eurofins TestAmerica Laboratories, Inc. (laboratory) located in Fife, Washington.

All groundwater samples were analyzed by the laboratory for VOC constituents of concern tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC); and MNA parameters (chloride, nitrate, nitrite, total organic carbon [TOC], sulfate, sulfide, and dissolved gases [acetylene, methane, ethane, and ethene]). Samples were analyzed using the following methods: VOCs by US Environmental Protection Agency (EPA) Method 8260D, nitrate/nitrite and chloride/sulfate by EPA Method 300.0, TOC by EPA Method SM 5310B, sulfide by SM 4500-S2 D, and dissolved gases by EPA Method RSK-175. Field parameters were also collected, including dissolved oxygen (DO) and oxygen-reduction potential (ORP) using a field meter (YSI Quatro Pro Plus or similar) and ferrous iron using a HACH® field test kit (Model IR-18C). A duplicate sample was collected at LAI-MW3 (Dup1) for quality control purposes. Data will be electronically submitted to Ecology's Environmental Information Management system in spring 2024. Table 2 presents the analytical methods, practical quantitation limits (i.e., reporting limits), preservatives, and holding times. Groundwater elevations and contours are presented on Figure 2 and in Table 3. Figure 3 and Table 4 present VOC analytical results. Table 5 presents MNA analytical results. VOC time series plots are provided in Attachment 1. A copy of the laboratory data packages for the most recent sampling event (January 2024), cumulative results, and copies of the January 2024 sample collection forms are provided in Attachments 2, 3, and 4, respectively.

Groundwater Elevation Results

Groundwater conditions at the site are influenced by local geology and precipitation. During January 2024, groundwater elevations at monitoring wells nearest to the former Sauro's property were about 35 feet higher than those at downgradient monitoring well LAI-MW4, furthest from the Sauro's property and nearest the Thea Foss Waterway. The groundwater flows east, towards the Thea Foss Waterway.

Volatile Organic Compound Results

The VOC plume at the site is somewhat bifurcated, with the main portion of the plume extending east-northeast of the site and a smaller, lower-concentration portion of the plume extending south-southeast of the site. The east-northeast segment of the plume is characterized by monitoring wells LAI-MW5, RNS-MW6, MW-13, LAI-MW1, LAI-MW2, LAI-MW3, and LAI-MW4. The south-southeast segment of the plume is characterized by monitoring wells RNS-MW2 and MW-2.

VOC analytical results from the January 2024 sampling event are consistent with historical results. At four wells (LAI-MW1, LAI-MW5, MW-2, and LAI-MW-4), all VOC concentrations are below their

respective cleanup levels. LAI-MW5 is located adjacent to the northeast corner of the property, LAI-MW1 bounds the northern edge of the east-northeast segment of the plume, MW-2 is located toward the downgradient end of the south-southeast segment of the plume, and LAI-MW4 is located downgradient from the property near the western bank of the Thea Foss Waterway. At the five remaining wells, one or more VOCs exceeded cleanup levels. The cleanup level for both PCE and TCE is 5 micrograms per liter ($\mu\text{g/L}$), the cleanup level for cDCE is 70 $\mu\text{g/L}$, and the cleanup level for VC is 0.2 $\mu\text{g/L}$.

- LAI-MW2, MW-13, and RNS-MW6 (42.5 and 52.5 feet), which are located in the core of the east-northeast plume segment, continue to report the highest concentrations of VOCs.
 - The January 2024 results indicate concentrations above cleanup levels for PCE, TCE, and/or cDCE, with PCE and TCE concentrations having the largest exceedances of cleanup levels.
 - Concentrations of PCE at these wells ranged from 220 $\mu\text{g/L}$ to 340 $\mu\text{g/L}$ and concentrations of TCE ranged from 72 $\mu\text{g/L}$ to 120 $\mu\text{g/L}$. The concentration of cDCE at LAI-MW2 was 100 $\mu\text{g/L}$.
 - VC was not detected at concentrations exceeding the laboratory reporting limit at any of these locations; however, the reporting limit was elevated at LAI-MW2 (to 50 times the cleanup level), and both MW-13 and RNS-MW6 (to 10 times the cleanup level). Typically, VC is detected above the laboratory reporting limit and above the cleanup level. Since 2021, VC has been detected at levels below the laboratory reporting limits; however, reporting limits were elevated in 2022.
- Analytical results from LAI-MW3, also located in the east-northeast plume segment, indicate concentrations of PCE and TCE exceed applicable cleanup levels; however, concentrations are somewhat lower (52 $\mu\text{g/L}$ and 39 $\mu\text{g/L}$, respectively) than at the three wells discussed above and similar to what was previously measured in 2023. VC was not detected at concentrations exceeding the laboratory reporting limit at this location; however, the reporting limit was elevated (10 times the cleanup level). LAI-MW3 is located downgradient of MW-13.
- Analytical results from RNS-MW2, located in the south-southeast plume segment, indicate that the concentration of PCE (15 $\mu\text{g/L}$) continues to exceed the applicable cleanup level. However, the concentration of PCE at adjacent well MW-2 (1.1 $\mu\text{g/L}$) is below the cleanup level. RNS-MW2 is screened slightly deeper (38.5 feet below ground surface [ft bgs]), than MW-2 (15 ft bgs). Concentrations at RNS-MW2 have remained stable since 2018.

Discussion of Volatile Organic Compound Data Trends

An interim soil removal action was completed at the site in 2010 and the site was subsequently filled and paved. In the downgradient well nearest the source area (RNS-MW6), a period of increasing VOC concentrations occurred following the removal action, likely due to significant soil disturbance associated with the removal action. A turning point occurred in 2013, and formerly increasing VOC concentration trends at RNS-MW6 began to decline. In wells farther downgradient, the shift in concentration trends from increasing to decreasing occurred later, in 2016. The following sections provide detailed observations regarding VOC concentration trends. VOC concentration time series plots are provided in Attachment 1.

East-Northeast Plume Segment

- LAI-MW1 and LAI-MW5 have historically shown decreasing concentration trends with recent trends indicating that concentrations of all VOCs remain below the laboratory reporting limits. LAI-MW5 is located adjacent to the former source area, and LAI-MW1 is located downgradient and bounds the northern edge of the plume.
- LAI-MW4 has historically shown decreasing or non-detect concentration trends. Data suggested an increasing trend between 2020 and 2021, with 2022 through 2024 data indicating decreasing trends. TCE was detected above the laboratory reporting limit during January 2024 but below the cleanup level (0.65 µg/L). LAI-MW4 is the farthest downgradient well and is intended to monitor the downgradient extent of the plume.
- RNS-MW6, located immediately downgradient of the source area, is sampled at two depths within the screen.
 - VOC concentration trends at the 42.5-foot depth vary by constituent. PCE, TCE, and cDCE showed relatively stable or decreasing trends since April 2013. However, data trends for these three constituents are difficult to interpret due to variability. As mentioned above, VC was not detected above an elevated laboratory reporting limit in 2022 (10 µg/L), 2023 (4 µg/L), or 2024 (2 µg/L). VC was last detected at a concentration of 0.38 µg/L in 2021.
 - The data trends at the 52.5-foot sampling depth indicate decreases in PCE, TCE, and cDCE concentrations with historical maximums in 2012 and 2013. Overall, data trends are relatively stable for PCE, TCE, and cDCE. The VC concentration is generally decreasing. VC was not detected above the elevated laboratory reporting limit in 2022 (10 µg/L), 2023 (4 µg/L), or 2024 (2 µg/L). VC was last detected at a concentration of 0.37 µg/L in 2021.
- Data trends in the mid-plume region are generally declining.
 - Concentrations at MW-13 show an increasing trend in PCE and TCE between 2023 and 2024, however, the overall trend is stable or decreasing for all four VOCs. MW-13 is located downgradient of the source area and RNS-MW6.
 - At LAI-MW2, peak concentrations of PCE, TCE, and cDCE occurred in 2016, somewhat later than other upgradient wells. After 2016, concentrations of all four VOCs showed declining trends through 2021. Concentrations of PCE, TCE, and cDCE in 2022 were somewhat elevated compared to recent results; however, concentrations again decreased in 2023 and 2024. VC was not detected above the elevated laboratory reporting limit in 2022 (2 µg/L), 2023 (10 µg/L), or 2024 (10 µg/L).
 - LAI-MW3 exhibits relatively stable trends for PCE, TCE, and cDCE from 2016 to present. VC has not been detected at this well since 2016 and VC was not detected above the elevated laboratory reporting limit in 2024 (2 µg/L).

South-Southeast Plume Segment

- At RNS-MW2, only PCE exceeded the applicable cleanup level in 2024. PCE concentrations showed an increasing trend until 2016; however, concentrations have been declining or stable since then.
- At MW-2, no constituents exceeded cleanup levels in 2024. Concentrations show decreasing trends for all four VOCs through 2013. In 2016, concentrations of all VOCs rebounded but have continued to show stable trends through 2024. The fluctuations observed at this location may be attributed to

the presence of the footing drain on the east side of the building located at 1411 Pacific Avenue, which appears to influence groundwater flow southeast of the property.

Monitored Natural Attenuation Results

Natural attenuation of chlorinated ethenes occurs through several mechanisms, with the primary mechanism being biologically mediated reductive dechlorination. For reductive dechlorination to occur, the aquifer must be reducing and a food source (electron donor) for the bacteria must be available. Measures of aquifer redox conditions include DO, ORP, nitrate, ferrous iron, sulfate, and methane. TOC concentration is a measure of available electron donor. In general, low concentrations of DO, nitrate, and sulfate, and detections or elevated concentrations of ferrous iron and methane are indicators of reduced aquifer conditions. However, the redox state of the aquifer can be variable and complex, and assessment typically requires evaluation of multiple indicators.

MNA data appear to suggest the most favorable conditions for reductive dechlorination are at LAI-MW5 (near the source area), MW-2 (southeast of the source area), and LAI-MW4 (the most downgradient well) where ferrous iron concentrations are highest. Elevated TOC concentrations also occur at these wells, indicating the presence of electron donor. Indicators of reducing aquifer conditions and electron donor availability at LAI-MW5, MW-2, and LAI-MW4 during the January 2024 sampling event are summarized below.

- Ferrous iron was detected in the three wells at concentrations of 7.0 milligrams per liter (mg/L) at LAI-MW5, 6.0 mg/L at MW-2, and 4.8 mg/L at LAI-MW4.
- Nitrate and nitrite were non-detect at LAI-MW5 and LAI-MW4. At MW-2, nitrate was detected at 1.3 mg/L and nitrite was non-detect. Detections of sulfate are relatively low at LAI-MW5 and MW-2. LAI-MW4 had increased concentrations of sulfate in 2022 and 2023 that were indicative of saltwater intrusion, but concentrations decreased in 2024.
- Methane was detected at a concentration of 11 mg/L at LAI-MW5, 2.0 mg/L at MW-2, and 0.11 mg/L at LAI-MW4.
- TOC concentrations were somewhat elevated at each of the three wells with concentrations of 5.7 mg/L at LAI-MW5, 2.6 mg/L at MW-2, and 3.2 mg/L at LAI-MW4.

At the remaining six wells, results indicate some capacity for reductive dechlorination. Ferrous iron is present at two of the six wells, TOC was detected above the laboratory reporting limit at all wells, and nitrate and nitrite are low or not detected. Additionally, VOC concentrations at most wells appear to be declining or stable.

PLANNED GROUNDWATER MONITORING ACTIVITIES

Groundwater monitoring results will continue to be submitted to Ecology 60 days after completion of sampling activities. The next scheduled sampling event will occur in January 2025.

USE OF THIS TECHNICAL MEMORANDUM

This technical memorandum has been prepared for the exclusive use of the City of Tacoma and Washington State Department of Ecology for specific application to the former Sauro's Cleanerama Groundwater Monitoring project. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau, shall be at the user's sole risk. Landau warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. Landau makes no other warranty, either express or implied.

Please contact us if you have any questions concerning groundwater monitoring activities at the site or the results presented in this status report. This document has been prepared under the supervision and direction of the following key staff.

LANDAU ASSOCIATES, INC.



Joshua Burbach, EIT
Senior Staff EIT



Katie Gauglitz, LG
Senior Geologist

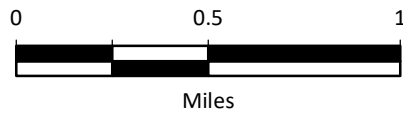
JDB/KMG/kjg
[\\TACOMA3\PROJECT\094\048.100\107 YEAR 7 2024\R\STATUS REPORT NO. 11\LANDAU_SAUROS GW MONITORING 2024_FINAL_03.07.2024]

REFERENCES

- Coleman, M. 2018. Re: Draft Sauro's Long-Term Groundwater Monitoring Status Report No. 4. From Marv Coleman, Toxics Cleanup Program, Washington State Department of Ecology, to Sierra Mott, Senior Project Scientist, Landau Associates, Inc. January 22.
- Ecology. 2014. Draft: *Cleanup Action Plan*, Former Sauro's Cleanerama Site, Tacoma, Washington. Washington State Department of Ecology. December.
- Ecology. 2015. Agreed Order No. DE 11080: In the Matter of Remedial Action by The City of Tacoma for Sauro's Cleanarama; 1401, 1407, and 1409 Pacific Avenue; Tacoma, Washington. Washington State Department of Ecology. Effective July 16.
- Landau. 2013. Draft *Sampling and Analysis Plan*, Former Sauro's Property, Tacoma, Washington. Landau Associates, Inc. January 24.
- Landau. 2017. Draft Technical Memorandum: Long-Term Groundwater Monitoring Status Report No. 4 for July 2017, Former Sauro's Cleanerama Site, Tacoma, Washington. Landau Associates, Inc. September 7.
- Landau. 2021. Technical Memorandum: Long-Term Groundwater Monitoring Status Report No. 8, January 2021 Annual Groundwater Monitoring, Former Sauro's Cleanerama Site; Tacoma, Washington. Landau Associates, Inc. April 19.

ATTACHMENTS

- Figure 1: Vicinity Map
- Figure 2: Groundwater Elevation Contours (January 2024)
- Figure 3: Monitoring Well Network and Volatile Organic Compound Concentrations in Groundwater (January 2024)
- Table 1: Sample Matrix
- Table 2: Laboratory Analytical and Field Parameter Details
- Table 3: Groundwater Elevations
- Table 4: Groundwater Analytical Results for Constituents of Concern
- Table 5: Monitored Natural Attenuation Parameters
- Attachment 1: Constituents of Concern Concentration Time Series Plots
- Attachment 2: January 2024 Laboratory Data Package
- Attachment 3: Cumulative Results Table
- Attachment 4: Sample Collection Forms



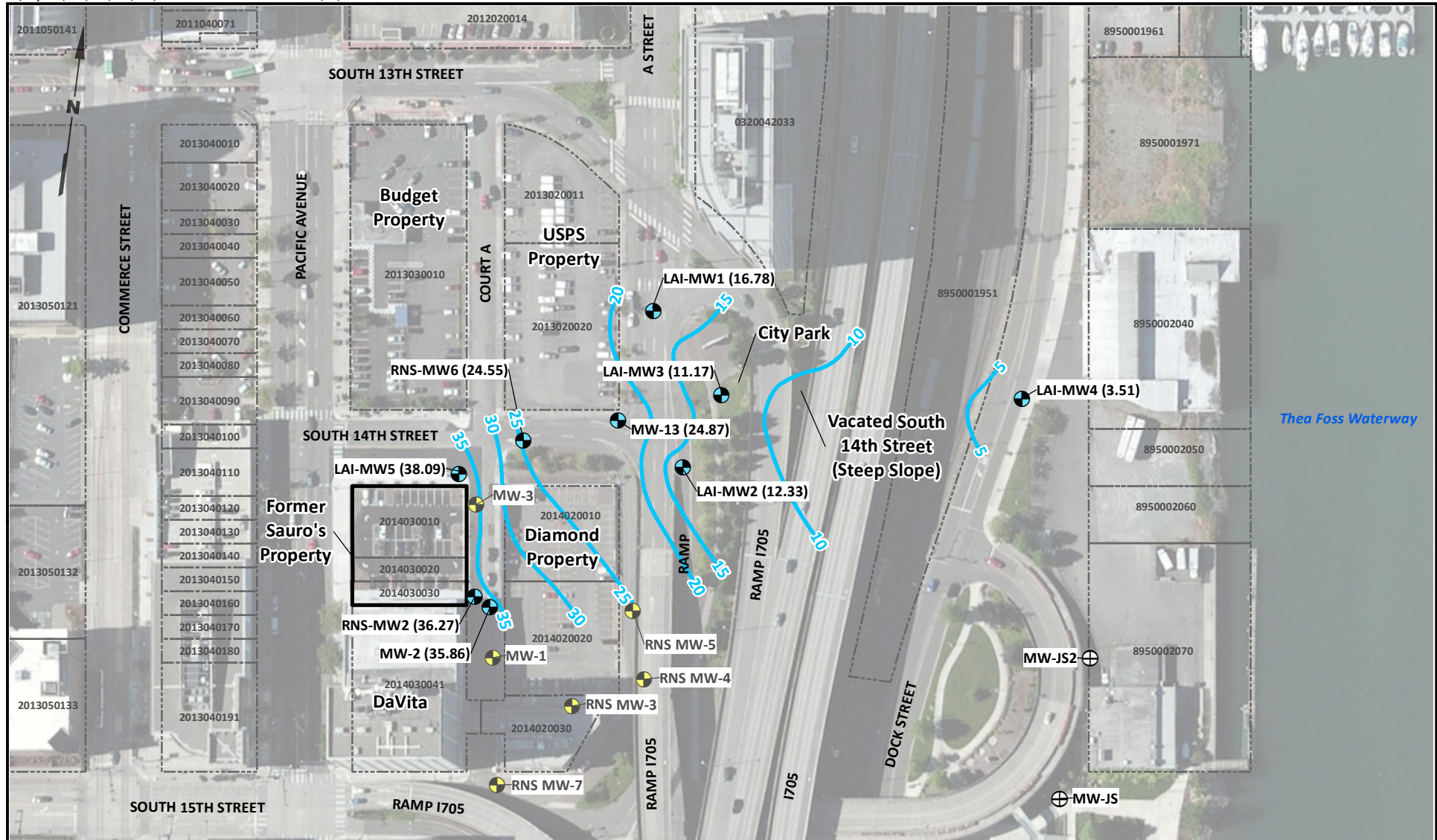
Data Source: Esri.

Sauro's Cleanerama
Tacoma, Washington

Vicinity Map

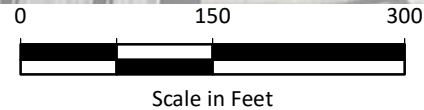
Figure
1

G:\Projects\094\048\100\105\F01 VicMap.mxd 2/23/2022



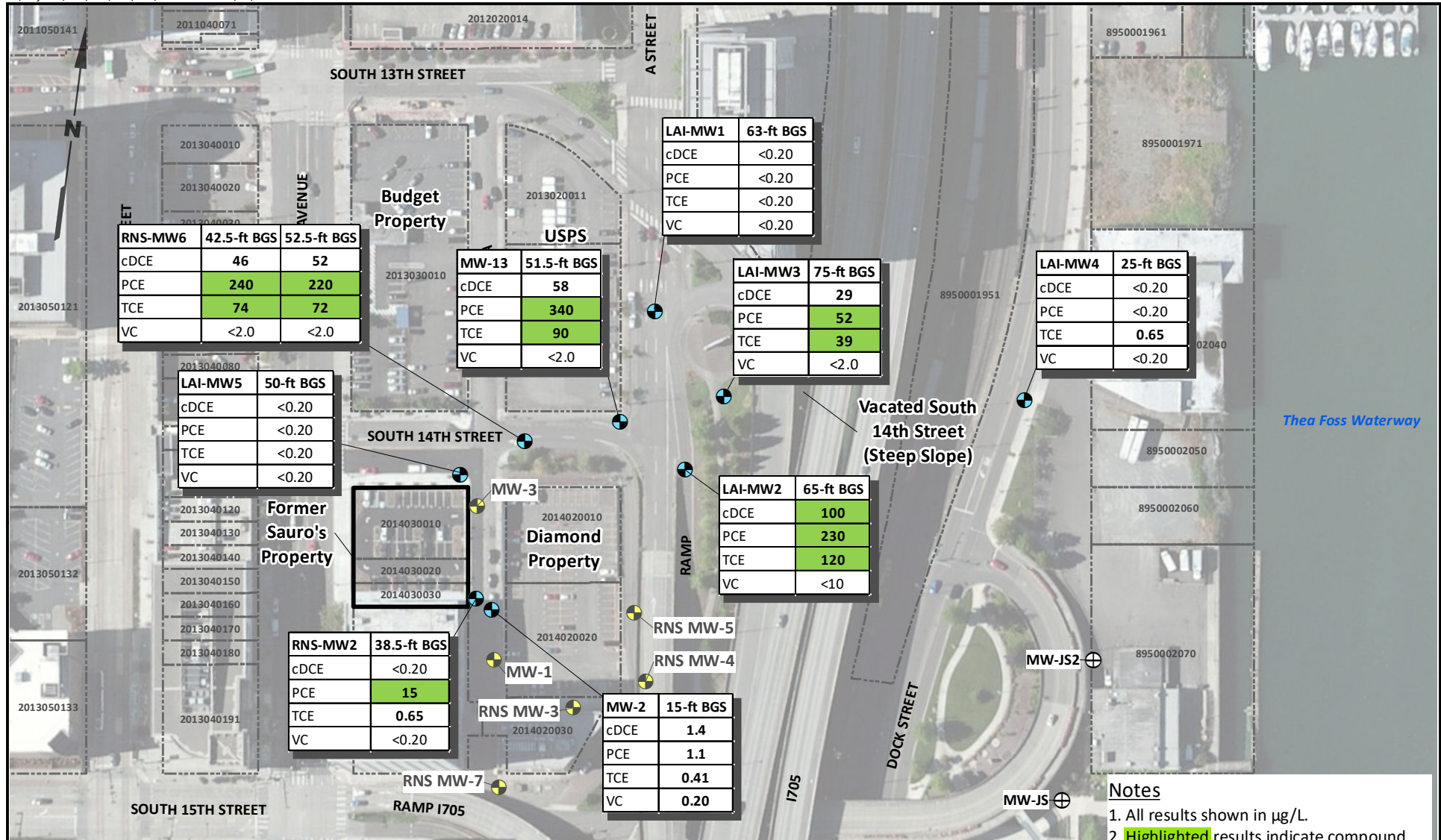
Legend

- Long-Term Groundwater Monitoring Well (and Groundwater Elevation)
- Pre-RI Monitoring Well
- Non-Project Wells
- Groundwater Elevation Contour
- Subject Property
- Tax Parcels with Parcel ID



Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.



Legend

- Long-Term Groundwater Monitoring Well (and Sampling Depth)
- Pre-RI Monitoring Well
- Non-Project Wells
- Subject Property
- Tax Parcels with Parcel ID

0 150 300

 Scale in Feet

- Notes**
1. All results shown in µg/L.
 2. **Highlighted** results indicate compound detected above cleanup level.
 3. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Table 1
Sample Matrix
Former Sauro's Cleanerama Site – Tacoma, Washington

Location	VOC Sampling Depth (ft)	VOC Sampling Method	MNA Parameters Sampling Depth (ft)	MNA Parameters Sampling Method
LAI-MW1	63	PDB	63	WAT
LAI-MW2	65	PDB	65	WAT
LAI-MW3	75	PDB	75	WAT
LAI-MW4	25	PDB	25	WAT
LAI-MW5	50	PDB	50	WAT
MW-2	15	PP	15	PP
MW-13	51.5	PDB	51.5	WAT
RNS-MW2	38.5	PDB	38.5	WAT
RNS-MW6 ^a	42.5 and 52.5	PDB	47.5	WAT

Note:

^a For RNS-MW6, where there are two VOC sampling depths, the MNA sampling depth is the mid-point between the two VOC sampling depths.

Abbreviations/Acronyms:

ft = foot/feet

HDPE = high-density polyethylene

MNA = monitored natural attenuation

PDB = passive diffusion bag

PP = peristaltic pump with dedicated tubing

VOC = volatile organic compound

WAT = (dedicated) Waterra foot valve (with dedicated 5/8-inch HDPE tubing)

Table 2
Laboratory Analytical and Field Parameter Details
Former Sauro's Cleanerama Site – Tacoma, Washington

Groundwater Analytical Parameters	EPA Analytical Method	Practical Quantitation Limit	Preservation	Maximum Holding Time (Days)
Volatile Organic Compounds				
Tetrachloroethene	8260D	0.2 µg/L	Add HCl to pH<2; Store cool at 6°C	14
Trichloroethene	8260D	0.2 µg/L	Add HCl to pH<2; Store cool at 6°C	14
cis-1,2-Dichloroethene	8260D	0.2 µg/L	Add HCl to pH<2; Store cool at 6°C	14
Vinyl Chloride	8260D	0.2 µg/L	Add HCl to pH<2; Store cool at 6°C	14
Monitored Natural Attenuation				
Chloride	300.0	1.5 mg/L	Store cool at 6°C	28
Nitrate (NO ₃) (Total) as N	300.0	0.2 mg/L ^a	Store cool at 6°C	48 hours
Nitrite (NO ₂) (Total) as N	300.0	0.4 mg/L ^a	Store cool at 6°C	48 hours
Total Organic Carbon	SM 5310C	1.00 mg/L	Add 2mL 9N H2SO4 pH<2; Store at 6°C	28
Sulfate (SO ₄) (Total)	300.0	1.5 mg/L	Store cool at 6°C	28
Sulfide (SO ₂) (Total)	SM 4500-S2 D	0.050 mg/L	Store cool at 6°C	7
AMEE	RSK-175	0.0050 mg/L	Store cool at 6°C	14

Groundwater Field Parameters	Data Collection Method	Instrument	Units
Monitored Natural Attenuation			
Conductivity	Field meter	YSI ^b	µS/cm
Dissolved Oxygen	Field meter	YSI ^b	mg/L
Oxidation Reduction Potential	Field meter	YSI ^b	units +/- mV
pH	Field meter	YSI ^b	unitless
Temperature	Field meter	YSI ^b	(°C)
Ferrous Iron (Fe ²⁺)	Field meter	Hach [®] Kit	mg/L
Turbidity	Field meter	Turbidity Meter	NTU
Water Level	Field meter	Water Level Indicator	0.01 ft

Notes:

^a Reporting limits for nitrate and nitrite were raised prior to the July 2016 sampling event due to laboratory capabilities.

^b YSI shall be recalibrated daily.

Abbreviations/Acronyms:

AMEE = acetylene, methane, ethane, and ethene

°C = degrees Celsius

EPA = US Environmental Protection Agency

ft = foot

µg/L = micrograms per liter

mg/L = milligrams per liter

mL = milliliters

mV = millivolts

µS/cm = microSiemens per centimeter

NTU = nephelometric turbidity units

Table 3
Groundwater Elevations
Former Sauro's Cleanerama Site — Tacoma, Washington

Location	Measurement Date	Measurement Time	Depth to Water (ft)	Top of Casing Elevation (ft) (a)	Calculated Groundwater Elevation (ft)
LAI-MW1	1/9/2024	11:27	45.60	62.38	16.78
LAI-MW2	1/9/2024	10:20	44.24	56.57	12.33
LAI-MW3	1/9/2024	12:51	50.51	61.68	11.17
LAI-MW4	1/9/2024	8:41	10.73	14.24	3.51
LAI-MW5	1/9/2024	14:30	22.91	61.00	38.09
MW13	1/9/2024	15:56	34.34	59.21	24.87
MW2	1/9/2024	15:42	15.20	51.06	35.86
RNS-MW2	1/9/2024	15:18	16.14	52.41	36.27
RNS-MW6	1/9/2024	15:58	35.87	60.42	24.55

Notes:

(a) Vertical datum is National Geodetic Vertical Datum of 1929.

Acronyms/Abbreviations:

ft = foot/feet

Table 4
Groundwater Analytical Results for Constituents of Concern
Former Sauro's Cleanerama Site – Tacoma, Washington

Analyte	Groundwater MTCA Method A CUL or Federal/State MCL (µg/L)	Sampling Location, Sampling Date, Laboratory Sample ID, Sample Type										
		LAI-MW1 1/9/2024 580-135599-3	LAI-MW2 1/9/2024 580-135599-2	LAI-MW3 1/9/2024 580-135599-4	LAI-MW3 1/9/2024 580-135599-5	LAI-MW4 1/9/2024 580-135599-1	LAI-MW5 1/9/2024 580-135599-6	MW2 1/9/2024 580-135599-8	MW13 1/11/2024 580-135639-4	RNS-MW2 1/9/2024 580-135599-7	RNS-MW6-42.5 1/11/2024 580-135639-2	RNS-MW6-52.5 1/11/2024 580-135639-3
		N	N	N	FD	N	N	N	N	N	N	N
Volatile Organic Compounds (µg/L; SW-846 8260D)												
cis-1,2-Dichloroethene	70 ^a	0.20 U	100	29	28	0.20 U	0.20 U	1.4	58	0.20 U	46	52
Tetrachloroethene	5	0.20 U	230	52	56	0.20 U	0.20 U	1.1	340	15	240	220
Trichloroethene	5	0.20 U	120	39	39	0.65	0.20 U	0.41	90	0.65	74	72
Vinyl Chloride	0.2	0.20 U	10 U	2.0 U	2.0 U	0.20 U	0.20 U	0.20	2.0 U	0.20 U	2.0 U	2.0 U

Notes:

U = The compound was not detected at the reported concentration.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Bold = detected analyte

Green highlighting = compound detected at concentrations above cleanup criteria.

^a Cis-1,2-Dichloroethene does not have a MTCA Method A CUL for groundwater; therefore, the Federal/State primary MCL value of 70 µg/L is used as the CUL.

Abbreviations and Acronyms:

µg/L = micrograms per liter

CUL = cleanup level

FD = field duplicate

ID = identification

MCL = maximum contaminant levels

MTCA = Model Toxics Control Act

N = primary sample

Table 5
Monitored Natural Attenuation Parameters
Former Sauro's Cleanerama Site – Tacoma, Washington

Analyte	Sampling Location, Sampling Date, Laboratory Sample ID, Sample Type									
	LAI-MW1	LAI-MW2	LAI-MW3	LAI-MW3	LAI-MW4	LAI-MW5	MW2	MW13	RNS-MW2	RNS-MW6-52.5
	1/9/2024 580-135599-3 N	1/9/2024 580-135599-2 N	1/9/2024 580-135599-4 N	1/9/2024 580-135599-5 FD	1/9/2024 580-135599-1 N	1/9/2024 580-135599-6 N	1/9/2024 580-135599-8 N	1/11/2024 580-135639-4 N	1/9/2024 580-135599-7 N	1/11/2024 580-135639-3 N
Natural Attenuation Parameters (mg/L; EPA 300.0/SM 4500-S2-D/SM 5310B)										
Chloride	56	21	29	29	1,100	140	25	43	31	45
Nitrogen, Nitrate (as N)	1.4	0.20 U	0.50	0.50	0.20 U	0.20 U	1.3	0.55	2.6	0.77
Nitrogen, Nitrite	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Sulfate	17	17	19	19	140	3.9	29	21	19	26
Sulfide, Total	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 U	0.050 UJ	0.050 U	0.050 U	0.050 U
Total Organic Carbon (TOC)	1.3	1.2	1.2	1.2	3.2	5.7	2.6	1.0	1.1	1.3
Dissolved Gases (mg/L; RSK-175)										
Acetylene	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U	0.00073 U
Ethane	0.00057 U	0.0033 J	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U	0.00057 U
Ethene	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U	0.00040 U
Methane	0.00063 U	0.012	0.0012 J	0.0016 J	0.11	11	2.0	0.0028 J	0.00063 U	0.0019 J
Field Parameters										
Dissolved Oxygen (mg/L)	4.28	2.31	6.47	6.25	2.94	2.99	1.17	3.42	6.99	0.66
Oxidation Reduction Potential (mV)	88.5	66.8	107.2	107.2	94.1	112.4	93.5	148.6	78.2	165.2
Ferrous Iron (mg/L)	0.0	1.0	0.0	0.0	4.8	7.0	6.0	0.0	0.5	0.0

Notes:

Bold text indicates detected analyte.

U = The compound was not detected at the reported concentration.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Abbreviations and Acronyms:

EPA = US Environmental Protection Agency

FD = field duplicate

ID = identification

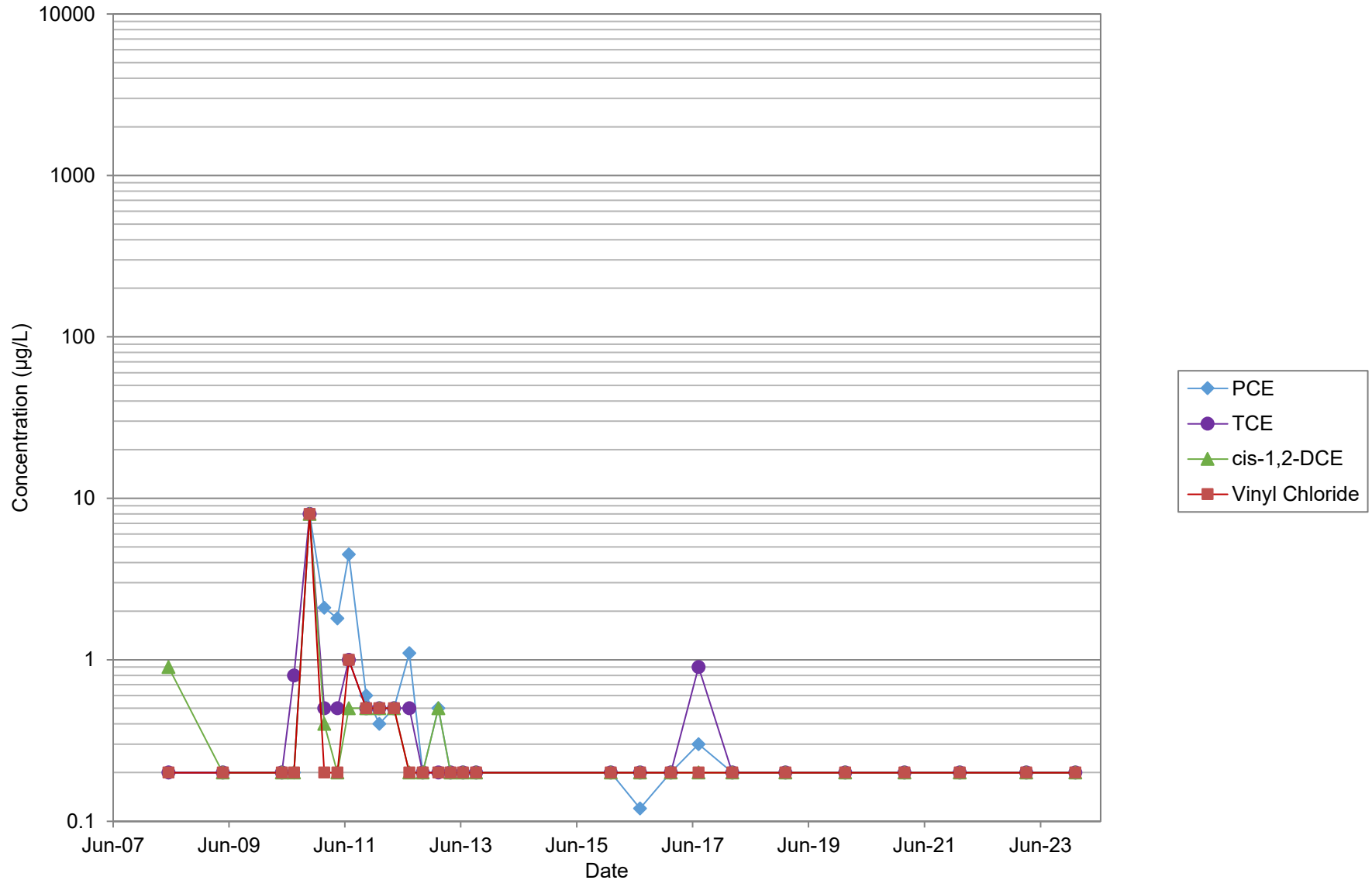
mg/L = milligrams per liter

mV = millivolt

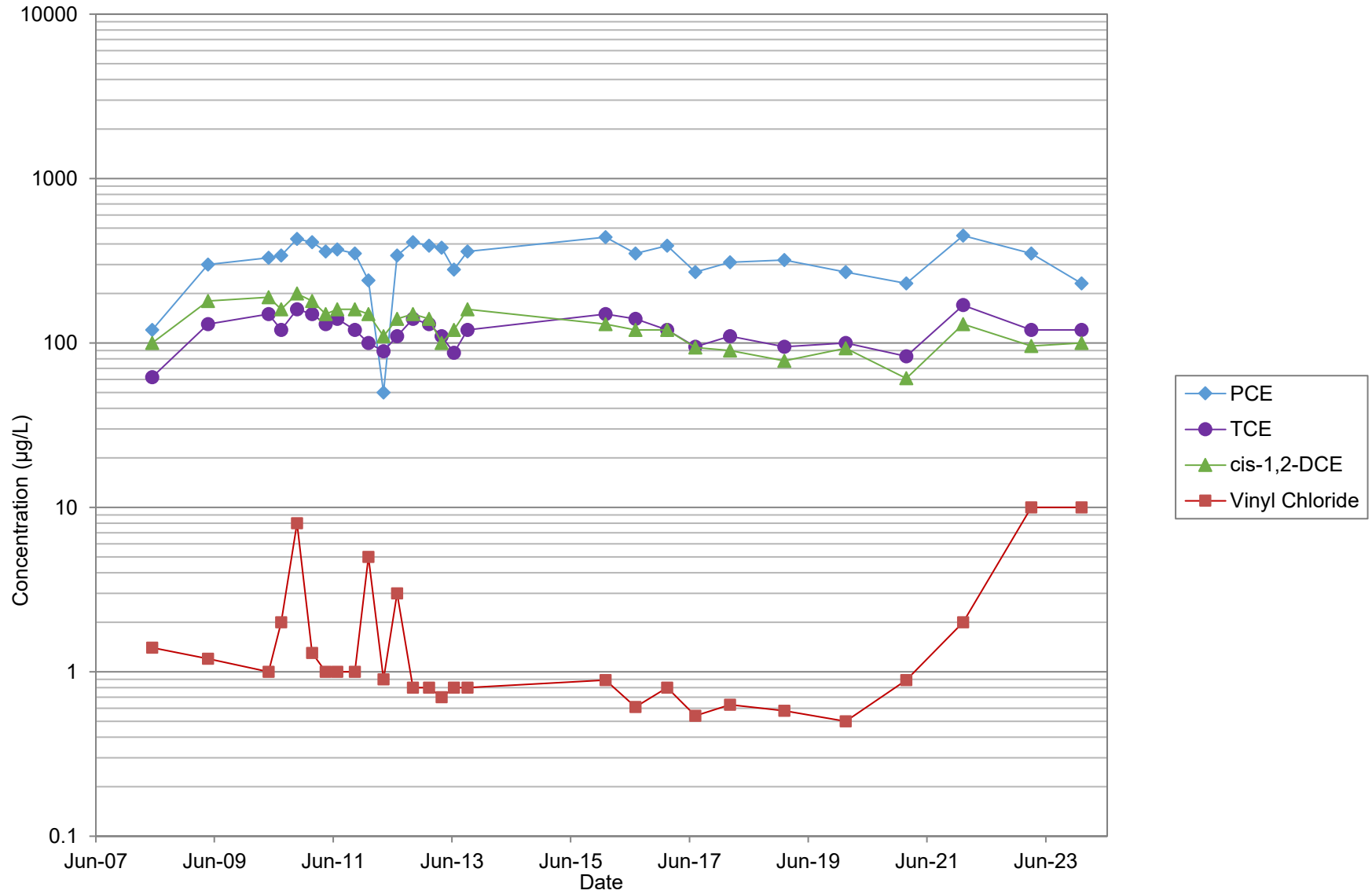
N = primary sample

Constituents of Concern Concentration Time Series Plots

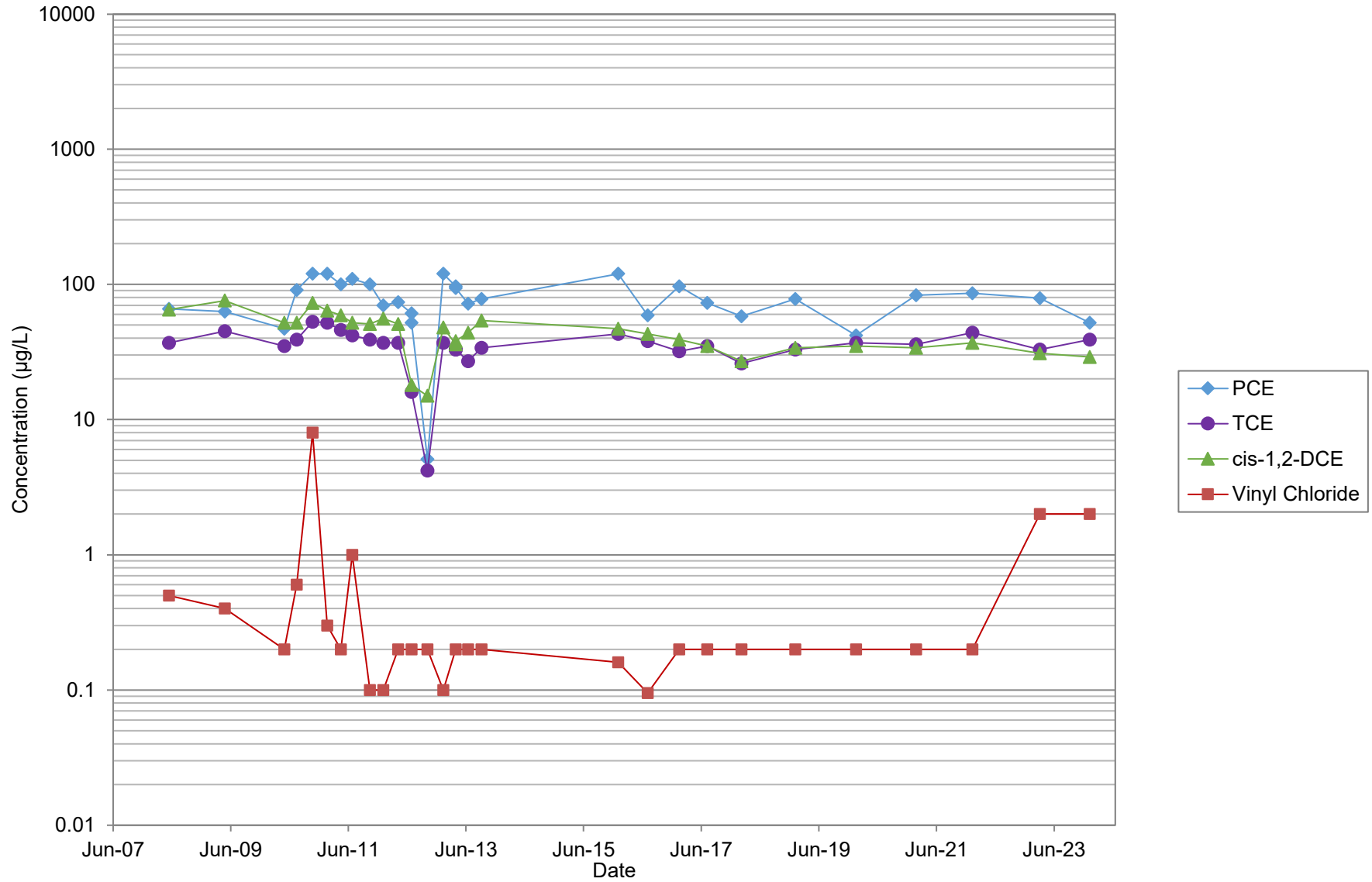
LAI-MW1



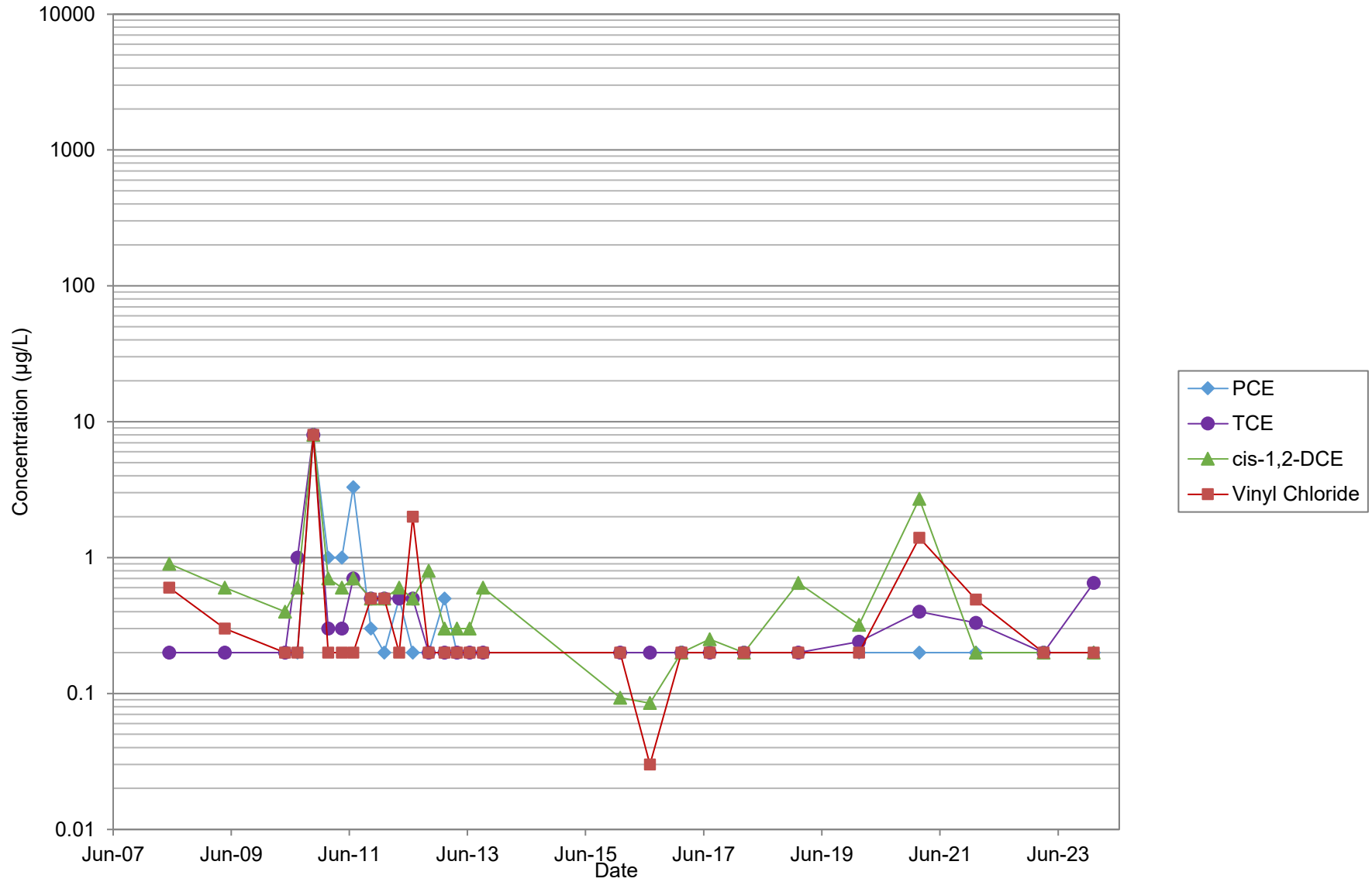
LAI-MW2



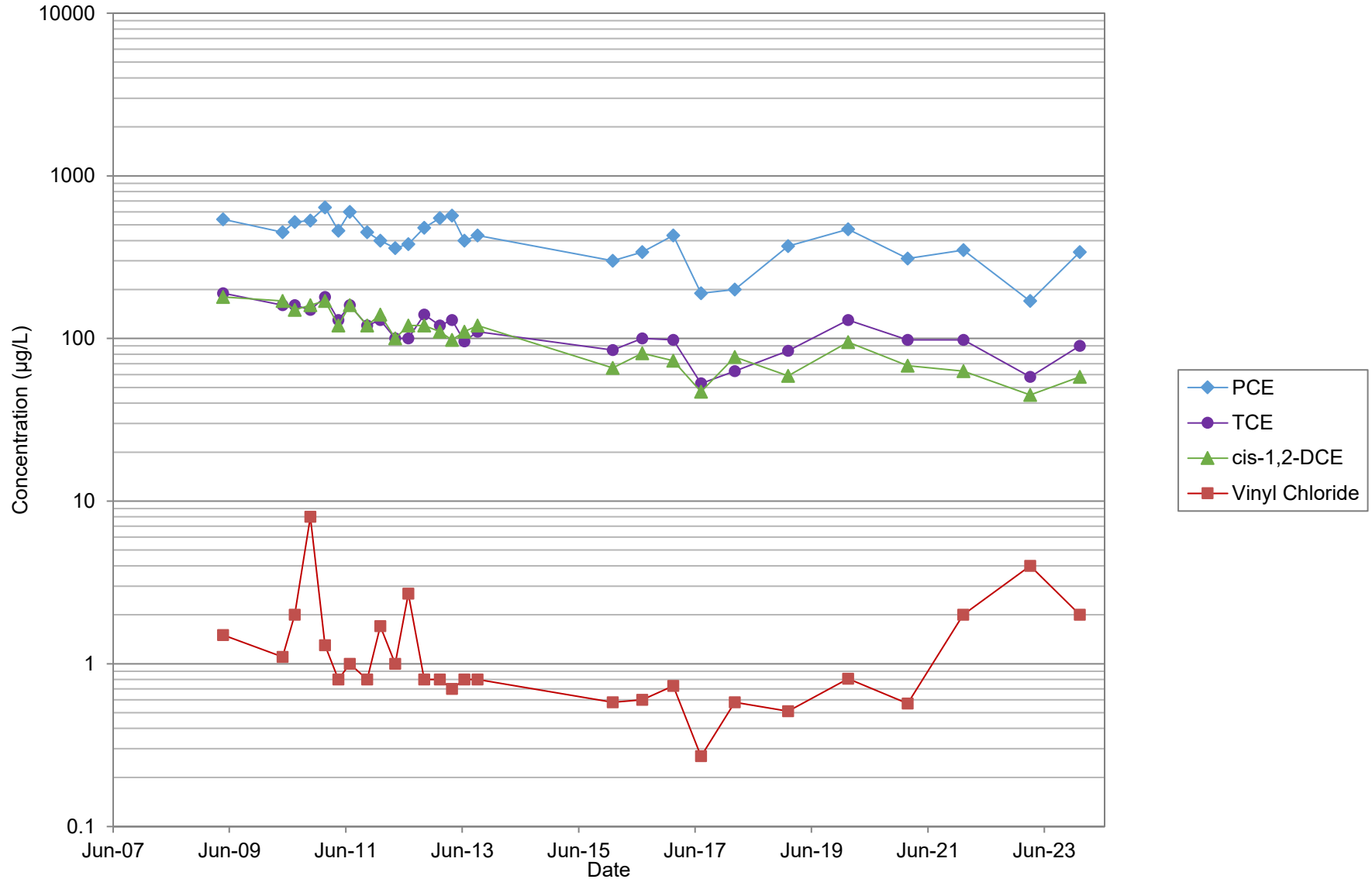
LAI-MW3



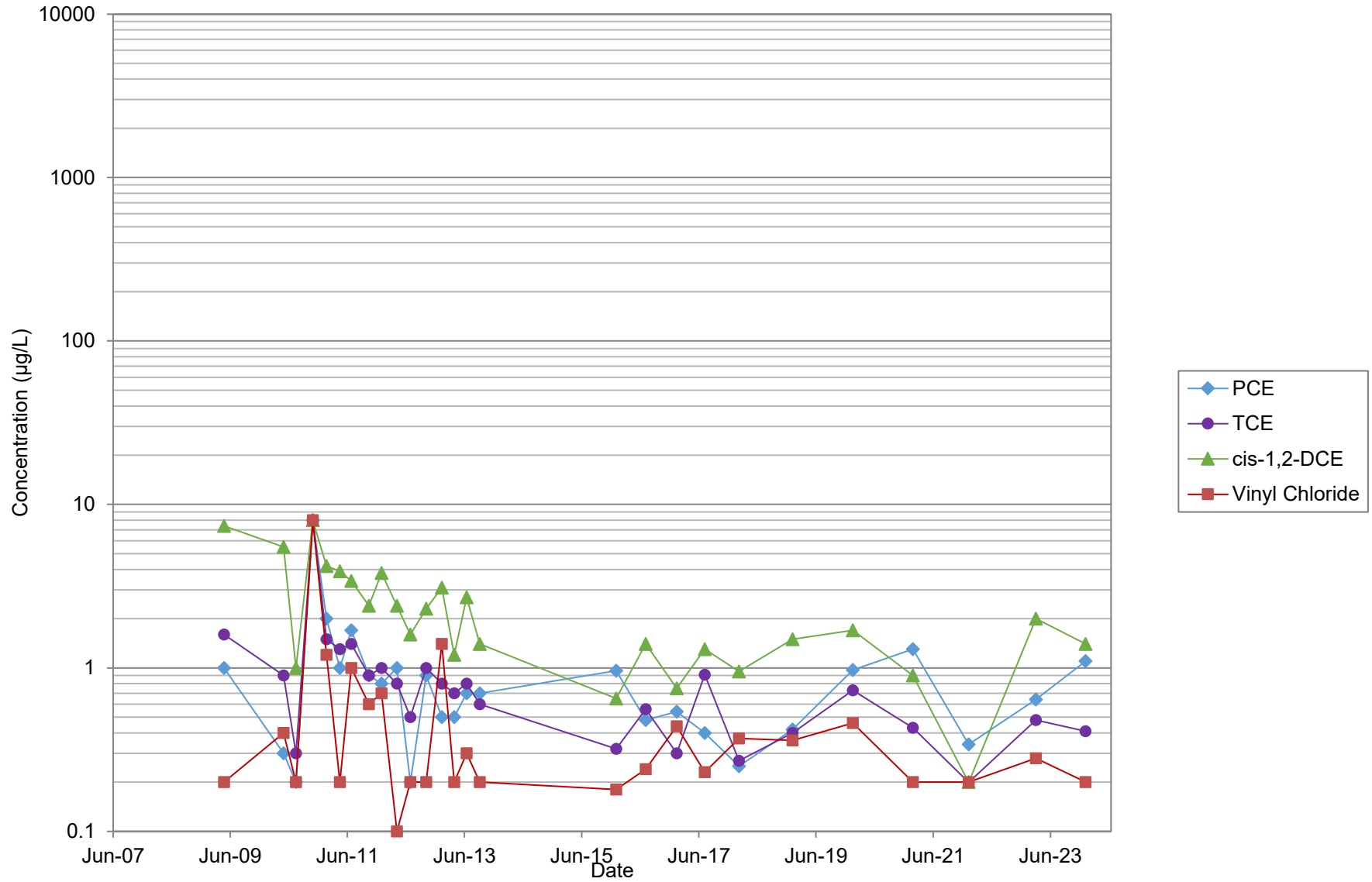
LAI-MW4



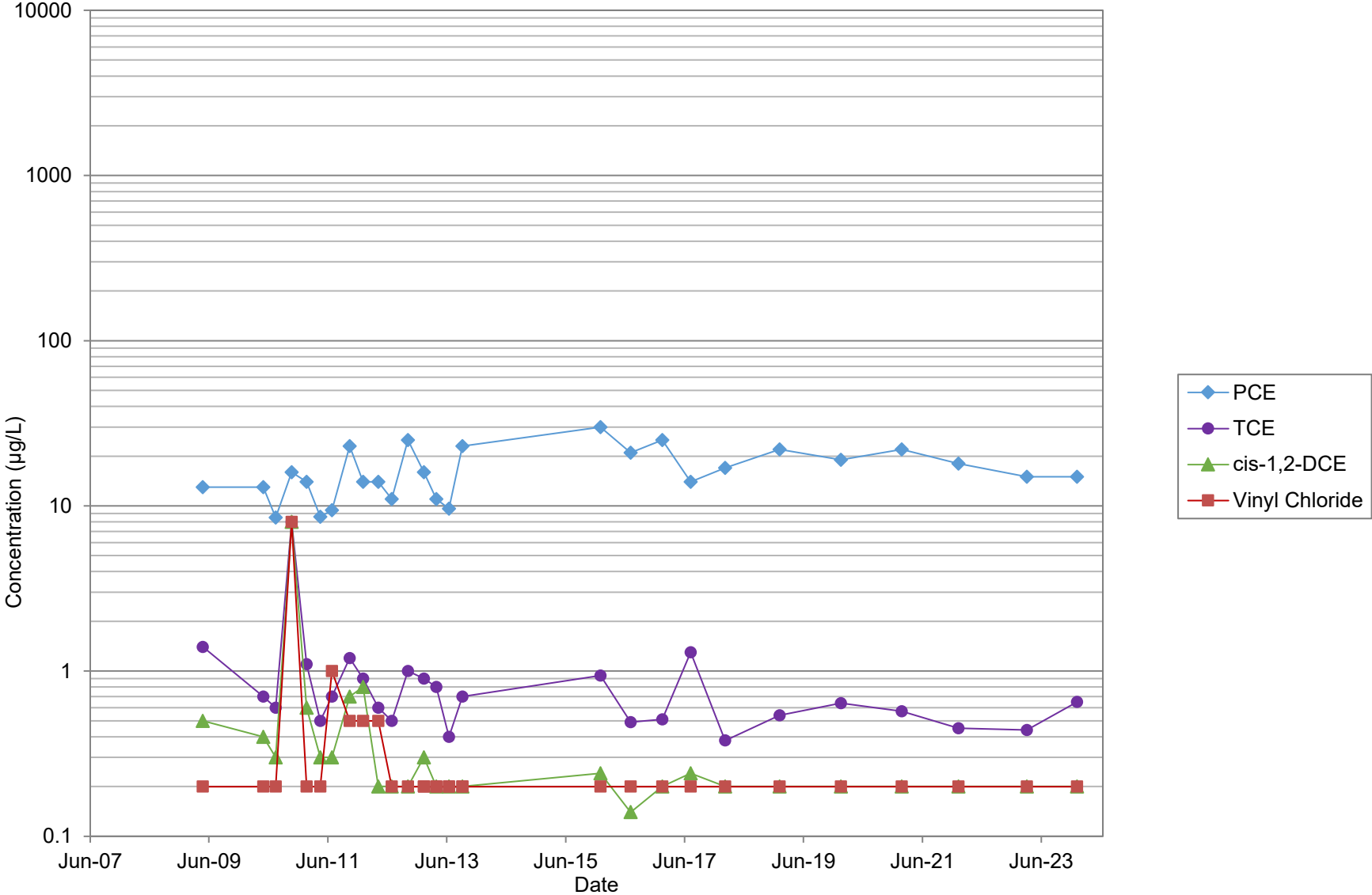
MW-13



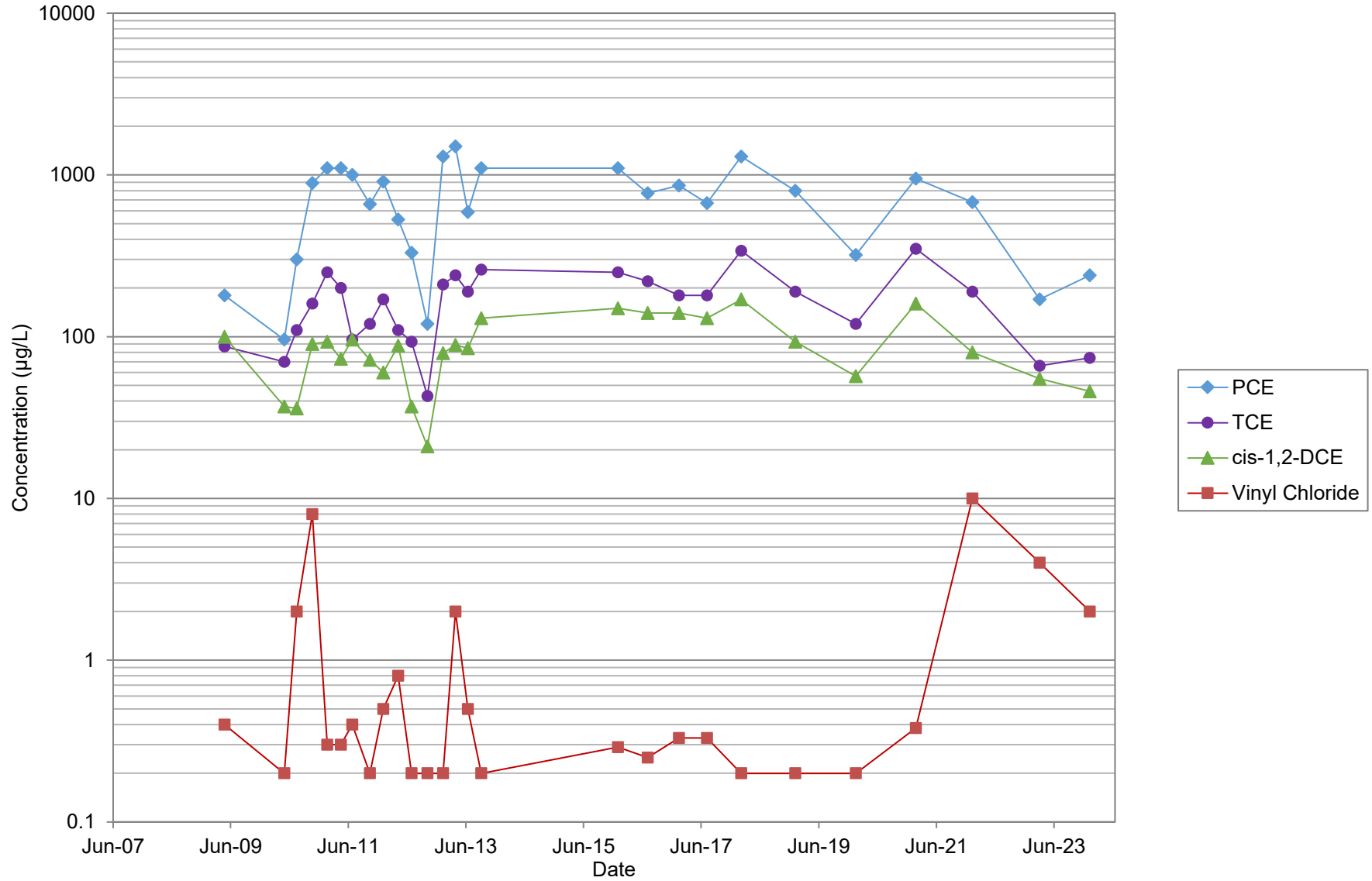
MW-2



RNS-MW2



RNS-MW6-42.5



January 2024 Laboratory Data Package

ANALYTICAL REPORT

PREPARED FOR

Attn: Katie Gauglitz
Landau & Associates, Inc.
2107 South C Street
Tacoma, Washington 98402
Generated 2/5/2024 3:02:56 PM Revision 1

JOB DESCRIPTION

Sauro's Cleanorama 0094048.100

JOB NUMBER

580-135599-1

Eurofins Seattle

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



Authorized for release by
Pauline Matlock, Project Manager
Pauline.Matlock@et.eurofinsus.com
(253)922-2310

Generated
2/5/2024 3:02:56 PM
Revision 1



Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions	5
Sample Summary	6
Chain of Custody	7
Receipt Checklists	9
Client Sample Results	11
QC Sample Results	19
Chronicle	24
Certification Summary	27

Case Narrative

Client: Landau & Associates, Inc.
Project: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Job ID: 580-135599-1

Eurofins Seattle

Job Narrative 580-135599-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Revision

The report being provided is a revision of the original report sent on 1/26/2024. The report (revision 1) is being revised due to: RSK was being reported with the MDL as equal to the RL, client wants it reported down to the MDL but with the RL as the upper limit still, with J-flags.

Receipt

The samples were received on 1/9/2024 4:59 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 10.8°C

GC/MS VOA

Method 8260D_LL: The following samples was diluted to bring the concentration of target analytes within the calibration range: LAI-MW2-240109 (580-135599-2), LAI-MW3-240109 (580-135599-4) and Dup1-240109 (580-135599-5). Elevated reporting limits (RLs) are provided.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-448312 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LAI-MW4-240109 (580-135599-1), LAI-MW2-240109 (580-135599-2), LAI-MW1-240109 (580-135599-3), LAI-MW3-240109 (580-135599-4), Dup1-240109 (580-135599-5), RNS-MW2-240109 (580-135599-7), Trip Blank (580-135599-9) and (CCVIS 580-448312/3).

Method 8260D_LL: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 580-448312 recovered outside control limits for the following analytes: cis-1,2-Dichloroethene. These analytes were biased high in the LCS, samples that were ND for this analyte have been reported. Samples 580-135559-1, 580-135559-2, 580-135559-4, and 580-135559-5 had hits for cis-1,2-Dichloroethene and were re-analyzed with passing QC.

Method 8260D_LL: The continuing calibration verification (CCV) associated with batch 580-448312 recovered above the upper control limit for cis-1,2-Dichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: LAI-MW1-240109 (580-135599-3), RNS-MW2-240109 (580-135599-7), Trip Blank (580-135599-9) and (CCVIS 580-448312/3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method SM4500_S2_D: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 280-640092 were outside control limits: (580-135599-B-8 MS) and (580-135599-B-8 MSD). The associated laboratory control sample and laboratory control sample duplicate (LCS/LCSD) recoveries met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Seattle

Definitions/Glossary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

GC VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-135599-1	LAI-MW4-240109	Water	01/09/24 09:14	01/09/24 16:59
580-135599-2	LAI-MW2-240109	Water	01/09/24 11:09	01/09/24 16:59
580-135599-3	LAI-MW1-240109	Water	01/09/24 12:11	01/09/24 16:59
580-135599-4	LAI-MW3-240109	Water	01/09/24 13:27	01/09/24 16:59
580-135599-5	Dup1-240109	Water	01/09/24 13:29	01/09/24 16:59
580-135599-6	LAI-MW5-240109	Water	01/09/24 15:10	01/09/24 16:59
580-135599-7	RNS-MW2-240109	Water	01/09/24 15:53	01/09/24 16:59
580-135599-8	MW2-240109	Water	01/09/24 16:16	01/09/24 16:59
580-135599-9	Trip Blank	Water	01/09/24 00:01	01/09/24 16:59

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



Chain-of-Custody Record

<input type="checkbox"/> North Seattle (206) 631-8660	<input type="checkbox"/> Spokane (509) 327-9737	Date <u>1/9/24</u>	Turnaround Time: <u>Standard</u>
<input checked="" type="checkbox"/> Tacoma (253) 926-2493	<input type="checkbox"/> Portland (503) 542-1080	Page <u>1</u> of <u> </u>	Accelerated <u> </u>
<input type="checkbox"/> Olympia (360) 791-3178	<input type="checkbox"/> <u> </u>		

Project Name SARO'S CLEANERAMA Project No. 0094048-100.108
 Project Location/Event JANUARY 24
 Sampler's Name DJP/ JJB
 Project Contact KATIE GAULITZ, KGGAULITZ@LANDAUINC.COM
 Send Results To K. GAULITZ, DATA@LANDAUINC.COM

Testing Parameters

O260D VOCS
 S.M.S.I.O.B
 P.S.K. 175 MEE
 S.M.Y.S.O.O
 300.0

Special Handling Requirements:
 Shipment Method:
 Stored on ice: Yes / No

Sample I.D.	Date	Time	Matrix	No. of Containers																Observations/Comments
LA1-MW4-240109	1/9/24	914	AQ	9	X	X	X	X	X											— Allow water samples to settle, collect aliquot from clear portion <input type="checkbox"/> — NWTPH-Dx - Acid wash cleanup <input type="checkbox"/> - Silica gel cleanup <input type="checkbox"/> — Dissolved metal samples were field filtered Other <u>VOCS HCl (20)</u>
LA1-MW2-240109	1/9/24	1109	AQ	9	X	X	X	X	X											
LA1-MW1-240109	1/9/24	1211	AQ	9	X	X	X	X	X											
LA1-MW3-240109	1/9/24	1327	AQ	9	X	X	X	X	X											
DUP1-240109	1/9/24	1329	AQ	9	X	X	X	X	X											
LA1-MW5-240109	1/9/24	1510	AQ	9	X	X	X	X	X											
RNS-MW2-240109	1/9/24	1553	AQ	9	X	X	X	X	X											
MW2-240109	1/9/24	1616	AQ	9	X	X	X	X	X											
TRIP BLANK	-	-	AQ	2	X															



Therm. ID: 11 Cor: 10.8 ° Unc: 10.7 °
 Cooler Dsc: BLB
 Packing: BLB FedEx:
 Cust. Seal: Yes No X UPS:
 Blue Ice: Wet, Dry, None Lab Cour:
 Other: Client drop

Relinquished by
 Signature [Signature]
 Printed Name DANIEL PULCELLI
 Company LANDAU ASSOCIATES
 Date 1/9/24 Time 1658

Received by
 Signature [Signature]
 Printed Name Madison Prigg
 Company PEITN
 Date 1/9/24 Time 1659

Relinquished by
 Signature
 Printed Name
 Company
 Date Time

Received by
 Signature
 Printed Name
 Company
 Date Time

Chain of Custody Record



Client Information (Sub Contract Lab)					Sampler:	Lab PM: Cruz, Sheri L	Carrier Tracking No(s):	COC No: 580-129135.1						
Client Contact: Shipping/Receiving					Phone:	E-Mail: Sheri.Cruz@et.eurofinsus.com	State of Origin: Washington	Page: Page 1 of 1						
Company: TestAmerica Laboratories, Inc.					Accreditations Required (See note): State Program - Washington			Job #: 580-135599-1						
Address: 4955 Yarrow Street,		Due Date Requested: 1/22/2024		Analysis Requested					Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Y - Trizma Z - other (specify)					
City: Arvada		TAT Requested (days):												
State, Zip: CO, 80002		PO #:		Total Number of containers					Other:					
Phone: 303-736-0100(Tel) 303-431-7171(Fax)		WO #:												
Email:		Project #: 58018771		Special Instructions/Note:										
Project Name: Sauro's Cleanorama		SSOW#:												
Site:														
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	MATRIX (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	RSK_175/ (MOD) Local Method	SM6310B/ (MOD) Local Method	SM4500_S2_D/ Sulfide			Total Number of containers	Special Instructions/Note:
				Preservation Code:		X	X	X						
LAI-MW4-240109 (580-135599-1)		1/9/24	09:14 Pacific	Water		X	X	X					4	
LAI-MW2-240109 (580-135599-2)		1/9/24	11:09 Pacific	Water		X	X	X					4	
LAI-MW1-240109 (580-135599-3)		1/9/24	12:11 Pacific	Water		X	X	X					4	
LAI-MW3-240109 (580-135599-4)		1/9/24	13:27 Pacific	Water		X	X	X					4	
Dup1-240109 (580-135599-5)		1/9/24	13:29 Pacific	Water		X	X	X					4	
LAI-MW5-240109 (580-135599-6)		1/9/24	15:10 Pacific	Water		X	X	X					4	
RNS-MW2-240109 (580-135599-7)		1/9/24	15:53 Pacific	Water		X	X	X					4	
MW2-240109 (580-135599-8)		1/9/24	16:16 Pacific	Water		X	X	X					4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northwest, LLC.

Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
Unconfirmed					<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Primary Deliverable Rank: 2				
					Special Instructions/QC Requirements:				

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
<i>[Signature]</i>	1/11/24 600	EETEN	<i>[Signature]</i>	1-12-24 1005	EETDEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Cooler Temperature(s) °C and Other Remarks: 22.2 12.2 12.2 12.2



Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 580-135599-1

Login Number: 135599

List Number: 1

Creator: Prigge, Madison

List Source: Eurofins Seattle

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 580-135599-1

Login Number: 135599

List Number: 2

Creator: Held, Wesley

List Source: Eurofins Denver

List Creation: 01/12/24 01:36 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: LAI-MW4-240109

Date Collected: 01/09/24 09:14

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 17:12	1
Trichloroethene	0.65		0.20	0.20	ug/L			01/11/24 17:12	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/11/24 17:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	88		80 - 120					01/11/24 17:12	1
<i>Dibromofluoromethane (Surr)</i>	108		80 - 120					01/11/24 17:12	1
<i>4-Bromofluorobenzene (Surr)</i>	106		80 - 120					01/11/24 17:12	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		80 - 120					01/11/24 17:12	1

Client Sample ID: LAI-MW2-240109

Date Collected: 01/09/24 11:09

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		10	10	ug/L			01/11/24 19:13	50
Trichloroethene	120		10	10	ug/L			01/11/24 19:13	50
Tetrachloroethene	230		10	10	ug/L			01/11/24 19:13	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	86		80 - 120					01/11/24 19:13	50
<i>Dibromofluoromethane (Surr)</i>	109		80 - 120					01/11/24 19:13	50
<i>4-Bromofluorobenzene (Surr)</i>	107		80 - 120					01/11/24 19:13	50
<i>1,2-Dichloroethane-d4 (Surr)</i>	102		80 - 120					01/11/24 19:13	50

Client Sample ID: LAI-MW1-240109

Date Collected: 01/09/24 12:11

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 17:32	1
cis-1,2-Dichloroethene	ND	+	0.20	0.20	ug/L			01/11/24 17:32	1
Trichloroethene	ND		0.20	0.20	ug/L			01/11/24 17:32	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/11/24 17:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	88		80 - 120					01/11/24 17:32	1
<i>Dibromofluoromethane (Surr)</i>	109		80 - 120					01/11/24 17:32	1
<i>4-Bromofluorobenzene (Surr)</i>	105		80 - 120					01/11/24 17:32	1
<i>1,2-Dichloroethane-d4 (Surr)</i>	104		80 - 120					01/11/24 17:32	1

Client Sample ID: LAI-MW3-240109

Date Collected: 01/09/24 13:27

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.0	2.0	ug/L			01/11/24 18:12	10
Trichloroethene	39		2.0	2.0	ug/L			01/11/24 18:12	10
Tetrachloroethene	52		2.0	2.0	ug/L			01/11/24 18:12	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>Toluene-d8 (Surr)</i>	87		80 - 120					01/11/24 18:12	10
<i>Dibromofluoromethane (Surr)</i>	109		80 - 120					01/11/24 18:12	10
<i>4-Bromofluorobenzene (Surr)</i>	106		80 - 120					01/11/24 18:12	10

Eurofins Seattle

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Client Sample ID: LAI-MW3-240109

Date Collected: 01/09/24 13:27

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-4

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		01/11/24 18:12	10

Client Sample ID: Dup1-240109

Date Collected: 01/09/24 13:29

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.0	2.0	ug/L			01/11/24 18:33	10
Trichloroethene	39		2.0	2.0	ug/L			01/11/24 18:33	10
Tetrachloroethene	56		2.0	2.0	ug/L			01/11/24 18:33	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	88		80 - 120		01/11/24 18:33	10
Dibromofluoromethane (Surr)	107		80 - 120		01/11/24 18:33	10
4-Bromofluorobenzene (Surr)	107		80 - 120		01/11/24 18:33	10
1,2-Dichloroethane-d4 (Surr)	104		80 - 120		01/11/24 18:33	10

Client Sample ID: LAI-MW5-240109

Date Collected: 01/09/24 15:10

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/12/24 17:41	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/12/24 17:41	1
Trichloroethene	ND		0.20	0.20	ug/L			01/12/24 17:41	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/12/24 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		01/12/24 17:41	1
Dibromofluoromethane (Surr)	94		80 - 120		01/12/24 17:41	1
4-Bromofluorobenzene (Surr)	99		80 - 120		01/12/24 17:41	1
1,2-Dichloroethane-d4 (Surr)	93		80 - 120		01/12/24 17:41	1

Client Sample ID: RNS-MW2-240109

Date Collected: 01/09/24 15:53

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 17:52	1
cis-1,2-Dichloroethene	ND	*+	0.20	0.20	ug/L			01/11/24 17:52	1
Trichloroethene	0.65		0.20	0.20	ug/L			01/11/24 17:52	1
Tetrachloroethene	15		0.20	0.20	ug/L			01/11/24 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	88		80 - 120		01/11/24 17:52	1
Dibromofluoromethane (Surr)	108		80 - 120		01/11/24 17:52	1
4-Bromofluorobenzene (Surr)	106		80 - 120		01/11/24 17:52	1
1,2-Dichloroethane-d4 (Surr)	103		80 - 120		01/11/24 17:52	1

Client Sample ID: MW2-240109

Date Collected: 01/09/24 16:16

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.20		0.20	0.20	ug/L			01/12/24 18:05	1

Eurofins Seattle

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Client Sample ID: MW2-240109
Date Collected: 01/09/24 16:16
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.4		0.20	0.20	ug/L			01/12/24 18:05	1
Trichloroethene	0.41		0.20	0.20	ug/L			01/12/24 18:05	1
Tetrachloroethene	1.1		0.20	0.20	ug/L			01/12/24 18:05	1
<hr/>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120					01/12/24 18:05	1
Dibromofluoromethane (Surr)	97		80 - 120					01/12/24 18:05	1
4-Bromofluorobenzene (Surr)	99		80 - 120					01/12/24 18:05	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120					01/12/24 18:05	1

Client Sample ID: Trip Blank
Date Collected: 01/09/24 00:01
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 15:51	1
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 15:51	1
cis-1,2-Dichloroethene	ND	*+	0.20	0.20	ug/L			01/11/24 15:51	1
cis-1,2-Dichloroethene	ND	*+	0.20	0.20	ug/L			01/11/24 15:51	1
Trichloroethene	ND		0.20	0.20	ug/L			01/11/24 15:51	1
Trichloroethene	ND		0.20	0.20	ug/L			01/11/24 15:51	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/11/24 15:51	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/11/24 15:51	1
<hr/>									
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	89		80 - 120					01/11/24 15:51	1
Toluene-d8 (Surr)	89		80 - 120					01/11/24 15:51	1
Dibromofluoromethane (Surr)	110		80 - 120					01/11/24 15:51	1
Dibromofluoromethane (Surr)	110		80 - 120					01/11/24 15:51	1
4-Bromofluorobenzene (Surr)	104		80 - 120					01/11/24 15:51	1
4-Bromofluorobenzene (Surr)	104		80 - 120					01/11/24 15:51	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					01/11/24 15:51	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 120					01/11/24 15:51	1

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Client Sample ID: LAI-MW4-240109

Date Collected: 01/09/24 09:14

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/12/24 17:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120					01/12/24 17:17	1
Dibromofluoromethane (Surr)	98		80 - 120					01/12/24 17:17	1
4-Bromofluorobenzene (Surr)	96		80 - 120					01/12/24 17:17	1
1,2-Dichloroethane-d4 (Surr)	94		80 - 120					01/12/24 17:17	1

Client Sample ID: LAI-MW2-240109

Date Collected: 01/09/24 11:09

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	100		10	10	ug/L			01/12/24 19:17	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120					01/12/24 19:17	50
Dibromofluoromethane (Surr)	99		80 - 120					01/12/24 19:17	50
4-Bromofluorobenzene (Surr)	100		80 - 120					01/12/24 19:17	50
1,2-Dichloroethane-d4 (Surr)	96		80 - 120					01/12/24 19:17	50

Client Sample ID: LAI-MW3-240109

Date Collected: 01/09/24 13:27

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	29		2.0	2.0	ug/L			01/12/24 18:29	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	99		80 - 120					01/12/24 18:29	10
Dibromofluoromethane (Surr)	100		80 - 120					01/12/24 18:29	10
4-Bromofluorobenzene (Surr)	99		80 - 120					01/12/24 18:29	10
1,2-Dichloroethane-d4 (Surr)	97		80 - 120					01/12/24 18:29	10

Client Sample ID: Dup1-240109

Date Collected: 01/09/24 13:29

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	28		2.0	2.0	ug/L			01/12/24 18:53	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		80 - 120					01/12/24 18:53	10
Dibromofluoromethane (Surr)	99		80 - 120					01/12/24 18:53	10
4-Bromofluorobenzene (Surr)	99		80 - 120					01/12/24 18:53	10
1,2-Dichloroethane-d4 (Surr)	97		80 - 120					01/12/24 18:53	10

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: RSK-175 - Dissolved Gases (GC)

Client Sample ID: LAI-MW4-240109
Date Collected: 01/09/24 09:14
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.11		0.0050	0.00063	mg/L			01/16/24 22:59	1
Ethylene	ND		0.0050	0.00040	mg/L			01/16/24 22:59	1
Ethane	ND		0.0050	0.00057	mg/L			01/16/24 22:59	1
Acetylene	ND		0.0050	0.00073	mg/L			01/16/24 22:59	1

Client Sample ID: LAI-MW2-240109
Date Collected: 01/09/24 11:09
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.012		0.0050	0.00063	mg/L			01/16/24 23:13	1
Ethylene	ND		0.0050	0.00040	mg/L			01/16/24 23:13	1
Ethane	0.0033	J	0.0050	0.00057	mg/L			01/16/24 23:13	1
Acetylene	ND		0.0050	0.00073	mg/L			01/16/24 23:13	1

Client Sample ID: LAI-MW1-240109
Date Collected: 01/09/24 12:11
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0050	0.00063	mg/L			01/16/24 23:26	1
Ethylene	ND		0.0050	0.00040	mg/L			01/16/24 23:26	1
Ethane	ND		0.0050	0.00057	mg/L			01/16/24 23:26	1
Acetylene	ND		0.0050	0.00073	mg/L			01/16/24 23:26	1

Client Sample ID: LAI-MW3-240109
Date Collected: 01/09/24 13:27
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.0012	J	0.0050	0.00063	mg/L			01/16/24 23:40	1
Ethylene	ND		0.0050	0.00040	mg/L			01/16/24 23:40	1
Ethane	ND		0.0050	0.00057	mg/L			01/16/24 23:40	1
Acetylene	ND		0.0050	0.00073	mg/L			01/16/24 23:40	1

Client Sample ID: Dup1-240109
Date Collected: 01/09/24 13:29
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.0016	J	0.0050	0.00063	mg/L			01/16/24 23:53	1
Ethylene	ND		0.0050	0.00040	mg/L			01/16/24 23:53	1
Ethane	ND		0.0050	0.00057	mg/L			01/16/24 23:53	1
Acetylene	ND		0.0050	0.00073	mg/L			01/16/24 23:53	1

Client Sample ID: LAI-MW5-240109
Date Collected: 01/09/24 15:10
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	11		0.0050	0.00063	mg/L			01/17/24 00:06	1
Ethylene	ND		0.0050	0.00040	mg/L			01/17/24 00:06	1
Ethane	ND		0.0050	0.00057	mg/L			01/17/24 00:06	1
Acetylene	ND		0.0050	0.00073	mg/L			01/17/24 00:06	1

Client Sample Results

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: RSK-175 - Dissolved Gases (GC)

Client Sample ID: RNS-MW2-240109

Date Collected: 01/09/24 15:53

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.0050	0.00063	mg/L			01/17/24 00:20	1
Ethylene	ND		0.0050	0.00040	mg/L			01/17/24 00:20	1
Ethane	ND		0.0050	0.00057	mg/L			01/17/24 00:20	1
Acetylene	ND		0.0050	0.00073	mg/L			01/17/24 00:20	1

Client Sample ID: MW2-240109

Date Collected: 01/09/24 16:16

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	2.0		0.0050	0.00063	mg/L			01/17/24 00:33	1
Ethylene	ND		0.0050	0.00040	mg/L			01/17/24 00:33	1
Ethane	ND		0.0050	0.00057	mg/L			01/17/24 00:33	1
Acetylene	ND		0.0050	0.00073	mg/L			01/17/24 00:33	1

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

General Chemistry

Client Sample ID: LAI-MW4-240109

Date Collected: 01/09/24 09:14

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	1100		75	75	mg/L			01/10/24 14:11	50
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 13:47	1
Nitrate as N (EPA 300.0)	ND		0.20	0.20	mg/L			01/10/24 13:47	1
Sulfate (EPA 300.0)	140		15	15	mg/L			01/10/24 13:59	10
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:50	1
Total Organic Carbon - Quad (SM 5310B)	3.2		1.0	1.0	mg/L			01/17/24 23:52	1

Client Sample ID: LAI-MW2-240109

Date Collected: 01/09/24 11:09

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	21		1.5	1.5	mg/L			01/10/24 14:23	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 14:23	1
Nitrate as N (EPA 300.0)	ND		0.20	0.20	mg/L			01/10/24 14:23	1
Sulfate (EPA 300.0)	17		1.5	1.5	mg/L			01/10/24 14:23	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:50	1
Total Organic Carbon - Quad (SM 5310B)	1.2		1.0	1.0	mg/L			01/18/24 00:09	1

Client Sample ID: LAI-MW1-240109

Date Collected: 01/09/24 12:11

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	56		1.5	1.5	mg/L			01/10/24 14:35	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 14:35	1
Nitrate as N (EPA 300.0)	1.4		0.20	0.20	mg/L			01/10/24 14:35	1
Sulfate (EPA 300.0)	17		1.5	1.5	mg/L			01/10/24 14:35	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:49	1
Total Organic Carbon - Quad (SM 5310B)	1.3		1.0	1.0	mg/L			01/18/24 00:25	1

Client Sample ID: LAI-MW3-240109

Date Collected: 01/09/24 13:27

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	29		1.5	1.5	mg/L			01/10/24 14:47	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 14:47	1
Nitrate as N (EPA 300.0)	0.50		0.20	0.20	mg/L			01/10/24 14:47	1
Sulfate (EPA 300.0)	19		1.5	1.5	mg/L			01/10/24 14:47	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:47	1
Total Organic Carbon - Quad (SM 5310B)	1.2		1.0	1.0	mg/L			01/18/24 00:39	1

Client Sample ID: Dup1-240109

Date Collected: 01/09/24 13:29

Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	29		1.5	1.5	mg/L			01/10/24 15:23	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 15:23	1
Nitrate as N (EPA 300.0)	0.50		0.20	0.20	mg/L			01/10/24 15:23	1

Eurofins Seattle

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

General Chemistry (Continued)

Client Sample ID: Dup1-240109
Date Collected: 01/09/24 13:29
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate (EPA 300.0)	19		1.5	1.5	mg/L			01/10/24 15:23	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:47	1
Total Organic Carbon - Quad (SM 5310B)	1.2		1.0	1.0	mg/L			01/18/24 00:55	1

Client Sample ID: LAI-MW5-240109
Date Collected: 01/09/24 15:10
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	140		15	15	mg/L			01/10/24 16:11	10
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 15:35	1
Nitrate as N (EPA 300.0)	ND		0.20	0.20	mg/L			01/10/24 15:35	1
Sulfate (EPA 300.0)	3.9		1.5	1.5	mg/L			01/10/24 15:35	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:47	1
Total Organic Carbon - Quad (SM 5310B)	5.7		1.0	1.0	mg/L			01/18/24 01:09	1

Client Sample ID: RNS-MW2-240109
Date Collected: 01/09/24 15:53
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	31		1.5	1.5	mg/L			01/10/24 16:22	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 16:22	1
Nitrate as N (EPA 300.0)	2.6		0.20	0.20	mg/L			01/10/24 16:22	1
Sulfate (EPA 300.0)	19		1.5	1.5	mg/L			01/10/24 16:22	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/15/24 18:46	1
Total Organic Carbon - Quad (SM 5310B)	1.1		1.0	1.0	mg/L			01/18/24 01:26	1

Client Sample ID: MW2-240109
Date Collected: 01/09/24 16:16
Date Received: 01/09/24 16:59

Lab Sample ID: 580-135599-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	25		1.5	1.5	mg/L			01/10/24 16:34	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/10/24 16:34	1
Nitrate as N (EPA 300.0)	1.3		0.20	0.20	mg/L			01/10/24 16:34	1
Sulfate (EPA 300.0)	29		1.5	1.5	mg/L			01/10/24 16:34	1
Sulfide (SM 4500 S2 D)	ND	F1	0.050	0.050	mg/L			01/15/24 18:45	1
Total Organic Carbon - Quad (SM 5310B)	2.6		1.0	1.0	mg/L			01/18/24 01:40	1

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-448312/7
Matrix: Water
Analysis Batch: 448312

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	ND		0.20	0.20	ug/L			01/11/24 13:04	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/11/24 13:04	1
Trichloroethene	ND		0.20	0.20	ug/L			01/11/24 13:04	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/11/24 13:04	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	89		80 - 120		01/11/24 13:04	1
Dibromofluoromethane (Surr)	108		80 - 120		01/11/24 13:04	1
4-Bromofluorobenzene (Surr)	105		80 - 120		01/11/24 13:04	1
1,2-Dichloroethane-d4 (Surr)	105		80 - 120		01/11/24 13:04	1

Lab Sample ID: LCS 580-448312/4
Matrix: Water
Analysis Batch: 448312

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	5.00	6.12	*+	ug/L		122	72 - 120
Trichloroethene	5.00	5.80		ug/L		116	72 - 120
Tetrachloroethene	5.00	4.73		ug/L		95	75 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	105		80 - 120
1,2-Dichloroethane-d4 (Surr)	107		80 - 120

Lab Sample ID: LCSD 580-448312/5
Matrix: Water
Analysis Batch: 448312

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	5.00	6.05	*+	ug/L		121	72 - 120	1	22
Trichloroethene	5.00	5.79		ug/L		116	72 - 120	0	22
Tetrachloroethene	5.00	4.45		ug/L		89	75 - 124	6	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	89		80 - 120
Dibromofluoromethane (Surr)	108		80 - 120
4-Bromofluorobenzene (Surr)	104		80 - 120
1,2-Dichloroethane-d4 (Surr)	107		80 - 120

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-448470/7
Matrix: Water
Analysis Batch: 448470

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	ND		0.20	0.20	ug/L			01/12/24 13:08	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/12/24 13:08	1
Trichloroethene	ND		0.20	0.20	ug/L			01/12/24 13:08	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/12/24 13:08	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	100		80 - 120		01/12/24 13:08	1
Dibromofluoromethane (Surr)	101		80 - 120		01/12/24 13:08	1
4-Bromofluorobenzene (Surr)	100		80 - 120		01/12/24 13:08	1
1,2-Dichloroethane-d4 (Surr)	99		80 - 120		01/12/24 13:08	1

Lab Sample ID: LCS 580-448470/4
Matrix: Water
Analysis Batch: 448470

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	5.00	4.85		ug/L		97	72 - 120
Trichloroethene	5.00	4.77		ug/L		95	72 - 120
Tetrachloroethene	5.00	4.87		ug/L		97	75 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	96		80 - 120

Lab Sample ID: LCSD 580-448470/5
Matrix: Water
Analysis Batch: 448470

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	5.00	4.39		ug/L		88	72 - 120	10	22
Trichloroethene	5.00	4.57		ug/L		91	72 - 120	4	22
Tetrachloroethene	5.00	4.72		ug/L		94	75 - 124	3	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	97		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		80 - 120

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-640213/5
Matrix: Water
Analysis Batch: 640213

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00063	0.00063	mg/L			01/16/24 19:37	1
Ethylene	ND		0.00040	0.00040	mg/L			01/16/24 19:37	1
Ethane	ND		0.00057	0.00057	mg/L			01/16/24 19:37	1
Acetylene	ND		0.00073	0.00073	mg/L			01/16/24 19:37	1

Lab Sample ID: LCS 280-640213/3
Matrix: Water
Analysis Batch: 640213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	0.0657	0.0639		mg/L		97	75 - 125
Ethylene	0.115	0.119		mg/L		103	75 - 125
Ethane	0.123	0.127		mg/L		103	75 - 125
Acetylene	0.107	0.128		mg/L		120	75 - 125

Lab Sample ID: LCSD 280-640213/4
Matrix: Water
Analysis Batch: 640213

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane	0.0657	0.0629		mg/L		96	75 - 125	2	20
Ethylene	0.115	0.117		mg/L		101	75 - 125	2	20
Ethane	0.123	0.118		mg/L		96	75 - 125	8	20
Acetylene	0.107	0.128		mg/L		120	75 - 125	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-448375/3
Matrix: Water
Analysis Batch: 448375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.40	0.40	mg/L			01/10/24 09:24	1
Nitrate as N	ND		0.20	0.20	mg/L			01/10/24 09:24	1

Lab Sample ID: LCS 580-448375/4
Matrix: Water
Analysis Batch: 448375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	5.00	5.08		mg/L		102	90 - 110
Nitrate as N	5.00	5.03		mg/L		101	90 - 110

Lab Sample ID: LCSD 580-448375/5
Matrix: Water
Analysis Batch: 448375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	5.00	5.08		mg/L		102	90 - 110	0	15
Nitrate as N	5.00	5.03		mg/L		101	90 - 110	0	15

Eurofins Seattle

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 580-135599-4 MS
Matrix: Water
Analysis Batch: 448375

Client Sample ID: LAI-MW3-240109
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	ND		5.00	5.11		mg/L		102	90 - 110
Nitrate as N	0.50		5.00	5.49		mg/L		100	90 - 110

Lab Sample ID: 580-135599-4 MSD
Matrix: Water
Analysis Batch: 448375

Client Sample ID: LAI-MW3-240109
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	ND		5.00	5.11		mg/L		102	90 - 110	0	15
Nitrate as N	0.50		5.00	5.49		mg/L		100	90 - 110	0	15

Lab Sample ID: MB 580-448376/3
Matrix: Water
Analysis Batch: 448376

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	1.5	mg/L			01/10/24 09:24	1
Sulfate	ND		1.5	1.5	mg/L			01/10/24 09:24	1

Lab Sample ID: LCS 580-448376/4
Matrix: Water
Analysis Batch: 448376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	52.4		mg/L		105	90 - 110
Sulfate	50.0	51.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-448376/5
Matrix: Water
Analysis Batch: 448376

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	52.4		mg/L		105	90 - 110	0	15
Sulfate	50.0	51.6		mg/L		103	90 - 110	0	15

Lab Sample ID: 580-135599-4 MS
Matrix: Water
Analysis Batch: 448376

Client Sample ID: LAI-MW3-240109
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	29		50.0	77.8		mg/L		98	90 - 110
Sulfate	19		50.0	69.7		mg/L		101	90 - 110

Lab Sample ID: 580-135599-4 MSD
Matrix: Water
Analysis Batch: 448376

Client Sample ID: LAI-MW3-240109
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	29		50.0	77.8		mg/L		98	90 - 110	0	15
Sulfate	19		50.0	69.7		mg/L		100	90 - 110	0	15

Eurofins Seattle

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 280-640092/11
 Matrix: Water
 Analysis Batch: 640092

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.050	0.050	mg/L			01/15/24 18:44	1

Lab Sample ID: LCS 280-640092/9
 Matrix: Water
 Analysis Batch: 640092

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.500	0.508		mg/L		101	81 - 122

Lab Sample ID: LCSD 280-640092/10
 Matrix: Water
 Analysis Batch: 640092

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	0.500	0.508		mg/L		101	81 - 122	0	10

Lab Sample ID: 580-135599-8 MS
 Matrix: Water
 Analysis Batch: 640092

Client Sample ID: MW2-240109
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	ND	F1	0.500	0.289	F1	mg/L		58	81 - 122

Lab Sample ID: 580-135599-8 MSD
 Matrix: Water
 Analysis Batch: 640092

Client Sample ID: MW2-240109
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	ND	F1	0.500	0.291	F1	mg/L		58	81 - 122	1	10

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-640417/35
 Matrix: Water
 Analysis Batch: 640417

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.0	1.0	mg/L			01/17/24 22:02	1

Lab Sample ID: LCS 280-640417/34
 Matrix: Water
 Analysis Batch: 640417

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon - Quad	25.0	27.0		mg/L		108	88 - 112

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Client Sample ID: LAI-MW4-240109

Lab Sample ID: 580-135599-1

Date Collected: 01/09/24 09:14

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	448470	JBT	EET SEA	01/12/24 17:17
Total/NA	Analysis	8260D		1	448312	JBT	EET SEA	01/11/24 17:12
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/16/24 22:59
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 13:47
Total/NA	Analysis	300.0		10	448376	CA	EET SEA	01/10/24 13:59
Total/NA	Analysis	300.0		50	448376	CA	EET SEA	01/10/24 14:11
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:50
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/17/24 23:52

Client Sample ID: LAI-MW2-240109

Lab Sample ID: 580-135599-2

Date Collected: 01/09/24 11:09

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	50	448470	JBT	EET SEA	01/12/24 19:17
Total/NA	Analysis	8260D		50	448312	JBT	EET SEA	01/11/24 19:13
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/16/24 23:13
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 14:23
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 14:23
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:50
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 00:09

Client Sample ID: LAI-MW1-240109

Lab Sample ID: 580-135599-3

Date Collected: 01/09/24 12:11

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448312	JBT	EET SEA	01/11/24 17:32
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/16/24 23:26
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 14:35
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 14:35
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:49
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 00:25

Client Sample ID: LAI-MW3-240109

Lab Sample ID: 580-135599-4

Date Collected: 01/09/24 13:27

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	10	448470	JBT	EET SEA	01/12/24 18:29
Total/NA	Analysis	8260D		10	448312	JBT	EET SEA	01/11/24 18:12
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/16/24 23:40
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 14:47

Eurofins Seattle

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Client Sample ID: LAI-MW3-240109

Lab Sample ID: 580-135599-4

Date Collected: 01/09/24 13:27

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 14:47
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:47
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 00:39

Client Sample ID: Dup1-240109

Lab Sample ID: 580-135599-5

Date Collected: 01/09/24 13:29

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	10	448470	JBT	EET SEA	01/12/24 18:53
Total/NA	Analysis	8260D		10	448312	JBT	EET SEA	01/11/24 18:33
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/16/24 23:53
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 15:23
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 15:23
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:47
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 00:55

Client Sample ID: LAI-MW5-240109

Lab Sample ID: 580-135599-6

Date Collected: 01/09/24 15:10

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448470	JBT	EET SEA	01/12/24 17:41
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/17/24 00:06
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 15:35
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 15:35
Total/NA	Analysis	300.0		10	448376	CA	EET SEA	01/10/24 16:11
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:47
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 01:09

Client Sample ID: RNS-MW2-240109

Lab Sample ID: 580-135599-7

Date Collected: 01/09/24 15:53

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448312	JBT	EET SEA	01/11/24 17:52
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/17/24 00:20
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 16:22
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 16:22
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:46
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 01:26

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Client Sample ID: MW2-240109

Lab Sample ID: 580-135599-8

Date Collected: 01/09/24 16:16

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448470	JBT	EET SEA	01/12/24 18:05
Total/NA	Analysis	RSK-175		1	640213	SJD	EET DEN	01/17/24 00:33
Total/NA	Analysis	300.0		1	448375	CA	EET SEA	01/10/24 16:34
Total/NA	Analysis	300.0		1	448376	CA	EET SEA	01/10/24 16:34
Total/NA	Analysis	SM 4500 S2 D		1	640092	SL	EET DEN	01/15/24 18:45
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 01:40

Client Sample ID: Trip Blank

Lab Sample ID: 580-135599-9

Date Collected: 01/09/24 00:01

Matrix: Water

Date Received: 01/09/24 16:59

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448312	JBT	EET SEA	01/11/24 15:51

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135599-1

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-24

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C583	08-03-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 5310B		Water	Total Organic Carbon - Quad





ANALYTICAL REPORT

PREPARED FOR

Attn: Katie Gauglitz
Landau & Associates, Inc.
2107 South C Street
Tacoma, Washington 98402

Generated 2/5/2024 3:04:33 PM Revision 1

JOB DESCRIPTION

Sauro's Cleanorama 0094048.100

JOB NUMBER

580-135639-1

Eurofins Seattle

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northwest, LLC Project Manager.

Authorization



Authorized for release by
Pauline Matlock, Project Manager
Pauline.Matlock@et.eurofinsus.com
(253)922-2310

Generated
2/5/2024 3:04:33 PM
Revision 1



Table of Contents

Cover Page	1
Table of Contents	3
Case Narrative	4
Definitions	5
Sample Summary	6
Chain of Custody	7
Receipt Checklists	10
Client Sample Results	12
QC Sample Results	16
Chronicle	22
Certification Summary	23

Case Narrative

Client: Landau & Associates, Inc.
Project: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Job ID: 580-135639-1

Eurofins Seattle

Job Narrative 580-135639-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Revision

The report being provided is a revision of the original report sent on 1/26/2024. The report (revision 1) is being revised due to: RSK was being reported with the MDL as equal to the RL, client wants it reported down to the MDL but with the RL as the upper limit still, with J-flags.

Receipt

The samples were received on 1/11/2024 1:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 7.1°C

GC/MS VOA

Method 8260D_LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: RNS-MW6-42.5-20240111 (580-135639-2), RNS-MW6-52.5-20240111 (580-135639-3) and MW13-20240111 (580-135639-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC VOA

Method RSK_175: The sample duplicate (DUP) precision for analytical batch 280-640453 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Seattle

Definitions/Glossary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
F5	Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL, and the absolute difference between results is < the upper reporting limits for both.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Sample Summary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-135639-1	Tripblank - 20240111	Water	01/11/24 00:00	01/11/24 13:40
580-135639-2	RNS-MW6-42.5-20240111	Water	01/11/24 10:42	01/11/24 13:40
580-135639-3	RNS-MW6-52.5-20240111	Water	01/11/24 11:43	01/11/24 13:40
580-135639-4	MW13-20240111	Water	01/11/24 12:43	01/11/24 13:40

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11



Chain-of-Custody Record

- North Seattle (206) 631-8660
- Tacoma (253) 926-2493
- Olympia (360) 791-3178
- Spokane (509) 327-9737
- Portland (503) 542-1080

Testing Parameters

Date 1/11/2024
 Page 1 of 1

Turnaround Time: _____
 Standard Accelerated _____

Project Name Sawo's Project No. 0694048.100.108

Project Location/Event Tacoma, WA / January 24

Sampler's Name SDB

Project Contact Karl & Daughlitz

Send Results To data@landauinc.com | KDaughlitz@landauinc.com

Sample I.D.	Date	Time	Matrix	No. of Containers
Trip/Blank - 20240111	1/11/24	1048	A9	2
RMS - MWB-42.5-20240111	1/11/24	1143	A9	3
RMS - MWB-52.5-20240111	1/11/24	1243	A9	9
MW-13-20240111	1/11/24	1343	A9	9

VOCS 8260D
 MEG Rsk. 175
 TOC SM 5310C
 Sulfide SM4500
 Chloride/Sulfate 300.0
 Nitrate/Nitrite 300.0

Observations/Comments

- Allow water samples to settle, collect aliquot from clear portion
- NWTPH-Dx - Acid wash cleanup
- Silica gel cleanup
- Dissolved metal samples were field filtered

Other HCl pres

+ VOCS analyze for the following: PCE, TCE, cis 1,2 DCE, VC

Received by	Relinquished by
Signature _____ Printed Name _____ Company _____ Date _____ Time _____	Signature _____ Printed Name _____ Company _____ Date _____ Time _____

Received by [Signature]
 Printed Name E. Groves
 Company ET&T
 Date 1/11/24 Time 1740

Relinquished by _____
 Signature _____
 Printed Name _____
 Company _____
 Date _____ Time _____

Received by _____
 Signature _____
 Printed Name _____
 Company _____
 Date _____ Time _____



Chain-of-Custody Record

<input type="checkbox"/> North Seattle (206) 631-8660	<input type="checkbox"/> Spokane (509) 327-9737	Date <u>1/11/2024</u>	Turnaround Time: <u>Standard</u>
<input checked="" type="checkbox"/> Tacoma (253) 926-2493	<input type="checkbox"/> Portland (503) 542-1080	Page <u>1</u> of <u>1</u>	Accelerated _____
<input type="checkbox"/> Olympia (360) 791-3178	<input type="checkbox"/> _____		

Project Name Sawto's Project No. 0094048-100-108

Project Location/Event Tacoma, WA / January 24


Sampler's Name SD13

Project Contact Kurtie Langlitz

Send Results To data@landauinc.com, KLanglitz@landauinc.com

Sample I.D.	Date	Time	Matrix	No. of Containers	Testing Parameters										Observations/Comments			
					VOCs 8160D	MEEs	TOC 5M 5310C	Sulfide 5M 450W	Chloride/Sulfate 300.0	Nitrate 100.0/10.0	300.0							
Tripblank - 20240111			Aq	2	X													
RNS - MW6 - 42.5 - 20240111	1/11/24	1043	Aq	3	X													— Allow water samples to settle, collect aliquot from clear portion <input type="checkbox"/>
RNS - MW6 - 52.5 - 20240111	1/11/24	1143	Aq	9	X	X	X	X	X	X								— NWTPH-Dx - Acid wash cleanup <input type="checkbox"/> — Silica gel cleanup <input type="checkbox"/>
MW - 13 - 20240111	1/11/24	1243	Aq	9	X	X	X	X	X	X								— Dissolved metal samples were field filtered
																		Other _____ - HCl pres
																		+ VOCs analyze for the following: PCE, TCE, cis 1,2 DCE, VC

Therm. ID: IR11 Cor: 7.1 ° Unc: 7.2 °
Cooler Dsc: IR FedEx: _____
Packing: None UPS: _____
Cust. Seal: Yes No Lab Cour: _____
Blue Ice: Wet, Dry, None Other: Client



580-135639 Chain of Custody

Relinquished by Signature <u>[Signature]</u> Printed Name <u>Sara Burbach</u> Company <u>Landau Associates</u> Date <u>1/11/24</u> Time <u>1340</u>	Received by Signature <u>[Signature]</u> Printed Name <u>E Groves</u> Company <u>EE-TN</u> Date <u>1/11/24</u> Time <u>1340</u>	Relinquished by Signature _____ Printed Name _____ Company _____ Date _____ Time _____	Received by Signature _____ Printed Name _____ Company _____ Date _____ Time _____
--	--	---	---

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 580-135639-1

Login Number: 135639

List Source: Eurofins Seattle

List Number: 1

Creator: Groves, Elizabeth

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Landau & Associates, Inc.

Job Number: 580-135639-1

Login Number: 135639

List Number: 2

Creator: Rystrom, Joshua R

List Source: Eurofins Denver

List Creation: 01/13/24 12:40 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Client Sample ID: Tripblank - 20240111

Date Collected: 01/11/24 00:00

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/14/24 18:00	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/14/24 18:00	1
Trichloroethene	ND		0.20	0.20	ug/L			01/14/24 18:00	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/14/24 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		01/14/24 18:00	1
Dibromofluoromethane (Surr)	96		80 - 120		01/14/24 18:00	1
4-Bromofluorobenzene (Surr)	97		80 - 120		01/14/24 18:00	1
1,2-Dichloroethane-d4 (Surr)	91		80 - 120		01/14/24 18:00	1

Client Sample ID: RNS-MW6-42.5-20240111

Date Collected: 01/11/24 10:42

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.0	2.0	ug/L			01/14/24 23:13	10
cis-1,2-Dichloroethene	46		2.0	2.0	ug/L			01/14/24 23:13	10
Trichloroethene	74		2.0	2.0	ug/L			01/14/24 23:13	10
Tetrachloroethene	240		2.0	2.0	ug/L			01/14/24 23:13	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		01/14/24 23:13	10
Dibromofluoromethane (Surr)	94		80 - 120		01/14/24 23:13	10
4-Bromofluorobenzene (Surr)	97		80 - 120		01/14/24 23:13	10
1,2-Dichloroethane-d4 (Surr)	88		80 - 120		01/14/24 23:13	10

Client Sample ID: RNS-MW6-52.5-20240111

Date Collected: 01/11/24 11:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.0	2.0	ug/L			01/16/24 21:58	10
cis-1,2-Dichloroethene	52		2.0	2.0	ug/L			01/16/24 21:58	10
Trichloroethene	72		2.0	2.0	ug/L			01/16/24 21:58	10
Tetrachloroethene	220		2.0	2.0	ug/L			01/16/24 21:58	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120		01/16/24 21:58	10
Dibromofluoromethane (Surr)	99		80 - 120		01/16/24 21:58	10
4-Bromofluorobenzene (Surr)	100		80 - 120		01/16/24 21:58	10
1,2-Dichloroethane-d4 (Surr)	94		80 - 120		01/16/24 21:58	10

Client Sample ID: MW13-20240111

Date Collected: 01/11/24 12:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		2.0	2.0	ug/L			01/15/24 11:14	10
cis-1,2-Dichloroethene	58		2.0	2.0	ug/L			01/15/24 11:14	10
Trichloroethene	90		2.0	2.0	ug/L			01/15/24 11:14	10
Tetrachloroethene	340		2.0	2.0	ug/L			01/15/24 11:14	10

Eurofins Seattle

Client Sample Results

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
Toluene-d8 (Surr)	104		80 - 120		01/15/24 11:14	10
Dibromofluoromethane (Surr)	91		80 - 120		01/15/24 11:14	10
4-Bromofluorobenzene (Surr)	96		80 - 120		01/15/24 11:14	10
1,2-Dichloroethane-d4 (Surr)	84		80 - 120		01/15/24 11:14	10

Client Sample Results

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: RSK-175 - Dissolved Gases (GC)

Client Sample ID: RNS-MW6-52.5-20240111

Date Collected: 01/11/24 11:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.0019	J	0.0050	0.00063	mg/L			01/18/24 21:24	1
Ethylene	ND		0.0050	0.00040	mg/L			01/18/24 21:24	1
Ethane	ND		0.0050	0.00057	mg/L			01/18/24 21:24	1
Acetylene	ND		0.0050	0.00073	mg/L			01/18/24 21:24	1

Client Sample ID: MW13-20240111

Date Collected: 01/11/24 12:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	0.0028	J	0.0050	0.00063	mg/L			01/18/24 21:51	1
Ethylene	ND		0.0050	0.00040	mg/L			01/18/24 21:51	1
Ethane	ND		0.0050	0.00057	mg/L			01/18/24 21:51	1
Acetylene	ND		0.0050	0.00073	mg/L			01/18/24 21:51	1

Client Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

General Chemistry

Client Sample ID: RNS-MW6-52.5-20240111

Date Collected: 01/11/24 11:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	45		1.5	1.5	mg/L			01/11/24 16:32	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/11/24 16:32	1
Nitrate as N (EPA 300.0)	0.77		0.20	0.20	mg/L			01/11/24 16:32	1
Sulfate (EPA 300.0)	26		1.5	1.5	mg/L			01/11/24 16:32	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/17/24 15:07	1
Total Organic Carbon - Quad (SM 5310B)	1.3		1.0	1.0	mg/L			01/18/24 07:29	1

Client Sample ID: MW13-20240111

Date Collected: 01/11/24 12:43

Date Received: 01/11/24 13:40

Lab Sample ID: 580-135639-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride (EPA 300.0)	43		1.5	1.5	mg/L			01/11/24 16:44	1
Nitrite as N (EPA 300.0)	ND		0.40	0.40	mg/L			01/11/24 16:44	1
Nitrate as N (EPA 300.0)	0.55		0.20	0.20	mg/L			01/11/24 16:44	1
Sulfate (EPA 300.0)	21		1.5	1.5	mg/L			01/11/24 16:44	1
Sulfide (SM 4500 S2 D)	ND		0.050	0.050	mg/L			01/17/24 15:06	1
Total Organic Carbon - Quad (SM 5310B)	1.0		1.0	1.0	mg/L			01/18/24 07:44	1

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-448565/7
Matrix: Water
Analysis Batch: 448565

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	ND		0.20	0.20	ug/L			01/14/24 16:04	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/14/24 16:04	1
Trichloroethene	ND		0.20	0.20	ug/L			01/14/24 16:04	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/14/24 16:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	101		80 - 120		01/14/24 16:04	1
Dibromofluoromethane (Surr)	99		80 - 120		01/14/24 16:04	1
4-Bromofluorobenzene (Surr)	101		80 - 120		01/14/24 16:04	1
1,2-Dichloroethane-d4 (Surr)	93		80 - 120		01/14/24 16:04	1

Lab Sample ID: LCS 580-448565/4
Matrix: Water
Analysis Batch: 448565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	5.00	5.01		ug/L		100	72 - 120
Trichloroethene	5.00	5.21		ug/L		104	72 - 120
Tetrachloroethene	5.00	5.55		ug/L		111	75 - 124

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	93		80 - 120
4-Bromofluorobenzene (Surr)	98		80 - 120
1,2-Dichloroethane-d4 (Surr)	85		80 - 120

Lab Sample ID: LCSD 580-448565/5
Matrix: Water
Analysis Batch: 448565

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	5.00	5.45		ug/L		109	72 - 120	8	22
Trichloroethene	5.00	5.10		ug/L		102	72 - 120	2	22
Tetrachloroethene	5.00	5.34		ug/L		107	75 - 124	4	20

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	99		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	92		80 - 120

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-448584/7
Matrix: Water
Analysis Batch: 448584

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	ND		0.20	0.20	ug/L			01/15/24 03:38	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/15/24 03:38	1
Trichloroethene	ND		0.20	0.20	ug/L			01/15/24 03:38	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/15/24 03:38	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	102		80 - 120		01/15/24 03:38	1
Dibromofluoromethane (Surr)	96		80 - 120		01/15/24 03:38	1
4-Bromofluorobenzene (Surr)	98		80 - 120		01/15/24 03:38	1
1,2-Dichloroethane-d4 (Surr)	84		80 - 120		01/15/24 03:38	1

Lab Sample ID: LCS 580-448584/4
Matrix: Water
Analysis Batch: 448584

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,2-Dichloroethene	5.00	5.11		ug/L		102	72 - 120
Trichloroethene	5.00	4.93		ug/L		99	72 - 120
Tetrachloroethene	5.00	5.22		ug/L		104	75 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	96		80 - 120
4-Bromofluorobenzene (Surr)	98		80 - 120
1,2-Dichloroethane-d4 (Surr)	86		80 - 120

Lab Sample ID: LCSD 580-448584/5
Matrix: Water
Analysis Batch: 448584

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	5.00	4.78		ug/L		96	72 - 120	7	22
Trichloroethene	5.00	4.96		ug/L		99	72 - 120	1	22
Tetrachloroethene	5.00	5.14		ug/L		103	75 - 124	2	20

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	92		80 - 120
4-Bromofluorobenzene (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	82		80 - 120

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-448731/7
Matrix: Water
Analysis Batch: 448731

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.20	0.20	ug/L			01/16/24 16:44	1
cis-1,2-Dichloroethene	ND		0.20	0.20	ug/L			01/16/24 16:44	1
Trichloroethene	ND		0.20	0.20	ug/L			01/16/24 16:44	1
Tetrachloroethene	ND		0.20	0.20	ug/L			01/16/24 16:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 120		01/16/24 16:44	1
Dibromofluoromethane (Surr)	97		80 - 120		01/16/24 16:44	1
4-Bromofluorobenzene (Surr)	99		80 - 120		01/16/24 16:44	1
1,2-Dichloroethane-d4 (Surr)	96		80 - 120		01/16/24 16:44	1

Lab Sample ID: LCS 580-448731/4
Matrix: Water
Analysis Batch: 448731

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Vinyl chloride	5.00	4.52		ug/L		90	41 - 150
cis-1,2-Dichloroethene	5.00	4.98		ug/L		100	72 - 120
Trichloroethene	5.00	4.99		ug/L		100	72 - 120
Tetrachloroethene	5.00	5.18		ug/L		104	75 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	101		80 - 120
1,2-Dichloroethane-d4 (Surr)	93		80 - 120

Lab Sample ID: LCSD 580-448731/5
Matrix: Water
Analysis Batch: 448731

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Vinyl chloride	5.00	4.30		ug/L		86	41 - 150	5	32
cis-1,2-Dichloroethene	5.00	4.94		ug/L		99	72 - 120	1	22
Trichloroethene	5.00	4.80		ug/L		96	72 - 120	4	22
Tetrachloroethene	5.00	5.07		ug/L		101	75 - 124	2	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	98		80 - 120
4-Bromofluorobenzene (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	94		80 - 120

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 280-640453/5
Matrix: Water
Analysis Batch: 640453

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		0.00063	0.00063	mg/L			01/18/24 20:04	1
Ethylene	ND		0.00040	0.00040	mg/L			01/18/24 20:04	1
Ethane	ND		0.00057	0.00057	mg/L			01/18/24 20:04	1
Acetylene	ND		0.00073	0.00073	mg/L			01/18/24 20:04	1

Lab Sample ID: LCS 280-640453/3
Matrix: Water
Analysis Batch: 640453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methane	0.0657	0.0673		mg/L		102	75 - 125
Ethylene	0.115	0.123		mg/L		107	75 - 125
Ethane	0.123	0.134		mg/L		108	75 - 125
Acetylene	0.107	0.116		mg/L		109	75 - 125

Lab Sample ID: LCSD 280-640453/4
Matrix: Water
Analysis Batch: 640453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Methane	0.0657	0.0665		mg/L		101	75 - 125	1	20
Ethylene	0.115	0.122		mg/L		106	75 - 125	1	20
Ethane	0.123	0.125		mg/L		101	75 - 125	7	20
Acetylene	0.107	0.115		mg/L		108	75 - 125	1	20

Lab Sample ID: 580-135639-3 DU
Matrix: Water
Analysis Batch: 640453

Client Sample ID: RNS-MW6-52.5-20240111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Methane	0.0019	J	0.00309	J F5	mg/L		47	20
Ethylene	ND		ND		mg/L		NC	20
Ethane	ND		ND		mg/L		NC	20
Acetylene	ND		ND		mg/L		NC	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 580-448459/3
Matrix: Water
Analysis Batch: 448459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.5	1.5	mg/L			01/11/24 09:30	1
Sulfate	ND		1.5	1.5	mg/L			01/11/24 09:30	1

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 580-448459/4
Matrix: Water
Analysis Batch: 448459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	52.3		mg/L		105	90 - 110
Sulfate	50.0	51.3		mg/L		103	90 - 110

Lab Sample ID: LCSD 580-448459/5
Matrix: Water
Analysis Batch: 448459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	50.0	52.3		mg/L		105	90 - 110	0	15
Sulfate	50.0	51.3		mg/L		103	90 - 110	0	15

Lab Sample ID: 580-135639-4 MS
Matrix: Water
Analysis Batch: 448459

Client Sample ID: MW13-20240111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	43		50.0	88.6		mg/L		90	90 - 110
Sulfate	21		50.0	71.0		mg/L		99	90 - 110

Lab Sample ID: 580-135639-4 MSD
Matrix: Water
Analysis Batch: 448459

Client Sample ID: MW13-20240111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	43		50.0	88.8		mg/L		91	90 - 110	0	15
Sulfate	21		50.0	71.0		mg/L		99	90 - 110	0	15

Lab Sample ID: MB 580-448460/3
Matrix: Water
Analysis Batch: 448460

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	ND		0.40	0.40	mg/L			01/11/24 09:30	1
Nitrate as N	ND		0.20	0.20	mg/L			01/11/24 09:30	1

Lab Sample ID: LCS 580-448460/4
Matrix: Water
Analysis Batch: 448460

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	5.00	5.06		mg/L		101	90 - 110
Nitrate as N	5.00	5.01		mg/L		100	90 - 110

Lab Sample ID: LCSD 580-448460/5
Matrix: Water
Analysis Batch: 448460

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	5.00	5.07		mg/L		101	90 - 110	0	15
Nitrate as N	5.00	5.02		mg/L		100	90 - 110	0	15

Eurofins Seattle

QC Sample Results

Client: Landau & Associates, Inc.
 Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 580-135639-4 MS
Matrix: Water
Analysis Batch: 448460

Client Sample ID: MW13-20240111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrite as N	ND		5.00	5.05		mg/L		101	90 - 110
Nitrate as N	0.55		5.00	5.52		mg/L		99	90 - 110

Lab Sample ID: 580-135639-4 MSD
Matrix: Water
Analysis Batch: 448460

Client Sample ID: MW13-20240111
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Nitrite as N	ND		5.00	5.06		mg/L		101	90 - 110	0	15
Nitrate as N	0.55		5.00	5.52		mg/L		99	90 - 110	0	15

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 280-640317/11
Matrix: Water
Analysis Batch: 640317

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	ND		0.050	0.050	mg/L			01/17/24 14:50	1

Lab Sample ID: LCS 280-640317/9
Matrix: Water
Analysis Batch: 640317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfide	0.502	0.515		mg/L		103	81 - 122

Lab Sample ID: LCSD 280-640317/10
Matrix: Water
Analysis Batch: 640317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfide	0.502	0.515		mg/L		103	81 - 122	0	10

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 280-640417/68
Matrix: Water
Analysis Batch: 640417

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Quad	ND		1.0	1.0	mg/L			01/18/24 06:28	1

Lab Sample ID: LCS 280-640417/67
Matrix: Water
Analysis Batch: 640417

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Organic Carbon - Quad	25.0	27.3		mg/L		109	88 - 112

Lab Chronicle

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Client Sample ID: Tripblank - 20240111

Lab Sample ID: 580-135639-1

Date Collected: 01/11/24 00:00

Matrix: Water

Date Received: 01/11/24 13:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	448565	K1K	EET SEA	01/14/24 18:00

Client Sample ID: RNS-MW6-42.5-20240111

Lab Sample ID: 580-135639-2

Date Collected: 01/11/24 10:42

Matrix: Water

Date Received: 01/11/24 13:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	448565	K1K	EET SEA	01/14/24 23:13

Client Sample ID: RNS-MW6-52.5-20240111

Lab Sample ID: 580-135639-3

Date Collected: 01/11/24 11:43

Matrix: Water

Date Received: 01/11/24 13:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	448731	K1K	EET SEA	01/16/24 21:58
Total/NA	Analysis	RSK-175		1	640453	SJD	EET DEN	01/18/24 21:24
Total/NA	Analysis	300.0		1	448459	CA	EET SEA	01/11/24 16:32
Total/NA	Analysis	300.0		1	448460	CA	EET SEA	01/11/24 16:32
Total/NA	Analysis	SM 4500 S2 D		1	640317	SL	EET DEN	01/17/24 15:07
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 07:29

Client Sample ID: MW13-20240111

Lab Sample ID: 580-135639-4

Date Collected: 01/11/24 12:43

Matrix: Water

Date Received: 01/11/24 13:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		10	448584	K1K	EET SEA	01/15/24 11:14
Total/NA	Analysis	RSK-175		1	640453	SJD	EET DEN	01/18/24 21:51
Total/NA	Analysis	300.0		1	448459	CA	EET SEA	01/11/24 16:44
Total/NA	Analysis	300.0		1	448460	CA	EET SEA	01/11/24 16:44
Total/NA	Analysis	SM 4500 S2 D		1	640317	SL	EET DEN	01/17/24 15:06
Total/NA	Analysis	SM 5310B		1	640417	ABW	EET DEN	01/18/24 07:44

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Accreditation/Certification Summary

Client: Landau & Associates, Inc.
Project/Site: Sauro's Cleanorama 0094048.100

Job ID: 580-135639-1

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-24

Laboratory: Eurofins Denver

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C583	08-03-24

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 5310B		Water	Total Organic Carbon - Quad



Cumulative Results Table

**Table 3-1
Bioremediation Data Summary
Sauro's Cleanerama**

Well	Date	Sample Type	Volatile Organic Compounds							Aquifer Redox Conditions										Donor Indicators	Other Field Parameters			
			PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	VC (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	DO (a) (mg/L)	ORP (a) (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Iron II (a) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Methane (µg/L)	Aquifer Redox State	TOC (mg/L)	Temp.	Cond.	pH	Turbidity
Cleanup Level:			5	5	70	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW1	1/15/2013	N	0.5 U	0.2 U	0.5 U	0.2 U	5.0 U	5.0 U	5.0 U	44.1	1.90	-14.1	1.15	0.0229	0.040	17.7	0.15 U	5.0 U	--	3.97	--	--	--	--
LAI-MW1	4/2/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	44.3	2.20	1.40	1.03 J	0.0109 J	0.030	22.4	0.150 U	5.0 U	--	3.40	--	--	--	--
LAI-MW1	6/18/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	43.1	0.800 J	-26.8 J	1.39	0.0139	0.090 J	24.9	0.150 U	5.0 U	--	9.26	15.9	511	6.35	52.0
LAI-MW1	9/9/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	47.8	1.20	-31.8	1.40	0.025	0.03 U	25.8	0.150 U	5.0 U	--	11.2	19.3	545	6.27	27.2
LAI-MW1	1/5/2016	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	48	5.96	115.00	0.84 J	0.020 UJ	0.0	19	0.050 U	16	--	0.27 J	9.14	412	6.98	64.11
LAI-MW1	7/7/2016	N	0.12 J	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	64	2.37	-16.4	1.1	0.40 U	0.0	21	0.050 U	0.55 J	--	1.4 J	13.8	556	8.27	17.36
LAI-MW1	1/18/2017	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	72	2.17	31.2	1.3	0.40 U	0.0	19	0.050 U	5.0 U	--	2.6	15.0	446	6.86	49.05
LAI-MW1	7/11/2017	N	0.30	0.90 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	53	2.39	59.8	1.2	0.40 U	0.0	20	0.050 U	5.0 U	--	1.8	17.9	502	7.15	18.16
LAI-MW1	2/8/2018	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	47	3.13	-68.7	1.5	0.40 U	1.0	20	0.050 U	5.0 U	Fe	1.9	15.1	483	6.76	22.29
LAI-MW1	1/9/2019	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	52	1.65	165	1.8	0.40 U	0.5	22	0.050 U	5.0 U	Fe	1.3	15.1	512	6.61	15.69
LAI-MW1	1/20/2020	N	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	45 J	1.06	87.6	1.2 J	0.40 UJ	0.4	20 J	0.050 UJ	19 J	Fe	1.7 J	14.9	367	6.50	21.57
LAI-MW1	1/27/2021	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	65	1.82	-280.8	2.0	0.40 U	1.5	23	0.050 U	5.0 U	Fe	1.5 U	15.0	503	6.62	10.5
LAI-MW1	1/11/2022	N	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	89	0.293	1.98	1.5	0.40 U	1.4	19	0.050 U	8.0 J	Fe	1.3	15.2	619	6.54	9.94
LAI-MW1	3/6/2023	N	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	67	2.16	50.30	1.8	0.40 U	0.5	20	0.050 U	0.63 U		1.4	14.4	520	5.67	49.68
LAI-MW1	1/9/2024	N	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	56	4.28	88.50	1.4	0.40 U	0.0	17	0.050 U	0.63 U		1.3	13.6	367	6.77	21.5
LAI-MW2	1/15/2013	N	390	130	140	0.8	5.0 U	5.0 U	5.0 U	8.99	3.06	-19.2	0.01 U	0.0161	0.050	11.3	0.285	37	--	2.38	--	--	--	--
LAI-MW2	4/2/2013	N	380	110	100	0.7	5.0 U	5.0 U	5.0 U	10.0	2.80	-28.9	0.01 UJ	0.0575 J	0.280	17.5	17.5	43	--	4.11	--	--	--	--
LAI-MW2	6/18/2013	N	280 J	87 J	120 J	0.8	5.0 U	5.0 U	5.0 U	10.8	1.50 J	32.7 J	0.018	0.0100 U	0.030 UJ	17.2	17.2	43	--	10.3	15.4	451	6.77	18.1
LAI-MW2	9/9/2013	N	360 J	120 J	160 J	0.8	5.0 U	5.0 U	5.0 U	13.0	2.90	-44.8	0.01 U	0.015	0.03 U	18.9	18.9	26	--	12.3	18.3	506	7.08	41.5
LAI-MW2	1/5/2016	N	440	150	130	0.89	5.0 U	3.8 J	5.0 U	15	6.89	81.60	0.024 J	0.020 UJ	0.5	22	22	17	--	2.9	8.24	458	7.08	155.4
LAI-MW2	7/7/2016	N	350	140	120	0.61	0.65 J	3.7 J	5.0 U	15	3.34	-28.5	0.20 U	0.40 U	0.4	20	20	27	--	1.3	13.3	470	8.55	43.42
LAI-MW2	1/18/2017	N	390	120	120	0.80 J	5.0 U	5.0 U	5.0 U	12	6.97	15.5	0.20 U	0.40 U	1.5	19	19	24	--	5.6	11.0	364	7.26	187.6
LAI-MW2	7/11/2017	N	270	95	94	0.54	5.0 U	5.0 U	5.0 U	13	2.24	57.1	0.20 U	0.40 U	0.4	19	19	12	--	1.8	16.5	456	7.19	51.64
LAI-MW2	2/8/2018	N	310	110	90	0.63	5.0 U	5.0 U	5.0 U	12	7.28	-60.3	0.20 U	0.40 U	1.5	18	18	11	Fe	1.7	13.7	408	6.74	15.54
LAI-MW2	1/9/2019	N	320	95	78	0.58	5.0 U	5.0 U	5.0 U	14 J	2.46	86.8	0.20 U	0.40 U	1.0	20 J	20 J	6.5	Fe	1.2	13.7	420	6.98	28.56
LAI-MW2	1/20/2020	N	270 J	100 J	93 J	0.50 J	5.0 UJ	5.0 UJ	5.0 UJ	14 J	1.47	91.4	0.20 UJ	0.40 UJ	0.4	17 J	17 J	9.8 J	Fe	1.1 J	13.8	313	6.83	81.05
LAI-MW2	1/27/2021	N	230	83	61	0.89	5.0 U	5.0 U	5.0 U	25	2.99	-265	0.54	0.40 U	0.5	24	24	6.3	Fe	1.5 U	12.3	411	7.00	20.1
LAI-MW2	1/11/2022	N	450	170	130	2.0 U	--	--	--	24	5.20	18.8	0.29	0.40 U	2.0	24	24	6.1 J	Fe	1.8	12.5	488	6.94	182.9
LAI-MW2	3/6/2023	N	350	120	96	10 U	0.40 U	3.8	0.73 U	26	2.35	-7.4	0.20 U	0.40 U	0.0	23	0.050 U	14		1.6	13.3	522	6.06	171.5
LAI-MW2	1/9/2024	N	230	120	100	10 U	0.40 U	3.3 J	0.73 U	21	2.31	66.8	0.20 U	0.40 U	1.0	17	0.050 U	12		1.2	12.8	340	7.00	221
LAI-MW3	1/15/2013	N	120	37	48	0.1 J	5.0 U	5.0 U	5.0 U	5.36	5.36	-28.1	0.165	0.0357	0.030	8.3	0.076	5.0 U	--	4.36	--	--	--	--
LAI-MW3	4/2/2013	N	97	33	36	0.2 U	5.0 U	5.0 U	5.0 U	13.8	3.77	-7.10	0.416 J	0.0184 J	0.160	24.1	0.069 J	5.0 U	--	6.35	--	--	--	--
LAI-MW3	4/2/2013	FD	94	33	38	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW3	6/18/2013	N	72 J	27	44	0.2 U	5.0 U	5.0 U	5.0 U	17.1	1.30 J	-34.9 J	0.647	0.0129	0.080 J	23.3	0.150 U	5.0 U	--	11.8	15.5	548	6.78	101
LAI-MW3	9/9/2013	N	78 J	34	54	0.2 U	5.0 U	5.0 U	5.0 U	19.3	3.00	-29.0	0.655	0.020	0.03 U	21.9	0.150 U	5.0 U	--	16.0	15.2	590	6.87	44.3
LAI-MW3	1/5/2016	N	120	43	47	0.16 J	5.0 U	5.0 U	5.0 U	18	6.42	95.1	0.51 J	0.020 UJ	--	21	0.050 U	2.8 J	--	2.2	10.2	455	7.09	33.83
LAI-MW3	7/7/2016	N	59	38	43	0.095 J	5.0 U	5.0 U	5.0 U	23	1.36	-36.5	0.62	0.40 U	0.0	22	0.050 U	1.8 J	--	1.5	12.7	505	8.64	26.98
LAI-MW3	1/18/2017	N	97	32	39	0.20 U	5.0 U	5.0 U	5.0 U	17	1.31	31.6	0.54	0.40 U	0.0	20	0.050 U	5.0 U	--	1.8	14.2	437	7.06	55.46
LAI-MW3	7/11/2017	N	73	35 J	35	0.20 U	5.0 U	5.0 U	5.0 U	19	2.38	55.9	0.53	0.40 U	1.0	20	0.050 U	5.0 U	--	2.0	17.8	512	7.00	31.41
LAI-MW3	2/8/2018	N	58	26	27	0.20 U	5.0 U	5.0 U	5.0 U	20	2.73	-46.1	0.65	0.40 U	0.5	22	0.050 U	5.0 U	Fe	2.3	14.0	514	6.62	31.95
LAI-MW3	1/9/2019	N	78	33	34	0.20 U	5.0 U	5.0 U	5.0 U	22	3.18	130	0.70	0.40 U	0.5	23	0.050 U	5.0 U	Fe	1.3	13.1	509	6.94	41.12
LAI-MW3	1/20/2020	N	42 J	37 J	35 J	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	22 J	2.29	24.6	0.64 J	0.40 UJ	0.6	22 J	0.050 UJ	5.0 UJ	Fe	1.5 J	12.7	346	6.83	194.5
LAI-MW3	1/27/2021	N	83	36	34	0.20 U	5.0 U	5.0 U	5.0 U	26	4.59	-344.2	1.3	0.40 U	0.5	27	0.050 U	5.0 U	Fe	1.5	9.00	472	7.03	103
LAI-MW3	1/11/2022	N	86	44	37	0.20 U	--	--	--	23	3.76	38.8	0.82	0.40 U	0.0	24	0.050 U	R	N	1.7	13.6	478	6.88	39.76

**Table 3-1
Bioremediation Data Summary
Sauro's Cleanerama**

Well	Date	Sample Type	Volatile Organic Compounds							Aquifer Redox Conditions										Donor Indicators	Other Field Parameters			
			PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	VC (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	DO (a) (mg/L)	ORP (a) (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Iron II (a) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Methane (µg/L)	Aquifer Redox State	TOC (mg/L)	Temp.	Cond.	pH	Turbidity
LAI-MW3	3/6/2023	N	79	33	31	2.0 U	0.40 U	0.57 U	0.73 U	20	3.04	61.2	0.55	0.40 U	0.0	25	0.050 U	2.3		1.3	13.2	480	5.87	53.05
LAI-MW3	3/6/2023	FD	77	32	30	2.0 U	0.40 U	0.57 U	0.73 U	20 J	2.92	62.0	0.56 J	0.40 U	0.0	24 J	0.050 U	1.9		1.2	13.2	480	5.53	53.05
LAI-MW3	1/9/2024	N	52	39	29	2.0 U	0.40 U	0.57 U	0.73 U	29	6.47	107.2	0.50	0.40 U	0.0	19	0.050 U	1.2 J		1.2	11.3	367	7.12	46.4
LAI-MW3	1/9/2024	FD	56	39	28	2.0 U	0.40 U	0.57 U	0.73 U	29	6.25	107.2	0.50	0.40 U	0.0	19	0.050 U	1.6 J		1.2	11.4	367	7.13	46.4
LAI-MW4	1/15/2013	N	0.5 U	0.2 U	0.3 J	0.2 U	5.0 U	5.0 U	5.0 U	33.1	2.52	-75.0	0.01 U	0.0480	4.70	4.0	0.029	2,800	--	10.7	--	--	--	--
LAI-MW4	4/2/2013	N	0.2 U	0.2 U	0.3	0.2 U	5.0 U	5.0 U	5.0 U	31.3	1.86	-87.3	0.01 UJ	0.0319 J	5.55	6.9	0.150 U	3,700	--	6.73	--	--	--	--
LAI-MW4	6/18/2013	N	0.2 U	0.2 U	0.3	0.2 U	5.0 U	5.0 U	5.0 U	32.2	1.84 J	-62.4 J	0.019	0.0090	6.40 J	11.3	0.150 U	3,400	--	17.8	14.4	682	6.51	9.92
LAI-MW4	9/9/2013	N	0.2 U	0.2 U	0.6	0.2 U	5.0 U	5.0 U	5.0 U	32.6	2.60	-82.6	0.010 U	0.0550 J	2.52	11.1	0.150 U	3,000	--	19.6	15.7	717	6.70	2.78
LAI-MW4	1/5/2016	N	0.20 UJ	0.20 U	0.093 J	0.20 U	5.0 U	0.77 J	5.0 U	34	3.65	-43.9	0.016 J	0.020 UJ	1.5	9.1	0.050 U	4,200	--	4.3	7.68	690	7.40	5.18
LAI-MW4	1/5/2016	FD	0.88	0.092 J	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	34	3.64	-43.5	0.017 J	0.020 UJ	1.5	9.4	0.050 U	4,500	--	4.2	7.76	690	7.40	5.18
LAI-MW4	7/7/2016	N	0.20 U	0.20 U	0.085 J	0.030 J	5.0 U	0.78 J	5.0 U	27	--	--	0.20 U	0.40 U	3.0	2.0	0.050 U	6,400	--	2.9	--	--	--	13.23
LAI-MW4	7/7/2016	FD	0.20 U	0.20 U	0.10 J	0.030 J	5.0 U	0.90 J	5.0 U	27	--	--	0.20 U	0.40 U	3.0	2.0	0.050 U	6,100	--	2.9	--	--	--	13.23
LAI-MW4	1/18/2017	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	24	2.35	-18.3	0.20 U	0.40 U	4.5	2.1	0.050 U	3,700 J	--	3.6	13.3	545	7.28	3.51
LAI-MW4	1/18/2017	FD	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	24	2.13	-19.5	0.20 U	0.40 U	4.5	2.6	0.050 U	4,600 J	--	3.5	13.6	547	7.28	3.51
LAI-MW4	7/11/2017	N	0.20 U	0.20 U	0.25	0.20 U	5.0 U	5.0 U	5.0 U	22	3.98	6.78	0.20 U	0.40 U	3.0	1.8	0.050 U	5,200	--	3.7	16.3	687	7.03	9.89
LAI-MW4	7/11/2017	FD	0.20 U	0.92 U	0.27	0.20 U	5.0 U	5.0 U	5.0 U	22	3.81	5.85	0.20 U	0.40 U	3.0	1.7	0.050 U	4,900	--	4.3	16.2	685	7.02	10.72
LAI-MW4	2/8/2018	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	32	3.82	-36.2	0.20 U	0.40 U	1.5	1.2 U	0.050 U	4,400	M	4.6	12.8	687	6.39	9.3
LAI-MW4	2/8/2018	FD	0.20 U	0.20 U	0.20 U	0.20 U	5.0 UJ	5.0 UJ	5.0 U	33	3.79	-34.9	0.20 U	0.40 U	1.5	1.2 U	0.050 U	4,600 J	M	4.3	12.8	687	6.39	9.3
LAI-MW4	1/9/2019	N	0.20 U	0.20 U	0.65	0.20 U	5.0 U	5.0 U	5.0 U	40	2.95	-40.0	0.20 U	0.40 U	4.5	4.3	0.050 U	2,100	M	2.6	12.8	649	7.03	10.6
LAI-MW4	1/9/2019	FD	0.20 U	0.20 U	0.58	0.20 U	5.0 U	5.0 U	5.0 U	40	2.88	-40.3	0.20 U	0.40 U	4.5	4.3	0.050 U	1,900	M	2.7	12.7	649	7.02	10.6
LAI-MW4	1/20/2020	N	0.20 UJ	0.24 J	0.32 J	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	53 J	5.70	-9.85	0.20 UJ	0.40 UJ	4.8	2.5 J	0.050 UJ	3,000 J	M	3.4 J	9.00	444	6.97	10.7
LAI-MW4	1/20/2020	FD	0.20 UJ	0.24 J	0.33 J	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	54 J	5.78	-7.33	0.20 UJ	0.40 UJ	4.8	2.4 J	0.050 UJ	3,200 J	M	3.5 J	8.90	446	6.97	10.7
LAI-MW4	1/27/2021	N	0.20 U	0.40	2.7	1.4	5.0 U	5.0 U	5.0 U	40	1.51	-251.6	0.68 J	0.40 U	5.0	9.8	0.050 U	1,000	M	3.2	13.5	642	6.78	4.3
LAI-MW4	1/27/2021	FD	0.20 U	0.40	2.5	1.3	5.0 U	5.0 U	5.0 U	40	1.47	-253.1	0.61 J	0.40 UJ	5.0	9.2	0.050 U	1,000	M	3.5	13.4	-253.0	6.79	4.3
LAI-MW4	1/11/2022	N	0.20 U	0.33	0.20 U	0.49 J	--	--	--	5,200	0.46	-102.4	1.1	0.40 U	4.8	720	0.050 U	160 J	Fe	2.5	12.3	17,465	6.58	1.3
LAI-MW4	1/11/2022	FD	0.20 U	0.29	0.25	0.20 UJ	--	--	--	5,300	0.47	-100.5	0.96 J	R	4.8	710	0.050 U	190 J	Fe	2.5	12.3	17,662	6.58	1.3
LAI-MW4	3/6/2023	N	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	3,500	2.81	-10.2	20 U	40 U	2.5	530	0.061	330		3.0	11.9	10,663	6.05	55.85
LAI-MW4	1/9/2024	N	0.20 U	0.65	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	1,100	2.94	94.1	0.20 U	0.40 U	4.8	140	0.050 U	110		3.2	12.8	3,161	7.02	4.65
LAI-MW5-42	1/15/2013	N	0.5 U	0.2 U	0.5 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-42	1/15/2013	FD	0.5 U	0.2 U	0.5 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-42	4/2/2013	N	0.4	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-42	6/18/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-42	9/9/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-50	1/15/2013	N	0.5 U	0.2 U	0.5 U	0.2 U	5.0 U	5.0 U	5.0 U	58.4	2.32	-12.2	0.01 U	0.0490	6.32	5.4	0.15 U	5,200	M	10.0	--	--	--	--
LAI-MW5-50*	4/2/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	57.5	2.00	-64.9	0.01 UJ	0.138 J	10.0	13.6	0.131 J	6,600	M	10.5	--	--	--	--
LAI-MW5-50*	6/18/2013	N	0.2 U	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	59.7	1.70 J	-28.2 J	0.010 U	0.0373	7.95 J	10.1	0.150 U	10,000	M	17.8	16.4	635	6.20	117
LAI-MW5-50*	9/9/2013	N	0.3 J	0.2 U	0.2 U	0.2 U	5.0 U	5.0 U	5.0 U	56.3	1.00	-69.8	0.010 U	0.092 J	2.52	5.3	0.150 U	11,000	M	24.4	16.4	682	6.53	354
LAI-MW5-50	9/9/2013	FD	0.6 J	0.2 U	0.2 U	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
LAI-MW5-50	1/5/2016	N	0.44	0.048 J	0.094 J	0.022 U	10.0 U	10.0 U	5.0 U	20	2.88	-39.9	0.020 UJ	0.020 UJ	3.0	2.6	0.050 U	18,000	M	11	12.5	583	7.39	352.3
LAI-MW5-50	7/7/2016	N	0.073 J	0.027 J	0.081 J	0.039 J	5.0 U	5.0 U	5.0 U	24	1.68	-62.1	0.11 J	0.40 U	3.6	4.1	0.50 U	9,000	M	7.5	15.0	539	8.47	298
LAI-MW5-50	1/18/2017	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	14	1.81	-26.0	0.20 U	0.40 U	2.0	1.2 U	0.10 U	12,000	M	9.6	15.2	470	6.97	93.53
LAI-MW5-50	7/11/2017	N	0.63	0.88 U	0.22	0.20 U	5.0 U	5.0 U	5.0 U	25	0.94	-16.5	0.20 U	0.40 U	2.0	1.4	0.050 U	8,300	M	9.6	19.3	535	6.72	218.8
LAI-MW5-50	2/8/2018	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	26	2.11	-148.6	0.20 U	0.40 U	2.0	1.2 U	0.050 U	9,500	M	9.3	15.0	514	6.80	250.6
LAI-MW5-50	1/9/2019	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	57	2.41	-23.1	0.20 U	0.40 U	7.0	4.3	0.050 U	5,400	M	6.2	14.2	606	6.62	420.1

Table 3-1
Bioremediation Data Summary
Sauro's Cleanorama

Well	Date	Sample Type	Volatile Organic Compounds							Aquifer Redox Conditions										Donor Indicators	Other Field Parameters			
			PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	VC (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	DO (a) (mg/L)	ORP (a) (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Iron II (a) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Methane (µg/L)	Aquifer Redox State	TOC (mg/L)	Temp.	Cond.	pH	Turbidity
LAI-MW5-50	1/20/2020	N	0.20 UJ	0.20 UJ	0.20 UJ	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	110 J	1.71	-69.7	0.20 UJ	0.40 UJ	3.6	2.0 J	0.24 J	14,000 J	M	6.3 J	14.3	600	6.41	223.6
LAI-MW5-50	1/27/2021	N	0.20 U	0.20 U	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	89	2.91	-268.6	0.60	0.40 U	3.5	3.3	0.050 U	10,000	M	7.3	11.6	552	6.85	151
LAI-MW5-50	1/12/2022	N	0.20 U	0.20 U	0.20 U	0.20 U	--	--	--	85	1.19	-38.7	0.20 U	0.40 U	6.2	4.9	0.050 U	9,300 J	M	6.2	15.3	657	6.40	224.9
LAI-MW5-50	3/7/2023	N	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	100	5.47	-41.1	0.20 U	0.40 U	1.5	12	0.050 U	6,400		6.1	13.6	556	6.67	226.6
LAI-MW5-50	1/9/2024	N	0.20 U	0.20 U	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	140	2.99	112.4	0.20 U	0.40 U	7.0	3.9	0.050 U	11,000		5.7	14.4	628	6.49	450
MW13	1/15/2013	N	550	120	110	0.8	5.0 U	5.0 U	5.0 U	8.28	3.20	-1.10	0.306	0.0168	0.280	24.1	0.15 U	6.0	--	4.51	--	--	--	--
MW13	4/2/2013	N	570	130	98	0.7	5.0 U	5.0 U	5.0 U	8.16	1.48	-0.800	0.869 J	0.0709 J	0.550	33.1	0.150 U	6.5	--	5.78 J	--	--	--	--
MW13	4/2/2013	FD	--	--	--	--	5.0 U	5.0 U	5.0 U	--	--	--	0.778 J	0.138 J	--	33.6	0.150 U	6.3	--	7.18 J	--	--	--	--
MW13	6/18/2013	N	400 J	96 J	110 J	0.8	5.0 U	5.0 U	5.0 U	9.91	3.30 J	77.0 J	1.12	0.0136	0.150 UJ	51.3	0.150 U	9.3	--	7.30	15.0	553	6.62	1770
MW13	9/9/2013	N	430 J	110 J	120 J	0.8	5.0 U	5.0 U	5.0 U	10.2	1.28	48.5	1.01 J	0.018 J	0.240	34.6	0.150 U	6.6	--	8.79 J	16.1	586	6.84	1560
MW13	9/9/2013	FD	--	--	--	--	5.0 U	5.0 U	5.0 U	10.2	--	--	0.989 J	0.011 J	--	32.0	0.150 U	6.4	--	11.8 J	--	--	--	--
MW13	1/5/2016	N	300	85	66	0.58	5.0 U	2.4 J	5.0 U	13	1.74	119.3	0.79 J	0.020 UJ	0.0	32	0.050 U	14	--	1.7	11.0	585	6.96	791.1
MW13	7/7/2016	N	340	100	81	0.60	5.0 U	1.2 J	5.0 U	16	6.38	-25.7	0.73	0.40 U	0.0	33	0.50 U	6.3	--	1.5	14.6	553	8.63	1100
MW13	1/18/2017	N	430	98	73	0.73 J	5.0 U	5.0 U	5.0 U	14	2.21	37.7	0.65	0.40 U	0.0	30	0.25 U	10	--	1.7	14.4	433	7.04	621.6
MW13	7/11/2017	N	190	53	47	0.27	5.0 U	5.0 U	5.0 U	13	--	--	0.67	0.40 U	0.0	30	0.050 U	6.1	--	2.0	--	--	--	301
MW13	2/8/2018	N	200	63	77	0.58	5.0 U	5.0 U	5.0 U	13	2.91	-40.0	0.79	0.40 U	0.5	31	0.050 U	9.5	Fe	2.4	13.9	466	6.53	732.5
MW13	1/9/2019	N	370	84	59	0.51	5.0 U	5.0 U	5.0 U	16	3.30	168.6	0.76	0.40 U	1.0	31	0.050 U	5.0 U	Fe	1.3	13.6	473	6.92	430.5
MW13	1/21/2020	N	470	130	95	0.81	5.0 U	5.0 U	5.0 UJ	17	4.92	139.3	0.65	0.40 UJ	1.8	29	0.37	6.2	Fe	1.2	12.3	358	6.82	839.3
MW13	1/27/2021	N	310	98	68	0.57	5.0 U	5.0 U	5.0 U	24	2.33	-338.1	1.2	0.40 U	2.0	30	0.050 U	5.0 U	Fe	2.0	12.7	441	6.94	301
MW13	1/12/2022	N	350	98	63	2.0 U	--	--	--	27	2.39	107.5	0.63	0.40 U	0.0	23	0.050 U	6.0 J	Fe	1.6	14.7	417	6.82	159.4
MW13	3/6/2023	N	170	58	45	4.0 U	0.40 U	0.81	0.73 U	38	2.95	74.6	0.70	0.40 U	0.0	24	0.050 U	5.0		1.2	14.1	459	6.11	258.8
MW13	1/11/2024	N	340	90	58	2.0 U	0.40 U	0.57 U	0.73 U	43	3.42	148.6	0.55	0.40 U	0.0	21	0.050 U	2.8 J		1.0	14.2	457	7.07	627
MW2	1/15/2013	N	0.5	0.8	3.1	1.4	5.0 U	5.0 U	5.0 U	61.5	3.10	-3.60	0.477	0.0209	2.25	37.9	0.15 U	5.0 U	--	4.36	--	--	--	--
MW2	4/2/2013	N	0.5 J	0.7 J	1.2 J	0.2 UJ	5.0 U	5.0 U	5.0 U	99.4	4.00	47.6	2.03 J	0.0167 J	0.03 U	27.7	0.053 J	4.3 J	--	8.37	--	--	--	--
MW2	6/18/2013	N	0.7	0.8	2.7	0.3	5.0 U	5.0 U	5.0 U	81.0	2.00 J	51.1 J	2.18	0.0163	0.130 J	31.5	0.150 U	83	--	13.9	18.5	752	6.64	17.0
MW2	9/9/2013	N	0.7	0.6	1.4	0.2	5.0 U	5.0 U	5.0 U	66.3	--	-113.0	1.63	0.019	--	50.3	0.150 U	260	--	6.74	17.7	388	7.44	2.68
MW2	1/5/2016	N	0.96	0.32	0.65	0.18 J	5.0 U	5.0 U	5.0 U	17	--	--	1.7 J	0.020 UJ	--	29	0.050 U	590	--	2.5	--	--	--	--
MW2	7/7/2016	N	0.48	0.56	1.4	0.24	5.0 U	1.3 J	5.0 U	15	--	--	1.9	0.40 U	0.0	20	0.050 U	1,100	--	3.3	--	--	--	--
MW2	1/18/2017	N	0.54	0.30	0.75	0.44	5.0 U	5.0 U	5.0 U	25	1.67	38.9	1.9	0.40 U	0.5	24	0.050 U	1,000	--	2.7	14.0	412	6.68	33.08
MW2	7/11/2017	N	0.40	0.91 U	1.3	0.23	5.0 U	5.0 U	5.0 U	55	1.50	58.4	2.0	0.40 U	--	14	0.050 U	470	--	3.3	22.3	532	6.53	57.74
MW2	2/8/2018	N	0.25	0.27	0.95	0.37	5.0 U	5.0 U	5.0 U	70	--	--	0.59	0.40 U	1.0	28	0.050 U	640	Fe	3.3	--	--	--	37.22
MW2	1/9/2019	N	0.42	0.40	1.5	0.36	5.0 U	5.0 U	5.0 U	60	--	--	1.3	0.40 U	--	42	0.050 U	570	Fe	2.6	--	--	--	125.1
MW2	1/20/2020	N	0.97 J	0.73 J	1.7 J	0.46 J	5.0 UJ	5.0 UJ	5.0 UJ	52 J	--	--	1.3 J	0.40 UJ	--	79 J	0.21 J	600 J	?	2.5 J	--	--	--	93.97
MW2	1/27/2021	N	1.3	0.43	0.90	0.20 U	5.0 U	5.0 U	5.0 U	80	0.875	-252.8	3.2	0.40 U	0.8	50	0.050 U	300	Fe	3.6	12.3	689	6.41	15.5
MW2	1/11/2022	N	0.34	0.20 U	0.20 U	0.20 U	--	--	--	50	1.59	-145.7	2.9	0.40 U	0.5	43	0.050 UJ	30 J	Fe	2.8	12.5	603	6.18	3.68
MW2	3/7/2023	N	0.64	0.48	2.0	0.28	0.40 U	0.57 U	0.73 U	47	1.55	-13.9	0.45	0.40 U	0.5	23	0.050 U	320		3.6	10.1	491	6.43	312.5
MW2	1/9/2024	N	1.10	0.41	1.4	0.20	0.40 U	0.57 U	0.73 U	25	1.17	93.5	1.30	0.40 U	6.0	29	0.050 UJ	2,000		2.6	12.3	500	6.52	32.3
RNS-MW2-21.5	1/15/2013	N	17	0.9 J	0.4 J	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW2-21.5	4/2/2013	N	14	0.7	0.4	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW2-21.5	6/18/2013	N	7.8	0.4	0.2	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW2-21.5	9/9/2013	N	22	0.8	0.3	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW2-38.5*	1/15/2013	N	16	0.9	0.3 J	0.2 U	5.0 U	5.0 U	5.0 U	22.9	8.67	24.7	3.28	0.0628	0.060	41.2	0.15 U	5.0 U	Aerobic	2.00	--	--	--	--
RNS-MW2-38.5*	1/15/2013	FD	--	--	--	--	5.0 U	5.0 U	5.0 U	20.6	--	--	3.44	0.0376	--	37.4	0.15 U	5.0 U	Aerobic	2.56	--	--	--	--
RNS-MW2-38.5*	4/2/2013	N	11	0.8	0.2	0.2 U	5.0 U	5.0 U	5.0 U	25.8	8.60	134	2.17 J	0.234 J	0.150	37.0	37.0	5.0 U	Aerobic	3.65	--	--	--	--

**Table 3-1
Bioremediation Data Summary
Sauro's Cleanerama**

Well	Date	Sample Type	Volatile Organic Compounds							Aquifer Redox Conditions										Donor Indicators	Other Field Parameters			
			PCE (µg/L)	TCE (µg/L)	cDCE (µg/L)	VC (µg/L)	Ethene (µg/L)	Ethane (µg/L)	Acetylene (µg/L)	Chloride (mg/L)	DO (a) (mg/L)	ORP (a) (mV)	Nitrate (mg/L)	Nitrite (mg/L)	Iron II (a) (mg/L)	Sulfate (mg/L)	Sulfide (mg/L)	Methane (µg/L)	Aquifer Redox State	TOC (mg/L)	Temp.	Cond.	pH	Turbidity
RNS-MW2-38.5*	6/18/2013	N	9.6	0.4	0.2	0.2 U	5.0 U	5.0 U	5.0 U	31.8	5.97 J	-21.1 J	2.99	0.0080	0.550 J	77.3	77.3	5.0 U	Aerobic	11.6	14.2	431	6.50	1795
RNS-MW2-38.5*	9/9/2013	N	23	0.7	0.2	0.2 U	5.0 U	5.0 U	5.0 U	18.5	6.04	66.5	3.02 J	0.020 J	0.800	33.4	33.4	5.0 U	Aerobic	6.68	16.9	421	6.41	1056
RNS-MW2-38.5	1/5/2016	N	30	0.94	0.24	0.20 U	5.0 U	5.0 U	5.0 U	25	6.7	87.9	3.3 J	0.020 UJ	--	35	35	5.0 U	Aerobic	1.3	12.0	406	7.11	918.6
RNS-MW2-38.5	7/7/2016	N	21	0.49	0.14 J	0.20 U	5.0 U	5.0 U	5.0 U	20	7.51	-2.2	2.9	0.40 U	0.0	30	30	5.0 U	Aerobic	1.1	13.6	382	8.29	478.9
RNS-MW2-38.5	1/18/2017	N	25	0.51	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	42	6.37	35.8	2.9	0.40 U	0.0	27	27	5.0 U	Aerobic	1.2	14.1	334	7.10	452.4
RNS-MW2-38.5	7/11/2017	N	14	1.3 J	0.24	0.20 U	5.0 U	5.0 U	5.0 U	41	6.69	60.1	2.6	0.40 U	0.0	26	26	5.0 U	Aerobic	1.8	16.7	420	6.93	178.1
RNS-MW2-38.5	2/8/2018	N	17	0.38	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	67	4.73	-21.2	3	0.40 U	1.0	26	26	5.0 U	Aerobic	1.2	13.4	474	6.49	101.7
RNS-MW2-38.5	1/9/2019	N	22	0.54	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	100	5.64	146.0	2.9	0.40 U	1.5	25	25	5.0 U	Aerobic	1.1	14.0	592	6.88	171.8
RNS-MW2-38.5	1/20/2020	N	19 J	0.64 J	0.20 UJ	0.20 UJ	5.0 UJ	5.0 UJ	5.0 UJ	150 J	5.61	114.2	2.9 J	0.40 UJ	0.2	26 J	26 J	5.0 UJ	Aerobic	1.1 J	11.8	548	6.77	177.5
RNS-MW2-38.5	1/27/2021	N	22	0.57	0.20 U	0.20 U	5.0 U	5.0 U	5.0 U	100	6.02	-256.5	3.9	0.40 U	0.5	29	29	5.0 U	Aerobic	1.5 U	9.48	577	6.84	134
RNS-MW2-38.5	1/11/2022	N	18	0.45	0.20 U	0.20 U	--	--	--	67 J	6.24	59.0	0.20 U	0.40 U	0.5	23	23	R	Aerobic	1.8	15.2	471	6.81	481
RNS-MW2-38.5	3/6/2023	N	15	0.44	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	54	5.79	82.8	2.8	0.40 U	0.1	23	0.050 U	0.63 U		1.3	13.4	440	5.79	150.2
RNS-MW2-38.5	1/9/2024	N	15	0.65	0.20 U	0.20 U	0.40 U	0.57 U	0.73 U	31	6.99	78.2	2.6	0.40 U	0.5	19	0.050 U	0.63 U		1.1	14.4	287	6.92	377
RNS-MW6-42.5	1/15/2013	N	1300	210	79	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	4/2/2013	N	1500 J	240	89	2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	6/18/2013	N	590 J	190 J	85 J	0.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	9/9/2013	N	1100 J	260 J	130 J	0.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/5/2016	N	1100	250	150	0.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	7/7/2016	N	770	220	140	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/18/2017	N	860	180	140	0.33 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	7/11/2017	N	670	180	130	0.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	2/8/2018	N	1300	340	170	0.20 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/9/2019	N	800	190	93	0.20 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/20/2020	N	320 J	120 J	57 J	0.20 UJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/27/2021	N	950	350	160	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/12/2022	N	680	190	80	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	3/6/2023	N	170	66	55	4.0 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-42.5	1/11/2024	N	240	74	46	2.0 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RNS-MW6-52.5*	1/15/2013	N	1200	160	110	0.2	5.0 U	5.0 U	5.0 U	17.0	2.75	-6.80	0.049	0.0333	0.03 U	25.4	0.15 U	36	--	4.63	--	--	--	--
RNS-MW6-52.5*	4/2/2013	N	950	150	89	0.5	5.0 U	4.1 J	5.0 U	18.3	3.12	16.8	0.206 J	0.0917 J	0.15 U	32.8	0.083 J	36	--	8.75	--	--	--	--
RNS-MW6-52.5*	6/18/2013	N	580 J	170 J	81 J	0.5	5.0 U	5.0 U	5.0 U	20.2	3.70 J	58.9 J	0.454	0.0097	0.030 UJ	40.9 J	0.150 U	7.6 J	--	10.5	14.8	609	6.18	1015
RNS-MW6-52.5*	6/18/2013	FD	520 J	150 J	72 J	0.4	5.0 U	5.0 U	5.0 U	20.2	--	--	0.405	0.0089	--	55.2 J	0.150 U	16 J	--	12.3	--	--	--	--
RNS-MW6-52.5*	9/9/2013	N	630 J	130 J	140 J	0.3	5.0 U	9.2	5.0 U	21.0	3.72	55.8	0.317 J	0.022 J	0.180	33.5	0.150 U	68	--	11.6	15.1	690	6.82	756
RNS-MW6-52.5	1/5/2016	N	640	150	120	0.52	5.0 U	10	5.0 U	26	4.08	97.6	0.57 J	0.020 UJ	--	29	0.050 U	52	--	2.2	11.5	581	7.07	353.2
RNS-MW6-52.5	7/7/2016	N	420	140	120	0.48	5.0 U	13	5.0 U	30	0.95	-31.4	0.58	0.40 U	0.0	31	0.50 U	77	--	1.7	12.9	571	8.51	564.3
RNS-MW6-52.5	1/18/2017	N	570	130	110	10 U	5.0 U	8.7	5.0 U	25	2.77	41.9	0.61	0.40 U	0.0	27	0.25 U	36	--	1.9	14.7	459	6.95	478.6
RNS-MW6-52.5	7/11/2017	N	400	110	99	0.38	5.0 U	8.3	5.0 U	26	--	--	0.64	0.40 U	0.0	28	0.050 U	43	--	2.7	--	--	--	309.1
RNS-MW6-52.5	2/8/2018	N	410	120	110	0.51	5.0 U	10	5.0 U	26	4.04	-49.5	0.20 U	0.40 U	1.0	28	0.050 U	62	Fe/S	2.2	14.3	601	6.65	496.9
RNS-MW6-52.5	1/9/2019	N	590	130	77	0.24	5.0 U	5.1	5.0 U	28	1.74	173	0.78	0.40 U	1.0	29	0.050 U	18	Fe/S	1.7	14.4	582	6.79	205.7
RNS-MW6-52.5	1/20/2020	N	370 J	130 J	100 J	0.37 J	5.0 UJ	5.4 J	5.0 UJ	31 J	3.07	74.9	0.63 J	0.40 UJ	2.0	25 J	1.2 J	43 J	Fe/S	1.8 J	11.8	398	6.75	386.5
RNS-MW6-52.5	1/27/2021	N	900	330	150	0.37	5.0 U	5.1	5.0 U	41	1.58	-380.4	1.1	0.40 U	2.0	26 J	0.050 U	160	Fe/S	3.1	10.7	527	6.72	586
RNS-MW6-52.5	1/12/2022	N	600	160	34	10 U	--	--	--	39	0.453	115.1	0.67	0.40 U	0.0	23	0.050 U	32 J	Fe/S	2.0	14.7	543	6.65	354.8
RNS-MW6-52.5	3/6/2023	N	220	74	53	4.0 U	0.40 U	3.5	0.73 U	48	0.45	80.8	0.96	0.40 U	0.0	27	0.050 U	17		1.4	14.8	518	5.47	450.4
RNS-MW6-52.5	1/11/2024	N	220	72	52	2.0 U	0.40 U	0.57 U	0.73 U	45	0.66	165.2	0.77	0.40 U	0.0	26	0.050 U	1.9 J		1.3	14.6	514	7.00	661

**Table 3-1
Bioremediation Data Summary
Sauro's Cleanerama**

Notes:

Bold text indicates detected analyte.

Green shading indicates detected analyte exceeds applicable cleanup level.

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

* Samples for dissolved gases (ethane, ethene, methane), sulfate, methane, and TOC were collected from the mid-point depth between the two established well depths.

(a) DO, ORP, and Iron II results reported for 2013 samples were measured at the laboratory; all other DO, ORP, and Iron II measurements were completed in the field.

Abbreviations/Acronyms:

cDCE = cis-1,2-dichloroethene

DO = dissolved oxygen

-- = not analyzed

PCE = tetrachloroethene

TCE = trichloroethene

VC = vinyl chloride

ORP = oxidation reduction potential

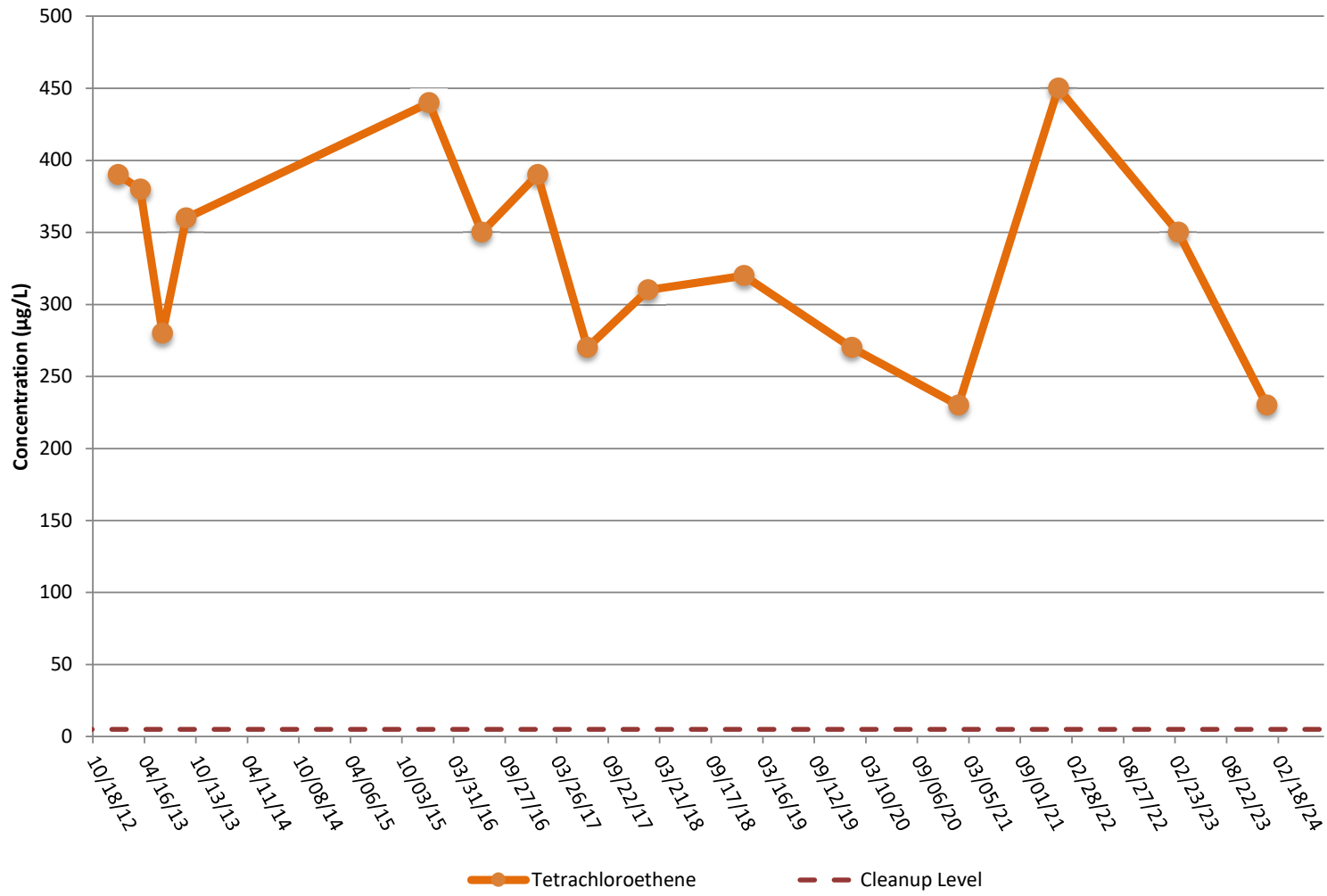
TOC = total organic carbon

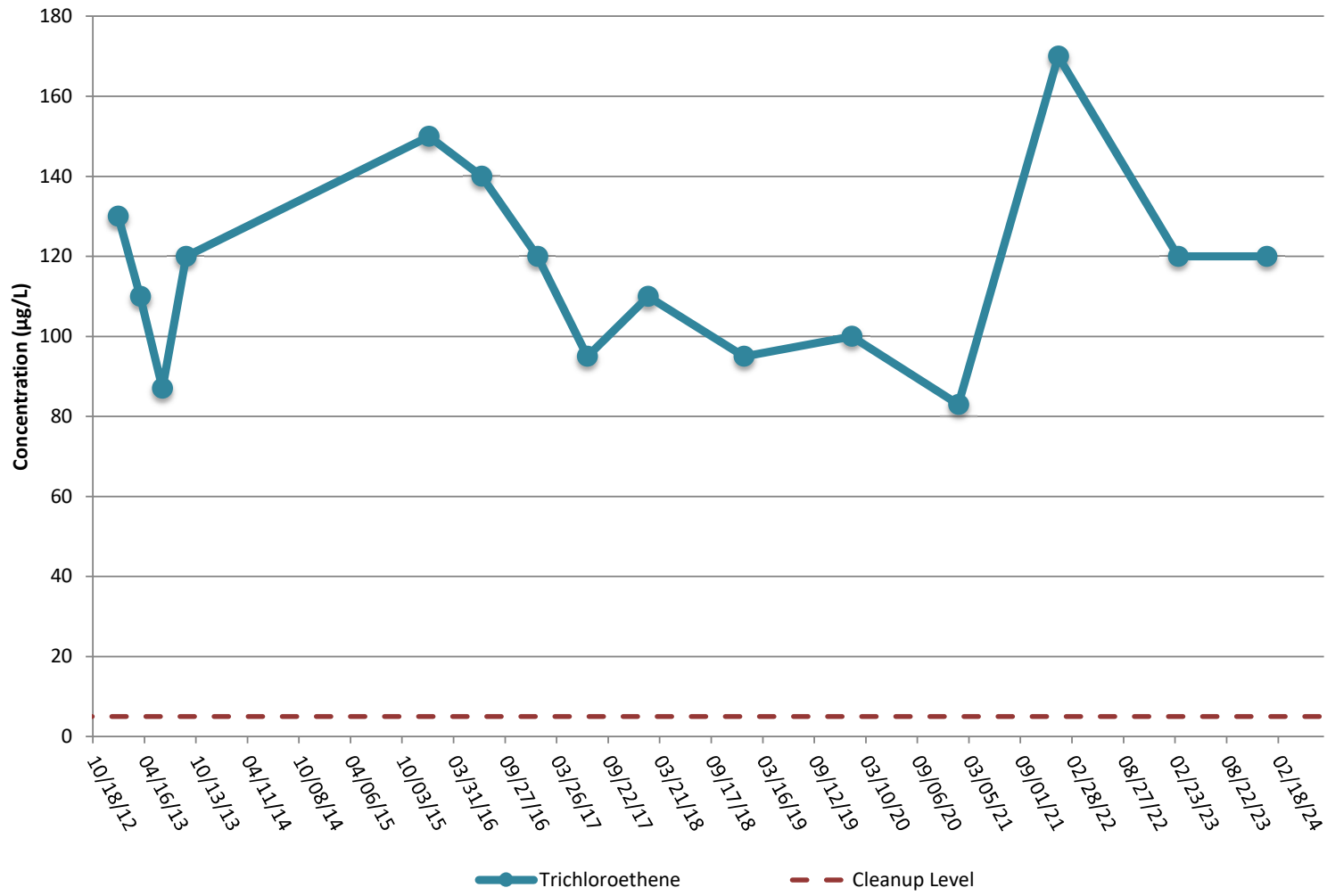
mg/L = milligrams per liter

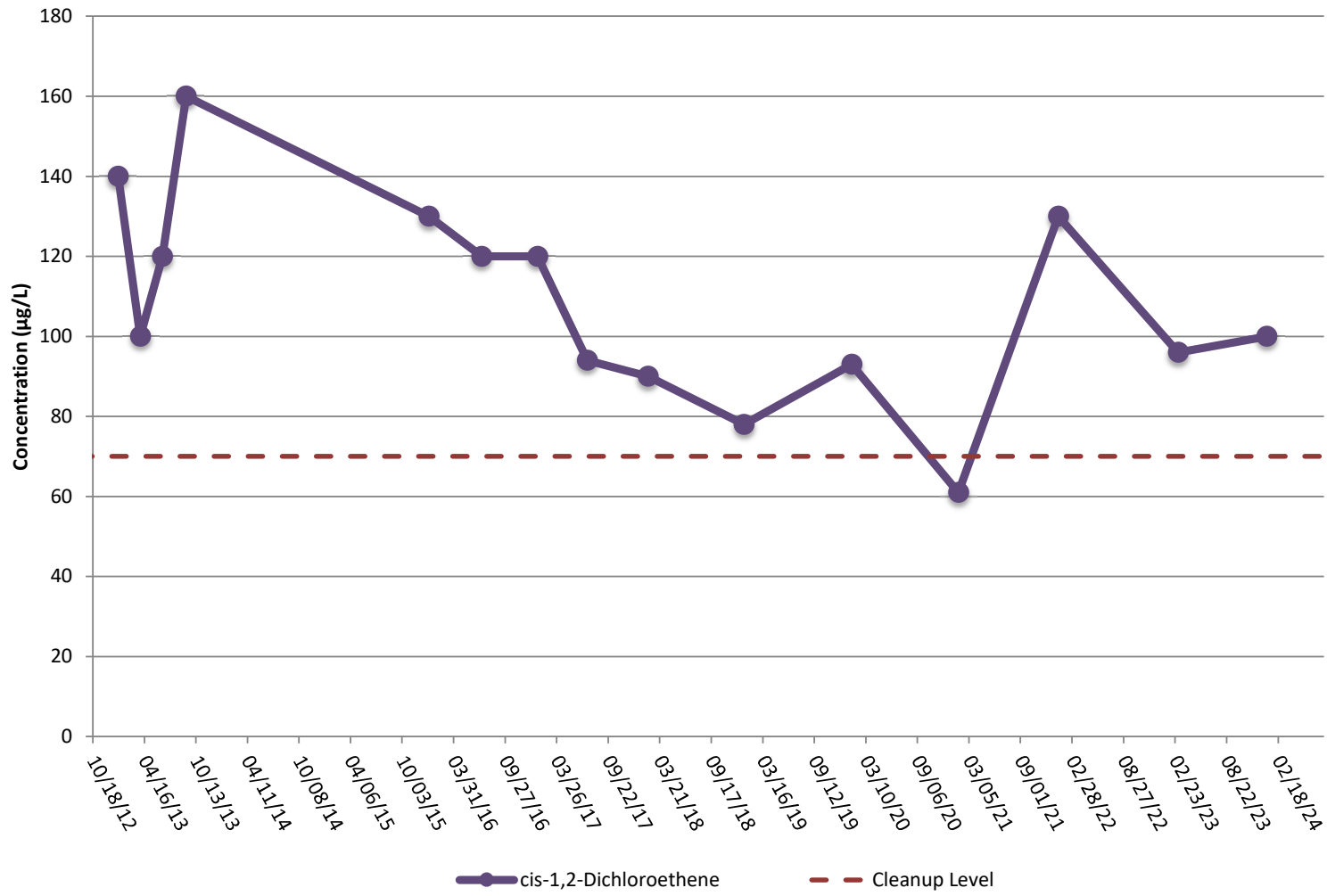
µg/L = micrograms per liter

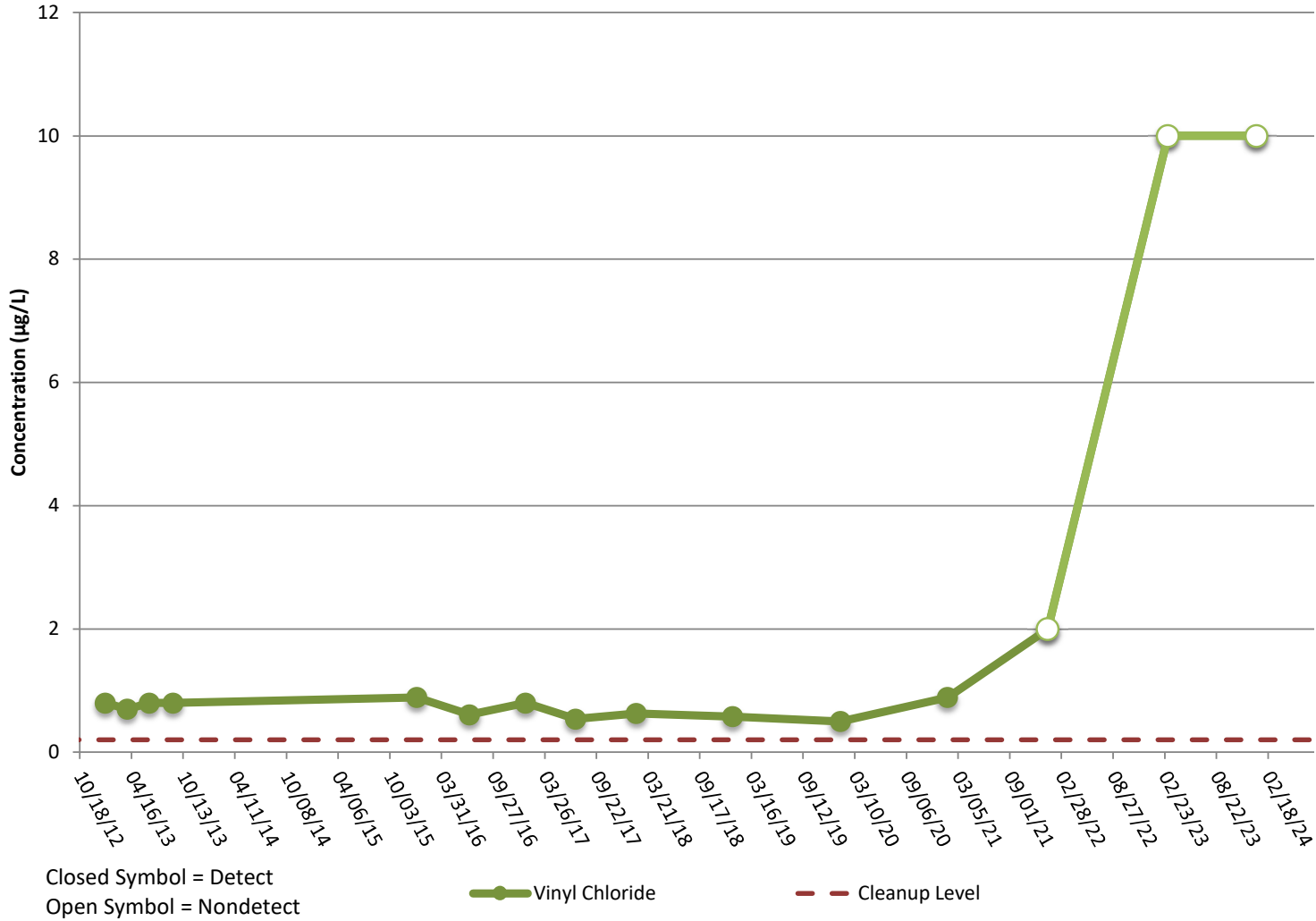
N = primary sample

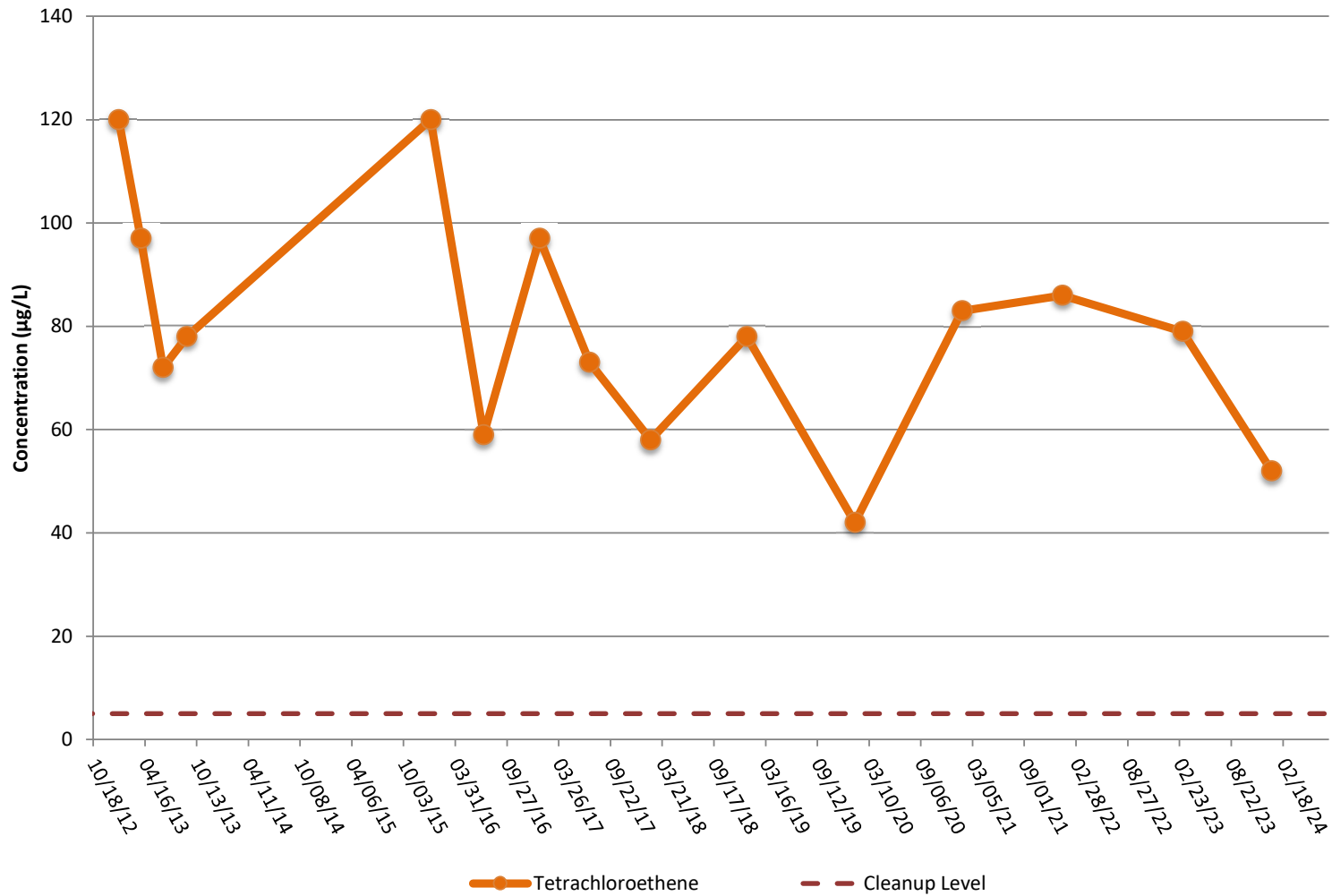
FD = field duplicate

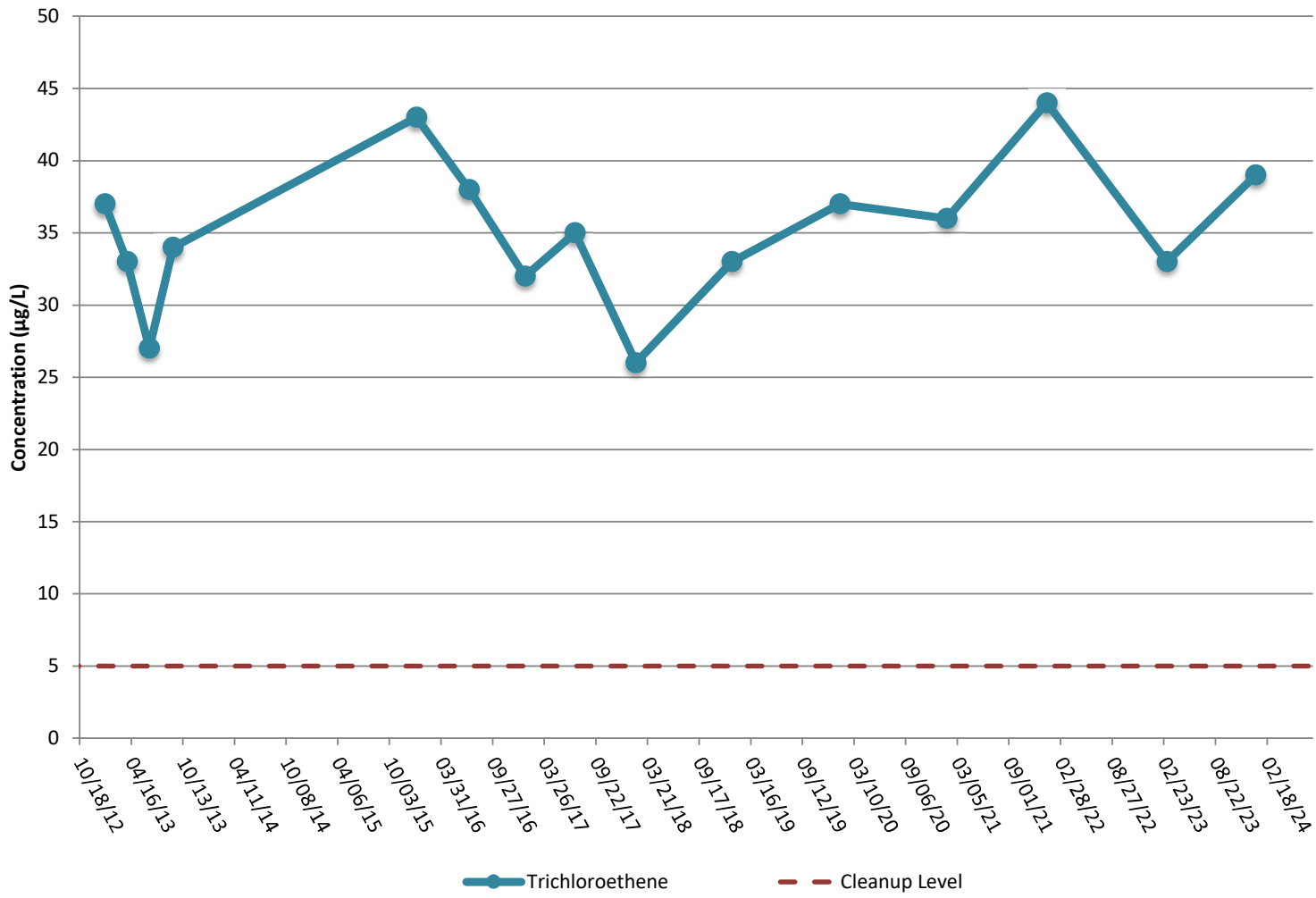


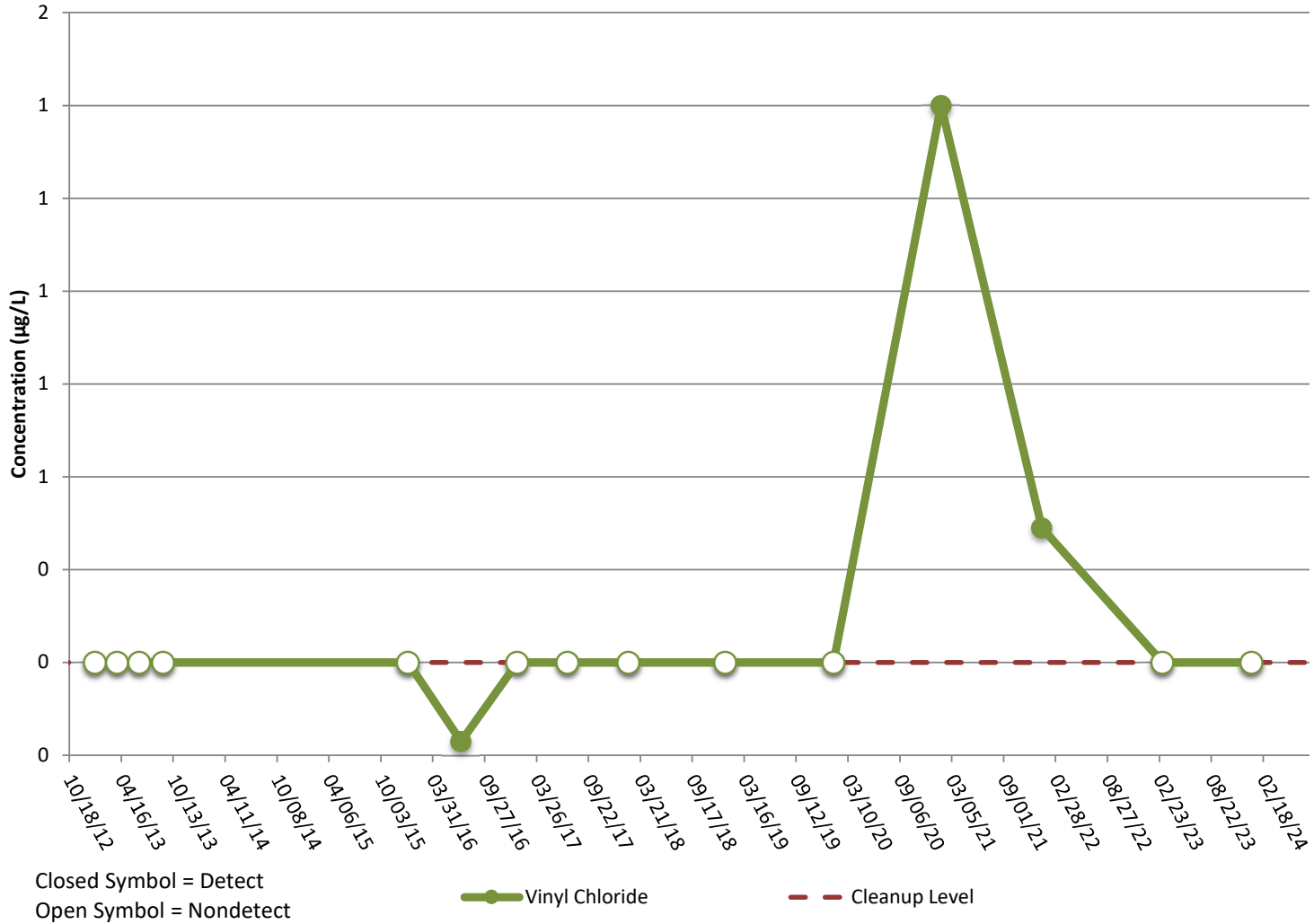


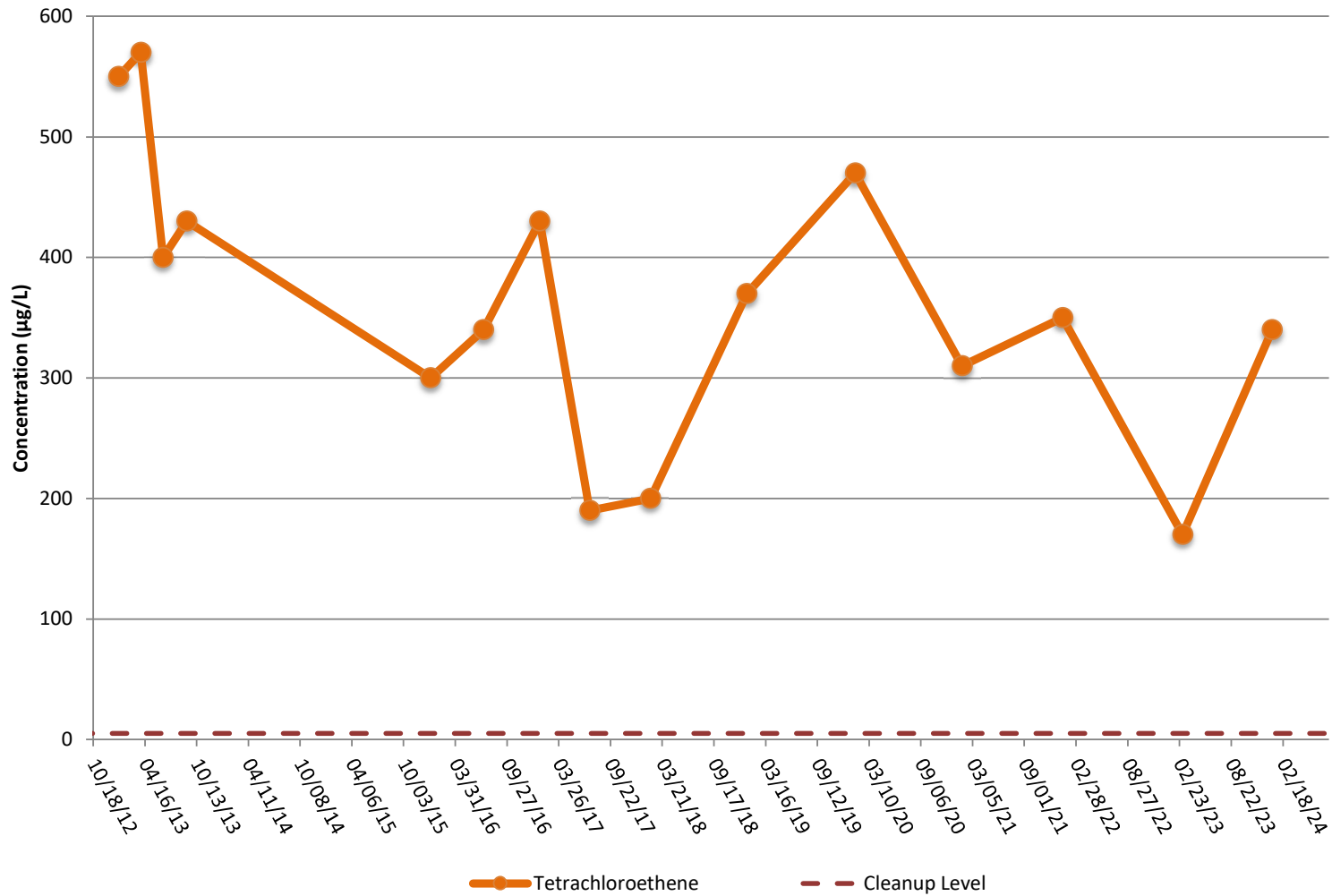


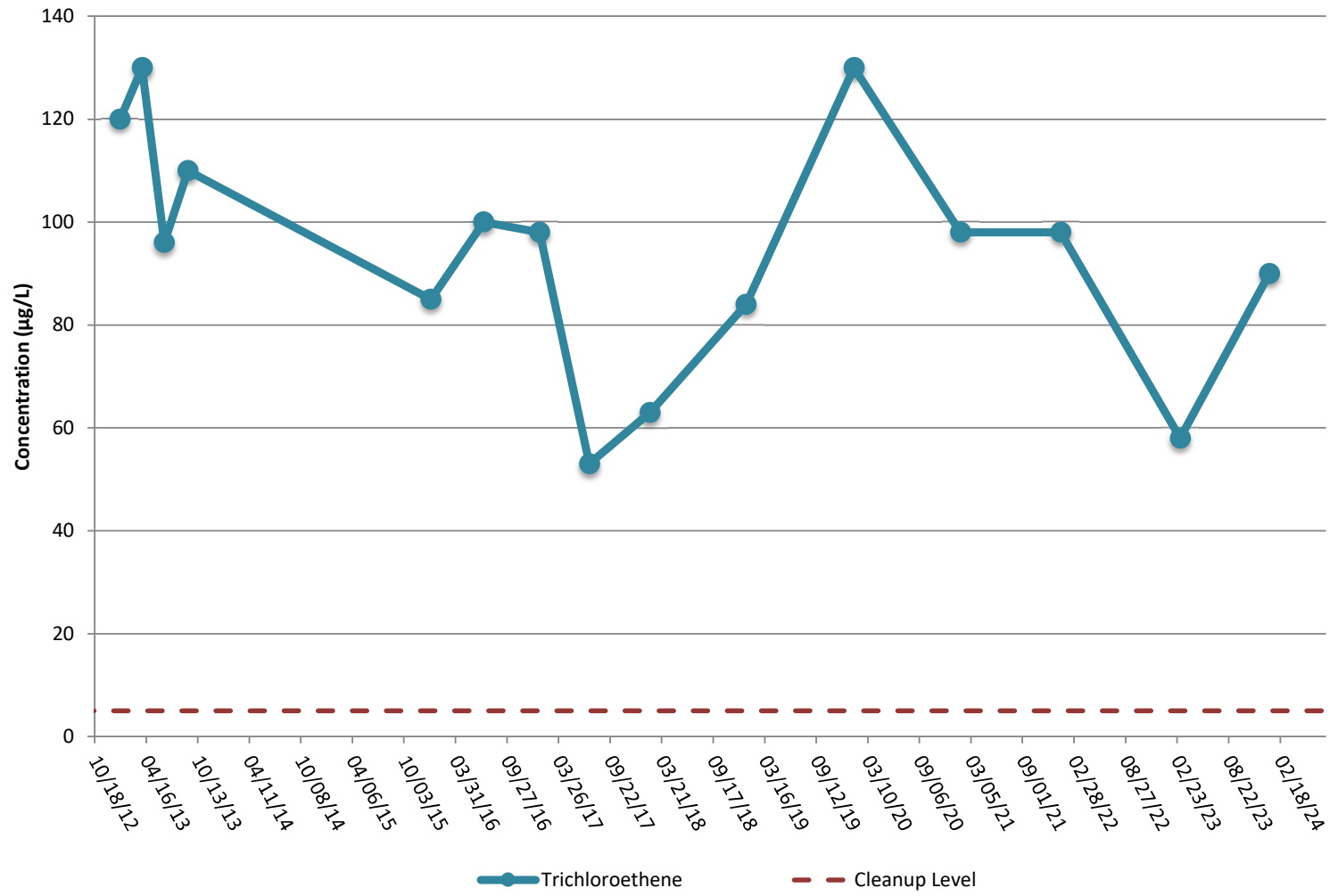








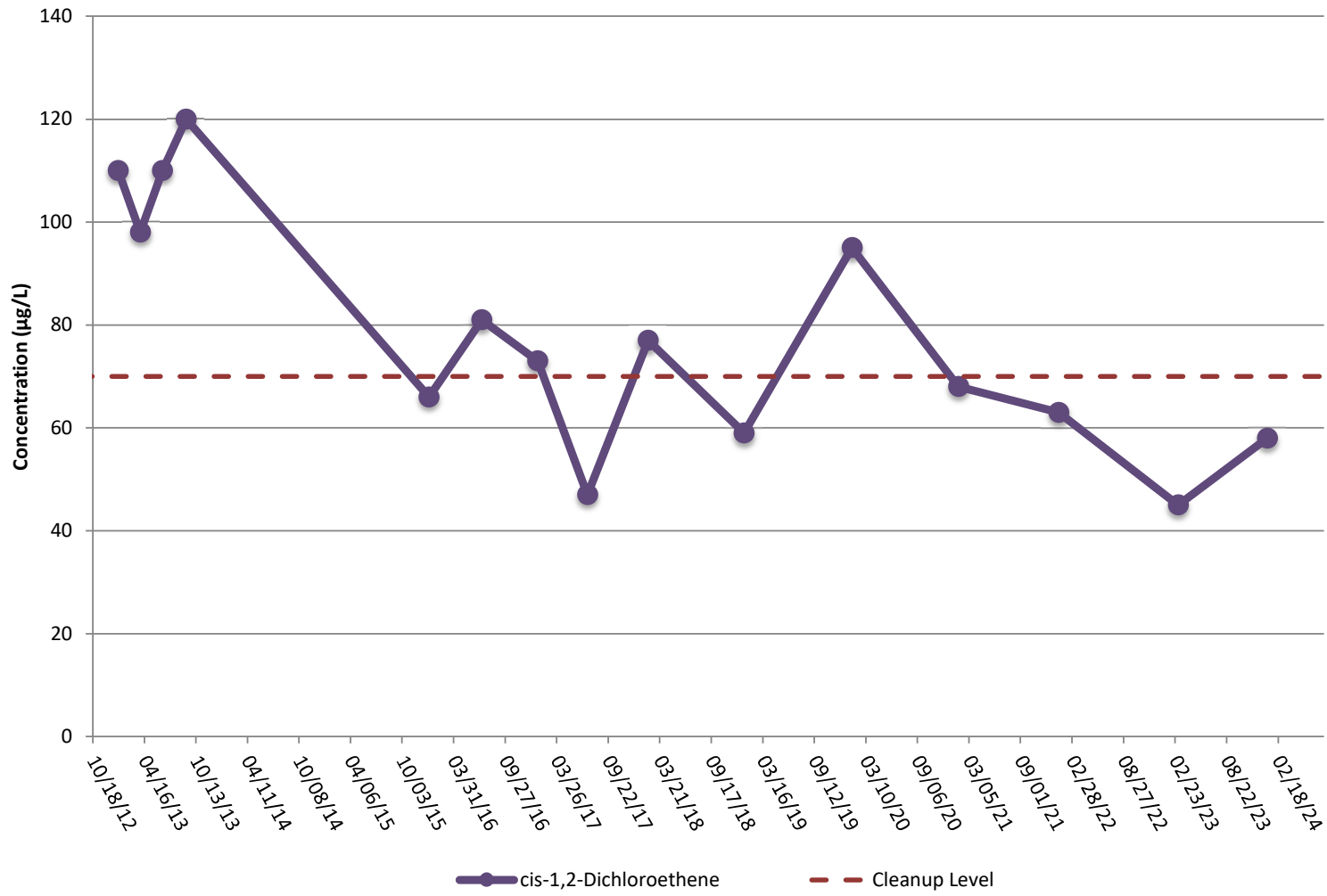


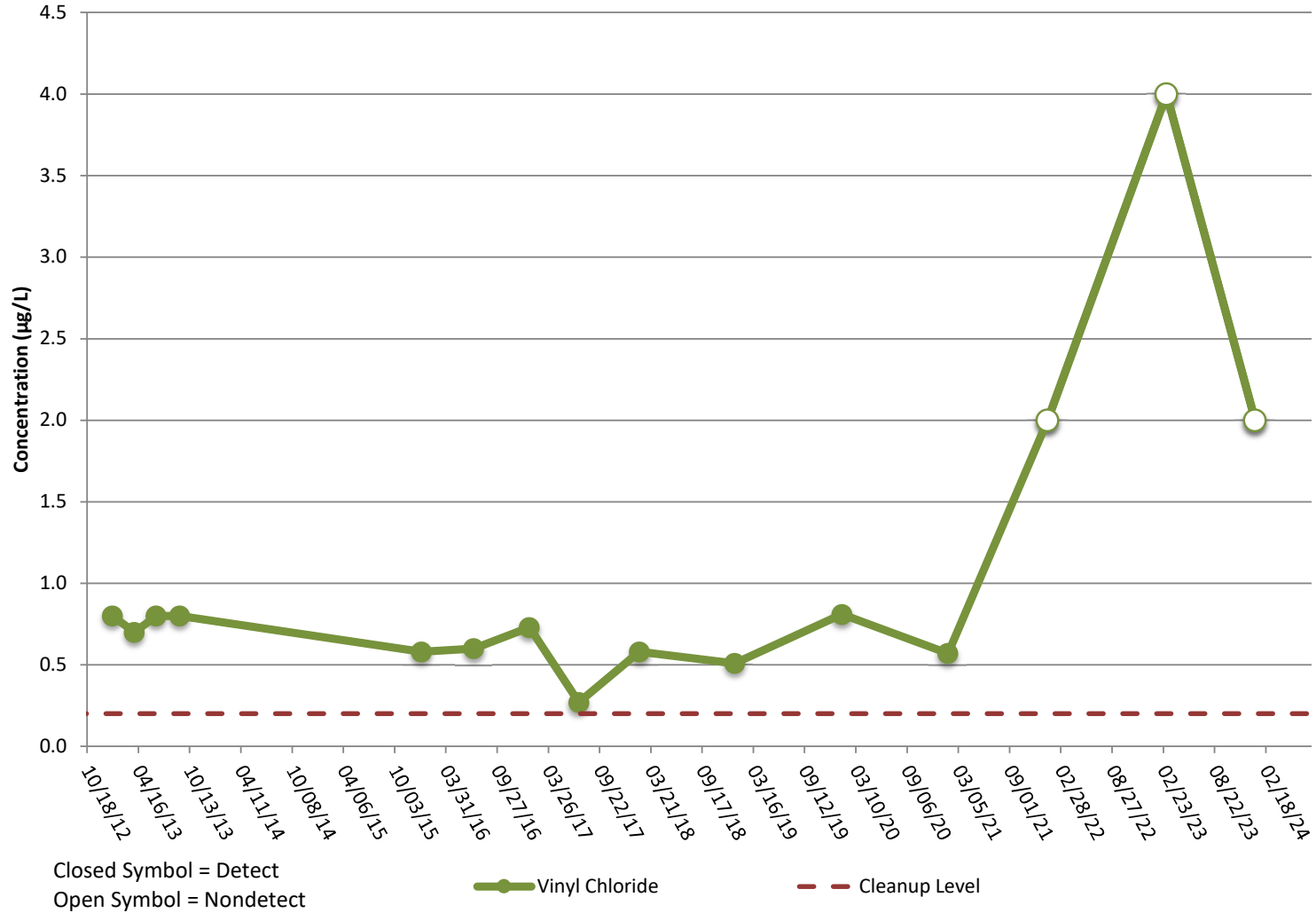


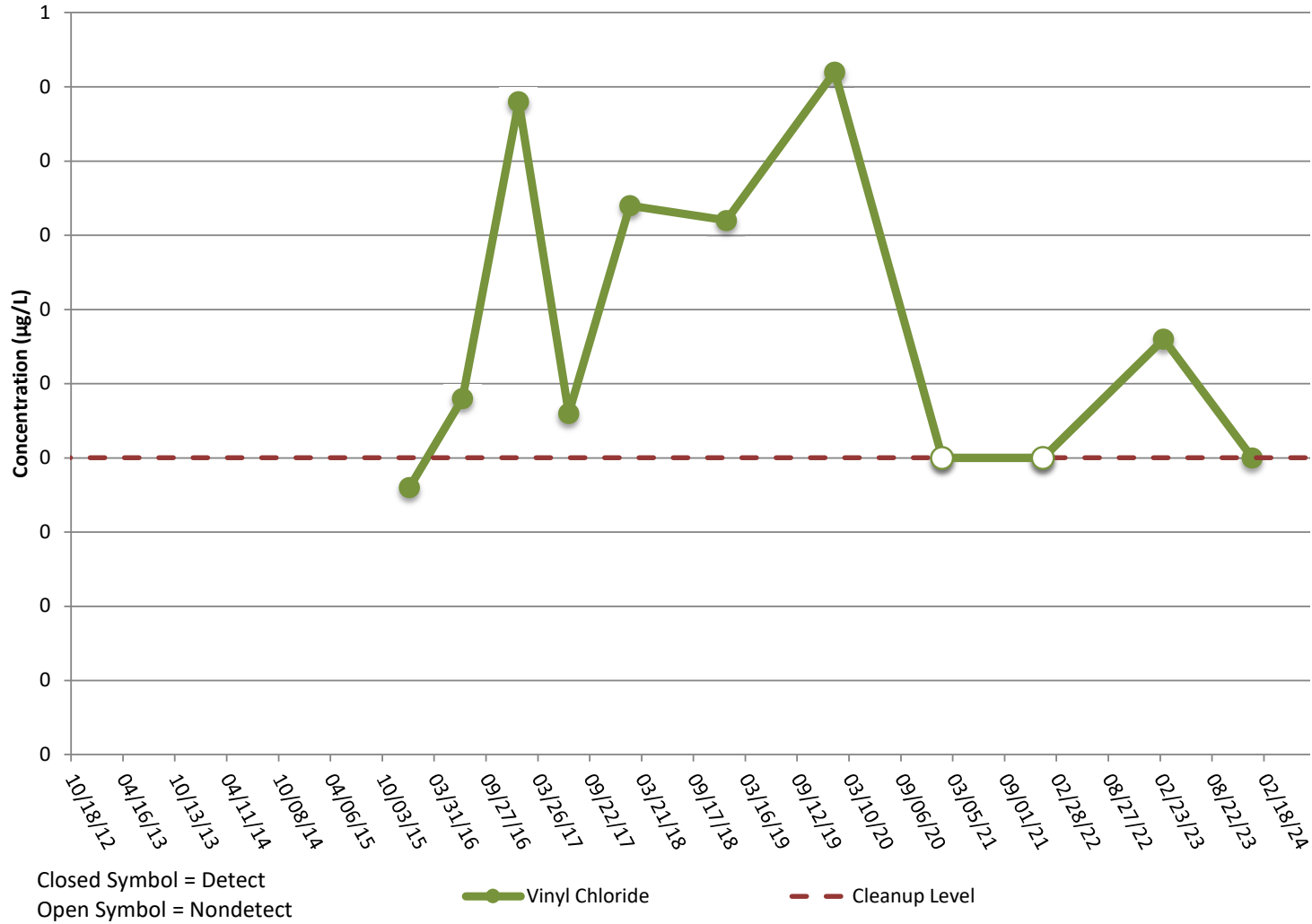
Sauro's Cleanerama
Tacoma, Washington

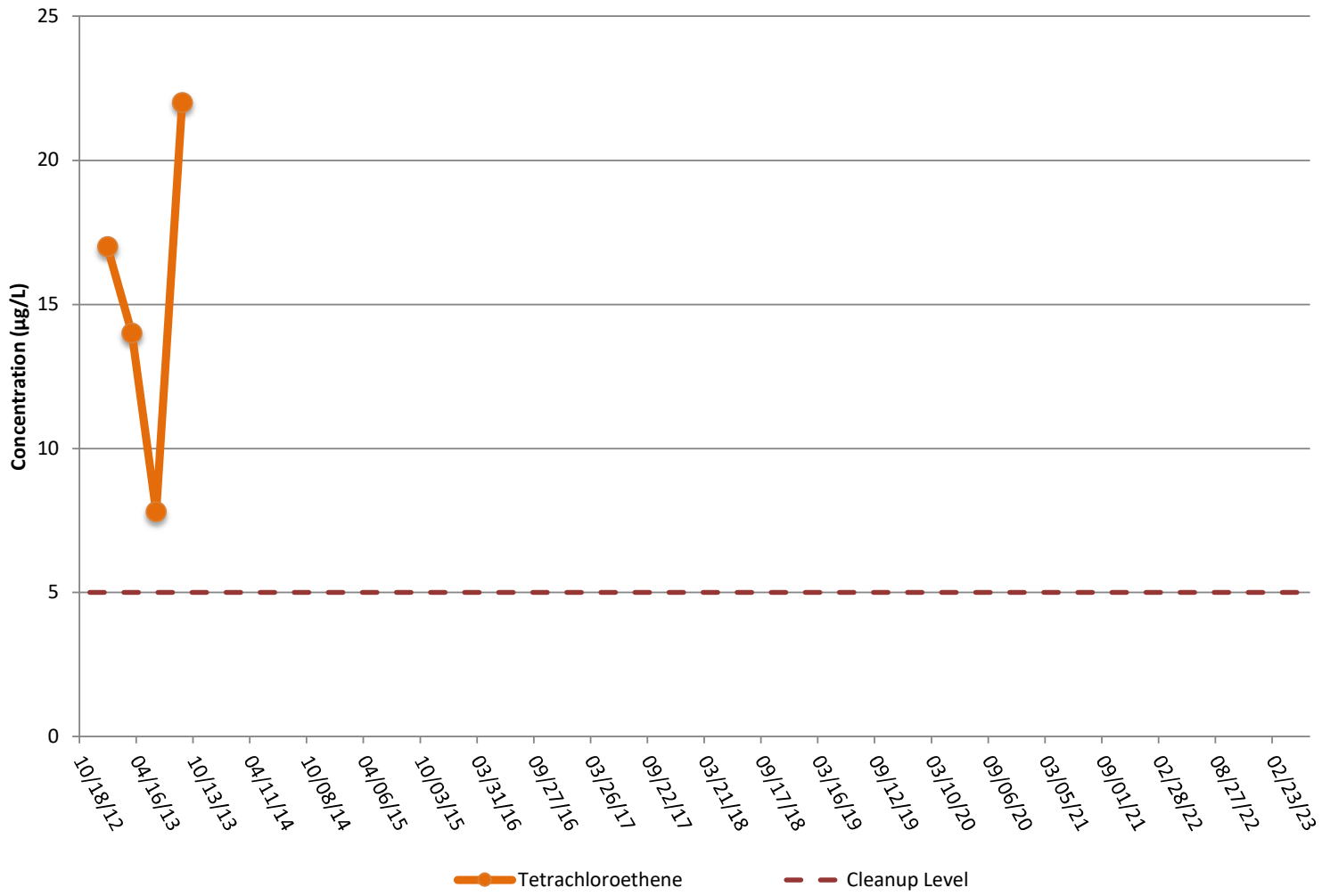
MW13
Trichloroethene

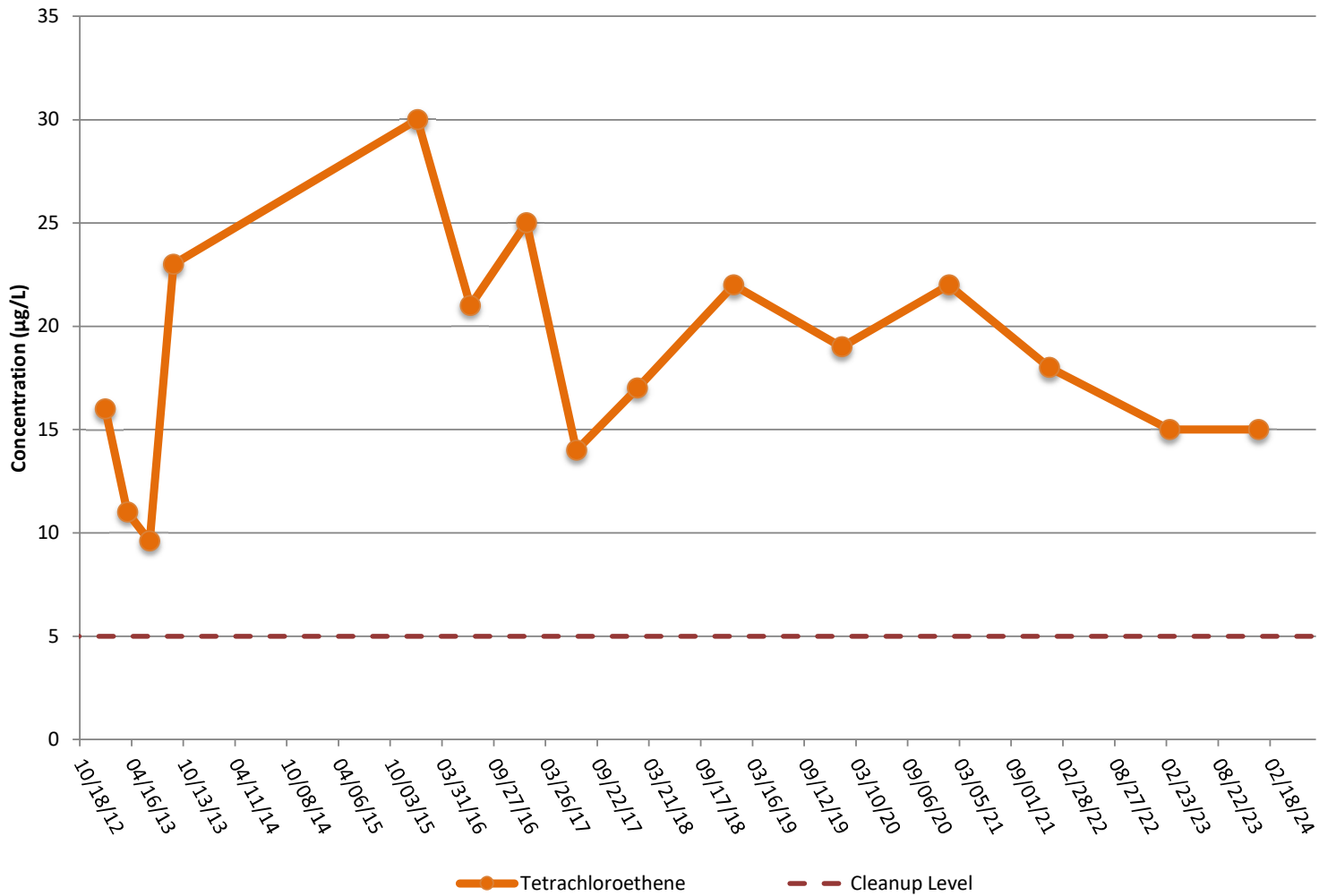
Figure
3-9

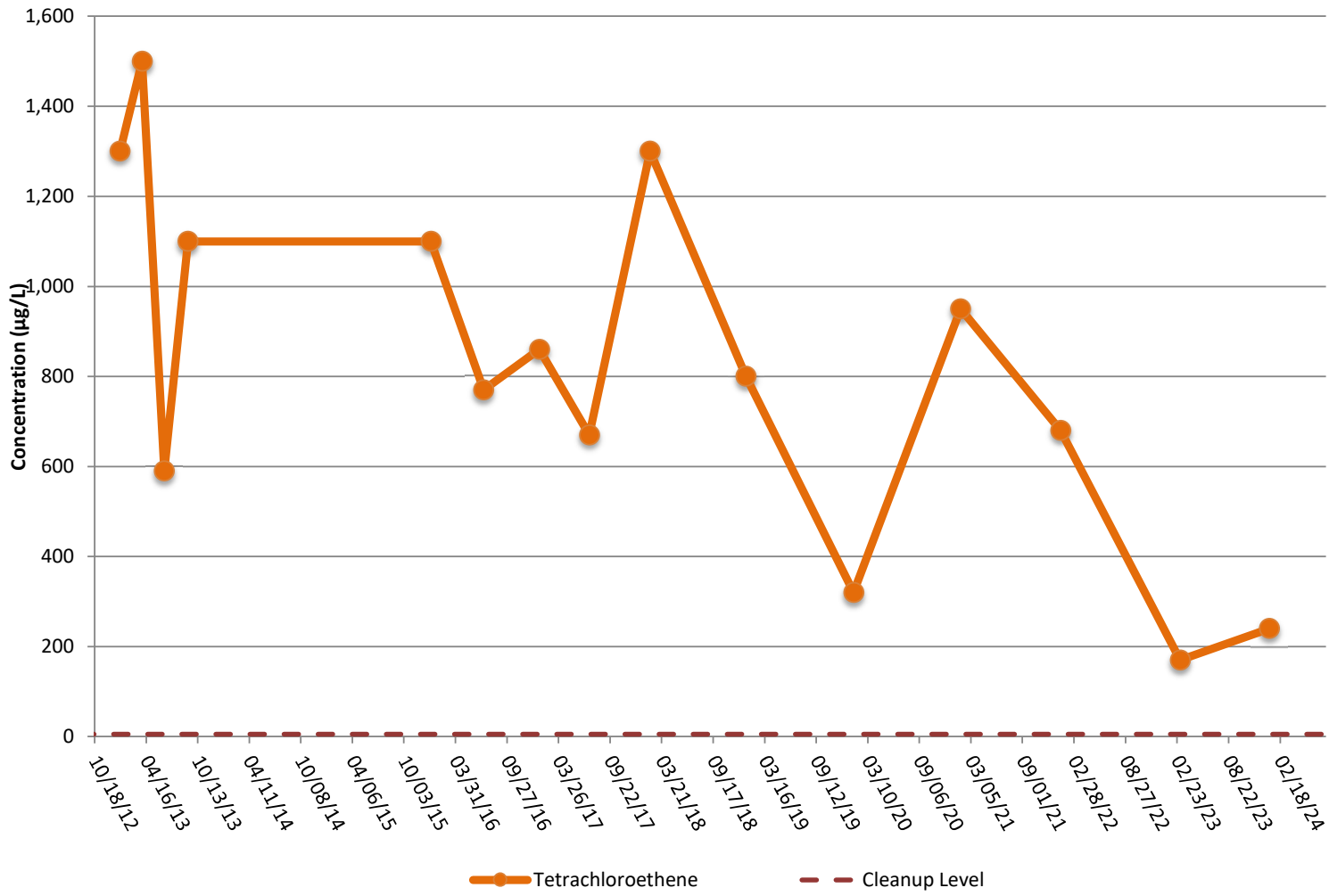


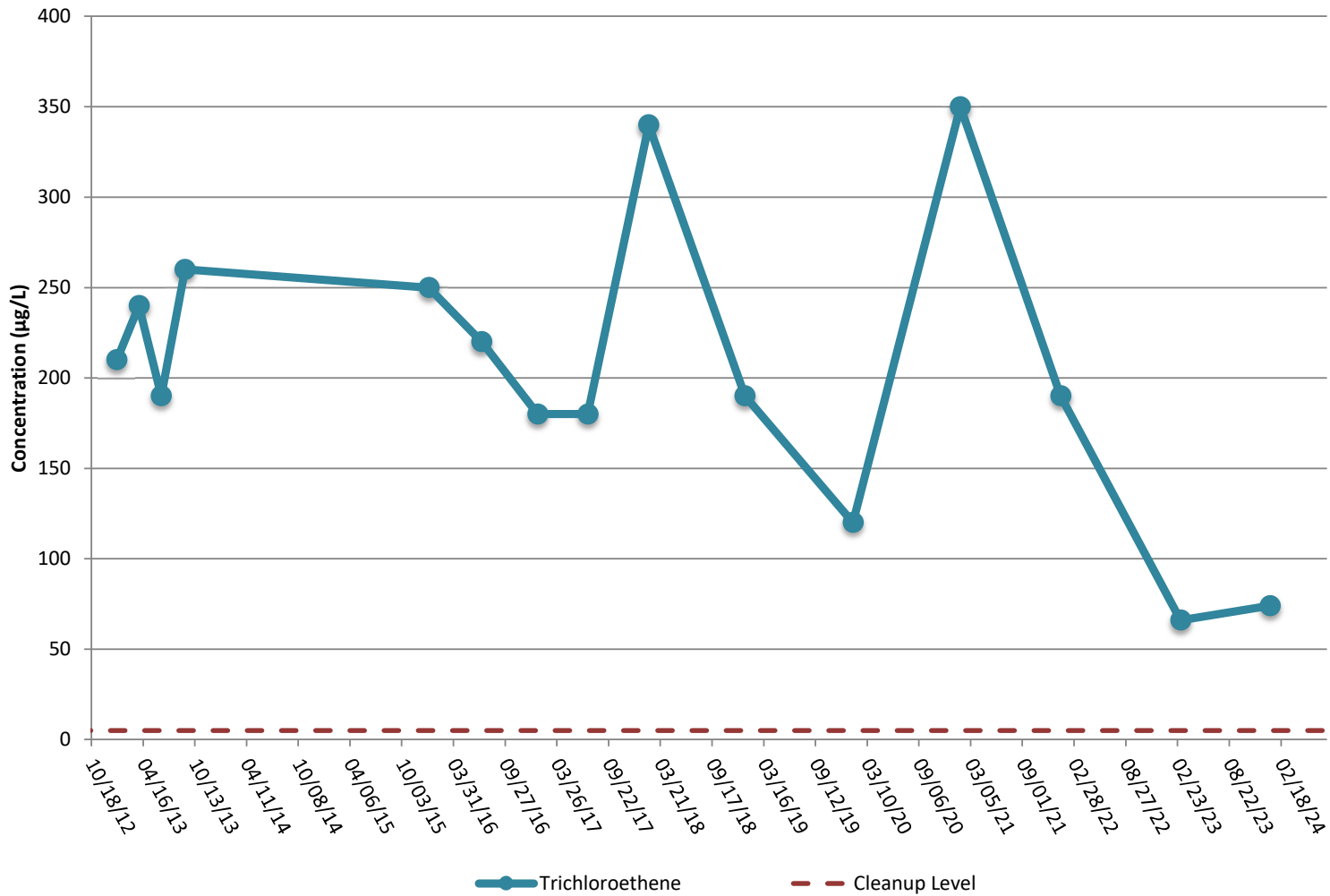








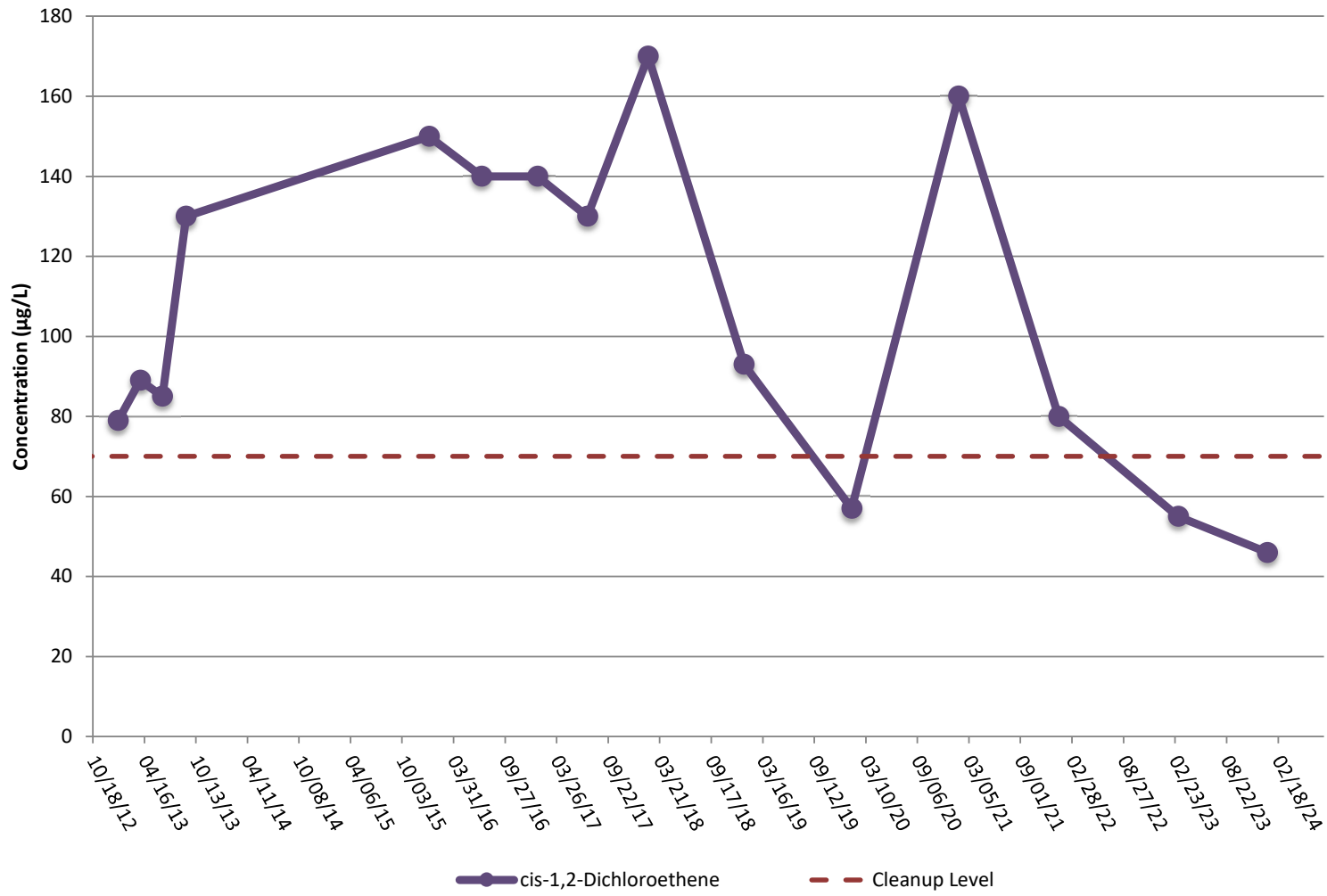


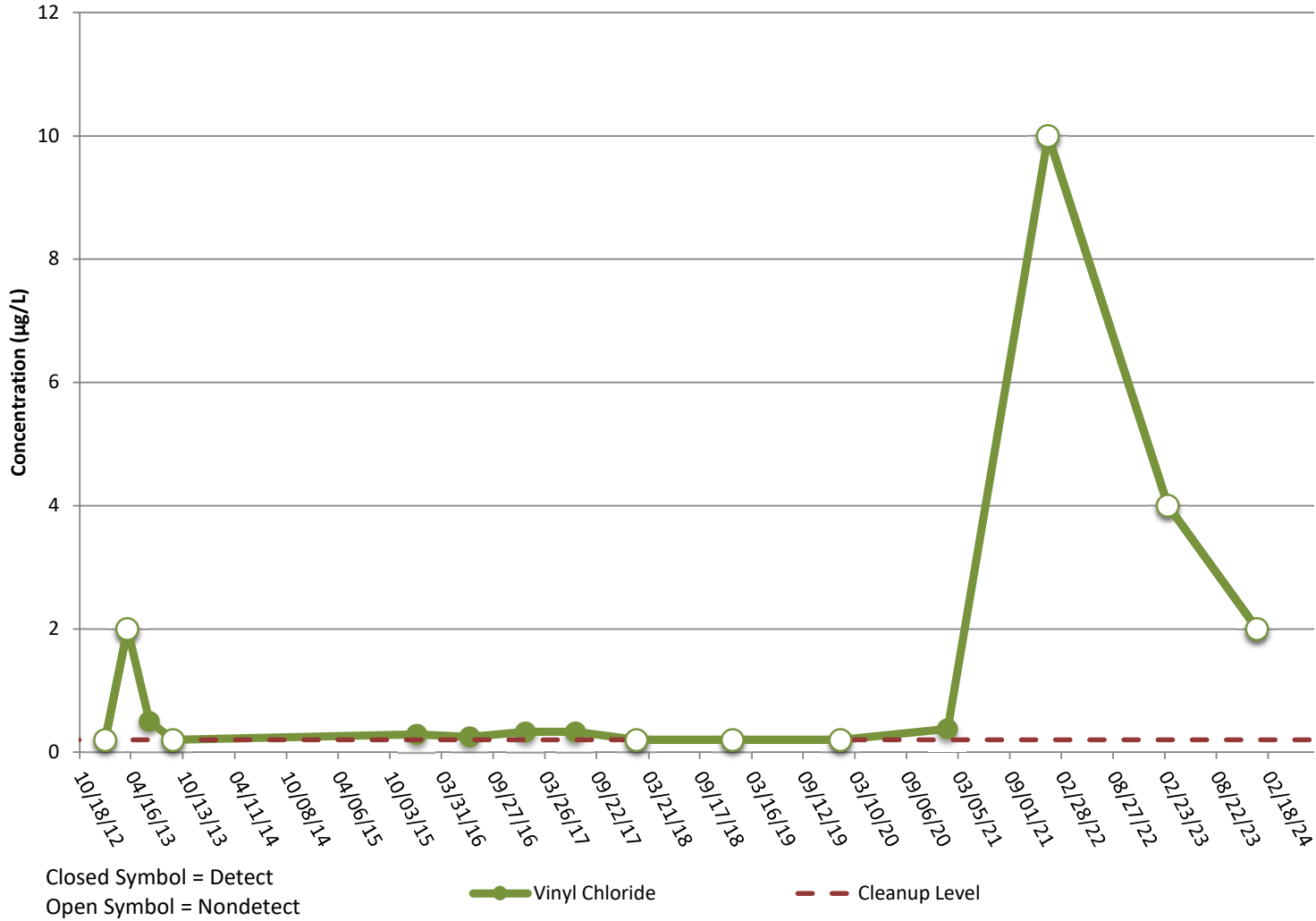


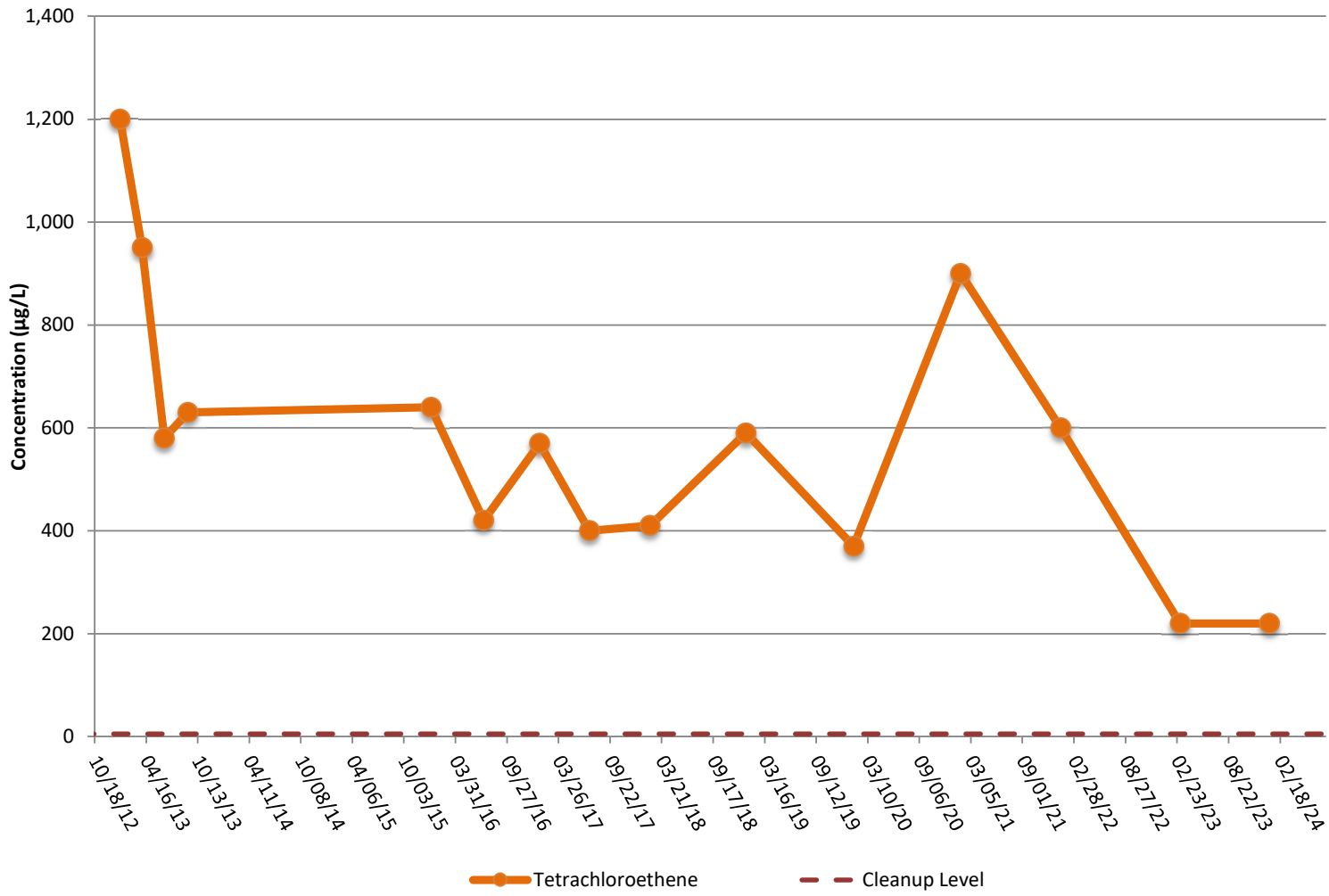
Sauro's Cleanerama
Tacoma, Washington

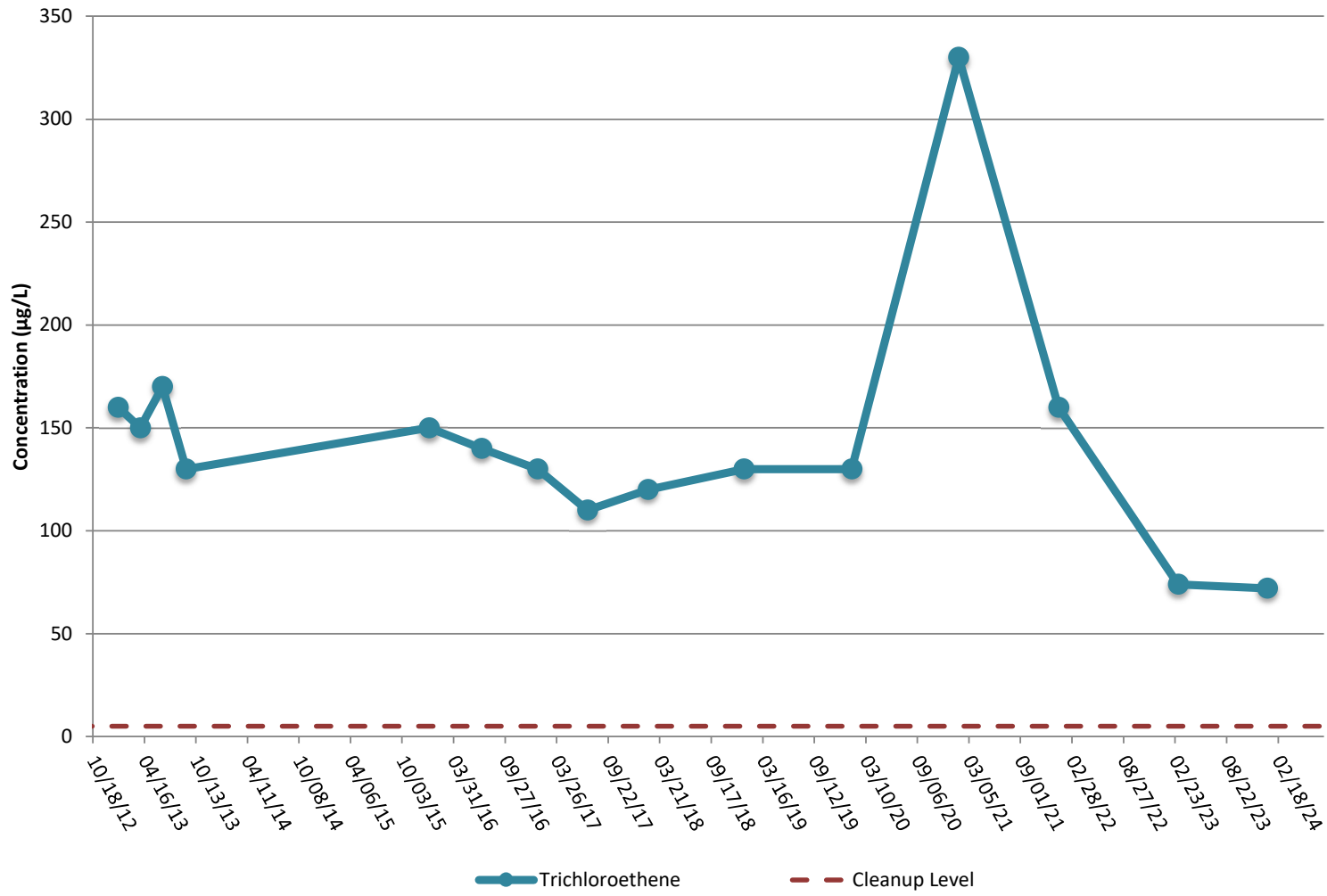
RNS-MW6-42.5
Trichloroethene

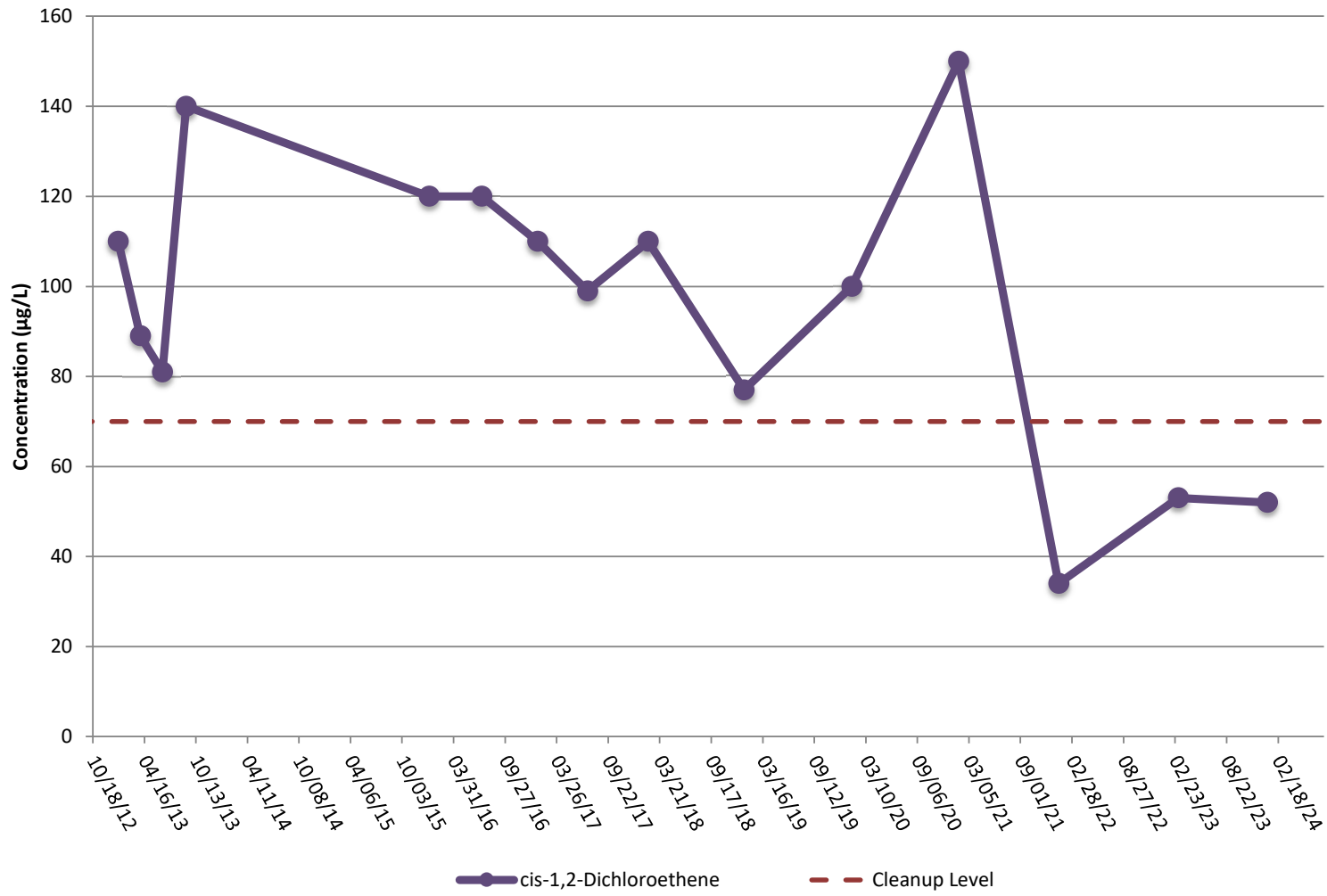
Figure
3-16

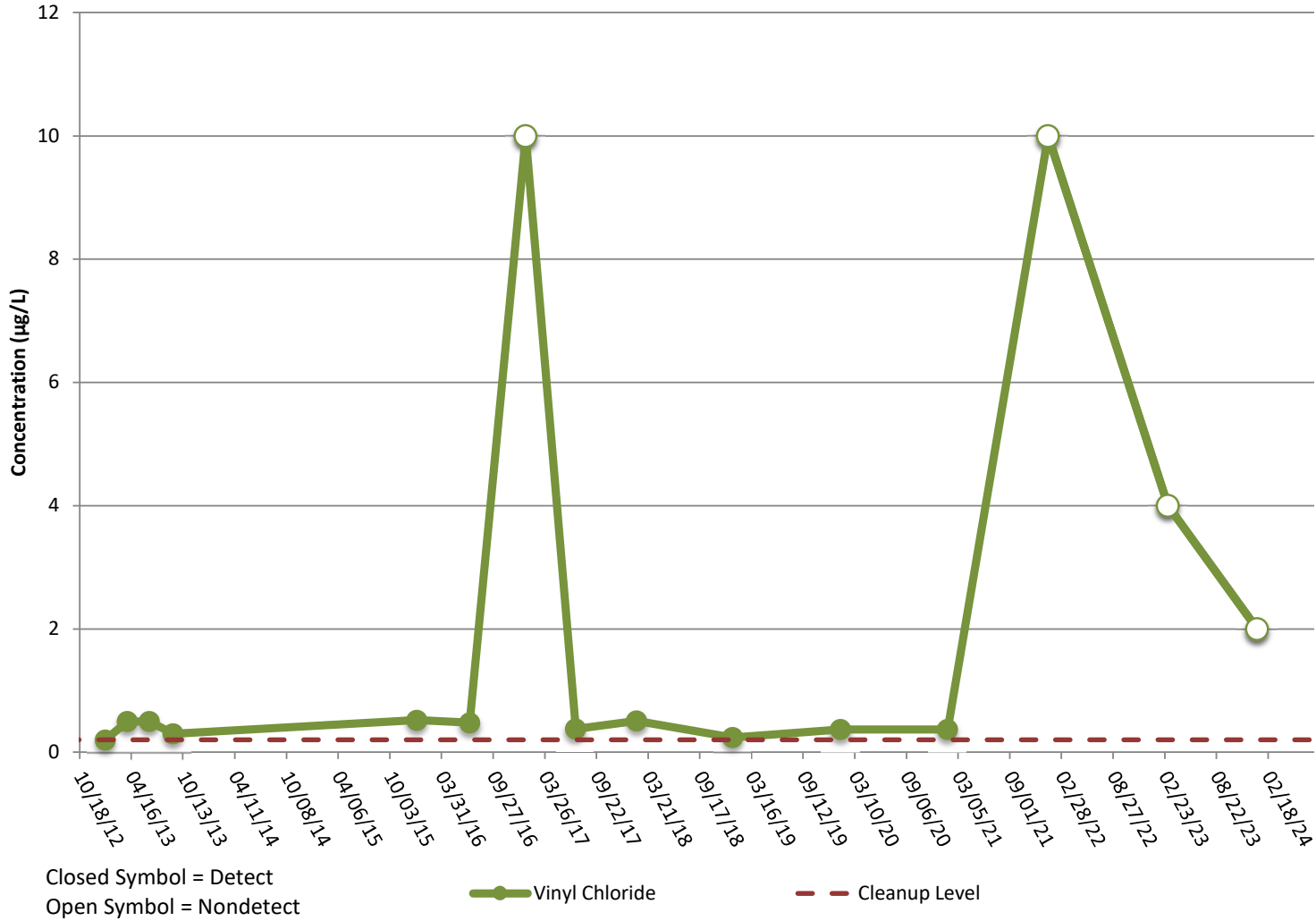












Sample Collection Forms

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW1
 Sample ID: LAI-MW1- 240109
 Date: 01/09/24 Time: 12:11

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 45.60 Time: 11:27 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 11:39 End Purge (Date/Time): 1/9/2024 12:10 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
11:42	10.9	5.91	266.3	7.24	86.4	87.7	45.63	yes	c,fbp,no,ns
11:45	11.3	6.39	286.6	7.18	89.3	34.2	45.61	yes	c,c,no,ns
11:48	13.6	4.94	324.5	6.99	88.6	20.6	45.61	yes	c,c,no,ns
11:51	13.8	4.79	341.2	6.86	87.6	29.8	45.61	yes	c,c,no,ns
11:54	13.7	4.76	345.8	6.79	87.4	32.2	45.61	yes	c,c,no,ns
11:57	13.9	4.52	350.2	6.81	87.0	35.1	45.61	yes	c,c,no,ns
12:00	13.4	4.36	360.9	6.80	87.5	36.7	45.61	yes	c,c,no,ns
12:03	13.8	4.24	363.1	6.82	88.1	34.3	45.61	yes	c,c,no,ns
12:06	13.8	4.20	365.9	6.81	88.2	28.1	45.61	yes	c,c,no,ns
12:09	13.6	4.28	366.8	6.77	88.5	21.5	45.61	yes	c,c,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, fine particulates, no odor, no sheen Fe 2⁺ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

	Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
	Number	Type	Number	Type	Number	Type	Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL VOA
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		4	40 mL VOA unpres poly
Other:	SM4500	SM5310B					2	pres poly amber

Duplicate or Parent Sample ID: _____

MS/MSD

Comments: _____

Signature: JDB

Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW2
 Sample ID: LAI-MW2- 240109
 Date: 01/09/24 Time: 11:09

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 44.24 Time: 10:20 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 10:37 End Purge (Date/Time): 1/9/2024 11:08 Gallons Purged: 4.0
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft		
10:40	12.9	3.11	383.6	7.23	35.8	204	44.20	yes	slight brown, turbid, no,ns
10:43	2.9	3.16	375.7	7.13	47.1	252	44.22	yes	slight brown, turbid, no,ns
10:46	13.3	2.65	367.7	7.05	51.6	279	44.22	yes	slight brown, turbid, no,ns
10:49	13.4	2.46	359	7.09	55.4	575	44.22	yes	brown, fine black part, no,ns
10:52	13.4	2.36	353.8	7.12	61.1	415	44.24	yes	brown, fine black part, no,ns
10:55	13.3	2.51	345.9	7.11	61.2	315	44.24	yes	brown, fine black part, no,ns
10:58	13.3	2.45	342.3	7.06	62.8	227	44.24	yes	brown, fine black part, no,ns
11:01	12.7	2.56	338.3	7.05	65.0	236	44.24	yes	slight brown, turbid, no,ns
11:04	13.1	2.32	337.5	7.06	65.3	221	44.24	yes	slight brown, turbid, no,ns
11:07	12.8	2.31	339.8	7.00	66.8	-	44.24	yes	brown, fine black part, no,ns/turb malf.

Sample Description (turbidity, color, odor, sheen): Slightly brown, fine black particles, no odor, no sheen **Fe 2⁺ (mg/L):** 1.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)	Bottle Information	
	Number	Type
Volatiles: 8260 8260 SIM 8021 524 624	3	40 mL VOA
Semivolatiles: 8270 8270 SIM 8011 625		
Petroleum Hydrocarbons: NWTPH-HCID NWTPH-Gx NWTPH-Dx NWTPH-Dx SGC		
Total/Dissolved Metals: 6010 6020 200.7 200.8 7471 <input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics: 8082 1668 608 8330		
Dioxin-Furans: 1613 8290		
PFAS: 1633 537.1 533 SOP		
Conventionals: 300.0 SM2450C SM2450D SM5310C RSK175	4	40 mL VOA unpres poly
Other: SM4500 SM5310B	2	pres poly amber

Duplicate or Parent Sample ID: _____ MS/MSD

Comments: _____

Signature: JDB

Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW3
 Sample ID: LAI-MW3- 240109
 Date: 01/09/24 Time: 13:27

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 50.51 Time: 12:51 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 12:55 End Purge (Date/Time): 1/9/2024 13:26 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
12:58	12.2	4.52	367	7.09	95.0	38.8	50.72	yes	c,c,no,ns
13:01	12.0	5.42	368.1	7.10	97.0	47.9	50.65	yes	c,c,no,ns
13:04	12.0	5.48	368	7.08	98.5	52.7	50.65	yes	c,c,no,ns
13:07	11.7	5.66	369.9	7.11	100.3	55.4	50.60	yes	c,c,no,ns
13:10	11.4	6.38	368.2	7.09	102.0	57.8	50.60	yes	c,c,no,ns
13:13	11.3	6.56	367.7	7.11	104.1	55.6	50.60	yes	c,c,no,ns
13:16	11.2	6.57	367.8	7.13	105.0	47.4	50.60	yes	c,c,no,ns
13:19	11.3	6.48	367.7	7.11	105.6	54	50.60	yes	c,c,no,ns
13:22	11.1	6.53	368.1	7.15	106.6	49.7	50.60	yes	c,c,no,ns
13:25	11.3	6.47	367.2	7.12	107.2	46.4	50.60	yes	c,c,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, clear, no odor, no sheen Fe 2⁺ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

	Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
	Number	Type	Number	Type	Number	Type	Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL VOA
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		4	40 mL VOA unpres poly
Other:	SM4500	SM5310B					2	pres poly amber

Duplicate or Parent Sample ID: DUP1-240109

MS/MSD

Comments: _____

Signature: JDB

Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW3
 Sample ID: Dup1- 240109
 Date: 01/09/24 Time: 13:29

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 50.51 Time: 12:51 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 12:56 End Purge (Date/Time): 1/9/2024 13:27 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
12:59	12.2	4.49	367.8	7.11	95.7	38.8	50.72	yes	c,c,no,ns
13:02	12.0	5.31	367.9	7.09	97.3	47.9	50.65	yes	c,c,no,ns
13:05	12.0	5.40	367	7.10	98.5	52.7	50.65	yes	c,c,no,ns
13:08	11.6	5.99	369.1	7.12	100.9	55.4	50.60	yes	c,c,no,ns
13:11	11.3	6.54	367.9	7.10	102.8	57.8	50.60	yes	c,c,no,ns
13:14	11.2	6.51	367.9	7.12	104.4	55.6	50.60	yes	c,c,no,ns
13:17	11.2	6.55	367.8	7.09	105.2	47.4	50.60	yes	c,c,no,ns
13:20	11.3	6.46	368	7.16	106.1	54	50.60	yes	c,c,no,ns
13:23	11.1	6.56	367.6	7.06	107.0	49.7	50.60	yes	c,c,no,ns
13:26	11.4	6.25	366.6	7.13	107.2	46.4	50.60	yes	c,c,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, clear, no odor, no sheen Fe 2⁺ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)	Bottle Information	
	Number	Type
Volatiles: 8260 8260 SIM 8021 524 624	3	40 mL VOA
Semivolatiles: 8270 8270 SIM 8011 625		
Petroleum Hydrocarbons: NWTPH-HCID NWTPH-Gx NWTPH-Dx NWTPH-Dx SGC		
Total/Dissolved Metals: 6010 6020 200.7 200.8 7471 <input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics: 8082 1668 608 8330		
Dioxin-Furans: 1613 8290		
PFAS: 1633 537.1 533 SOP		
Conventionals: 300.0 SM2450C SM2450D SM5310C RSK175	4	40 mL VOA unpres poly
Other: SM4500 SM5310B	2	pres poly amber

Duplicate or Parent Sample ID: LAI-MW3-240109

MS/MSD

Comments: _____

Signature: JDB

Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW4
 Sample ID: LAI-MW4- 240109
 Date: 01/09/24 Time: 9:14

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 10.73 Time: 8:41 Describe: center of lane
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 8:42 End Purge (Date/Time): 1/9/2024 9:13 Gallons Purged: 3.0
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
8:45	12.4	4.15	2747	6.89	133.9	12.2	10.73	yes	c,c,no,ns
8:48	12.3	3.47	2803	6.94	126.6	13.1	10.74	yes	c,c,no,ns
8:51	12.7	3.52	2819	6.95	122.5	9.4	10.72	yes	c,c,no,ns
8:54	12.2	3.28	2849	6.96	115.0	8.62	10.72	yes	c,c,no,ns
8:57	12.3	3.55	2832	6.99	114.9	6.06	10.71	yes	c,c,no,ns
9:00	12.6	3.34	2879	7.00	108.3	5.11	10.72	yes	c,c,no,ns
9:03	12.9	3.06	3017	6.99	102.9	5.26	10.72	yes	c,c,no,ns
9:06	12.9	2.96	3127	7.01	97.7	5.54	10.72	yes	c,c,no,ns
9:09	12.8	2.94	3161	7.02	94.1	4.65	10.73	yes	c,c,no,ns
9:12	-	-	-	-	-	-	-	-	YSI malfunction

Sample Description (turbidity, color, odor, sheen): Colorless, clear, no odor, no sheen Fe 2⁺ (mg/L): 4.8

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations
-	-	-	-	-	-	-	-	

	Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
	Number	Type	Number	Type	Number	Type	Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL VOA
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		4	40 mL VOA unpres poly
Other:	SM4500	SM5310B					2	pres poly amber

Duplicate or Parent Sample ID: _____ MS/MSD

Comments: _____

Signature: JDB Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: LAI-MW5
 Sample ID: LAI-MW5- 240109
 Date: 01/09/24 Time: 15:10

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 22.91 Time: 14:30 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 14:38 End Purge (Date/Time): 1/9/2024 15:09 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft		
14:41	11.6	6.96	331.1	7.50	128.3	51.5	22.98	yes	c,c,no,ns
14:44	12.8	5.60	565.4	6.75	116.7	461	22.97	yes	c,turbid,no,ns
14:47	13.9	4.51	617.9	6.57	135.1	652	22.97	yes	c,turbid,no,ns
14:50	14.1	3.66	608.3	6.52	129.4	350	22.95	yes	c,turbid,no,ns
14:53	14.6	2.86	595.9	6.50	123.8	292	22.95	yes	c,turbid,no,ns
14:56	14.5	2.96	595.2	6.50	120.3	271	22.95	yes	c,turbid,no,ns
14:59	14.3	3.20	600.3	6.50	118.8	287	22.95	yes	c,turbid,no,ns
15:02	14.5	2.82	610.7	6.49	116.6	305	22.94	yes	c,turbid,no,ns
15:05	14.5	2.90	621.6	6.49	114.1	378	22.94	yes	c,turbid,no,ns
15:08	14.4	2.99	628.3	6.49	112.4	450	22.94	yes	c,turbid,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, cloudy, no odor, no sheen Fe 2⁺ (mg/L): 7.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

	Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL VOA
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175		4	40 mL VOA unpres poly
Other:	SM4500	SM5310B					2	pres poly amber

Duplicate or Parent Sample ID: _____

MS/MSD

Comments: _____

Signature: JDB

Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: MW2
 Sample ID: MW2- 240109
 Date: 01/09/24 Time: 16:16

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 15.20 Time: 15:42 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 15:44 End Purge (Date/Time): 1/9/2024 16:00 Gallons Purged: <1
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
15:47	9.9	4.98	518.2	6.61	101.6	339	-	yes	c,turbid,no,ns
15:50	11.4	2.98	526.7	6.53	100.4	72.2	-	yes	c,c,no,ns
15:53	11.8	1.52	525.3	6.50	97.9	41.7	-	yes	c,c,no,ns
15:56	12.3	1.17	499.5	6.52	93.5	32.3	-	yes	c,c,no,ns
15:59	DRY	DRY	DRY	DRY	DRY	DRY	-	DRY	Well ran dry, sample follows

Sample Description (turbidity, color, odor, sheen): Colorless, fine particulates, no odor, no sheen Fe 2⁺ (mg/L): 6.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Peristaltic
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)	Bottle Information	
	Number	Type
Volatiles: 8260 8260 SIM 8021 524 624	3	40 mL VOA
Semivolatiles: 8270 8270 SIM 8011 625		
Petroleum Hydrocarbons: NWTPH-HCID NWTPH-Gx NWTPH-Dx NWTPH-Dx SGC		
Total/Dissolved Metals: 6010 6020 200.7 200.8 7471 <input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics: 8082 1668 608 8330		
Dioxin-Furans: 1613 8290		
PFAS: 1633 537.1 533 SOP		
Conventionals: 300.0 SM2450C SM2450D SM5310C RSK175	4	40 mL VOA unpres poly
Other: SM4500 SM5310B	2	pres poly amber

Duplicate or Parent Sample ID: _____ MS/MSD
 Comments: _____
 Signature: JDB Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Partly cloudy 40s
 Landau Rep.: DTW/JDB

Project Number: 0094048.100.107
 Well ID: MW13
 Sample ID: MW13- 20240111
 Date: 01/11/24 Time: 12:43

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 39.15 Time: 12:09 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/11/2024 12:11 End Purge (Date/Time): 1/11/2024 11:39 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
12:14	14.1	3.37	476.3	6.98	149.6	630	40.55	yes	c,turbid,no,ns
12:17	14.2	3.18	472.2	7.25	149.8	627	40.30	yes	c,turbid,no,ns
12:20	14.0	3.66	464.6	6.67	150.0	601	40.39	yes	c,turbid,no,ns
12:23	13.6	3.79	464.7	7.15	151.0	514	40.28	yes	c,turbid,no,ns
12:26	14.2	3.14	458.2	6.62	149.1	error	40.70	yes	c,turbid,no,ns
12:29	14.3	3.20	457.4	7.08	148.8	837	40.81	yes	c,turbid,no,ns
12:32	14.3	3.24	455.8	7.00	149.2	647	40.65	yes	c,turbid,no,ns
12:35	14.0	3.43	453	7.03	149.0	613	40.60	yes	c,turbid,no,ns
12:38	14.2	3.42	457.2	7.07	148.6	627	40.66	yes	c,turbid,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, cloudy, no odor, no sheen Fe 2⁺ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

	Scheduled Analysis (Circle/Bold Applicable)						Bottle Information	
	Number	Type	Number	Type	Number	Type	Number	Type
Volatiles:	8260	8260 SIM	8021	524	624	3	40 mL VOA	
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175	4	40 mL VOA unpres poly	
Other:	SM4500	SM5310B				2	pres poly amber	

Duplicate or Parent Sample ID: _____ MS/MSD

Comments: _____

Signature: JDB Date: 01/11/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Rain 40s
 Landau Rep.: DJP/JDB

Project Number: 094048.100.107
 Well ID: RNS-MW2
 Sample ID: RNS-MW2- 240109
 Date: 01/09/24 Time: 15:53

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 16.14 Time: 15:18 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/9/2024 15:21 End Purge (Date/Time): 1/9/2024 15:35 Gallons Purged: 3.0
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft		
15:24	13.9	7.06	290.7	6.98	78.0	216	16.20	yes	c,turbid,no,ns
15:27	14.2	6.96	288.3	6.95	75.7	369	16.20	yes	c,turbid,no,ns
15:30	14.4	6.89	286.3	6.97	79.4	402	16.20	yes	c,turbid,no,ns
15:33	14.4	6.99	286.8	6.92	78.2	377	16.20	yes	c,turbid,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, cloudy, no odor, no sheen Fe 2⁺ (mg/L): 0.5

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)	Bottle Information	
	Number	Type
Volatiles: 8260 8260 SIM 8021 524 624	3	40 mL VOA
Semivolatiles: 8270 8270 SIM 8011 625		
Petroleum Hydrocarbons: NWTPH-HCID NWTPH-Gx NWTPH-Dx NWTPH-Dx SGC		
Total/Dissolved Metals: 6010 6020 200.7 200.8 7471 <input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics: 8082 1668 608 8330		
Dioxin-Furans: 1613 8290		
PFAS: 1633 537.1 533 SOP		
Conventionals: 300.0 SM2450C SM2450D SM5310C RSK175	4	40 mL VOA unpres poly
Other: SM4500 SM5310B	2	pres poly amber

Duplicate or Parent Sample ID: _____ MS/MSD
 Comments: _____
 Signature: JDB Date: 01/09/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Partly cloudy 40s
 Landau Rep.: DTW/JDB

Project Number: 0094048.100.107
 Well ID: RNS-MW6-42.5
 Sample ID: RNS-MW6-42.5- 20240111
 Date: 01/11/24 Time: 10:42

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 35.65 Time: 10:34 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: PDB only WQM No.: Tac 3
 Begin Purge (Date/Time): 1/11/2024 End Purge (Date/Time): 1/11/2024 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
PDB only									

Sample Description (turbidity, color, odor, sheen): Colorless, clear, no odor, no sheen Fe 2⁺ (mg/L):

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: NA/PDB
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)							Bottle Information	
							Number	Type
Volatiles:	8260	8260 SIM	8021	524	624		3	40 mL VOA
Semivolatiles:	8270	8270 SIM	8011	625				
Petroleum Hydrocarbons:	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx SGC				
Total/Dissolved Metals:	6010	6020	200.7	200.8	7471	<input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics:	8082	1668	608	8330				
Dioxin-Furans:	1613	8290						
PFAS:	1633	537.1	533	SOP				
Conventionals:	300.0	SM2450C	SM2450D	SM5310C	RSK175			
Other:	SM4500	SM5310B						

Duplicate or Parent Sample ID: _____

MS/MSD

Comments: _____

Signature: JDB

Date: 01/11/24

Project Name: Sauro's Cleanerama
 Event: 2024 Annual Monitoring
 Weather: Partly cloudy 40s
 Landau Rep.: DTW/JDB

Project Number: 0094048.100.107
 Well ID: RNS-MW6-52.5
 Sample ID: RNS-MW6-52.5- 20240111
 Date: 01/11/24 Time: 11:43

WELL INFORMATION

Screened Interval: Top (ft): _____ Bottom (ft): _____ Well Secure? No Yes Damaged? No Yes
 DTW After Cap Opened (ft): 35.65 Time: 10:34 Describe: _____
 Static DTW (ft): _____ Time: _____ Flow-Thru Cell Vol.: 175 ml WQM No.: Tac 3
 Begin Purge (Date/Time): 1/11/2024 11:11 End Purge (Date/Time): 1/11/2024 11:42 Gallons Purged: 3.5
 Water Disposal: 55-gal drum Storage tank Ground Other: City of Tacoma Treatment System

PURGE DATA Cell shading indicating purge stabilization is for informational purposes only.

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Purge Vol ≥1 flow-thru cell vol. (Yes/No)	Comments/ Observations
Stabilization →	± 3%	± 10%	± 3%	± 0.1 units	± 10 mV	± 10%	± 0.00 ft	(Yes/No)	
11:14	13.0	2.55	515.4	6.61	175.0	628	-	yes	c,turbid,no,ns
11:17	14.1	1.18	523.6	6.68	172.4	error	-	yes	c,turbid,no,ns
11:20	14.6	0.96	519.2	6.70	171.3	804	-	yes	c,turbid,no,ns
11:23	13.9	1.18	517.7	6.63	170.8	794	-	yes	c,turbid,no,ns
11:26	13.4	1.01	518.7	6.71	167.8	760	-	yes	c,turbid,no,ns
11:29	13.9	0.72	517.2	6.70	165.7	821	-	yes	c,turbid,no,ns
11:32	13.6	0.77	514.7	6.74	165.7	730	-	yes	c,turbid,no,ns
11:35	14.5	0.65	514.2	6.49	165.6	724	-	yes	c,turbid,no,ns
11:38	14.6	0.66	514.3	7.00	165.2	661	-	yes	c,turbid,no,ns
	4.6	0.65	514.2	6.80	165.0	686	-	yes	c,turbid,no,ns

Sample Description (turbidity, color, odor, sheen): Colorless, cloudy, no odor, no sheen Fe 2⁺ (mg/L): 0.0

PUMP AND MATERIAL INFORMATION

Collection Method: Bailer Pump Type: Waterra
 Material: Stainless Steel PVC Teflon Polyethylene Other Dedicated
 Decon Procedure: Alconox Wash Tap Rinse DI Water Dedicated
 Other (describe sequence): _____

CONFIRMATION PARAMETERS (if applicable per Landau Field Manual) Applicable

Time	Temp (°C)	DO (mg/L)	Cond (µS/cm)	pH (S.U)	ORP (mV)	Turbidity (NTU)	DTW (ft)	Comments/Observations

Scheduled Analysis (Circle/Bold Applicable)	Bottle Information	
	Number	Type
Volatiles: 8260 8260 SIM 8021 524 624	3	40 mL VOA
Semivolatiles: 8270 8270 SIM 8011 625		
Petroleum Hydrocarbons: NWTPH-HCID NWTPH-Gx NWTPH-Dx NWTPH-Dx SGC		
Total/Dissolved Metals: 6010 6020 200.7 200.8 7471 <input type="checkbox"/> Field Filtered		
PCBs & Nitroaromatics: 8082 1668 608 8330		
Dioxin-Furans: 1613 8290		
PFAS: 1633 537.1 533 SOP		
Conventionals: 300.0 SM2450C SM2450D SM5310C RSK175	4	40 mL VOA unpres poly
Other: SM4500 SM5310B	2	pres poly amber

Duplicate or Parent Sample ID: _____

MS/MSD

Comments: _____

Signature: JDB

Date: 01/11/24