

March 15, 2023

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Subject: Fourth Quarter 2022 Groundwater Monitoring Results, Former Thermal Treatment Unit, Nammo Defense Systems Inc., Mesa, Arizona

Dear Ms. Clark:

Pinyon Environmental, Inc. (Pinyon), prepared the following Fourth Quarter 2022 (Q4 2022) Groundwater Monitoring Report (Report) on behalf of Nammo Defense Systems Inc. (NDS). The report documents field activities and results for groundwater sampling at the NDS former Thermal Treatment Unit (TTU) in Mesa, Arizona (the Site; Figure 1). The monitoring activities were planned and executed following the scope of work and requirements outlined in the *Groundwater Water Sampling and Analysis Plan, Former Thermal Treatment Unit, NAMMO Defense Systems Inc., Mesa Arizona*, dated September 30, 2022 (TTU SAP); and the *Quality Assurance Project Plan, NAMMO Defense Systems Inc. Facility, Mesa, Arizona*, dated April 28, 2022 (NDS Facility QAPP). The TTU SAP was submitted to the U.S. Environmental Protection Agency (EPA) for review and comments were received on August 23, 2022. A revised TTU SAP incorporating responses to EPA's comments was submitted on September 30, 2022. Any changes or deviations from these documents are provided in subsequent sections of this report.

It was requested in comments received following review of the DRAFT TTU First Quarter (Q1) 2022 Groundwater Monitoring Results that a complete historical data summary table be developed and included in future reports. Pinyon has compiled a historical database and will provide an electronic copy to the stakeholders in either Access or Excel formats.

I. SCOPE OF ACTIVITIES

Groundwater monitoring and pumping/extraction wells were sampled between November 28 and 30, 2022. Well construction details are summarized in Table 1 and well locations are shown in Figure 2.

I.1 Deviations from Work Plan

The Q4 2022 groundwater monitoring was conducted in accordance with the TTU SAP and NDS Facility QAPP.

I.2 Groundwater Elevation Measurement

Table 2 provides a summary of groundwater elevation gauging for the Q4 2022 sampling event. The depth to groundwater measurements were collected using an electronic water level indicator. The depths were measured to the nearest 0.01 foot on the north side, top of casing at each well. Well TTU-18 was dry and was therefore, not sampled.

1.3 Groundwater Sampling

For extraction/pumping wells, the wells were activated and allowed to purge for at least 15 minutes prior to sample collection. Water was taken from the spigot closest to the wellhead. From each sampled well, field parameter measurements were collected using a YSI 556 MPS water quality meter to evaluate water temperature, pH, oxidation reduction potential (ORP), conductivity, dissolved oxygen (DO), and turbidity. For the extraction/pumping wells, field readings were collected every 5 minutes during the minimum 15-minute purging/stabilization period. If purging took longer than 15 minutes, the reasons and rationale are provided on the individual well sampling records presented in Attachment 1. No issues with field parameter stabilization during purging were encountered during the Q4 2022 sampling event. For non-pumping wells, one round of field parameter measurements was collected at the time of sample collection.

Monitoring wells and other non-pumping wells were sampled using HydraSleeve samplers. The samplers were deployed by Pinyon at the end of the Q3 2022 sampling event. The samplers were suspended inside the wells/boreholes at the depths summarized in Table 3.

Groundwater samples were collected into laboratory provided and preserved sample containers based on analytical method requirements. This information is summarized in Table 3. Each groundwater sample was labeled, secured from breakage, and stored on-ice inside an insulated cooler. The samples were transported under chain-of-custody protocol to Pace Analytical for analysis. Pace Analytical is an Arizona Department of Health Services (ADHS) certified laboratory (#AZ0728).

The groundwater samples were analyzed for total volatile organic compounds (VOCs) using Method 8260B, 1,4-dioxane using Method 8260B-SIM, and perchlorate using Method 314.0 Mod. The sample from PF-2 was analyzed for perchlorate salts using EPA Method 6850.

1.4 Sampling Equipment Decontamination

Disposable sampling equipment such as protective gloves and paper towels were containerized and disposed of as non-hazardous commercial or household waste. Reusable equipment such as the YSI meter and the water level indicator were decontaminated prior to use and between each well using an Alconox and distilled water solution followed by a double rinse with distilled water. The reusable equipment was allowed to air dry prior to its next use.

2. GROUNDWATER MONITORING RESULTS

Laboratory reports and chain-of-custody forms are presented in Attachment 2. The following data summary tables are provided:

- Table 1 – Former Thermal Treatment Unit 2022 Groundwater Well Network
- Table 2 – Groundwater Elevations - Fourth Quarter 2022
- Table 3 – Summary of Perchlorate Concentrations - Fourth Quarter 2022
- Table 4 – Summary of Detected VOC Concentrations - Fourth Quarter 2022
- Table 5 – Historical 1,4-Dioxane and TCE Concentrations

During EPA's review of the Q1 2022 groundwater monitoring results, it was requested Pinyon provide in Table 1 the elevation difference between the top of casing elevation and the ground surface (well stickup). The

information was obtained by Pinyon and has been added to Table I. The following figures are provided for reference and data presentation:

- Figure 1 – Site Vicinity Map
- Figure 2 – Quarterly Groundwater Contour Map – Fourth Quarter 2022
- Figure 3 – Perchlorate Detections in Groundwater – Fourth Quarter 2022
- Figure 4 – 1,4-Dioxane Detections in Groundwater – Fourth Quarter 2022
- Figure 5 – 1,1-Dichloroethene Detections in Groundwater – Fourth Quarter 2022
- Figure 6 – Trichloroethene Detections in Groundwater – Fourth Quarter 2022
- Figure 7 – VOC Exceedances in Groundwater – Fourth Quarter 2022

2.1 Estimated Groundwater Flow Direction

The horizontal groundwater gradient was measured across the Site at approximately 0.13 ft/ft (feet per foot) to the west. This gradient is similar to the 0.10 ft/ft reported during the Q3 2022 groundwater sampling event. Groundwater flow appears to be affected by the significant land surface elevation increase at TTU-15, TTU-16, and TTU-17 creating an area of northern groundwater flow (Figure 2).

2.2 Groundwater Laboratory Results

Perchlorate was detected at concentrations above the laboratory detection limit in 20 of the 25 wells sampled. Of the 20 wells with detectable concentrations, 5 wells were below the Arizona Department of Environmental Quality (ADEQ) Health Based Guidance Level (HBGL) of 14 micro grams per liter ($\mu\text{g/L}$). Sixteen wells exceeded the HBGL with the highest concentration detected in TTU-16 at 859,000 $\mu\text{g/L}$.

TCE was detected at concentrations above the laboratory detection limit in 16 of the 25 wells sampled, 13 of which exceeded the 5 $\mu\text{g/L}$ Arizona Aquifer Water Quality Standard (AWQS) for TCE, with the highest concentration detected in TTU-16 at 80,000 $\mu\text{g/L}$.

1,4-dioxane was detected at concentrations above the laboratory detection limit in 16 of the 25 wells sampled, 14 of which exceeded the interim screening level of 3.5 $\mu\text{g/L}$, with the highest concentration detected in TTU-16 at 3,180 $\mu\text{g/L}$.

1,1-dichloroethene (DCE) was detected at concentration above the laboratory detection limit in 14 of the 25 wells sampled, 10 of which exceeded the 7 $\mu\text{g/L}$ AWQS, with the highest concentration detected in TTU-16 at 3,730 $\mu\text{g/L}$.

The Q4 analytical data are generally consistent with Q3 2022 except as noted in the Trigger Limit (TL) section below.

As outlined in the TTU SAP, notification and resampling must be made if the following TLs are exceeded:

- For PF-2, if perchlorate exceeds 3.2 $\mu\text{g/L}$.
- For TTU-6, if 1,4-dioxane exceeds 3.5 $\mu\text{g/L}$ and/or other VOCs reach 50% of the AWQS.

- For TTU-1, TTU-2, TTU-3, TTU-4, TTU-6, TTU-7, TTU-8, TTU-9a, TTU-10, TTU-14, PF-1, and PF-2, if an order-of-magnitude increase in the concentration¹ of a COPC that was previously measured at a concentration exceeding the project screening level (e.g., AWQS).

Perchlorate was detected in TTU-6 at a concentration of 144 µg/L, which was nearly an order of magnitude higher than the average of the three previous quarters (20.1 µg/L). Based on the initial result, notification was made and resampling was conducted on December 22, 2022. The perchlorate concentration from the confirmation sample was 153 µg/L and based on confirmation of the original result, monthly sampling of TTU-6 and PF-2 was initiated.

2.3 Groundwater Concentration Versus Time and Trend Analysis

Concentration and groundwater elevation versus time plots and Mann-Kendall trend analysis for TCE, 1,1-DCE, perchlorate, and 1,4-dioxane are presented in Attachments 3 and 4, respectively. For the trend analysis non-detected results were not used in the calculation due to the variability of the detection limits which produced trends where no verifiable trends existed when used.

Trends were analyzed for increasing, decreasing, probably increasing, probably decreasing, stable, and no trend. Increasing/decreasing trends have a minimum 95% confidence, probably increasing/decreasing have a 90-95% confidence, a stable trend has less than 90% confidence and a coefficient of variability (standard deviation divided by mean) less than one with a negative p value. No trend has less than 90% confidence and a coefficient of variability of more than one or a positive p value.

Long term (full data set) decreasing trends were observed in wells TTU-7, TTU-13, and TTU-14 for perchlorate; in wells TTU-9A and TTU-EX-2 for TCE; and in well TTU-EX-2 for 1,1-DCE. Probably decreasing trends for perchlorate in wells TTU-3, TTU-8, and TTU-EX-2; in well TTU-13 for 1,1-DCE; and in well TTU-EX-2 for 1,4-dioxane. Short term (3 most recent years) decreasing trends were observed in well TTU-9A for perchlorate; TTU-9A, TTU-13, and TTU-EX-2 for TCE; and TTU-11, TTU-13, and TTU-EX-2 for 1,1-DCE. A short-term probably decreasing trend was observed in TTU-EX-2 for 1,4-dioxane; TTU-EX-2, TTU-7, and TTU-13 for perchlorate; and TTU-2 for TCE.

Long-term increasing trends were observed in wells TTU-5 and TTU-17 for perchlorate; TTU-2, TTU-12, and TTU-14 for TCE; TTU-2 and TTU-20 for 1,1-DCE; and TTU-2, TTU-12, TTU-15 and TTU-EX-4 for 1,4-dioxane. Probably increasing trends were noted in PF-2 for perchlorate and TTU-17 for 1,4-dioxane. Short-term increasing trends were observed in wells TTU-1, TTU-6, and TTU-17 for perchlorate; TTU-20 for 1,1-DCE; and TTU-15 and TTU-EX-4 for 1,4-dioxane. A probably increasing trend was observed in TTU-17 for 1,4-dioxane.

Stable long-term trends were observed in wells PF-1, TTU-1, TTU-2, TTU-15, TTU-EX-1, TTU-EX-3, TTU-EX-4 for perchlorate. Stable long-term trends were observed in wells TTU-1, TTU-13, TTU-15, TTU-EX-1, and TTU-EX-4 for TCE; TTU-1, TTU-16, TTU-EX-1, and TTU-EX-4 for 1,1-DCE; TTU-13, TTU-14 and TTU-EX-1 for 1,4-Dioxane. Stable short-term trends were observed at wells PF-2, TTU-2, TTU-8, TTU-EX-1, TTU-EX-3, and TTU-EX-4 for perchlorate; TTU-15, TTU-EX-1, and TTU-EX-4 for TCE; TTU-1, TTU-2, TTU-12,

¹ To establish consistency regarding the trigger or action levels (TL or AL) based on concentration changes for different compounds, Pinyon offers the following definition for a concentration change of one order of magnitude or more: If the current concentration is greater than 10 times the average of the most recent 3 quarterly sampling events (the baseline) for a COPC, an increase of more than one order of magnitude has occurred. Similarly, if the current concentration of a COPC is less than 1/10th of the baseline concentration, a concentration decrease of more than one order of magnitude has occurred. For results where no detectable concentration is reported one-half of the method detection limit will be used for calculation of the average.

TTU-14, TTU-16, TTU-EX-1, and TTU-EX-4 for 1,1-DCE; and TTU-2, TTU-11, TTU-13, TTU-14, and TTU-EX-1 for 1,4-dioxane.

All other constituents and locations either had no trend or not enough detected values to run a trend analysis.

2.4 Discussion

Based on the Q4 2022 groundwater monitoring results, no TL trigger conditions were encountered for the contingency plan wells with exception of TTU-6, as discussed in Section 2.2. These conditions will continue to be tracked during future sampling events. Using the definition of order of magnitude changes established in Section 2.2, Footnote 1, no other order of magnitude concentration increases were observed between the Q3 and Q4 of 2022 for any of the COPCs.

Based on the trend analysis, a short-term increasing trend was observed in contingency plan well TTU-6 for perchlorate, a long-term trend in TTU-5 for perchlorate, and a probably increasing trend in PF-2 for perchlorate.

2.5 Data Validation

A Tier IA data validation of the laboratory results according to EPA guidance and the laboratory results are qualified as usable for meeting project objectives. A data validation memorandum is provided in Attachment 5.


3. CLOSING

Overall, the Q4 2022 groundwater monitoring data indicates primarily stable conditions associated with the site. The increasing trends for perchlorate in TTU-5 and TTU-6 and the probably increasing trend in PF-2 will continue to be monitored and changes to the interim measures will be made to mitigate off-Site migration of perchlorate and VOCs. Based on the volume of data collected as part of the TTU monitoring program (historically dating back to 2012), and the limited potential receptors of this plume (presently identified as the Primate Facility), it is recommended that the monitoring program be transitioned from quarterly to annual, with the exception of select wells on SRPMIC land (PF-2, TTU-3, TTU-6, TTU-7, and TTU-10). Quarterly sampling of these wells will be continued to monitor groundwater conditions near the Primate Facility, in the event that the contingency measures stipulated in the Contingency Plan are necessary. The results of the selected wells will continue to be reported quarterly to the EPA, ADEQ, and SRPMIC in a letter that will include the tabulated data, laboratory reports, and an evaluation of the Contingency Plan TL conditions.

Sincerely,
Pinyon Environmental, Inc.



Jeremy Musson
Principal



Andrew Parker R.G. (AZ# 53601)
Senior Geologist

Copies to: Angel Soto, Nammo Defense Systems, Inc. (electronic)
Christopher Horan, Salt River Pima-Maricopa Indian Community (electronic)
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Tables

Table 1 – Former Thermal Treatment Unit 2022 Groundwater Monitoring Well Network
Table 2 – Groundwater Elevation – Fourth Quarter 2022
Table 3 – Summary of Detected VOC Concentrations – Fourth Quarter 2022
Table 4 – Summary of Perchlorate Concentrations – Fourth Quarter 2022
Table 5 – Historical 1,4-Dioxane and TCE Concentrations

Figures

Figure 1 – Site Vicinity Map
Figure 2 – Groundwater Elevations and Contours – Fourth Quarter 2022
Figure 3 – Perchlorate Detections in Groundwater – Fourth Quarter 2022
Figure 4 – 1,4-Dioxane Detections in Groundwater – Fourth Quarter 2022
Figure 5 – 1,1-Dichloroethene Detections in Groundwater – Fourth Quarter 2022
Figure 6 – Trichloroethene Detections in Groundwater – Fourth Quarter 2022
Figure 7 – Other VOC Exceedances in Groundwater – Fourth Quarter 2022

Attachments

Attachment 1 – Field Notes
Attachment 2 – Laboratory Analytical Reports
Attachment 3 – Concentration and Groundwater Elevation versus Time Plots
Attachment 4 – Mann-Kendall Trend analysis
Attachment 5 – Data Validation Memo
Historical Data Summary Table – Included as separate electronic file

Tables

**TABLE I:
FORMER THERMAL TREATMENT UNIT
2022 GROUNDWATER WELL NETWORK
NAMMO DEFENSE SYSTEMS INC.
MESA, ARIZONA**

Well ID (Location)	Install Date	Latitude	Longitude	Survey Date	Survey Coordinate Datum	Measuring Point Elevation Top of Casing (ft asml)	Ground Surface Elevation (ft asml)	Well Stickup Height (ft)	ADWR Number	Well Type/Use	Well Name/ Owner	Well Owner Information	Well Const	Well Diameter (in)	Screen Interval (ft bgs)	Casing Depth (ft bgs)	Boring Depth (ft bgs)
Plume Monitoring Wells																	
TTU-3	10/18/2013	33 29 57.98	-111 43 00.91	NP	NAVD 88	1308.03	1305.50	2.50	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85279	PVC	4	78.1-138.1	143.6	180
TTU-4	10/25/2013	33 30 01.65	-111 42 59.09	NP	NAVD 88	1305.12	1302.50	2.50	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85280	PVC	4	39.5-99.5	104.9	180
TTU-5	9/20/2014	33 29 52.48	-111 42 58.40	NP	NAVD 88	1314.93	1312.30	3.00	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85281	PVC	4	59.5-164.5	169.5	174
TTU-6	10/7/2014	33 29 57.57	-111 43 04.79	NP	NAVD 88	1300.84	1299.40	2.37	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	110-175	180	185
TTU-7	10/8/2014	33 29 57.85	-111 43 05.18	NP	NAVD 88	1301.84	1299.30	2.52	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	Steel	8.5	282-410	282	410
													Open Borehole	8		None	
TTU-8	4/18/2016	33 30 01.91	-111 43 05.31	NP	NAVD 88	1310.23	1307.60	2.98	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	135-185	190	204
TTU-9A	6/16/2016	33 30 04.61	-111 42 51.19	NP	NAVD 88	1318.04	1316.00	2.5	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	24-99	104	105
TTU-10	4/18/2016	33 29 54.60	-111 43 07.90	NP	NAVD 88	1302.42	1299.80	3.17	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	115-180	185	204
TTU-12	7/19/2018	33 29 56.03	-111 42 58.38	NP	NP	1312.21	NP	1.33	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	Steel	5.5	30-180	30	180
													Open Borehole	5		None	
TTU-13	7/20/2018	33 29 58.99	-111 42 56.85	NP	NP	1310.79	NP	1.46	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85283	Steel	5.5	30-80	30	80
													Open Borehole	5		None	
TTU-14	7/19/2018	33 29 57.20	-111 42 57.46	NP	NP	1319.30	1316.80	1.38	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85284	Steel	5.5	45-100	45	100
													Open Borehole	5		None	
TTU-15	1/25/2018	33 29 56.78	-111 42 47.03	NP	NP	1350.85	NP	1.88	55-228014	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85285	Steel	5	10-100	10	100
													Open Borehole	4.5		None	
TTU-16	1/28/2020	33 29 56.18	-111 42 49.59	NP	NP	1338.55	NP	1.19	55-231730	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85286	Steel	8	20-95.6	20	95.6
													Open Borehole	8		None	
TTU-17	1/28/2020	33 29 58.61	-111 42 45.69	NP	NP	1347.49	NP	0.60	55-231735	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85287	Steel	8	20-101	20	101
													Open Borehole	8		None	
TTU-18	1/25/2020	33 29 47.20	-111 42 58.10	NP	NP	1320.25	NP	NP	55-231737	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85288	Steel	8	21-140	21	140
													Open Borehole	8		None	
TTU-20	9/24/2020	33 29 55.17	-111 42 51.58	NP	NP	1336.90	NP	0.85	55-232968	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85288	PVC	4	25-95	95	100

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Extraction and Injection Wells																	
TTU-1	6/6/2012	33 29 59.14	-111 42 56.27	NP	NAVD 88	1312.73	1309.70	3.03	55-914440	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85277	PVC	4	30-70	75	200
TTU-2	10/17/2013	33 29 55.85	-111 42 57.85	NP	NAVD 88	1314.44	1311.80	2.64	N/A	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85278	PVC	4	49.4-179.6	185	187.5
TTU-11	9/11/2015	33 29 55.28	-111 42 51.47	NP	NAVD 88	1339.20	1336.60	2.60	55-918534	Extraction/ Injection ¹	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	24.1-89.1	94	136
TTU-19	9/24/2020	33 29 55.25	-111 42 51.50	NP	NP	1336.67	NP	NP	55-232969	Monitoring/ Injection ²	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85288	PVC	4	25-95	95	96
TTU-EX-1	1/25/2020	33 29 58.42	-111 42 52.55	NP	NP	1321.69	NP	1.60	55-231733	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85288	Steel	8	19-110.7	19	110.7
													Open Borehole	8		None	
TTU-EX-2	1/23/2020	33 29 57.61	-111 42 53.79	NP	NP	1316.40	NP	1.10	55-231734	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85289	Steel	8	20-110	20	110
													Open Borehole	8		None	
TTU-EX-3	1/24/2020	33 29 56.29	-111 42 54.12	NP	NP	1316.85	NP	0.58	55-231731	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85290	Steel	8	20-101.45	20	111
													Open Borehole	8		None	
TTU-EX-4	1/24/2020	33 29 55.46	-111 42 54.39	NP	NP	1319.96	NP	1.42	55-231732	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85291	Steel	8	20-110.7	20	110.7
													Open Borehole	8		None	
TTU-EX-5	1/24/2020	33 29 54.68	-111 42 54.62	NP	NP	1319.50	NP	0.96	55-231736	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85292	Steel	8	20-110.8	20	110.8
													Open Borehole	8		None	
Production Wells																	
PF-1	NP	33 29 56.60	-111 43 09.75	NP	NP	1295.99	NP	NP	N/A	Production	University of Washington	4202 N Higley Rd Mesa, AZ 85215	Unknown	Unknown	Unknown	Unknown	Unknown
PF-2	3/27/2013	33 29 56.65	-111 43 09.96	NP	NP	1296.35	NP	NP	N/A	Production	University of Washington	4202 N Higley Rd Mesa, AZ 85215	Steel	6 5/8	300-400	400	400

Notes:

ft asml = feet above mean sea level (NAVD88)
 ADWR = Arizona Department of Water Resources
 Const = construction
 in = inches

N/A = Not applicable
 PVC = polyvinyl chloride
 ft bgs = feet below ground surface

TTU = Thermal Treatment Unit
 EX = Extraction
 PF = Primate Facility

NP = Not Provided
 Drill Log TOC Different from Original
 Drill Log TOC listed

- (1) - TTU-11 was converted from an extraction well to an injection well in October 2020 for a In-Situ Bioremediation Pilot Test.
 - (2) - TTU-19 was converted from a monitoring well to an injection well in February 2021 for an In-Situ Bioremediation Pilot Test
 - (3) - Monitoring well stick-up was measured using a tape measure to the top of the protective casing and not to the top of the well casing as no survey equipment was utilized.
- TTU-EX-1 through TTU-EX-5 are not currently operating as extraction wells. TTU-11 and TTU-19 are not currently operating as injection wells.

TABLE 2:
GROUNDWATER ELEVATIONS - FOURTH QUARTER 2022
 FORMER THERMAL TREATMENT UNIT
 NAMMO DEFENSE SYSTEMS INC.

Location	Northing (intl ft)	Easting (intl ft)	Top of Casing Elevation (ft asml)	Date Measured	Depth to Water (ft btoc)	Groundwater Elevation (ft asml)
TTU-1	909420.734	761281.203	1312.73	11/28/2022	37.41	1,275.32
TTU-2	909087.852	761148.265	1314.44	11/28/2022	62.41	1,252.03
TTU-3	909303.363	760888.204	1308.03	11/30/2022	94.73	1,213.30
TTU-4	909673.680	761041.975	1305.12	11/30/2022	53.56	1,251.56
TTU-5	908747.636	761102.227	1314.93	11/29/2022	72.86	1,242.07
TTU-6	909260.820	760560.096	1300.84	11/30/2022	129.48	1,171.36
TTU-7	909287.611	760527.269	1301.84	11/30/2022	134.34	1,167.50
TTU-8	909699.266	760514.908	1310.23	11/30/2022	152.35	1,157.88
TTU-9A	909974.490	761710.151	1318.04	11/29/2022	29.25	1,288.79
TTU-10	908960.114	760297.013	1302.42	11/30/2022	166.41	1,136.01
TTU-11	909029.758	761706.470	1339.20	11/30/2022	31.04	1,308.16
TTU-12	909105.990	761103.280	1312.21	11/29/2022	75.03	1,237.18
TTU-13	909405.920	761232.180	1310.79	11/29/2022	39.56	1,271.23
TTU-14	909224.260	761181.230	1316.80	11/29/2022	60.31	1,256.49
TTU-15	909185.100	762065.910	1350.85	11/29/2022	29.76	1,321.09
TTU-16	909124.980	761848.851	1338.55	11/29/2022	19.03	1,319.52
TTU-17	909370.903	762179.168	1347.49	11/29/2022	38.35	1,309.14
TTU-18	908215.829	761130.011	1320.25	11/30/2022		DRY
TTU-19	909030.750	761687.700	1336.81	11/30/2022	29.37	1,307.44
TTU-20	909022.530	761681.990	1336.90	11/30/2022	31.30	1,305.60
TTU-EX-1	909350.574	761597.823	1321.69	11/29/2022	19.95	1,301.74
TTU-EX-2	909268.187	761493.214	1316.40	11/29/2022	26.75	1,289.65
TTU-EX-3	909134.941	761465.507	1316.85	11/29/2022	34.06	1,282.79
TTU-EX-4	909051.298	761442.876	1319.96	11/29/2022	41.31	1,278.65
TTU-EX-5	908971.770	761423.325	1319.50	11/29/2022	40.60	1,278.90
PF-1	909161.578	760140.434	1295.99	N/A	N/A	N/A
PF-2	909166.890	760122.250	1296.35	11/30/2022	N/A	N/A

Notes:

intl ft - international foot

ft asml - feet above mean sea level

ft btoc - feet below top of casing

NM - not measured

N/A - not applicable

TABLE 3:
SUMMARY OF PERCHLORATE CONCENTRATIONS - FOURTH QUARTER 2022
 FORMER THERMAL TREATMENT UNIT
 NAMMO DEFENSE SYSTEMS INC.

Location	Sample Depth (ft btoc)	Sample Date	Sample Type	Perchlorate		
				EPA Method	314	6850
				Units	µg/l	
				HBGL	14	
					Concentration	
TTU-1	50	11/28/2022	Primary	6,990	--	
TTU-2	114.5	11/28/2022	Primary	179,000	--	
TTU-3	108	11/30/2022	Primary	70.0	--	
DUP-02			Duplicate	78.2^V	--	
TTU-4	57	11/30/2022	Primary	1.72 ^J	--	
TTU-5	110	11/29/2022	Primary	40.6	--	
TTU-6	143	11/30/2022	Primary	144	--	
		12/22/2022	Primary	153	--	
TTU-7	345	11/30/2022	Primary	<4.00	--	
TTU-8	164	11/30/2022	Primary	1.77 ^J	--	
TTU-9A	61	11/29/2022	Primary	5.75	--	
TTU-10	165	11/30/2022	Primary	<4.00	--	
TTU-11	73	11/30/2022	Primary	<4.00	--	
TTU-12	82	11/29/2022	Primary	141,000	--	
TTU-13	51	11/29/2022	Primary	23,300	--	
TTU-14	64	11/29/2022	Primary	148,000	--	
TTU-15	75	11/29/2022	Primary	7,160	--	
TTU-16	80	11/29/2022	Primary	859,000	--	
TTU-17	80	11/29/2022	Primary	13.3	--	
DUP-01			Duplicate	2.76 ^J	--	
TTU-19	73	11/30/2022	Primary	120	--	
TTU-20	73	11/30/2022	Primary	581,000	--	
TTU-EX-1	69	11/29/2022	Primary	97,100	--	
TTU-EX-2	74	11/29/2022	Primary	47,700	--	
TTU-EX-3	76	11/29/2022	Primary	497,000	--	
TTU-EX-4	77	11/29/2022	Primary	98,700	--	
TTU-EX-5	80	11/29/2022	Primary	1.44 ^{JPI}	--	
PF-2	400	11/30/2022	Primary	--	<0.50	

Notes:

ft btoc - feet below top of casing

µg/l - micrograms per liter

EPA - United States Environmental Protection Agency

HBGL - Health-Based Guidance Level

<Grey - Concentration is below laboratory reporting limits

-- - Not reported

BOLD - Concentration exceeds its respective HBGL

J - The identification of the analyte is acceptable; the reported value is an estimate.

PI - RPD value not applicable for sample concentrations less than 5 times the reporting limit

V - The sample concentration is too high to evaluate accurate spike recoveries.

**TABLE 4:
SUMMARY OF DETECTED VOC CONCENTRATIONS - FOURTH QUARTER 2022
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

Chemical Name		1,4-Dioxane	Acetone	1,1-dichloroethane	1,1-dichloroethene	1,2-dichloroethane	Benzene	Carbon Disulfide	Chloroethane	Chloroform	cis-1,2-dichloroethene	Dichloromethane (methylene chloride)	Isopropylbenzene	Propene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	1,1,2-trichloroethane	Trichloroethene	Vinyl chloride	2-butanone (MEK)	Methyl Cyclohexane	4-methyl-2-pentanone (MIBK)	Xylene Total		
EPA Method		8260B SIM																								
Unit		µg/l																								
Location	Sample Depth (ft btoc)	Screening Level	3.5 ⁽¹⁾	1800 ⁽²⁾	2.8 ⁽²⁾	7	5	81 ⁽²⁾	NE	80 ⁽²⁾	70	5	45 ⁽²⁾	NE	5	1000	100	5	5	2	560 ⁽²⁾	NE	630 ⁽²⁾	10000		
	Sample Date																									
PF-2*	400	11/30/2022	<0.597	<11.3	<0.1	<0.188	<0.0819	<0.0941	<0.0962	<0.192	<0.111	<0.126	<0.430	<0.105	<0.936	<0.3	<0.278	<0.149	<0.158	<0.19	<0.234	<1.19	<0.66	<0.478	<0.174	
TTU-1	50	11/28/2022	11.8^B	<50.0	<1	1.39	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	4.86	<1	<10	<1	<10	<3	
TTU-2	114.5	11/28/2022	230^V	<500	1.07^J	86.9	<10	1.23^J	<10	5.86^J	1.84^J	<10	<50	<10	<25	<10	<10	<10	<10	643^V	<10	<100	<10	<100	<30	
TTU-3	108	11/30/2022	<3	<50	<1	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<10	<1	<10	<3		
DUP-02			<3	<50	<1	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-4	57	11/30/2022	1.84^J	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-5	110	11/29/2022	21.5	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-6	143	11/30/2022	<3	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-7	345	11/30/2022	<3	<50	<1	<1	<1	0.119^J	<1	<5	<5	<1	<5	0.130^J	3.75	<1	0.888^J	<1	<1	<1	<10	<1	<10	0.223^J		
TTU-8	164	11/30/2022	<3	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-9A	61	11/29/2022	<3	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-10	165	11/30/2022	<3	<50	<1	<1	<1	<1	<5	<5	<1	<5	<1	<2.5	<1	<1	<1	<1	<1	<1	<10	<1	<10	<3		
TTU-11	73	11/30/2022	<3	825	<10	6.96^J	<10	<10	<10	<50	<50	15.1	<50	<10	<25	<10	<10	<10	<10	71.5	<10	446	<10	113	<3 ^{NS}	
TTU-12	82	11/29/2022	117	<500	<10	59.3	<10	<10	<10	<50	1.29^J	<10	<50	<10	<25	<10	<10	<10	<10	463	<10	<100	<10	<100	<30	
TTU-13	51	11/29/2022	33.5	<50	<1	4.92	<1	<1	<1	<5	<1	<5	<1	<2.5	<1	0.422^J	<1	<1	<1	12.7	<1	<10	<1	<10	<3	
TTU-14	64	11/29/2022	288	<500	1.14^J	118	<10	1.65^J	<10	<50	1.87^J	1.88^J	<50	<10	<25	<10	<10	<10	<10	2.06^J	882	<10	<100	<10	<100	<30
TTU-15	75	11/29/2022	27.5	<50	<1	0.967^J	<1	<1	<1	<5	<5	1.09	<5	<1	<2.5	<1	<1	<1	<1	5.13	<1	<10	<1	<10	<3	
TTU-16	80	11/29/2022	3,180	1,450^J	56.9^J	3,730	<100	245	<100	<500	83.8^J	12.6^J	87,000	<100	<250	65.6^J	61.0^J	<100	73.1^J	80,000	<100	<1000	<100	<1000	44.8^J	
TTU-17	80	11/29/2022	264	<50	<1	<1	<1	<1	<5	<5	0.750^J	<5	<1	<2.5	<1	0.465^J	<1	<1	<1	1.41	<1	<10	<1	<10	<3	
DUP-01			2.11^B	<50	<1	<1	<1	<1	<1	<5	<5	0.756^J	<5	<1	<2.5	<1	0.497^J	<1	<1	<1	1.57	<1	<10	<1	<10	<3
TTU-19	73	11/30/2022	<3	331	<5	53.5	<5	5.24	1.24^J	<25	<25	78.7	6.60^J	<5	<12.5	<5	<5	3.82^J	<5	360	3.34^J	436	<5	5.05^J	<15	
TTU-20	73	11/30/2022	1,490	<5000	29.0^J	2660	<100	73.9^J	<100	<500	18.9^J	154	69.3^J	<100	<250	<100	<100	21.7^J	<100	12,400	<100	<1000	<100	<1000	<300	
TTU-EX-1	69	11/29/2022	105	<50	0.184^J	28.5	<1	<1	<1	<1	0.254^J	<1	<5	<1	<2.5	<1	<1	<1	0.280^J	59.1	<1	<10	<1	<10	<3	
TTU-EX-2	74	11/29/2022	143	<50	0.287^J	50.8	0.424^J	0.312^J	<1	<1	0.550^J	0.507^J	<5	<1	<2.5	0.526^J	<1	<1	0.742^J	197	<1	<10	<1	<10	<3	
TTU-EX-3	76	11/29/2022	735	<2500	7.77^J	796	<50	11.5^J	<50	<250	12.6^J	<50	<250	<125	<50	<50	<50	<50	9.46^J	6,620	<50	<50	81.9	<500	<150	
TTU-EX-4	77	11/29/2022	51.5	<1,000	<20	84.2	<20	<20	<20	<100	<100	3.03^J	<100	<20	<50	<20	<20	<20	<20	612	<20	<200	<20	<200	<60	
TTU-EX-5	80	11/29/2022	3.40^B	<50	<1	<1	<1	<1	<1	<1	<5	0.188^J	<5	<1	<2.5	<1	1.12	<1	<1	4.51	<1	<10	<1	<10	<3	

Notes:
ft btoc - feet below top of casing
µg/l - micrograms per liter
AWQS - Arizona Aquifer Water Quality Standard
NE - Not established, no aquifer water quality standard
EPA - Environmental Protection Agency
* Reported to Method Detection Limit
NA - Not Analyzed
SIM - Selected Ion Monitoring
<Gray - Concentration is below laboratory reporting limits
... - Not reported
BOLD - Concentration exceeds its respective AWQS or screening level
NS - Not Sampled
(1) - Interim Screening Level
(2) - Top water regional screening level, AWQS has not been established

B - Target analyte detected in method blank or above the method reporting limit
J - The identification of the analyte is acceptable; the reported value is an estimate.
V - The sample concentration is too high to evaluate accurate spike recoveries.

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
PF-1	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
PF-2	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Duplicate		<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Duplicate		<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	8/6/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/31/2022	<3	<1 ^{R7}
	Duplicate		<3	<1 ^{R7}
	Primary	6/21/2022	<3	<1 ^{J3}
	Duplicate		<3	<1
	Primary	9/9/2022	<3	<1
Primary	11/30/2022	<3	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-1	Primary	11/18/2014	--	6.10
	Primary	12/23/2014	--	8.80
	Primary	2/5/2015	26.0	10.0
	Primary	5/18/2015	20.0	6.10
	Primary	9/9/2015	17.0	5.20
	Primary	11/23/2015	14.0	5.10
	Primary	2/25/2016	11.0	4.60
	Primary	6/1/2016	12.7	3.03
	Primary	8/18/2016	11.0	3.70
	Primary	11/22/2016	27.0	5.50
	Primary	2/22/2017	18.4	5.50
	Primary	5/23/2017	14.1	7.20
	Primary	8/29/2017	11.0	1.40
	Primary	11/27/2017	17.7	7.10
	Duplicate		18.1	7.20
	Primary	3/27/2018	17.1	4.60
	Primary	9/12/2018	31.8	11.20
	Duplicate		29.1	12.40
	Primary	12/4/2018	7.30	4.40
	Primary	9/16/2019	13.9	5.72
	Duplicate		10.8	4.85
	Primary	12/20/2019	5.06	5.19
	Primary	3/12/2020	4.63 ^J	3.91
	Primary	6/18/2020	17.1	7.60
	Primary	7/20/2020	3.71	6.09
	Primary	12/2/2020	29.9	1.33
	Primary	3/30/2021	18.9 ^J	6.40
	Primary	5/6/2021	22.0	17.1 ^J
	Primary	7/29/2021	37.7	14.3
	Primary	12/22/2021	11.1	8.82
	Primary	3/26/2022	18.4	3.72
	Duplicate		19.9	4.46
	Primary	6/16/2022	17.5 ^{T8}	4.42
Duplicate	35.5		4.12	
Primary	10/11/2022	15.1	5.13	
Duplicate		14.5	5.85	
Primary	11/28/2022	11.8 ^{B1}	4.86	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-2	Primary	11/18/2014	--	370
	Primary	12/23/2014	--	280
	Primary	2/5/2015	170	280
	Primary	5/18/2015	160	190
	Primary	9/9/2015	170	200
	Primary	11/23/2015	140	150
	Primary	2/25/2016	110	150
	Primary	6/1/2016	88.2	50.3
	Primary	8/18/2016	150	360
	Primary	11/22/2016	260	780
	Primary	2/22/2017	244	727
	Primary	5/23/2017	222	880
	Primary	8/29/2017	241	93.2
	Duplicate		227	89.7
	Primary	11/27/2017	235	353
	Primary	3/27/2018	219	236
	Duplicate		152	274
	Primary	6/28/2018	246	498
	Primary	9/10/2018	246	433
	Primary	12/4/2018	232	288
	Primary	3/25/2019	313	364
	Primary	9/16/2019	295	475
	Primary	12/20/2019	211	711
	Duplicate		215	742
	Primary	3/12/2020	227 ^J	511
	Primary	6/18/2020	292	824
	Primary	7/20/2020	156	959
	Primary	12/2/2020	329	785
	Primary	3/30/2021	196 ^J	656
	Duplicate		244 ^J	720
	Primary	5/6/2021	316	683
	Primary	7/29/2021	373	654
	Primary	12/22/2021	280	627
	Duplicate		281	653
Primary	3/26/2022	251	823	
Primary	6/16/2022	246 ^{T8}	443	
Primary	10/10/2022	170	596 ^V	
Primary	11/28/2022	230 ^{M3}	643 ^{M3}	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-3	Primary	6/1/2016	1.24	--
	Primary	5/23/2017	--	2.50
	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Primary	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Duplicate		<3	<1
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	0.454 ¹
	Primary	6/14/2022	<3 ^{J3}	<1 ^{J3}
	Primary	9/9/2022	<3	<1
	Primary	11/30/2022	<3	<1
Duplicate	<3		<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-4	Primary	5/23/2017	--	0.310
	Primary	3/27/2018	<3	< 0.40
	Duplicate		<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Duplicate		<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Duplicate		<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Duplicate		<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Primary	7/21/2020	<3	<1
	Duplicate		<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Duplicate		<3	<1
	Primary	7/30/2021	<3	<1
	Duplicate		<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
	Duplicate		2.59	<1
	Primary	6/14/2022	11.1	<1 ^{J3}
	Primary	7/21/2022	<3	NA
	Duplicate		<3	NA
	Primary	9/9/2022	<3	<1
Primary	11/30/2022	1.84 ^{E4}	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-5	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/20/2019	<3	<1
	Primary	3/12/2020	<3	<1
	Primary	6/17/2020	<3	<1
	Primary	7/20/2020	<3	<1
	Primary	12/2/2020	<3	0.877 ^J
	Primary	3/30/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	7/29/2021	<3	<1
	Primary	11/17/2021	<3	<1
	Primary	3/21/2022	<3	0.640 ^J
	Primary	6/13/2022	130	<1
	Primary	7/21/2022	<3	NS
	Primary	9/9/2022	<3	<1
Primary	11/29/2022	21.5	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-6	Primary	8/29/2017	--	0.380
	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Duplicate		<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Primary	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
	Primary	6/14/2022	<3 ^{J3}	<1
	Primary	9/9/2022	<3	<1
Primary	11/30/2022	<3	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-7	Primary	8/18/2016	2.50	--
	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Duplicate		<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Primary	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
	Primary	6/14/2022	<3 ^{J3}	<1 ^{J3}
	Primary	9/9/2022	<3	<1
Primary	11/30/2022	<3	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-8	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/16/2020	<3	<1
	Duplicate		<3	<1
	Primary	6/18/2020	<3	<1
	Duplicate		<3	<1
	Primary	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
	Primary	6/14/2022	<3	<1
	Primary	9/9/2022	<3	<1
	Duplicate		<3	<1
	Primary	11/30/2022	<3	<1

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-9A	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	<1
	Primary	6/7/2019	<3	<1
	Primary	9/16/2019	<3	<1
	Primary	12/20/2019	1.01 ^J	<1
	Primary	3/12/2020	11.9^J	<1
	Primary	6/17/2020	<3	<1
	Primary	7/20/2020	<3	<1
	Primary	12/2/2020	<3	6.46^J
	Primary	3/30/2021	<3	7.53
	Primary	5/6/2021	<3	4.76
	Primary	7/29/2021	<3	2.75
	Primary	11/17/2021	<3	0.911 ^J
	Duplicate		<3	0.985 ^J
	Primary	3/22/2022	<3	0.944 ^J
	Primary	6/13/2022	4.82	<1
	Primary	7/21/2022	<3	NS
Primary	9/8/2022	<3	<1	
Primary	11/29/2022	<3	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-10	Primary	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Primary	3/26/2019	<3	< 1.0
	Primary	6/27/2019	<3	NS
	Primary	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Primary	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Primary	8/6/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	1.58	<1
	Primary	6/14/2022	<3 ^{J3}	<1
	Duplicate		<3 ^{J3}	<1
	Primary	9/9/2022	<3	<1
Primary	11/30/2022	<3	<1	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-11	Primary	9/23/2015	380	3,100
	Duplicate		400	3,100
	Primary	11/23/2015	270	2,900
	Primary	2/25/2016	250	2,400
	Primary	6/1/2016	282	1,600
	Primary	8/18/2016	240	1,800
	Primary	11/22/2016	310	2,500
	Duplicate		340	2,400
	Primary	2/22/2017	222	2,010
	Duplicate		224	2,080
	Primary	5/23/2017	201	1,560
	Duplicate		192	1,710
	Primary	8/29/2017	1,450	807
	Primary	3/27/2018	671	461
	Primary	9/12/2018	1,060	4,650
	Primary	12/4/2018	1,820	14,500
	Duplicate		1,840	14,800
	Primary	9/16/2019	1,510	11,200
	Primary	12/20/2019	855 ^J	11,500
	Duplicate		907 ^J	9,400
	Primary	3/12/2020	863	6,780
	Primary	6/18/2020	1,570	15,000
	Primary	7/20/2020	977	17,600
	Primary	6/20/2022	<3	56.3
	Primary	9/3/2022	<3	58.2
	Primary	11/30/2022	<3	71.5

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-12	Primary	8/29/2017	85.7	335
	Primary	11/27/2017	84.1	301
	Primary	3/27/2018	85.5	484
	Primary	6/28/2018	108	339
	Primary	9/10/2018	91	460
	Primary	12/10/2018	107	454
	Primary	3/25/2019	136	176
	Primary	6/7/2019	120	507
	Primary	9/16/2019	160	543
	Primary	12/20/2019	106	567
	Primary	3/12/2020	94.8 ^J	407
	Primary	6/17/2020	184	471
	Primary	7/20/2020	82.2	547
	Primary	7/29/2021	176	466
	Primary	11/18/2021	133	624
	Duplicate		141	617
	Primary	3/22/2022	149	538
	Primary	6/13/2022	170	487
	Primary	9/9/2022	119	529
	Primary	11/29/2022	117	463

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-13	Primary	8/29/2017	4.00	2.60
	Primary	11/27/2017	14.1	5.70
	Primary	3/27/2018	18.3	7.30
	Primary	6/28/2018	33.9	12.6
	Primary	9/10/2018	47.3	24.2
	Primary	12/10/2018	45.2	20.1
	Primary	3/25/2019	55.8	21.7
	Primary	6/7/2019	39.9	22.6
	Primary	9/16/2019	58.0	18.3
	Primary	12/20/2019	40.2	17.0
	Primary	3/16/2020	32.2 ^J	15.4
	Duplicate		33.5 ^J	14.9
	Primary	6/17/2020	48.5	14.6
	Duplicate		54.1	16.6
	Primary	7/20/2020	29.6	13.3
	Duplicate		27.7	13.8
	Primary	12/3/2020	25.3	11.2 ^J
	Primary	3/30/2021	37.7 ^J	17.1
	Primary	5/6/2021	37.9	12.9
	Primary	7/29/2021	58.6	11.1
	Primary	11/18/2021	3.26	1.44 ^J
	Primary	3/22/2022	9.96	5.76
	Primary	6/13/2022	28.9	5.52
Primary	9/8/2022	13.7	7.06	
Primary	11/29/2022	33.5	12.7	

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-14	Primary	8/29/2017	367	657
	Primary	11/27/2017	356	828
	Primary	3/27/2018	363	1,030
	Primary	6/28/2018	381	875
	Primary	9/10/2018	338	689
	Primary	12/17/2018	331	694
	Primary	3/27/2019	356	780
	Primary	6/27/2019	427	--
	Primary	9/16/2019	422	921
	Primary	12/20/2019	280	1,060
	Primary	3/12/2020	278 ^J	880
	Primary	6/17/2020	504	891
	Primary	7/20/2020	241	1,210
	Primary	12/2/2020	388	917
	Primary	3/30/2021	280 ^J	990
	Primary	5/6/2021	370	831
	Primary	7/29/2021	493	966
	Primary	11/18/2021	279	917
	Primary	3/22/2022	339	908
	Duplicate		321	879
Primary	6/14/2022	297 ^{J3}	1,040	
Primary	9/9/2022	297	1,020	
Primary	11/29/2022	288	882	
TTU-15	Primary	3/27/2019	3.54	<1
	Primary	9/16/2019	3.95	<1
	Primary	12/20/2019	6.09	<1
	Primary	3/12/2020	3.02	<1
	Primary	6/17/2020	5.32	<1
	Primary	7/20/2020	2.81 ^J	<1
	Primary	12/2/2020	<3	3.10
	Primary	3/29/2021	5.33 ^J	12.9
	Primary	5/5/2021	3.83	11.7
	Primary	7/29/2021	6.26	13.0
	Primary	11/17/2021	5.90	10.3
	Primary	3/21/2022	6.93	7.89
	Primary	6/13/2022	9.83	6.23
	Primary	9/8/2022	8.21	6.08
	Primary	11/29/2022	27.5	5.13

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-16	Primary	3/13/2020	2,470 ^J	51,500
	Primary	6/17/2020	4,310	68,400
	Duplicate		5,610	70,200
	Primary	7/20/2020	2,220 ^J	92,200
	Primary	12/2/2020	1,730	80,000
	Duplicate		1,990	96,000
	Primary	3/29/2021	2,880	76,800
	Duplicate		2,550	71,800
	Primary	5/5/2021	4,920	77,400 ^J
	Duplicate		5,270	38,500 ^J
	Primary	7/29/2021	5,140	86,000
	Duplicate		5,710	87,300
	Primary	11/17/2021	3,930	93,200
	Primary	3/21/2022	5,430	103,000
	Primary	6/13/2022	3,600 ^{J3}	96,500
	Primary	9/8/2022	3,820 ^{J3}	9,520
Primary	11/29/2022	3,180	80,000	
TTU-17	Primary	3/13/2020	< 0.424	0.463 ^J
	Primary	6/17/2020	<3	0.321 ^J
	Primary	7/20/2020	<3	0.367 ^J
	Primary	12/2/2020	<3	1.56
	Primary	3/29/2021	<3	5.00
	Primary	5/5/2021	<3	4.13
	Primary	7/29/2021	<3	3.99
	Primary	11/17/2021	<3	3.08
	Primary	3/21/2022	4.75	3.51
	Primary	6/13/2022	10.1	2.10
	Primary	9/8/2022	242	2.10
	Primary	11/29/2022	264	1.41
	Duplicate		2.11 ^{B1 E4}	1.57
TTU-19	Primary	9/23/2021	70.4 ^J	478
	Primary	6/20/2021	<3	189
	Duplicate		<3	373
	Primary	9/3/2022	152 ^Q	293
	Primary	11/30/2022	<3	360

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-20	Primary	11/18/2021	2,140	13,400
	Primary	9/23/2021	841 ^J	14,300
	Primary	6/16/2021	1,540 ^{T8}	10,800
	Primary	9/3/2022	1,140 ^Q	13,200 ^{J4}
	Duplicate		1,250 ^Q	10,700
	Primary	11/30/2022	1490	12,400
TTU-EX-1	Primary	3/13/2020	24.5	265
	Primary	6/17/2020	284	168
	Primary	7/20/2020	207	163
	Primary	12/2/2020	466	240
	Primary	3/29/2021	340 ^J	262
	Primary	5/5/2021	258	286
	Primary	7/29/2021	702	372
	Primary	11/17/2021	112	79.0
	Primary	3/21/2022	244	181
	Primary	6/13/2022	324 ^{J3}	174
	Primary	9/8/2022	68.2	75.1
	Primary	11/29/2022	105	59.1
	TTU-EX-2	Primary	3/13/2020	198 ^J
Primary		6/17/2020	405	549
Primary		7/20/2020	212	561
Primary		12/2/2020	424	506
Primary		3/30/2021	334 ^J	634
Primary		5/5/2021	218	536
Primary		7/29/2021	523	630
Primary		11/17/2021	158	238
Primary		3/21/2022	213	234
Primary		6/13/2022	189 ^{J3}	315
Primary		9/8/2022	74.9	68.1
Primary		11/29/2022	143	197

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-EX-3	Primary	3/13/2020	175 ^J	5,960
	Primary	6/17/2020	785	6,050
	Primary	7/20/2020	610	7,390
	Primary	12/2/2020	805 ^J	5,970 ^J
	Primary	3/30/2021	697	5,560
	Primary	5/5/2021	536	5,540
	Primary	7/29/2021	1,010	7,260
	Primary	11/17/2021	909	8,120
	Duplicate		969	8,010
	Primary	3/21/2022	885	6,560
	Primary	6/13/2022	863 ^{J3}	6,020
	Primary	9/8/2022	741	7,720
	Primary	11/29/2022	735	6,620
	TTU-EX-4	Primary	3/13/2020	16.1
Primary		6/17/2020	23.7	1,040
Primary		7/20/2020	18.1	934
Primary		12/2/2020	20.7	501
Primary		3/30/2021	16.3	486
Primary		5/5/2021	12.8	420
Primary		7/29/2021	29.0	461
Primary		11/17/2021	16.1	755
Primary		3/21/2022	23.9	909
Primary		6/13/2022	27.4	579
Duplicate			26.1	635
Primary		9/8/2022	41.4	698
Primary		11/29/2022	51.5	612

**TABLE 5:
HISTORICAL 1,4-DIOXANE AND TCE CONCENTRATIONS
FORMER THERMAL TREATMENT UNIT
NAMMO DEFENSE SYSTEMS INC.**

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Location	Sample Type	Screening Level	3.5 ⁽¹⁾	5
		Sample Date		
TTU-EX-5	Primary	3/13/2020	< 0.476	0.929 ^J
	Duplicate		< 0.492	0.775 ^J
	Primary	6/17/2020	<3	0.456 ^J
	Primary	7/20/2020	<3	0.562 ^J
	Duplicate		<3	0.637 ^J
	Primary	12/2/2020	<3	4.18 ^J
	Duplicate		<3	3.89 ^J
	Primary	3/30/2021	<3	6.53
	Primary	5/5/2021	<3	5.52
	Primary	7/29/2021	<3	5.51
	Primary	11/17/2021	<3	6.91
	Primary	3/21/2022	<3	5.74
	Duplicate		<3	5.98
	Primary	6/13/2022	<3	5.58
	Primary	9/8/2022	2.16 ^J	4.96
	Duplicate		<3	5.06
	Primary	11/29/2022	3.40 ^{B1}	4.51

Notes:

µg/l - micrograms per liter

AWQS - Arizona Aquifer Water Quality Standard

EPA - Environmental Protection Agency

NA - Not Analyzed

NS - No sample collected

SIM - Selected Ion Monitoring

< - Concentration is below laboratory reporting limits

-- - Not reported

Bold /Shaded - Concentration exceeds its respective screening level

(1) - Interim Screen Level

V = The sample concentration is too high to evaluate accurate spike recoveries

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

J3 = The associated batch QC was outside the established quality control range for precision

J4 = The associated batch QC was outside the established quality control range for accuracy

T8 = Method used not listed in 40 CFR 136; alternate method chosen as acceptable per permit.

R7 = LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria

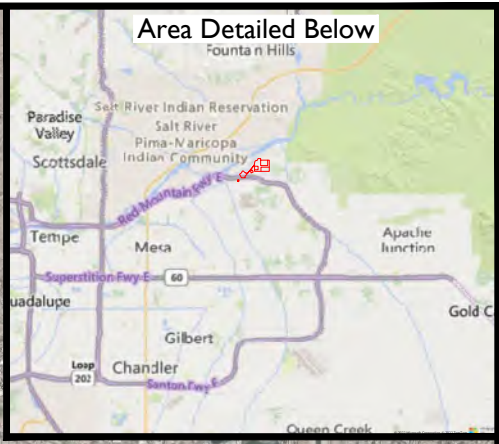
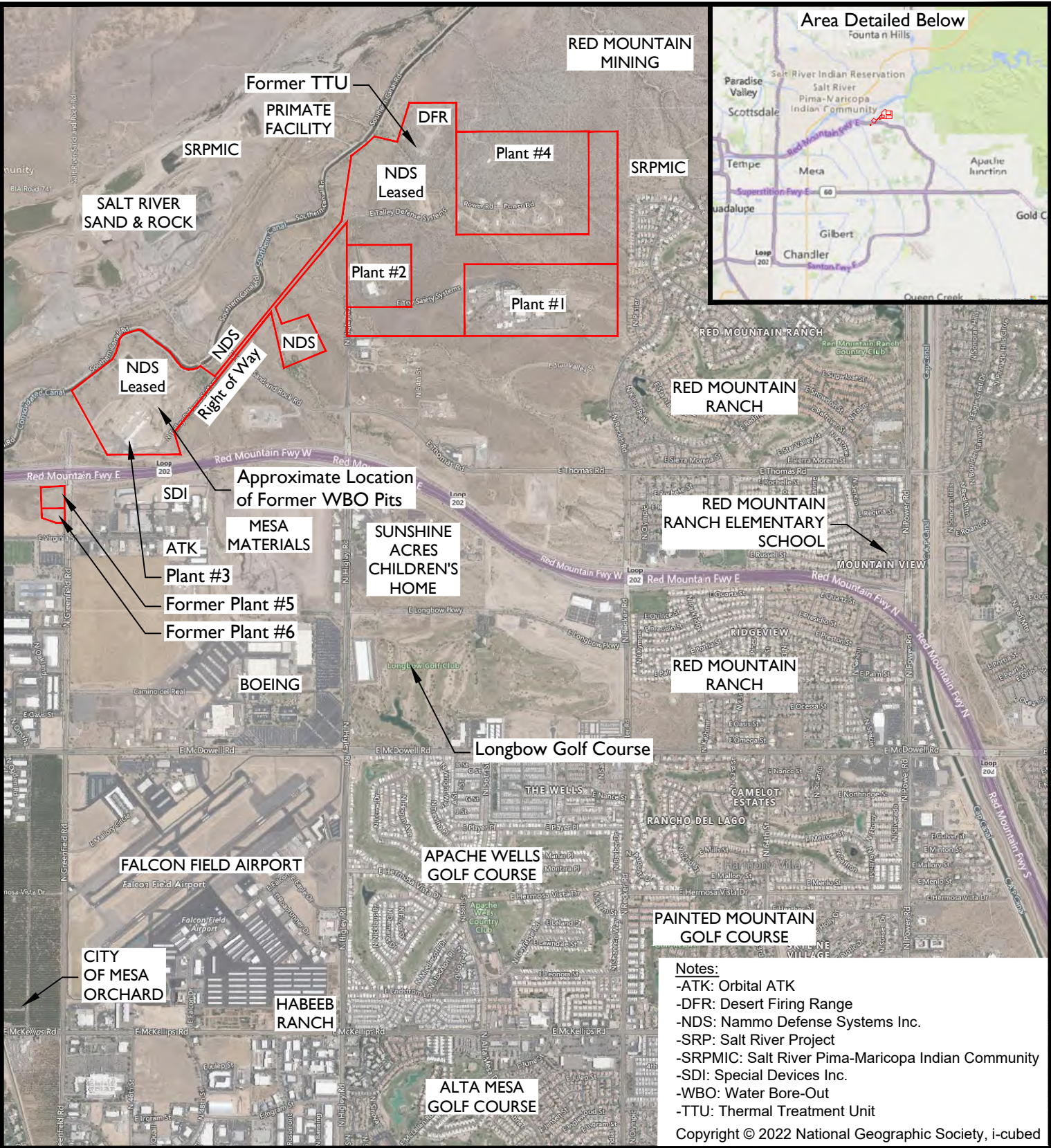
Q = Sample was prepared and/or analyzed past holding time as defined in the method.

Concentration should be considered minimum values

Figures

PLOT DATE: 3/13/2023

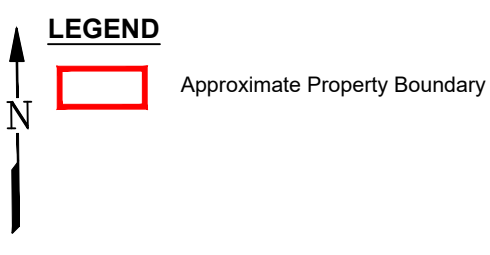
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Notes:

- ATK: Orbital ATK
- DFR: Desert Firing Range
- NDS: Nammo Defense Systems Inc.
- SRP: Salt River Project
- SRPMIC: Salt River Pima-Maricopa Indian Community
- SDI: Special Devices Inc.
- WBO: Water Bore-Out
- TTU: Thermal Treatment Unit

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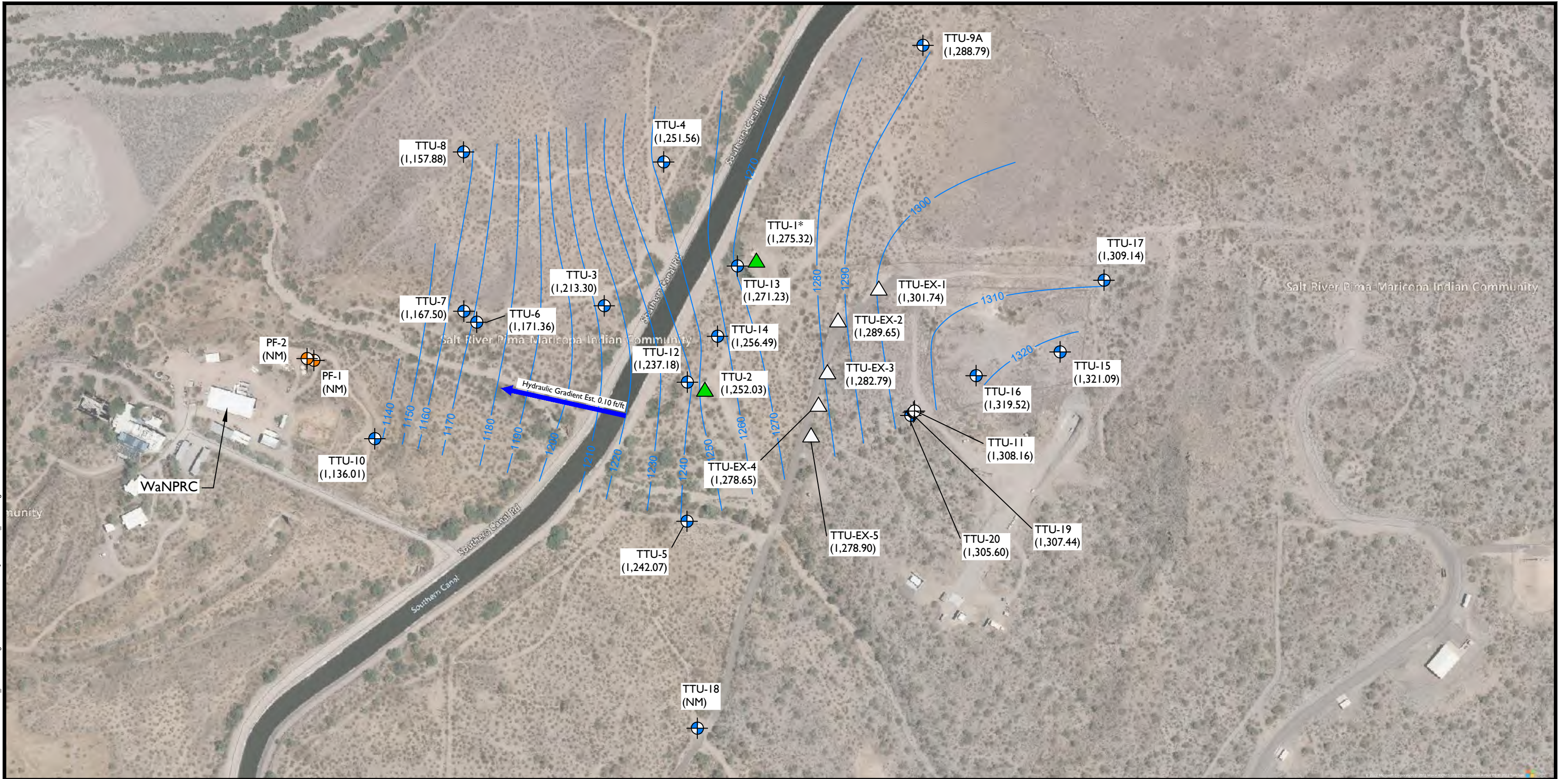
SITE VICINITY MAP

*Nammo Defense Systems Inc.
Former Thermal Treatment Unit (TTU)
Mesa, Arizona*

Site Location: Section 3, 15 and 27 Township 1N, Range 6E, Gila-Salt River Meridian	Drawn By: SJA	Figure: 1
Pinyon Project Number: 7/22-1522-01.REM001.4	Reviewed By: AP	Date: 3/13/2023

PLOT DATE: 3/13/2023

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LEGEND

- Extraction Well
- Monitoring Well
- Primate Production Well
- Extraction and Pilot Test Injection Well
- Monitoring / Injection Well
- Extraction Well Currently used for Monitoring
- TTU-1 = 1145.24 = Monitoring Well Location Groundwater Elevation (ft. amsl)
- Groundwater Elevation Contour (ft amsl) (Contour Interval: 10ft)
- Estimated Regional Groundwater Flow Direction

Notes:
 All locations are approximate.
 NM: Not Measured
 ft. amsl: feet above mean sea level.
 TTU-7 is a deep well and therefore it is not used for contouring.
 TTU-18 is dry and not sampled.

* - Data not used in contour preparation
 WaNPRC: Washington National Primate Research Center
 NDS: Nammo Defense Systems Inc.



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**QUARTERLY GROUNDWATER CONTOUR
 MAP - FOURTH QUARTER 2022**

Nammo Defense Systems Inc.
 Former Thermal Treatment Unit (TTU)
 Mesa, Arizona

Site Location: Section 23, Township 12N, Range 6E, Gila-Salt River Meridian

Pinyon Project Number: 7/22-1522-01.REM001.4

Drawn By: SJA

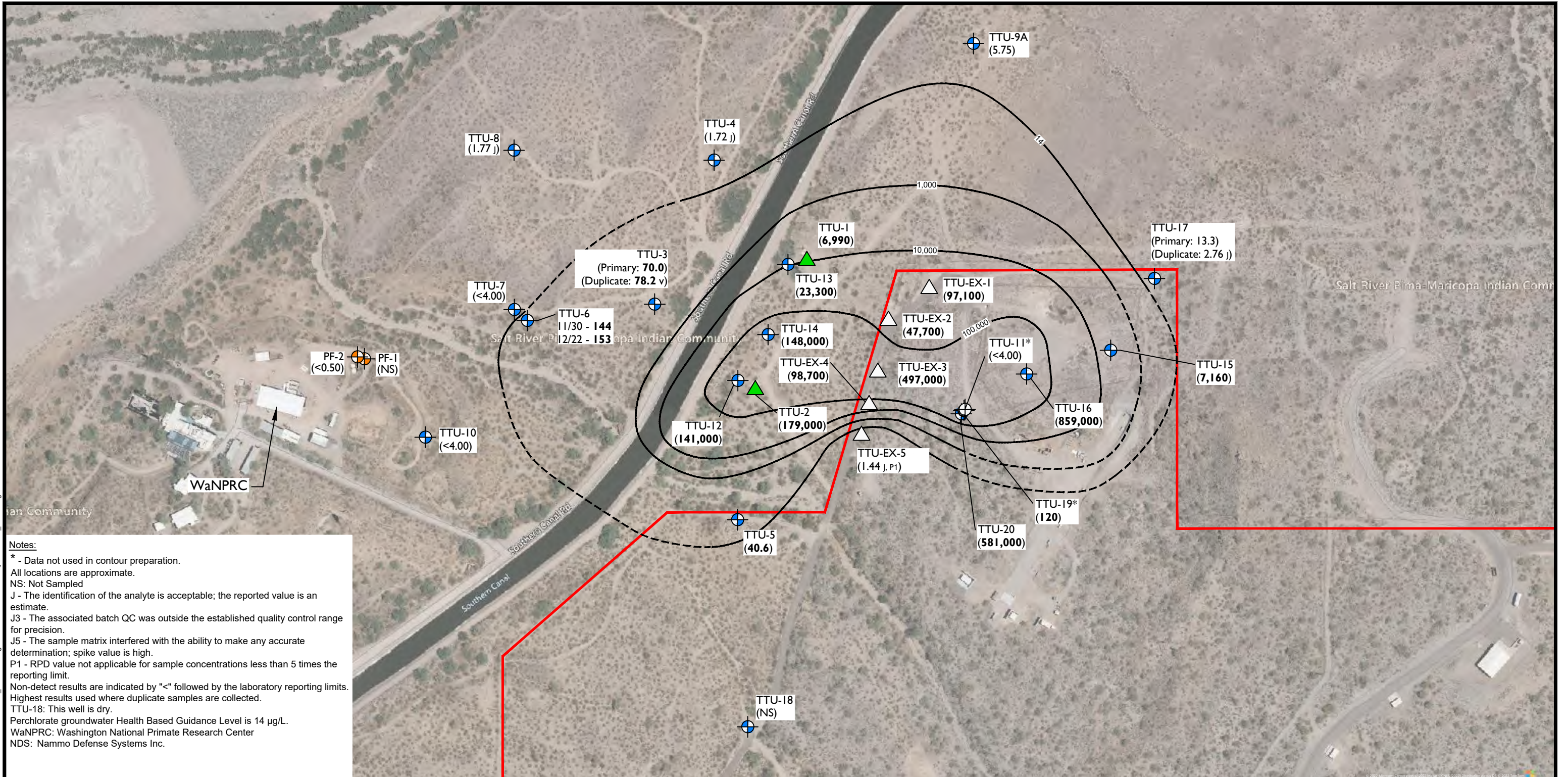
Figure: 2

Reviewed By: DW

Date: 3/13/2023

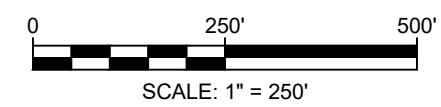
PLOT DATE: 3/14/2023

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Notes:
 * - Data not used in contour preparation.
 All locations are approximate.
 NS: Not Sampled
 J - The identification of the analyte is acceptable; the reported value is an estimate.
 J3 - The associated batch QC was outside the established quality control range for precision.
 J5 - The sample matrix interfered with the ability to make any accurate determination; spike value is high.
 P1 - RPD value not applicable for sample concentrations less than 5 times the reporting limit.
 Non-detect results are indicated by "<" followed by the laboratory reporting limits.
 Highest results used where duplicate samples are collected.
 TTU-18: This well is dry.
 Perchlorate groundwater Health Based Guidance Level is 14 µg/L.
 WaNPRC: Washington National Primate Research Center
 NDS: Nammo Defense Systems Inc.

LEGEND		40.6	Exceeds the 14 µg/L Screening Level
	Extraction Well		Monitoring / Injection Well
	Monitoring Well		Extraction Well Currently used for Monitoring
	Primate Facility Production Well	TTU-1 =	Monitoring Well Location
	Extraction and Pilot Test Injection Well	14,000 =	Perchlorate Concentration in micrograms per liter (µg/L)
			NDS Leased Property Boundary with SRP-MIC
			Perchlorate Concentration Contour (µg/l)



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PERCHLORATE DETECTIONS IN GROUNDWATER - FOURTH QUARTER 2022

Nammo Defense Systems Inc.
Former Thermal Treatment Unit (TTU)
Mesa, Arizona

Site Location: Section 23, Township 12N, Range 6E, Gila-Salt River Meridian

Pinyon Project Number: 7/22-1522-01.REM001.4

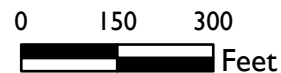
Drawn By: SJA	Figure: 3
Reviewed By: AP	Date: 3/14/2023

Coordinate System: NAD83 ARIZONA STATE PLANES, CENTRAL ZONE, US FOOT - AZ83-CF



Legend

- Extraction Well
- Extraction Well Currently Used for Monitoring
- Extraction/Injection Well
- Monitoring Well
- Private Production Well
- Estimated extent of 1,4-Dioxane concentrations above the interim screening level of 3.5 ug/l



**1,4-DIOXANE DETECTIONS
 IN GROUNDWATER - 4TH QUARTER 2022**

Nammo Defense Systems Inc.
 Former Thermal Treatment Unit (TTU)
 Mesa, Arizona

Site Location: Sections 23, Townships 12 North, Range 6 East, Gila-Salt River Meridian

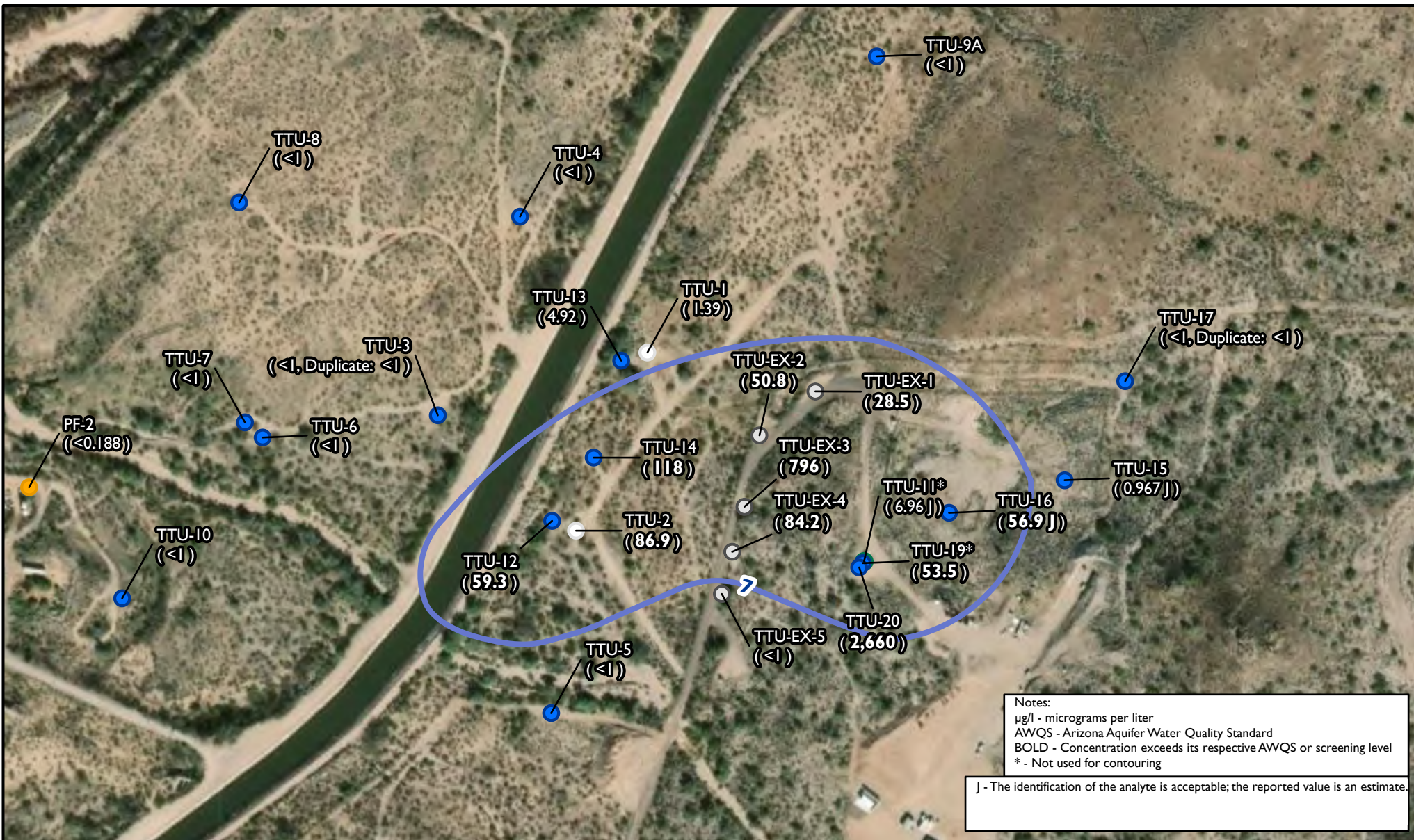
Pinyon Project Number: 7/22-1522-01.REM001.4

Drawn By: CJB

Figure: 4

Reviewed By: AP

Date: 3/13/2023



Legend

- Extraction Well
- Private Production Well
- Extraction Well Currently Used for Monitoring
- Estimated extent of 1,1 Dichloroethene concentrations above the AWQS of 7 ug/l
- Extraction/Injection Well
- Monitoring Well

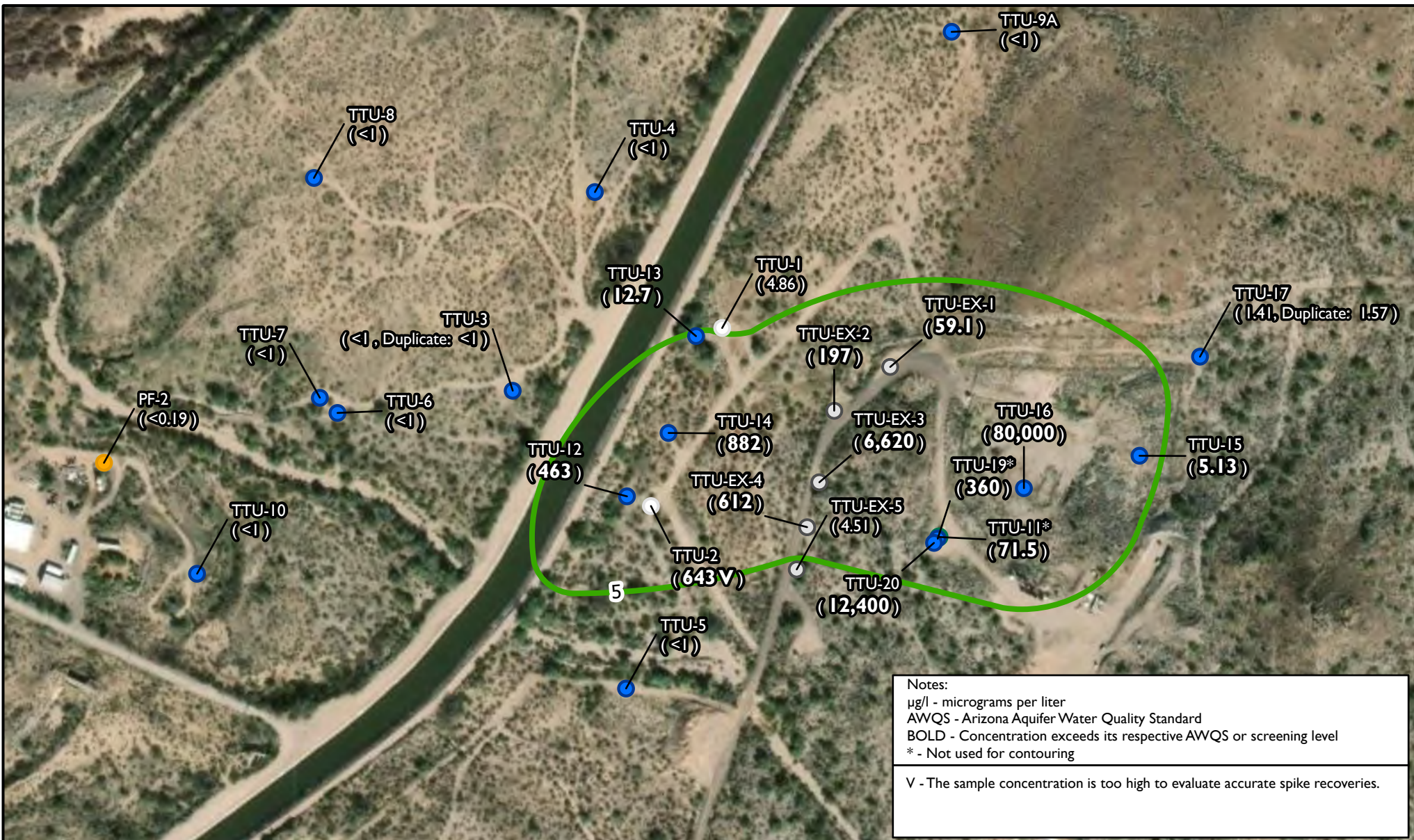
0 150 300 Feet

1,1 DICHLOROETHENE DETECTIONS IN GROUNDWATER - 4TH QUARTER 2022

Nammo Defense Systems Inc.
 Former Thermal Treatment Unit (TTU)
 Mesa, Arizona

Site Location: Sections 23, Townships 12 North, Range 6 East, Gila-Salt River Meridian
 Pinyon Project Number: 7/22-1522-01.REM001.4

Drawn By: CJB	Figure: 5
Reviewed By: AP	Date: 3/13/2023



Notes:
 µg/l - micrograms per liter
 AWQS - Arizona Aquifer Water Quality Standard
 BOLD - Concentration exceeds its respective AWQS or screening level
 * - Not used for contouring
 V - The sample concentration is too high to evaluate accurate spike recoveries.

Legend

- Extraction Well
- Extraction Well Currently Used for Monitoring
- Extraction/Injection Well
- Monitoring Well
- Private Production Well
- Estimated extent of Trichloroethene (TCE) concentrations above the AWQS of 5 ug/l

Pinyon
 Environmental, Inc.

**TRICHLOROETHENE DETECTIONS
 IN GROUNDWATER - 4TH QUARTER 2022**

Nammo Defense Systems Inc.
 Former Thermal Treatment Unit (TTU)
 Mesa, Arizona

0 150 300
 Feet

Site Location: Sections 23, Townships 12 North, Range 6 East, Gila-Salt River Meridian
 Pinyon Project Number: 7/22-1522-01.REM001.4

Drawn By: CJB
 Reviewed By: AP

Figure: 6
 Date: 3/13/2023

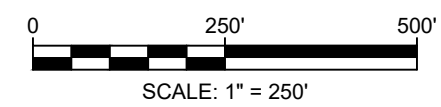
PLOT DATE: 3/13/2023

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LEGEND

	Extraction Well		Monitoring / Injection Well	5.76	Exceeds Aquifer Water Quality Standards or other applicable screening levels
	Monitoring Well		Extraction Well Currently used for Monitoring		
	Primate Production Well	TTU-1 =	Monitoring Well Location		
	Extraction and Pilot Test Injection Well		NDS Leased Property Boundary with SRP-MIC		



Pinyon
Environmental, Inc.

VOC EXCEEDANCES IN GROUNDWATER - FOURTH QUARTER 2022

Nammo Defense Systems Inc.
Former Thermal Treatment Unit (TTU)
Mesa, Arizona

Site Location: Section 23, Township 12N, Range 6E, Gila-Salt River Meridian

Pinyon Project Number: 7/22-1522-01.REM001.4

Drawn By: SJA	Figure: 7
Reviewed By: DW	Date: 3/13/2023

Coordinate System: NAD83 ARIZONA STATE PLANES, CENTRAL ZONE, US FOOT - AZ83-CF

Attachments

Attachment I – Field Notes

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-EXT-1 / 55-231733				
Date Completed		1/29/2020				
Casing Material						
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		109				
Survey Information		Northing: 909350.574 / Easting: 761597.823				
Deployment						
Date / Time		9/8/2022 @ 0910				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		16.32				
Deployment Depth (ft btoc)		69				
Personnel		BCB & IGF				
Notes		Bottom 1/3 rd of sampler rusty colored, water cloudy				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 0827				
DTW (ft btoc)		19.95				
Sampler Integrity		Good				
Personnel		IGF				
Notes		Copper sediment in sleeve				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 0838	15.3	6.95	47.0	2633	6.18	140
Sample ID		TTU-EXT-1-69-20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes IGF 13' from ground to top of casing 19.25						

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-EXT-2 / 55-231734				
Date Completed		1/28/2020				
Casing Material						
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		110				
Survey Information		Northing: 909268.187 / Easting: 761493.214				
Deployment						
Date / Time		9/8/2022 @ 0846				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		23.66				
Deployment Depth (ft btoc)		74				
Personnel		BCB & IGF				
Notes		<1" sediment @ bottom, very silty				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 0902				
DTW (ft btoc)		26.75				
Sampler Integrity		Good				
Personnel		IGF				
Notes		Some black sediment in sieve, 1"				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 0913	16.3	7.37	31.4	1537	3.97	26
Sample ID		TTU-EXT-2-74-20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		IGF 10.25" from ground to top of casing 13.25"				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-EXT-3 / 55-231731				
Date Completed		1/24/2020				
Casing Material						
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		111				
Survey Information		Northing: 909134.941 / Easting: 761465.507				
Deployment						
Date / Time		9/8/2022 @ 0819				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		36.09				
Deployment Depth (ft btoc)		76				
Personnel		BCB & IGF				
Notes		1" rocks & sediment @ bottom of HydraSleeve				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 0937				
DTW (ft btoc)		34.00				
Sampler Integrity		Good				
Personnel		IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 0948	17.7	6.55	28.1	6213 *Said this, not a typo	3.11	16
Sample ID		TTU-EXT-3-76-20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		IGF 7.25" from ground to top of well casing. 7.0"				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-EXT-4 / 55-231732				
Date Completed		1/25/2020				
Casing Material						
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		112				
Survey Information		Northing: 909051.298 / Easting: 761442.876				
Deployment						
Date / Time		9/8/2022 @ 0754				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		41.95				
Deployment Depth (ft btoc)		77				
Personnel		BCB & IGF				
Notes		Small amount of sediment, silty toward bottom				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 0939				
DTW (ft btoc)		41.31				
Sampler Integrity		good				
Personnel		BCB				
Notes		H ₂ O mostly clear, outside of HS dirty from well				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 0950	19.1	6.94	103.3	2169	2.32	14.6
Sample ID		TTU-EXT-4-77- 11/29/22				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		top of casing 17" from ground				

Well Sampling Record						
Project Name	Nammo TTU					
Project Number	722152201.002					
Well ID / ADWR #	TTU-EXT-5 / 55-231736					
Date Completed	1/24/2020					
Casing Material						
Casing Diameter (in)	8					
Screen (ft btoc)	OPEN					
Well Total Depth (ft btoc)	112.4					
Survey Information	Northing: 908971.770 / Easting: 761423.325					
Deployment						
Date / Time	9/8/2022 @ 0719					
Type of Sampler	HydraSleeve					
Size of Sampler	HS-2-1L					
DTW (ft btoc)	40.92					
Deployment Depth (ft btoc)	80					
Personnel	BCB & IGF					
Notes	1" sediment @ bottom of sampler, water cloudy					
Retrieval and/or Sampling						
Date / Time	11/29/22 @ 0917					
DTW (ft btoc)	40.60					
Sampler Integrity	good					
Personnel	JCB					
Notes	bottom 1/4 of HS cloudy					
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 0917	17.7	7.19	-101.7	11558	2.95	46.7
Sample ID	TTU-EXT-5-80- 8011189					
QAQC Samples	-					
Containers	(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs					
Preservatives	HCl					
Analysis	Perchlorate / VOCs / 1,4-Dioxane					
Sampler Reset	Yes			No		
Notes	top of casing 11.5" from ground					

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-1 / 55-914440				
Date Completed		6/6/2012				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		30-70				
Well Total Depth (ft btoc)		75				
Survey Information		Northing: 909420.734 / Easting: 761281.203				
Deployment						
Date / Time		NA				
Type of Sampler		Production Well; spigot				
Size of Sampler		NA				
DTW (ft btoc)		NR				
Deployment Depth (ft btoc)		50				
Personnel		BCB & IGF				
Notes		Unable to collect DTW, collect before turning on.				
Retrieval and/or Sampling						
Date / Time		11/28/22 @ 1358				
DTW (ft btoc)		37.41				
Sampler Integrity		—				
Personnel		IGF + BCB				
Notes		H ₂ O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/28/22 @ 1406	23.3	7.03	62.8	1023	2.82	3.84
Sample ID		TTU-1-50-20221128				
QAQC Samples		—				
Containers		(Z) 125 mL HDPE (no pres.) & (C) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			(No)	
Notes						
<p>**Make sure well has been off for 1 week and has been emptied. When sampling, turn on and let run for 1 hour before sampling. Turn off after.</p> <p>Well on 11/28/22 @ 1338, turned off after sampling</p>						

BCB

left on after sampling, as per Mark B

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-2 / NA				
Date Completed		10/17/2013				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		49.4-179.6				
Well Total Depth (ft btoc)		185				
Survey Information		Northing: 909087.852 / Easting: 761148.265				
Deployment						
Date / Time		NA				
Type of Sampler		Production Well; spigot				
Size of Sampler		NA				
DTW (ft btoc)		NR				
Deployment Depth (ft btoc)		114.5				
Personnel		BCB & IGF				
Notes		Unable to collect DTW, collect before turning on.				
Retrieval and/or Sampling						
Date / Time		11/28/20 @ 1419				
DTW (ft btoc)		101.4 IGF 62.41				
Sampler Integrity		good				
Personnel		BCB, IGF				
Notes		H2O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/28/20 @ 1426	24.0	6.86	192.9	3537	1.97	1.1
Sample ID		TTU-2-114- 20121128				
QAQC Samples		MS/MSD #1				
Containers		(2) 125 mL HDPE (no pres.) & (2) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			(No)	
Notes						
<p>**Make sure well has been off for 1 week and has been emptied. When sampling, turn on and let run for 1 hour before sampling. Turn off after.</p> <p>Well on @ 1348, 11/28/20, turned off after sampling</p>						

BCB

left on after sampling, as per Mark B.

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-3 / NA				
Date Completed		10/18/2013				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		78.1-138.1				
Well Total Depth (ft btoc)		143.6				
Survey Information		Northing: 909303.363 / Easting: 760888.204				
Deployment						
Date / Time		9/9/2022 @ 1158				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		90.65				
Deployment Depth (ft btoc)		108				
Personnel		BCB & IGF				
Notes		Water very clear				
Retrieval and/or Sampling						
Date / Time		11/30/22 @				
DTW (ft btoc)		94.73				
Sampler Integrity		good				
Personnel		BCB				
Notes		H2O slightly cloudy				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1220	20.0	6.99	109.6	1557	4.10	16.6
		143				
Sample ID		TTU-3-108- 24281130				
QAQC Samples		DUP-02				
Containers		(2) 125 mL HDPE (no pres.) & (12) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		entire cord fell into well upon opening of casing - fished out + H.S. is full - new sample depth of 143'				

- top of casing 30" from ground

★ careful opening well casing, top of tether not secure, may fall in!!! ★

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-4 / NA				
Date Completed		10/25/2013				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		39.5-99.5				
Well Total Depth (ft btoc)		104.9				
Survey Information		Northing: 909673.680 / Easting: 761041.975				
Deployment						
Date / Time		9/9/2022 @ 1032				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		53.05				
Deployment Depth (ft btoc)		57				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1033				
DTW (ft btoc)		53.56				
Sampler Integrity		good				
Personnel		BCB				
Notes		H ₂ O clear, L ₅ 1/2 full				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1050	20.3	7.52	124.3	2123	2.79	19.2
Sample ID		TTU-4-57- 20221130				
QAQC Samples		DUP BCB - none				
Containers		1 (1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl 6				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes top of casing 30" from ground						

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-5 / NA				
Date Completed		9/20/2014				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		59.5-164.5				
Well Total Depth (ft btoc)		169.5				
Survey Information		Northing: 908747.636 / Easting: 761102.227				
Deployment						
Date / Time		9/8/2022 @ 1246				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		80.84				
Deployment Depth (ft btoc)		110				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/21/22 @ 0835				
DTW (ft btoc)		72.30				
Sampler Integrity		good				
Personnel		BCB				
Notes		H2O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/21/22 @ 0835	15.7	7.27	181.3	682	3.61	5.87
Sample ID		TTU-5-110- 20221128				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 26" from ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-6 / NA				
Date Completed		10/7/2014				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		110-175				
Well Total Depth (ft btoc)		180				
Survey Information		Northing: 909260.820 / Easting: 760560.096				
Deployment						
Date / Time		9/9/2022 @ 1135				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		128.69				
Deployment Depth (ft btoc)		143				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1056				
DTW (ft btoc)		129.48				
Sampler Integrity		Good				
Personnel		IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1105	21.1	7.17	-30.9	1641	2.92	9.0
Sample ID		TTU-6-143-20221130				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes						
28.5" from ground → top of metal casing DTW measured to top of PVC, not metal casing						

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-7 / NA				
Date Completed		10/8/2014				
Casing Material		Steel				
Casing Diameter (in)		8.5				
Screen (ft btoc)		280-410				
Well Total Depth (ft btoc)		410				
Survey Information		Northing: 909287.611 / Easting: 760527.269				
Deployment						
Date / Time		9/9/2022 @ 1100				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		133.87				
Deployment Depth (ft btoc)		345				
Personnel		BCB & IGF				
Notes		1" Black sediment in sleeve at bottom				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 0957				
DTW (ft btoc)		134.34				
Sampler Integrity		Good				
Personnel		IGF				
Notes		Black sediment in sleeve, 1"				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1009	18.1	6.03	-3.0	3907	1.85	9.2
Sample ID		TTU-7-345-20221130				
QAQC Samples						
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		30.25" from ground to top of metal casing				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-8 / NA				
Date Completed		4/18/2016				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		135-185				
Well Total Depth (ft btoc)		190				
Survey Information		Northing: 909699.266 / Easting: 760514.908				
Deployment						
Date / Time		9/9/2022 @ 1000				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		151.60				
Deployment Depth (ft btoc)		164				
Personnel		BCB & IGF				
Notes		None				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1000				
DTW (ft btoc)		152.35				
Sampler Integrity		good				
Personnel		BCB				
Notes		H ₂ O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1000	18.3	6.97	193.3	2952	2.54	15.1
Sample ID		TTU-8-164- 770221134				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 35.75" from ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-9A / NA				
Date Completed		6/16/2016				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		24-99				
Well Total Depth (ft btoc)		104				
Survey Information		Northing: 909974.490 / Easting: 761710.151				
Deployment						
Date / Time		9/8/2022 @ 1145				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		28.34				
Deployment Depth (ft btoc)		61				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/19/22 @ 1206				
DTW (ft btoc)		29.25				
Sampler Integrity		good				
Personnel		JBCB				
Notes		H ₂ O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/19/22 @ 1218	22.4	7.46	68.1	1638	3.81	7.16
Sample ID		TTU-9A-61- 111111				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 30" from ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-10 / NA				
Date Completed		4/18/2016				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		115-180				
Well Total Depth (ft btoc)		185				
Survey Information		Northing: 908960.114 / Easting: 760297.013				
Deployment						
Date / Time		9/9/2022 @ 1246				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		162.49				
Deployment Depth (ft btoc)		165				
Personnel		BCB & IGF				
Notes		None				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1200				
DTW (ft btoc)		166.41				
Sampler Integrity		Good				
Personnel		IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1213	21.6	7.32	-5.0	1466	5.33	14
		172				
Sample ID		TTU-10-153-20221130				
QAQC Samples		HS/MSD #2				
Containers		(2) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		38" from ground to top of metal casing				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-11 / 55-918534				
Date Completed		9/11/2015				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		24-89				
Well Total Depth (ft btoc)		94				
Survey Information		Northing: 909029.758 / Easting: 761706.470				
Deployment						
Date / Time		9/3/2022 @ 0930 11/19/22 @ 1321				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		31.49				
Deployment Depth (ft btoc)		73				
Personnel		IGF & BCB				
Notes		Awful smell, floating chunks of something unknown				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1450				
DTW (ft btoc)		31.04				
Sampler Integrity		Good				
Personnel		IGF + BCB				
Notes		Smelly, thick gel-like substance in water				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1503	25.4	5.42	-106.8	1821	1.27	97.6
Sample ID		TTU-11-73- 20221130				
QAQC Samples		—				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes						

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-12 / NA				
Date Completed		7/31/2018				
Casing Material		Steel				
Casing Diameter (in)		5				
Screen (ft btoc)		Open to 180				
Well Total Depth (ft btoc)		180				
Survey Information		Northing: 909105.990 / Easting: 761103.280				
Deployment						
Date / Time		9/9/2022 @ 0810				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		73.27				
Deployment Depth (ft btoc)		82				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1250				
DTW (ft btoc)		75.03				
Sampler Integrity		Good				
Personnel		IGF				
Notes		Black small rocks on outside of sleeve				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 1301	22.0	6.76	-11.4	3647	3.48	8.7
Sample ID		TTU-12-82- 2022 1129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes IGF 6.25" from ground to top of casing 16						

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-13 / NA				
Date Completed		7/20/2018				
Casing Material		Steel				
Casing Diameter (in)		5				
Screen (ft btoc)		Open to 80				
Well Total Depth (ft btoc)		80				
Survey Information		Northing: 909405.920 / Easting: 761232.180				
Deployment						
Date / Time		9/8/2022 @ 1210				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		34.81				
Deployment Depth (ft btoc)		51				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1247				
DTW (ft btoc)		37.56				
Sampler Integrity		good				
Personnel		BCB				
Notes		H2O slightly cloudy, outside of HS slightly dirty				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 1247	21.8	6.89	93.2	1344	2.49	17.2
Sample ID		TTU-13-51-20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		top of casing 17.5" from ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-14 / NA				
Date Completed		7/19/2018				
Casing Material		Steel				
Casing Diameter (in)		5				
Screen (ft btoc)		Open to 100				
Well Total Depth (ft btoc)		100				
Survey Information		Northing: 909224.260 / Easting: 761848.230				
Deployment						
Date / Time		9/9/2022 @ 0745				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		58.74				
Deployment Depth (ft btoc)		64				
Personnel		BCB & IGF				
Notes		Water clear				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1212				
DTW (ft btoc)		60.31				
Sampler Integrity		Good				
Personnel		IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 1222	21.8	6.83	-0.2	3382	3.60	4.0
Sample ID		TTU-14-64-20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		16.5' from ground to top of casing.				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-15 / 55-228014				
Date Completed		1/25/2018				
Casing Material		Steel				
Casing Diameter (in)		N/A				
Screen (ft btoc)		Open				
Well Total Depth (ft btoc)		100				
Survey Information		Northing: 909185.100 / Easting: 762065.910				
Deployment						
Date / Time		9/8/2022 @ 1019				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		30.79				
Deployment Depth (ft btoc)		75				
Personnel		BCB & IGF				
Notes		Clear with copper particles				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1340				
DTW (ft btoc)		29.76				
Sampler Integrity		good				
Personnel		BCB				
Notes		H2O clear				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 1353	23.0	7.09	100.4	2429	1.85	4.17
Sample ID		TTU-15-75- 20781129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 22.5" from ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-16 / 55-231730				
Date Completed		1/23/2020				
Casing Material		Steel				
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		96.6				
Survey Information		Northing: 909124.980 / Easting: 76.1848.851				
Deployment						
Date / Time		9/8/2022 @ 1108				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		19.13				
Deployment Depth (ft btoc)		80				
Personnel		BCB & IGF				
Notes		Water is copper colored				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1336				
DTW (ft btoc)		19.03				
Sampler Integrity		Good				
Personnel		IGF				
Notes		Water copper, has chemical-ly smell				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @ 1346	25.0	6.18	-18.6	10,609	2.20	290
				*Not a typo, took picture		
Sample ID		TTU-16-80- 20221129				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		14.25" from ground to top of casing				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-17 / 55-23173				
Date Completed		1/22/2020				
Casing Material		Steel				
Casing Diameter (in)		8				
Screen (ft btoc)		OPEN				
Well Total Depth (ft btoc)		102				
Survey Information		Northing: 909370.903 / Easting: 762179.168				
Deployment						
Date / Time		9/8/2022 @ 0947				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		37.89				
Deployment Depth (ft btoc)		80				
Personnel		BCB & IGF				
Notes		Light rotten smell, black sediment in sleeve				
Retrieval and/or Sampling						
Date / Time		11/29/22 @ 1420				
DTW (ft btoc)		38.39				
Sampler Integrity		good				
Personnel		BCB, IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/29/22 @	25.2	7.01	-191.7	1403	2.55	20
Sample ID		TTU-17-80- 1 20/22/11/29				
QAQC Samples		DUP-01				
Containers		(2) 125 mL HDPE (no pres.) & (2) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 7.25" off ground				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-19 / 55-232969				
Date Completed		9/24/2020				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		25-90				
Well Total Depth (ft btoc)		95				
Survey Information		Northing: 909030.750 / Easting: 761687.700				
Deployment						
Date / Time		9/3/2022 @ 1031 11/19/22 @ 1309				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		29.49				
Deployment Depth (ft btoc)		73				
Personnel		IGF & BCB				
Notes		Smelly, oily water with floating sediment				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1410				
DTW (ft btoc)		29.37				
Sampler Integrity		good				
Personnel		BCB				
Notes		good smooth, bubbly				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1414	26.6	5.99	-93.1	2393	1.16	65.3
Sample ID		TTU-19-73- 7301130				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		(Yes)			No	
Notes		top of casing 7" from ground				

31024"

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		TTU-20 / 55-232968				
Date Completed		9/24/2020				
Casing Material		PVC				
Casing Diameter (in)		4				
Screen (ft btoc)		25-90				
Well Total Depth (ft btoc)		95				
Survey Information		Northing: 909022.530 / Easting: 761681.990				
Deployment						
Date / Time		9/3/2022 @ 0844 11/19/22 @ 1300				
Type of Sampler		HydraSleeve				
Size of Sampler		HS-2-1L				
DTW (ft btoc)		31.21				
Deployment Depth (ft btoc)		73				
Personnel		IGF & BCB				
Notes		Effervescing water				
Retrieval and/or Sampling						
Date / Time		11/30/22 @ 1402				
DTW (ft btoc)		31.30				
Sampler Integrity		Good				
Personnel		IGF				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 @ 1417	25.6	6.35	-36.3	6600	2.51	3.6
Sample ID		TTU-20-73-20221130				
QAQC Samples		-				
Containers		(1) 125 mL HDPE (no pres.) & (6) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		10.25" from ground to top of casing				

Well Sampling Record						
Project Name		Nammo TTU				
Project Number		722152201.002				
Well ID / ADWR #		PF-2				
Date Completed		N/A				
Casing Material		Steel				
Casing Diameter (in)		6 5/8				
Screen (ft btoc)		300-400				
Well Total Depth (ft btoc)		400				
Survey Information		Northing: 909166.890 / Easting: 760122.250				
Deployment						
Date / Time		NA				
Type of Sampler		Production Well; spigot				
Size of Sampler		NA				
DTW (ft btoc)		NA				
Deployment Depth (ft btoc)		400				
Personnel		NA				
Notes		Purge 15 minutes. Take parameters (starting and 15 min. after)				
Retrieval and/or Sampling						
Date / Time		11/28/22 @ 11/30/22 @ 1255 (VOCs); 1302				
DTW (ft btoc)		NA				
Sampler Integrity		-				
Personnel		IGF + BCB				
Notes		-				
Field Parameters						
Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
11/30/22 11/28/22 @ 1235	23.5	7.24	-12.6	1312	5.11	7.2
1240	22.7	7.25	-16.9	1319	4.38	3.9
1245	23.2	7.24	-15.7	1289	4.43	1.2
1250	23.0	7.23	-10.6	1288	4.35	3.8
Sample ID		PF-2-400- 20221128				
QAQC Samples		-				
Containers		(1) 250 mL HDPE (no pres. & filtered) & (1) 40 mL amber VOAs				
Preservatives		HCl				
Analysis		Perchlorate (Method 6850, filtered) / VOCs / 1,4-Dioxane				
Sampler Reset		Yes			No	
Notes		Went to sample 11/28 but Eurofins didn't include filters, will come back to sample w/ filters.				

for 6850 sample

11/30/22

Well on @ 1235
Well off after sampling.

Attachment 2 – Laboratory Analytical Reports

Pinyon Environmental

Sample Delivery Group: L1562277
Samples Received: 11/30/2022
Project Number: 722152201.002
Description: Nammo TTU Groundwater Monitoring

Report To: Andrew Parker
3222 S. Vance Street Suite 200
Lakewood, CO 80227

Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Is
⁸ Gl
⁹ Al
¹⁰ Sc

SAMPLE SUMMARY

TTU-1-50-20221128 L1562277-01 GW

Collected by Isabella Foster Collected date/time 11/28/22 13:58 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	500	12/09/22 01:17	12/09/22 01:17	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 13:10	12/02/22 13:10	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 14:41	12/02/22 14:41	ACG	Mt. Juliet, TN



TTU-2-114-20221128 L1562277-02 GW

Collected by Isabella Foster Collected date/time 11/28/22 14:19 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	5000	12/09/22 01:45	12/09/22 01:45	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	10	12/02/22 16:55	12/02/22 16:55	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 15:01	12/02/22 15:01	ACG	Mt. Juliet, TN

TTU-5-80-20221129 L1562277-03 GW

Collected by Isabella Foster Collected date/time 11/29/22 08:22 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1	12/09/22 04:05	12/09/22 04:05	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 13:33	12/02/22 13:33	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 15:21	12/02/22 15:21	ACG	Mt. Juliet, TN

TTU-9A-61-20221129 L1562277-04 GW

Collected by Isabella Foster Collected date/time 11/29/22 12:06 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1972265	1	12/09/22 04:33	12/09/22 04:33	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 13:55	12/02/22 13:55	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1969109	1	12/06/22 15:36	12/06/22 15:36	JAH	Mt. Juliet, TN

TTU-12-82-20221129 L1562277-05 GW

Collected by Isabella Foster Collected date/time 11/29/22 12:50 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	5000	12/09/22 05:28	12/09/22 05:28	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	10	12/02/22 17:18	12/02/22 17:18	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 16:01	12/02/22 16:01	ACG	Mt. Juliet, TN

TTU-13-51-20221129 L1562277-06 GW

Collected by Isabella Foster Collected date/time 11/29/22 12:47 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	500	12/09/22 05:56	12/09/22 05:56	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 14:18	12/02/22 14:18	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 16:22	12/02/22 16:22	ACG	Mt. Juliet, TN

SAMPLE SUMMARY

TTU-14-64-20221129 L1562277-07 GW

Collected by Isabella Foster Collected date/time 11/29/22 12:12 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	5000	12/09/22 06:24	12/09/22 06:24	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	10	12/02/22 17:40	12/02/22 17:40	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 16:42	12/02/22 16:42	ACG	Mt. Juliet, TN



TTU-15-75-20221129 L1562277-08 GW

Collected by Isabella Foster Collected date/time 11/29/22 13:40 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	100	12/09/22 06:52	12/09/22 06:52	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 14:40	12/02/22 14:40	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 17:03	12/02/22 17:03	ACG	Mt. Juliet, TN

TTU-16-80-20221129 L1562277-09 GW

Collected by Isabella Foster Collected date/time 11/29/22 13:36 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	10000	12/09/22 07:20	12/09/22 07:20	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	100	12/02/22 18:02	12/02/22 18:02	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968832	1000	12/03/22 23:33	12/03/22 23:33	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1969109	50	12/06/22 15:56	12/06/22 15:56	JAH	Mt. Juliet, TN

TTU-17-80-20221129 L1562277-10 GW

Collected by Isabella Foster Collected date/time 11/29/22 14:20 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1	12/09/22 07:48	12/09/22 07:48	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 15:03	12/02/22 15:03	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 17:44	12/02/22 17:44	ACG	Mt. Juliet, TN

TTU-EXT-1-69-20221129 L1562277-11 GW

Collected by Isabella Foster Collected date/time 11/29/22 08:27 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1000	12/09/22 08:16	12/09/22 08:16	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 15:25	12/02/22 15:25	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 18:04	12/02/22 18:04	ACG	Mt. Juliet, TN

TTU-EXT-2-74-20221129 L1562277-12 GW

Collected by Isabella Foster Collected date/time 11/29/22 09:02 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	500	12/09/22 09:40	12/09/22 09:40	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 15:48	12/02/22 15:48	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 18:24	12/02/22 18:24	ACG	Mt. Juliet, TN

SAMPLE SUMMARY

TTU-EXT-3-76-20221129 L1562277-13 GW

Collected by Isabella Foster
 Collected date/time 11/29/22 09:37
 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	10000	12/09/22 10:08	12/09/22 10:08	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	50	12/02/22 18:25	12/02/22 18:25	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968832	50	12/03/22 23:55	12/03/22 23:55	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 18:44	12/02/22 18:44	ACG	Mt. Juliet, TN

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

TTU-EXT-4-77-20221129 L1562277-14 GW

Collected by Isabella Foster
 Collected date/time 11/29/22 09:39
 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1000	12/09/22 10:36	12/09/22 10:36	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	20	12/02/22 20:17	12/02/22 20:17	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 19:04	12/02/22 19:04	ACG	Mt. Juliet, TN

TTU-EXT-5-80-20221129 L1562277-15 GW

Collected by Isabella Foster
 Collected date/time 11/29/22 08:22
 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1	12/09/22 11:03	12/09/22 11:03	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 16:10	12/02/22 16:10	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968832	1	12/03/22 22:49	12/03/22 22:49	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 19:24	12/02/22 19:24	ACG	Mt. Juliet, TN

DUP-01 L1562277-16 GW

Collected by Isabella Foster
 Collected date/time 11/29/22 14:20
 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1970993	1	12/09/22 16:32	12/09/22 16:32	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968321	1	12/02/22 16:33	12/02/22 16:33	AV	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1968403	1	12/02/22 19:45	12/02/22 19:45	ACG	Mt. Juliet, TN

TRIP BLANK 2 L1562277-17 GW

Collected by Isabella Foster
 Collected date/time 11/29/22 00:00
 Received date/time 11/30/22 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1968806	1	12/03/22 23:12	12/03/22 23:12	JHH	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Report Revision History

Level II Report - Version 1: 12/13/22 13:58

Project Narrative

Report format

Sample Delivery Group (SDG) Narrative

No extra volume received to perform Matrix Spike samples.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L1562277-04	TTU-9A-61-20221129	8260B-SIM
L1562277-09	TTU-16-80-20221129	8260B, 8260B-SIM
L1562277-13	TTU-EXT-3-76-20221129	8260B
L1562277-15	TTU-EXT-5-80-20221129	8260B



Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	6990		150	2000	500	12/09/2022 01:17	WG1970993

Sample Narrative:

L1562277-01 WG1970993: 500x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 13:10	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 13:10	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 13:10	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 13:10	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 13:10	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 13:10	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 13:10	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 13:10	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 13:10	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 13:10	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 13:10	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 13:10	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 13:10	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 13:10	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 13:10	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 13:10	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 13:10	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 13:10	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 13:10	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 13:10	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 13:10	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 13:10	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 13:10	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 13:10	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 13:10	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 13:10	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 13:10	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 13:10	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 13:10	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 13:10	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 13:10	WG1968321
1,1-Dichloroethene	1.39		0.188	1.00	1	12/02/2022 13:10	WG1968321
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/02/2022 13:10	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 13:10	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 13:10	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 13:10	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 13:10	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 13:10	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 13:10	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 13:10	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 13:10	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 13:10	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 13:10	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 13:10	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 13:10	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 13:10	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 13:10	WG1968321



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 13:10	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 13:10	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 13:10	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 13:10	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 13:10	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 13:10	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 13:10	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 13:10	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 13:10	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 13:10	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 13:10	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 13:10	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 13:10	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 13:10	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 13:10	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 13:10	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 13:10	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 13:10	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 13:10	WG1968321
Trichloroethene	4.86		0.190	1.00	1	12/02/2022 13:10	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 13:10	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 13:10	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 13:10	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:10	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:10	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 13:10	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 13:10	WG1968321
(S) Toluene-d8	109			80.0-120		12/02/2022 13:10	WG1968321
(S) 4-Bromofluorobenzene	94.9			77.0-126		12/02/2022 13:10	WG1968321
(S) 1,2-Dichloroethane-d4	96.7			70.0-130		12/02/2022 13:10	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	11.8	<u>B</u>	0.597	3.00	1	12/02/2022 14:41	WG1968403
(S) Toluene-d8	100			77.0-127		12/02/2022 14:41	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	179000		1500	20000	5000	12/09/2022 01:45	WG1970993

Sample Narrative:

L1562277-02 WG1970993: 5000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		113	500	10	12/02/2022 16:55	WG1968321
Acrolein	U		25.4	500	10	12/02/2022 16:55	WG1968321
Acrylonitrile	U		6.71	100	10	12/02/2022 16:55	WG1968321
Benzene	1.23	J	0.941	10.0	10	12/02/2022 16:55	WG1968321
Bromobenzene	U		1.18	10.0	10	12/02/2022 16:55	WG1968321
Bromodichloromethane	U		1.36	10.0	10	12/02/2022 16:55	WG1968321
Bromoform	U		1.29	10.0	10	12/02/2022 16:55	WG1968321
Bromomethane	U	J4	6.05	50.0	10	12/02/2022 16:55	WG1968321
1,3-Butadiene	U		2.99	20.0	10	12/02/2022 16:55	WG1968321
n-Butylbenzene	U		1.57	10.0	10	12/02/2022 16:55	WG1968321
sec-Butylbenzene	U		1.25	10.0	10	12/02/2022 16:55	WG1968321
tert-Butylbenzene	U		1.27	10.0	10	12/02/2022 16:55	WG1968321
Carbon tetrachloride	U		1.28	10.0	10	12/02/2022 16:55	WG1968321
Carbon disulfide	U		0.962	10.0	10	12/02/2022 16:55	WG1968321
Chlorobenzene	U		1.16	10.0	10	12/02/2022 16:55	WG1968321
Chlorodibromomethane	U		1.40	10.0	10	12/02/2022 16:55	WG1968321
Chloroethane	5.86	J	1.92	50.0	10	12/02/2022 16:55	WG1968321
Chloroform	1.84	J	1.11	50.0	10	12/02/2022 16:55	WG1968321
Chloromethane	U		9.60	25.0	10	12/02/2022 16:55	WG1968321
Cyclohexane	U		1.88	10.0	10	12/02/2022 16:55	WG1968321
2-Chlorotoluene	U		1.06	10.0	10	12/02/2022 16:55	WG1968321
4-Chlorotoluene	U		1.14	10.0	10	12/02/2022 16:55	WG1968321
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	12/02/2022 16:55	WG1968321
1,2-Dibromoethane	U		1.26	10.0	10	12/02/2022 16:55	WG1968321
Dibromomethane	U		1.22	10.0	10	12/02/2022 16:55	WG1968321
1,2-Dichlorobenzene	U		1.07	10.0	10	12/02/2022 16:55	WG1968321
1,3-Dichlorobenzene	U		1.10	10.0	10	12/02/2022 16:55	WG1968321
1,4-Dichlorobenzene	U		1.20	10.0	10	12/02/2022 16:55	WG1968321
Dichlorodifluoromethane	U		3.74	50.0	10	12/02/2022 16:55	WG1968321
1,1-Dichloroethane	1.07	J	1.00	10.0	10	12/02/2022 16:55	WG1968321
1,2-Dichloroethane	U		0.819	10.0	10	12/02/2022 16:55	WG1968321
1,1-Dichloroethene	86.9		1.88	10.0	10	12/02/2022 16:55	WG1968321
cis-1,2-Dichloroethene	U		1.26	10.0	10	12/02/2022 16:55	WG1968321
trans-1,2-Dichloroethene	U		1.49	10.0	10	12/02/2022 16:55	WG1968321
1,2-Dichloropropane	U		1.49	10.0	10	12/02/2022 16:55	WG1968321
1,1-Dichloropropene	U		1.42	10.0	10	12/02/2022 16:55	WG1968321
1,3-Dichloropropane	U		1.10	10.0	10	12/02/2022 16:55	WG1968321
cis-1,3-Dichloropropene	U		1.11	10.0	10	12/02/2022 16:55	WG1968321
trans-1,3-Dichloropropene	U		1.18	10.0	10	12/02/2022 16:55	WG1968321
2,2-Dichloropropane	U		1.61	10.0	10	12/02/2022 16:55	WG1968321
Dicyclopentadiene	U		2.53	10.0	10	12/02/2022 16:55	WG1968321
Di-isopropyl ether	U		1.05	10.0	10	12/02/2022 16:55	WG1968321
Ethylbenzene	U		1.37	10.0	10	12/02/2022 16:55	WG1968321
4-Ethyltoluene	U		2.08	10.0	10	12/02/2022 16:55	WG1968321
Hexachloro-1,3-butadiene	U		3.37	10.0	10	12/02/2022 16:55	WG1968321
n-Hexane	U		7.49	100	10	12/02/2022 16:55	WG1968321
Isopropylbenzene	U		1.05	10.0	10	12/02/2022 16:55	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		1.20	10.0	10	12/02/2022 16:55	WG1968321
2-Butanone (MEK)	U		11.9	100	10	12/02/2022 16:55	WG1968321
Methyl Cyclohexane	U		6.60	10.0	10	12/02/2022 16:55	WG1968321
Methylene Chloride	U		4.30	50.0	10	12/02/2022 16:55	WG1968321
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	12/02/2022 16:55	WG1968321
Methyl tert-butyl ether	U		1.01	10.0	10	12/02/2022 16:55	WG1968321
Naphthalene	U		10.0	50.0	10	12/02/2022 16:55	WG1968321
Propene	U		9.36	25.0	10	12/02/2022 16:55	WG1968321
n-Propylbenzene	U		0.993	10.0	10	12/02/2022 16:55	WG1968321
Styrene	U		1.18	10.0	10	12/02/2022 16:55	WG1968321
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	12/02/2022 16:55	WG1968321
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	12/02/2022 16:55	WG1968321
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	12/02/2022 16:55	WG1968321
Tetrachloroethene	U		3.00	10.0	10	12/02/2022 16:55	WG1968321
Toluene	U		2.78	10.0	10	12/02/2022 16:55	WG1968321
1,2,3-Trichlorobenzene	U		2.30	10.0	10	12/02/2022 16:55	WG1968321
1,2,4-Trichlorobenzene	U		4.81	10.0	10	12/02/2022 16:55	WG1968321
1,1,1-Trichloroethane	U		1.49	10.0	10	12/02/2022 16:55	WG1968321
1,1,2-Trichloroethane	U		1.58	10.0	10	12/02/2022 16:55	WG1968321
Trichloroethene	643	<u>V</u>	1.90	10.0	10	12/02/2022 16:55	WG1968321
Trichlorofluoromethane	U		1.60	50.0	10	12/02/2022 16:55	WG1968321
1,2,3-Trichloropropane	U		2.37	25.0	10	12/02/2022 16:55	WG1968321
1,2,4-Trimethylbenzene	U		3.22	10.0	10	12/02/2022 16:55	WG1968321
1,2,3-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 16:55	WG1968321
1,3,5-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 16:55	WG1968321
Vinyl chloride	U		2.34	10.0	10	12/02/2022 16:55	WG1968321
Xylenes, Total	U		1.74	30.0	10	12/02/2022 16:55	WG1968321
(S) Toluene-d8	108			80.0-120		12/02/2022 16:55	WG1968321
(S) 4-Bromofluorobenzene	96.1			77.0-126		12/02/2022 16:55	WG1968321
(S) 1,2-Dichloroethane-d4	103			70.0-130		12/02/2022 16:55	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	230	<u>V</u>	0.597	3.00	1	12/02/2022 15:01	WG1968403
(S) Toluene-d8	102			77.0-127		12/02/2022 15:01	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	40.6		0.300	4.00	1	12/09/2022 04:05	WG1970993

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 13:33	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 13:33	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 13:33	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 13:33	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 13:33	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 13:33	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 13:33	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 13:33	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 13:33	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 13:33	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 13:33	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 13:33	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 13:33	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 13:33	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 13:33	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 13:33	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 13:33	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 13:33	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 13:33	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 13:33	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 13:33	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 13:33	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 13:33	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 13:33	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 13:33	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 13:33	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 13:33	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 13:33	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 13:33	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 13:33	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 13:33	WG1968321
1,1-Dichloroethene	U		0.188	1.00	1	12/02/2022 13:33	WG1968321
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/02/2022 13:33	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 13:33	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 13:33	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 13:33	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 13:33	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 13:33	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 13:33	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 13:33	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 13:33	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 13:33	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 13:33	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 13:33	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 13:33	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 13:33	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 13:33	WG1968321
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 13:33	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 13:33	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 13:33	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/02/2022 13:33	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 13:33	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 13:33	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 13:33	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 13:33	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 13:33	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 13:33	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 13:33	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 13:33	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 13:33	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 13:33	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 13:33	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 13:33	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 13:33	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 13:33	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 13:33	WG1968321
Trichloroethene	U		0.190	1.00	1	12/02/2022 13:33	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 13:33	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 13:33	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 13:33	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:33	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:33	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 13:33	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 13:33	WG1968321
(S) Toluene-d8	110			80.0-120		12/02/2022 13:33	WG1968321
(S) 4-Bromofluorobenzene	96.4			77.0-126		12/02/2022 13:33	WG1968321
(S) 1,2-Dichloroethane-d4	98.4			70.0-130		12/02/2022 13:33	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	21.5		0.597	3.00	1	12/02/2022 15:21	WG1968403
(S) Toluene-d8	101			77.0-127		12/02/2022 15:21	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	5.75		0.300	4.00	1	12/09/2022 04:33	WG1972265

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 13:55	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 13:55	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 13:55	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 13:55	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 13:55	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 13:55	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 13:55	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 13:55	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 13:55	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 13:55	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 13:55	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 13:55	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 13:55	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 13:55	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 13:55	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 13:55	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 13:55	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 13:55	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 13:55	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 13:55	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 13:55	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 13:55	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 13:55	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 13:55	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 13:55	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 13:55	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 13:55	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 13:55	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 13:55	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 13:55	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 13:55	WG1968321
1,1-Dichloroethene	U		0.188	1.00	1	12/02/2022 13:55	WG1968321
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/02/2022 13:55	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 13:55	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 13:55	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 13:55	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 13:55	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 13:55	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 13:55	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 13:55	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 13:55	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 13:55	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 13:55	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 13:55	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 13:55	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 13:55	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 13:55	WG1968321
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 13:55	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 13:55	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 13:55	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/02/2022 13:55	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 13:55	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 13:55	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 13:55	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 13:55	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 13:55	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 13:55	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 13:55	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 13:55	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 13:55	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 13:55	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 13:55	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 13:55	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 13:55	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 13:55	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 13:55	WG1968321
Trichloroethene	U		0.190	1.00	1	12/02/2022 13:55	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 13:55	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 13:55	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 13:55	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:55	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 13:55	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 13:55	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 13:55	WG1968321
(S) Toluene-d8	112			80.0-120		12/02/2022 13:55	WG1968321
(S) 4-Bromofluorobenzene	102			77.0-126		12/02/2022 13:55	WG1968321
(S) 1,2-Dichloroethane-d4	101			70.0-130		12/02/2022 13:55	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 15:36	WG1969109
(S) Toluene-d8	99.3			77.0-127		12/06/2022 15:36	WG1969109

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	141000		1500	20000	5000	12/09/2022 05:28	WG1970993

Sample Narrative:

L1562277-05 WG1970993: 5000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		113	500	10	12/02/2022 17:18	WG1968321
Acrolein	U		25.4	500	10	12/02/2022 17:18	WG1968321
Acrylonitrile	U		6.71	100	10	12/02/2022 17:18	WG1968321
Benzene	U		0.941	10.0	10	12/02/2022 17:18	WG1968321
Bromobenzene	U		1.18	10.0	10	12/02/2022 17:18	WG1968321
Bromodichloromethane	U		1.36	10.0	10	12/02/2022 17:18	WG1968321
Bromoform	U		1.29	10.0	10	12/02/2022 17:18	WG1968321
Bromomethane	U	J3 J4	6.05	50.0	10	12/02/2022 17:18	WG1968321
1,3-Butadiene	U		2.99	20.0	10	12/02/2022 17:18	WG1968321
n-Butylbenzene	U		1.57	10.0	10	12/02/2022 17:18	WG1968321
sec-Butylbenzene	U		1.25	10.0	10	12/02/2022 17:18	WG1968321
tert-Butylbenzene	U		1.27	10.0	10	12/02/2022 17:18	WG1968321
Carbon tetrachloride	U		1.28	10.0	10	12/02/2022 17:18	WG1968321
Carbon disulfide	U		0.962	10.0	10	12/02/2022 17:18	WG1968321
Chlorobenzene	U		1.16	10.0	10	12/02/2022 17:18	WG1968321
Chlorodibromomethane	U		1.40	10.0	10	12/02/2022 17:18	WG1968321
Chloroethane	U		1.92	50.0	10	12/02/2022 17:18	WG1968321
Chloroform	1.29	J	1.11	50.0	10	12/02/2022 17:18	WG1968321
Chloromethane	U		9.60	25.0	10	12/02/2022 17:18	WG1968321
Cyclohexane	U		1.88	10.0	10	12/02/2022 17:18	WG1968321
2-Chlorotoluene	U		1.06	10.0	10	12/02/2022 17:18	WG1968321
4-Chlorotoluene	U		1.14	10.0	10	12/02/2022 17:18	WG1968321
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	12/02/2022 17:18	WG1968321
1,2-Dibromoethane	U		1.26	10.0	10	12/02/2022 17:18	WG1968321
Dibromomethane	U		1.22	10.0	10	12/02/2022 17:18	WG1968321
1,2-Dichlorobenzene	U		1.07	10.0	10	12/02/2022 17:18	WG1968321
1,3-Dichlorobenzene	U		1.10	10.0	10	12/02/2022 17:18	WG1968321
1,4-Dichlorobenzene	U		1.20	10.0	10	12/02/2022 17:18	WG1968321
Dichlorodifluoromethane	U		3.74	50.0	10	12/02/2022 17:18	WG1968321
1,1-Dichloroethane	U		1.00	10.0	10	12/02/2022 17:18	WG1968321
1,2-Dichloroethane	U		0.819	10.0	10	12/02/2022 17:18	WG1968321
1,1-Dichloroethene	59.3		1.88	10.0	10	12/02/2022 17:18	WG1968321
cis-1,2-Dichloroethene	U		1.26	10.0	10	12/02/2022 17:18	WG1968321
trans-1,2-Dichloroethene	U		1.49	10.0	10	12/02/2022 17:18	WG1968321
1,2-Dichloropropane	U		1.49	10.0	10	12/02/2022 17:18	WG1968321
1,1-Dichloropropene	U		1.42	10.0	10	12/02/2022 17:18	WG1968321
1,3-Dichloropropane	U		1.10	10.0	10	12/02/2022 17:18	WG1968321
cis-1,3-Dichloropropene	U		1.11	10.0	10	12/02/2022 17:18	WG1968321
trans-1,3-Dichloropropene	U		1.18	10.0	10	12/02/2022 17:18	WG1968321
2,2-Dichloropropane	U		1.61	10.0	10	12/02/2022 17:18	WG1968321
Dicyclopentadiene	U		2.53	10.0	10	12/02/2022 17:18	WG1968321
Di-isopropyl ether	U		1.05	10.0	10	12/02/2022 17:18	WG1968321
Ethylbenzene	U		1.37	10.0	10	12/02/2022 17:18	WG1968321
4-Ethyltoluene	U		2.08	10.0	10	12/02/2022 17:18	WG1968321
Hexachloro-1,3-butadiene	U		3.37	10.0	10	12/02/2022 17:18	WG1968321
n-Hexane	U		7.49	100	10	12/02/2022 17:18	WG1968321
Isopropylbenzene	U		1.05	10.0	10	12/02/2022 17:18	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		1.20	10.0	10	12/02/2022 17:18	WG1968321
2-Butanone (MEK)	U		11.9	100	10	12/02/2022 17:18	WG1968321
Methyl Cyclohexane	U		6.60	10.0	10	12/02/2022 17:18	WG1968321
Methylene Chloride	U		4.30	50.0	10	12/02/2022 17:18	WG1968321
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	12/02/2022 17:18	WG1968321
Methyl tert-butyl ether	U		1.01	10.0	10	12/02/2022 17:18	WG1968321
Naphthalene	U		10.0	50.0	10	12/02/2022 17:18	WG1968321
Propene	U		9.36	25.0	10	12/02/2022 17:18	WG1968321
n-Propylbenzene	U		0.993	10.0	10	12/02/2022 17:18	WG1968321
Styrene	U		1.18	10.0	10	12/02/2022 17:18	WG1968321
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	12/02/2022 17:18	WG1968321
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	12/02/2022 17:18	WG1968321
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	12/02/2022 17:18	WG1968321
Tetrachloroethene	U		3.00	10.0	10	12/02/2022 17:18	WG1968321
Toluene	U		2.78	10.0	10	12/02/2022 17:18	WG1968321
1,2,3-Trichlorobenzene	U		2.30	10.0	10	12/02/2022 17:18	WG1968321
1,2,4-Trichlorobenzene	U		4.81	10.0	10	12/02/2022 17:18	WG1968321
1,1,1-Trichloroethane	U		1.49	10.0	10	12/02/2022 17:18	WG1968321
1,1,2-Trichloroethane	U		1.58	10.0	10	12/02/2022 17:18	WG1968321
Trichloroethene	463		1.90	10.0	10	12/02/2022 17:18	WG1968321
Trichlorofluoromethane	U		1.60	50.0	10	12/02/2022 17:18	WG1968321
1,2,3-Trichloropropane	U		2.37	25.0	10	12/02/2022 17:18	WG1968321
1,2,4-Trimethylbenzene	U		3.22	10.0	10	12/02/2022 17:18	WG1968321
1,2,3-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 17:18	WG1968321
1,3,5-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 17:18	WG1968321
Vinyl chloride	U		2.34	10.0	10	12/02/2022 17:18	WG1968321
Xylenes, Total	U		1.74	30.0	10	12/02/2022 17:18	WG1968321
(S) Toluene-d8	111			80.0-120		12/02/2022 17:18	WG1968321
(S) 4-Bromofluorobenzene	94.6			77.0-126		12/02/2022 17:18	WG1968321
(S) 1,2-Dichloroethane-d4	103			70.0-130		12/02/2022 17:18	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	117		0.597	3.00	1	12/02/2022 16:01	WG1968403
(S) Toluene-d8	103			77.0-127		12/02/2022 16:01	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	23300		150	2000	500	12/09/2022 05:56	WG1970993

Sample Narrative:

L1562277-06 WG1970993: 500x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 14:18	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 14:18	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 14:18	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 14:18	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 14:18	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 14:18	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 14:18	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 14:18	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 14:18	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 14:18	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 14:18	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 14:18	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 14:18	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 14:18	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 14:18	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 14:18	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 14:18	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 14:18	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 14:18	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 14:18	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 14:18	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 14:18	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 14:18	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 14:18	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 14:18	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 14:18	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 14:18	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 14:18	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 14:18	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 14:18	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 14:18	WG1968321
1,1-Dichloroethene	4.92		0.188	1.00	1	12/02/2022 14:18	WG1968321
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/02/2022 14:18	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 14:18	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 14:18	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 14:18	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 14:18	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 14:18	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 14:18	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 14:18	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 14:18	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 14:18	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 14:18	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 14:18	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 14:18	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 14:18	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 14:18	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 14:18	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 14:18	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 14:18	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 14:18	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 14:18	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 14:18	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 14:18	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 14:18	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 14:18	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 14:18	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 14:18	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 14:18	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 14:18	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 14:18	WG1968321
Toluene	0.422	U	0.278	1.00	1	12/02/2022 14:18	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 14:18	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 14:18	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 14:18	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 14:18	WG1968321
Trichloroethene	12.7		0.190	1.00	1	12/02/2022 14:18	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 14:18	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 14:18	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 14:18	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 14:18	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 14:18	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 14:18	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 14:18	WG1968321
(S) Toluene-d8	111			80.0-120		12/02/2022 14:18	WG1968321
(S) 4-Bromofluorobenzene	97.8			77.0-126		12/02/2022 14:18	WG1968321
(S) 1,2-Dichloroethane-d4	99.1			70.0-130		12/02/2022 14:18	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	33.5		0.597	3.00	1	12/02/2022 16:22	WG1968403
(S) Toluene-d8	103			77.0-127		12/02/2022 16:22	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	148000		1500	20000	5000	12/09/2022 06:24	WG1970993

Sample Narrative:

L1562277-07 WG1970993: 5000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		113	500	10	12/02/2022 17:40	WG1968321
Acrolein	U		25.4	500	10	12/02/2022 17:40	WG1968321
Acrylonitrile	U		6.71	100	10	12/02/2022 17:40	WG1968321
Benzene	1.65	J	0.941	10.0	10	12/02/2022 17:40	WG1968321
Bromobenzene	U		1.18	10.0	10	12/02/2022 17:40	WG1968321
Bromodichloromethane	U		1.36	10.0	10	12/02/2022 17:40	WG1968321
Bromoform	U		1.29	10.0	10	12/02/2022 17:40	WG1968321
Bromomethane	U	J3 J4	6.05	50.0	10	12/02/2022 17:40	WG1968321
1,3-Butadiene	U		2.99	20.0	10	12/02/2022 17:40	WG1968321
n-Butylbenzene	U		1.57	10.0	10	12/02/2022 17:40	WG1968321
sec-Butylbenzene	U		1.25	10.0	10	12/02/2022 17:40	WG1968321
tert-Butylbenzene	U		1.27	10.0	10	12/02/2022 17:40	WG1968321
Carbon tetrachloride	U		1.28	10.0	10	12/02/2022 17:40	WG1968321
Carbon disulfide	U		0.962	10.0	10	12/02/2022 17:40	WG1968321
Chlorobenzene	U		1.16	10.0	10	12/02/2022 17:40	WG1968321
Chlorodibromomethane	U		1.40	10.0	10	12/02/2022 17:40	WG1968321
Chloroethane	U		1.92	50.0	10	12/02/2022 17:40	WG1968321
Chloroform	1.87	J	1.11	50.0	10	12/02/2022 17:40	WG1968321
Chloromethane	U		9.60	25.0	10	12/02/2022 17:40	WG1968321
Cyclohexane	U		1.88	10.0	10	12/02/2022 17:40	WG1968321
2-Chlorotoluene	U		1.06	10.0	10	12/02/2022 17:40	WG1968321
4-Chlorotoluene	U		1.14	10.0	10	12/02/2022 17:40	WG1968321
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	12/02/2022 17:40	WG1968321
1,2-Dibromoethane	U		1.26	10.0	10	12/02/2022 17:40	WG1968321
Dibromomethane	U		1.22	10.0	10	12/02/2022 17:40	WG1968321
1,2-Dichlorobenzene	U		1.07	10.0	10	12/02/2022 17:40	WG1968321
1,3-Dichlorobenzene	U		1.10	10.0	10	12/02/2022 17:40	WG1968321
1,4-Dichlorobenzene	U		1.20	10.0	10	12/02/2022 17:40	WG1968321
Dichlorodifluoromethane	U		3.74	50.0	10	12/02/2022 17:40	WG1968321
1,1-Dichloroethane	1.14	J	1.00	10.0	10	12/02/2022 17:40	WG1968321
1,2-Dichloroethane	U		0.819	10.0	10	12/02/2022 17:40	WG1968321
1,1-Dichloroethene	118		1.88	10.0	10	12/02/2022 17:40	WG1968321
cis-1,2-Dichloroethene	1.88	J	1.26	10.0	10	12/02/2022 17:40	WG1968321
trans-1,2-Dichloroethene	U		1.49	10.0	10	12/02/2022 17:40	WG1968321
1,2-Dichloropropane	U		1.49	10.0	10	12/02/2022 17:40	WG1968321
1,1-Dichloropropene	U		1.42	10.0	10	12/02/2022 17:40	WG1968321
1,3-Dichloropropane	U		1.10	10.0	10	12/02/2022 17:40	WG1968321
cis-1,3-Dichloropropene	U		1.11	10.0	10	12/02/2022 17:40	WG1968321
trans-1,3-Dichloropropene	U		1.18	10.0	10	12/02/2022 17:40	WG1968321
2,2-Dichloropropane	U		1.61	10.0	10	12/02/2022 17:40	WG1968321
Dicyclopentadiene	U		2.53	10.0	10	12/02/2022 17:40	WG1968321
Di-isopropyl ether	U		1.05	10.0	10	12/02/2022 17:40	WG1968321
Ethylbenzene	U		1.37	10.0	10	12/02/2022 17:40	WG1968321
4-Ethyltoluene	U		2.08	10.0	10	12/02/2022 17:40	WG1968321
Hexachloro-1,3-butadiene	U		3.37	10.0	10	12/02/2022 17:40	WG1968321
n-Hexane	U		7.49	100	10	12/02/2022 17:40	WG1968321
Isopropylbenzene	U		1.05	10.0	10	12/02/2022 17:40	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		1.20	10.0	10	12/02/2022 17:40	WG1968321
2-Butanone (MEK)	U		11.9	100	10	12/02/2022 17:40	WG1968321
Methyl Cyclohexane	U		6.60	10.0	10	12/02/2022 17:40	WG1968321
Methylene Chloride	U		4.30	50.0	10	12/02/2022 17:40	WG1968321
4-Methyl-2-pentanone (MIBK)	U		4.78	100	10	12/02/2022 17:40	WG1968321
Methyl tert-butyl ether	U		1.01	10.0	10	12/02/2022 17:40	WG1968321
Naphthalene	U		10.0	50.0	10	12/02/2022 17:40	WG1968321
Propene	U		9.36	25.0	10	12/02/2022 17:40	WG1968321
n-Propylbenzene	U		0.993	10.0	10	12/02/2022 17:40	WG1968321
Styrene	U		1.18	10.0	10	12/02/2022 17:40	WG1968321
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	12/02/2022 17:40	WG1968321
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	12/02/2022 17:40	WG1968321
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	12/02/2022 17:40	WG1968321
Tetrachloroethene	U		3.00	10.0	10	12/02/2022 17:40	WG1968321
Toluene	U		2.78	10.0	10	12/02/2022 17:40	WG1968321
1,2,3-Trichlorobenzene	U		2.30	10.0	10	12/02/2022 17:40	WG1968321
1,2,4-Trichlorobenzene	U		4.81	10.0	10	12/02/2022 17:40	WG1968321
1,1,1-Trichloroethane	U		1.49	10.0	10	12/02/2022 17:40	WG1968321
1,1,2-Trichloroethane	2.06	U	1.58	10.0	10	12/02/2022 17:40	WG1968321
Trichloroethene	882		1.90	10.0	10	12/02/2022 17:40	WG1968321
Trichlorofluoromethane	U		1.60	50.0	10	12/02/2022 17:40	WG1968321
1,2,3-Trichloropropane	U		2.37	25.0	10	12/02/2022 17:40	WG1968321
1,2,4-Trimethylbenzene	U		3.22	10.0	10	12/02/2022 17:40	WG1968321
1,2,3-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 17:40	WG1968321
1,3,5-Trimethylbenzene	U		1.04	10.0	10	12/02/2022 17:40	WG1968321
Vinyl chloride	U		2.34	10.0	10	12/02/2022 17:40	WG1968321
Xylenes, Total	U		1.74	30.0	10	12/02/2022 17:40	WG1968321
(S) Toluene-d8	110			80.0-120		12/02/2022 17:40	WG1968321
(S) 4-Bromofluorobenzene	95.9			77.0-126		12/02/2022 17:40	WG1968321
(S) 1,2-Dichloroethane-d4	103			70.0-130		12/02/2022 17:40	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	288		0.597	3.00	1	12/02/2022 16:42	WG1968403
(S) Toluene-d8	102			77.0-127		12/02/2022 16:42	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	7160		30.0	400	100	12/09/2022 06:52	WG1970993

Sample Narrative:

L1562277-08 WG1970993: 100x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 14:40	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 14:40	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 14:40	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 14:40	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 14:40	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 14:40	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 14:40	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 14:40	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 14:40	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 14:40	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 14:40	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 14:40	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 14:40	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 14:40	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 14:40	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 14:40	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 14:40	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 14:40	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 14:40	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 14:40	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 14:40	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 14:40	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 14:40	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 14:40	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 14:40	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 14:40	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 14:40	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 14:40	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 14:40	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 14:40	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 14:40	WG1968321
1,1-Dichloroethene	0.967	J	0.188	1.00	1	12/02/2022 14:40	WG1968321
cis-1,2-Dichloroethene	1.09		0.126	1.00	1	12/02/2022 14:40	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 14:40	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 14:40	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 14:40	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 14:40	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 14:40	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 14:40	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 14:40	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 14:40	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 14:40	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 14:40	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 14:40	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 14:40	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 14:40	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 14:40	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 14:40	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 14:40	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 14:40	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 14:40	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 14:40	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 14:40	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 14:40	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 14:40	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 14:40	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 14:40	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 14:40	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 14:40	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 14:40	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 14:40	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 14:40	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 14:40	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 14:40	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 14:40	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 14:40	WG1968321
Trichloroethene	5.13		0.190	1.00	1	12/02/2022 14:40	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 14:40	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 14:40	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 14:40	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 14:40	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 14:40	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 14:40	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 14:40	WG1968321
(S) Toluene-d8	108			80.0-120		12/02/2022 14:40	WG1968321
(S) 4-Bromofluorobenzene	96.4			77.0-126		12/02/2022 14:40	WG1968321
(S) 1,2-Dichloroethane-d4	102			70.0-130		12/02/2022 14:40	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	27.5		0.597	3.00	1	12/02/2022 17:03	WG1968403
(S) Toluene-d8	102			77.0-127		12/02/2022 17:03	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	859000		3000	40000	10000	12/09/2022 07:20	WG1970993

Sample Narrative:

L1562277-09 WG1970993: 10000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	1450	J	1130	5000	100	12/02/2022 18:02	WG1968321
Acrolein	U		254	5000	100	12/02/2022 18:02	WG1968321
Acrylonitrile	U		67.1	1000	100	12/02/2022 18:02	WG1968321
Benzene	245		9.41	100	100	12/02/2022 18:02	WG1968321
Bromobenzene	U		11.8	100	100	12/02/2022 18:02	WG1968321
Bromodichloromethane	U		13.6	100	100	12/02/2022 18:02	WG1968321
Bromoform	U		12.9	100	100	12/02/2022 18:02	WG1968321
Bromomethane	U	J3 J4	60.5	500	100	12/02/2022 18:02	WG1968321
1,3-Butadiene	U		29.9	200	100	12/02/2022 18:02	WG1968321
n-Butylbenzene	U		15.7	100	100	12/02/2022 18:02	WG1968321
sec-Butylbenzene	U		12.5	100	100	12/02/2022 18:02	WG1968321
tert-Butylbenzene	U		12.7	100	100	12/02/2022 18:02	WG1968321
Carbon tetrachloride	U		12.8	100	100	12/02/2022 18:02	WG1968321
Carbon disulfide	U		9.62	100	100	12/02/2022 18:02	WG1968321
Chlorobenzene	U		11.6	100	100	12/02/2022 18:02	WG1968321
Chlorodibromomethane	U		14.0	100	100	12/02/2022 18:02	WG1968321
Chloroethane	U		19.2	500	100	12/02/2022 18:02	WG1968321
Chloroform	83.8	J	11.1	500	100	12/02/2022 18:02	WG1968321
Chloromethane	U		96.0	250	100	12/02/2022 18:02	WG1968321
Cyclohexane	U		18.8	100	100	12/02/2022 18:02	WG1968321
2-Chlorotoluene	U		10.6	100	100	12/02/2022 18:02	WG1968321
4-Chlorotoluene	U		11.4	100	100	12/02/2022 18:02	WG1968321
1,2-Dibromo-3-Chloropropane	U		27.6	500	100	12/02/2022 18:02	WG1968321
1,2-Dibromoethane	U		12.6	100	100	12/02/2022 18:02	WG1968321
Dibromomethane	U		12.2	100	100	12/02/2022 18:02	WG1968321
1,2-Dichlorobenzene	U		10.7	100	100	12/02/2022 18:02	WG1968321
1,3-Dichlorobenzene	U		11.0	100	100	12/02/2022 18:02	WG1968321
1,4-Dichlorobenzene	U		12.0	100	100	12/02/2022 18:02	WG1968321
Dichlorodifluoromethane	U		37.4	500	100	12/02/2022 18:02	WG1968321
1,1-Dichloroethane	56.9	J	10.0	100	100	12/02/2022 18:02	WG1968321
1,2-Dichloroethane	U		8.19	100	100	12/02/2022 18:02	WG1968321
1,1-Dichloroethene	3730		18.8	100	100	12/02/2022 18:02	WG1968321
cis-1,2-Dichloroethene	12.6	J	12.6	100	100	12/02/2022 18:02	WG1968321
trans-1,2-Dichloroethene	U		14.9	100	100	12/02/2022 18:02	WG1968321
1,2-Dichloropropane	U		14.9	100	100	12/02/2022 18:02	WG1968321
1,1-Dichloropropene	U		14.2	100	100	12/02/2022 18:02	WG1968321
1,3-Dichloropropane	U		11.0	100	100	12/02/2022 18:02	WG1968321
cis-1,3-Dichloropropene	U		11.1	100	100	12/02/2022 18:02	WG1968321
trans-1,3-Dichloropropene	U		11.8	100	100	12/02/2022 18:02	WG1968321
2,2-Dichloropropane	U		16.1	100	100	12/02/2022 18:02	WG1968321
Dicyclopentadiene	U		25.3	100	100	12/02/2022 18:02	WG1968321
Di-isopropyl ether	U		10.5	100	100	12/02/2022 18:02	WG1968321
Ethylbenzene	U		13.7	100	100	12/02/2022 18:02	WG1968321
4-Ethyltoluene	U		20.8	100	100	12/02/2022 18:02	WG1968321
Hexachloro-1,3-butadiene	U		33.7	100	100	12/02/2022 18:02	WG1968321
n-Hexane	U		74.9	1000	100	12/02/2022 18:02	WG1968321
Isopropylbenzene	U		10.5	100	100	12/02/2022 18:02	WG1968321



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		12.0	100	100	12/02/2022 18:02	WG1968321
2-Butanone (MEK)	U		119	1000	100	12/02/2022 18:02	WG1968321
Methyl Cyclohexane	U		66.0	100	100	12/02/2022 18:02	WG1968321
Methylene Chloride	87000		430	5000	1000	12/03/2022 23:33	WG1968832
4-Methyl-2-pentanone (MIBK)	U		47.8	1000	100	12/02/2022 18:02	WG1968321
Methyl tert-butyl ether	U		10.1	100	100	12/02/2022 18:02	WG1968321
Naphthalene	U		100	500	100	12/02/2022 18:02	WG1968321
Propene	U		93.6	250	100	12/02/2022 18:02	WG1968321
n-Propylbenzene	U		9.93	100	100	12/02/2022 18:02	WG1968321
Styrene	U		11.8	100	100	12/02/2022 18:02	WG1968321
1,1,1,2-Tetrachloroethane	U		14.7	100	100	12/02/2022 18:02	WG1968321
1,1,2,2-Tetrachloroethane	U		13.3	100	100	12/02/2022 18:02	WG1968321
1,1,2-Trichlorotrifluoroethane	U		18.0	100	100	12/02/2022 18:02	WG1968321
Tetrachloroethene	65.6	U	30.0	100	100	12/02/2022 18:02	WG1968321
Toluene	61.0	U	27.8	100	100	12/02/2022 18:02	WG1968321
1,2,3-Trichlorobenzene	U		23.0	100	100	12/02/2022 18:02	WG1968321
1,2,4-Trichlorobenzene	U		48.1	100	100	12/02/2022 18:02	WG1968321
1,1,1-Trichloroethane	U		14.9	100	100	12/02/2022 18:02	WG1968321
1,1,2-Trichloroethane	73.1	U	15.8	100	100	12/02/2022 18:02	WG1968321
Trichloroethene	80000		190	1000	1000	12/03/2022 23:33	WG1968832
Trichlorofluoromethane	U		16.0	500	100	12/02/2022 18:02	WG1968321
1,2,3-Trichloropropane	U		23.7	250	100	12/02/2022 18:02	WG1968321
1,2,4-Trimethylbenzene	U		32.2	100	100	12/02/2022 18:02	WG1968321
1,2,3-Trimethylbenzene	U		10.4	100	100	12/02/2022 18:02	WG1968321
1,3,5-Trimethylbenzene	U		10.4	100	100	12/02/2022 18:02	WG1968321
Vinyl chloride	U		23.4	100	100	12/02/2022 18:02	WG1968321
Xylenes, Total	44.8	U	17.4	300	100	12/02/2022 18:02	WG1968321
(S) Toluene-d8	107			80.0-120		12/02/2022 18:02	WG1968321
(S) Toluene-d8	108			80.0-120		12/03/2022 23:33	WG1968832
(S) 4-Bromofluorobenzene	93.9			77.0-126		12/02/2022 18:02	WG1968321
(S) 4-Bromofluorobenzene	97.3			77.0-126		12/03/2022 23:33	WG1968832
(S) 1,2-Dichloroethane-d4	102			70.0-130		12/02/2022 18:02	WG1968321
(S) 1,2-Dichloroethane-d4	109			70.0-130		12/03/2022 23:33	WG1968832

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	3180		29.9	150	50	12/06/2022 15:56	WG1969109
(S) Toluene-d8	100			77.0-127		12/06/2022 15:56	WG1969109

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	13.3		0.300	4.00	1	12/09/2022 07:48	WG1970993

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 15:03	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 15:03	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 15:03	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 15:03	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 15:03	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 15:03	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 15:03	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 15:03	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 15:03	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 15:03	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 15:03	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 15:03	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 15:03	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 15:03	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 15:03	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 15:03	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 15:03	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 15:03	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 15:03	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 15:03	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 15:03	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 15:03	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 15:03	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 15:03	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 15:03	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 15:03	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 15:03	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 15:03	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 15:03	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 15:03	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 15:03	WG1968321
1,1-Dichloroethene	U		0.188	1.00	1	12/02/2022 15:03	WG1968321
cis-1,2-Dichloroethene	0.750	J	0.126	1.00	1	12/02/2022 15:03	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 15:03	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 15:03	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 15:03	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 15:03	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 15:03	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 15:03	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 15:03	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 15:03	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 15:03	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 15:03	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 15:03	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 15:03	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 15:03	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 15:03	WG1968321
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 15:03	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 15:03	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 15:03	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/02/2022 15:03	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 15:03	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 15:03	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 15:03	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 15:03	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 15:03	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 15:03	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 15:03	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 15:03	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 15:03	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 15:03	WG1968321
Toluene	0.465	U	0.278	1.00	1	12/02/2022 15:03	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 15:03	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 15:03	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 15:03	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 15:03	WG1968321
Trichloroethene	1.41		0.190	1.00	1	12/02/2022 15:03	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 15:03	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 15:03	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 15:03	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:03	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:03	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 15:03	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 15:03	WG1968321
(S) Toluene-d8	109			80.0-120		12/02/2022 15:03	WG1968321
(S) 4-Bromofluorobenzene	94.7			77.0-126		12/02/2022 15:03	WG1968321
(S) 1,2-Dichloroethane-d4	102			70.0-130		12/02/2022 15:03	WG1968321



Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	264		0.597	3.00	1	12/02/2022 17:44	WG1968403
(S) Toluene-d8	103			77.0-127		12/02/2022 17:44	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	97100		300	4000	1000	12/09/2022 08:16	WG1970993

Sample Narrative:

L1562277-11 WG1970993: 1000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 15:25	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 15:25	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 15:25	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 15:25	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 15:25	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 15:25	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 15:25	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 15:25	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 15:25	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 15:25	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 15:25	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 15:25	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 15:25	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 15:25	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 15:25	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 15:25	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 15:25	WG1968321
Chloroform	0.254	J	0.111	5.00	1	12/02/2022 15:25	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 15:25	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 15:25	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 15:25	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 15:25	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 15:25	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 15:25	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 15:25	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 15:25	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 15:25	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 15:25	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 15:25	WG1968321
1,1-Dichloroethane	0.184	J	0.100	1.00	1	12/02/2022 15:25	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 15:25	WG1968321
1,1-Dichloroethene	28.5		0.188	1.00	1	12/02/2022 15:25	WG1968321
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/02/2022 15:25	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 15:25	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 15:25	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 15:25	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 15:25	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 15:25	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 15:25	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 15:25	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 15:25	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 15:25	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 15:25	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 15:25	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 15:25	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 15:25	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 15:25	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 15:25	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 15:25	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 15:25	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 15:25	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 15:25	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 15:25	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 15:25	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 15:25	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 15:25	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 15:25	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 15:25	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 15:25	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 15:25	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 15:25	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 15:25	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 15:25	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 15:25	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 15:25	WG1968321
1,1,2-Trichloroethane	0.280	U	0.158	1.00	1	12/02/2022 15:25	WG1968321
Trichloroethene	59.1		0.190	1.00	1	12/02/2022 15:25	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 15:25	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 15:25	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 15:25	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:25	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:25	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 15:25	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 15:25	WG1968321
(S) Toluene-d8	108			80.0-120		12/02/2022 15:25	WG1968321
(S) 4-Bromofluorobenzene	96.3			77.0-126		12/02/2022 15:25	WG1968321
(S) 1,2-Dichloroethane-d4	103			70.0-130		12/02/2022 15:25	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	105		0.597	3.00	1	12/02/2022 18:04	WG1968403
(S) Toluene-d8	102			77.0-127		12/02/2022 18:04	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	47700		150	2000	500	12/09/2022 09:40	WG1970993

Sample Narrative:

L1562277-12 WG1970993: 500x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 15:48	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 15:48	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 15:48	WG1968321
Benzene	0.312	J	0.0941	1.00	1	12/02/2022 15:48	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 15:48	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 15:48	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 15:48	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 15:48	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 15:48	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 15:48	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 15:48	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 15:48	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 15:48	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 15:48	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 15:48	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 15:48	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 15:48	WG1968321
Chloroform	0.550	J	0.111	5.00	1	12/02/2022 15:48	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 15:48	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 15:48	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 15:48	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 15:48	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 15:48	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 15:48	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 15:48	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 15:48	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 15:48	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 15:48	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 15:48	WG1968321
1,1-Dichloroethane	0.287	J	0.100	1.00	1	12/02/2022 15:48	WG1968321
1,2-Dichloroethane	0.424	J	0.0819	1.00	1	12/02/2022 15:48	WG1968321
1,1-Dichloroethene	50.8		0.188	1.00	1	12/02/2022 15:48	WG1968321
cis-1,2-Dichloroethene	0.507	J	0.126	1.00	1	12/02/2022 15:48	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 15:48	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 15:48	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 15:48	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 15:48	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 15:48	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 15:48	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 15:48	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 15:48	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 15:48	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 15:48	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 15:48	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 15:48	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 15:48	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 15:48	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 15:48	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 15:48	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 15:48	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 15:48	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 15:48	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 15:48	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 15:48	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 15:48	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 15:48	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 15:48	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 15:48	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 15:48	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 15:48	WG1968321
Tetrachloroethene	0.526	U	0.300	1.00	1	12/02/2022 15:48	WG1968321
Toluene	U		0.278	1.00	1	12/02/2022 15:48	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 15:48	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 15:48	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 15:48	WG1968321
1,1,2-Trichloroethane	0.742	U	0.158	1.00	1	12/02/2022 15:48	WG1968321
Trichloroethene	197		0.190	1.00	1	12/02/2022 15:48	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 15:48	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 15:48	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 15:48	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:48	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 15:48	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 15:48	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 15:48	WG1968321
(S) Toluene-d8	109			80.0-120		12/02/2022 15:48	WG1968321
(S) 4-Bromofluorobenzene	96.8			77.0-126		12/02/2022 15:48	WG1968321
(S) 1,2-Dichloroethane-d4	101			70.0-130		12/02/2022 15:48	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	143		0.597	3.00	1	12/02/2022 18:24	WG1968403
(S) Toluene-d8	104			77.0-127		12/02/2022 18:24	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	497000		3000	40000	10000	12/09/2022 10:08	WG1970993

Sample Narrative:

L1562277-13 WG1970993: 10000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		565	2500	50	12/02/2022 18:25	WG1968321
Acrolein	U		127	2500	50	12/02/2022 18:25	WG1968321
Acrylonitrile	U		33.6	500	50	12/02/2022 18:25	WG1968321
Benzene	11.5	J	4.71	50.0	50	12/02/2022 18:25	WG1968321
Bromobenzene	U		5.90	50.0	50	12/02/2022 18:25	WG1968321
Bromodichloromethane	U		6.80	50.0	50	12/02/2022 18:25	WG1968321
Bromoform	U		6.45	50.0	50	12/02/2022 18:25	WG1968321
Bromomethane	U	J3 J4	30.3	250	50	12/02/2022 18:25	WG1968321
1,3-Butadiene	U		14.9	100	50	12/02/2022 18:25	WG1968321
n-Butylbenzene	U		7.85	50.0	50	12/02/2022 18:25	WG1968321
sec-Butylbenzene	U		6.25	50.0	50	12/02/2022 18:25	WG1968321
tert-Butylbenzene	U		6.35	50.0	50	12/02/2022 18:25	WG1968321
Carbon tetrachloride	U		6.40	50.0	50	12/02/2022 18:25	WG1968321
Carbon disulfide	U		4.81	50.0	50	12/02/2022 18:25	WG1968321
Chlorobenzene	U		5.80	50.0	50	12/02/2022 18:25	WG1968321
Chlorodibromomethane	U		7.00	50.0	50	12/02/2022 18:25	WG1968321
Chloroethane	U		9.60	250	50	12/02/2022 18:25	WG1968321
Chloroform	12.6	J	5.55	250	50	12/02/2022 18:25	WG1968321
Chloromethane	U		48.0	125	50	12/02/2022 18:25	WG1968321
Cyclohexane	U		9.40	50.0	50	12/02/2022 18:25	WG1968321
2-Chlorotoluene	U		5.30	50.0	50	12/02/2022 18:25	WG1968321
4-Chlorotoluene	U		5.70	50.0	50	12/02/2022 18:25	WG1968321
1,2-Dibromo-3-Chloropropane	U		13.8	250	50	12/02/2022 18:25	WG1968321
1,2-Dibromoethane	U		6.30	50.0	50	12/02/2022 18:25	WG1968321
Dibromomethane	U		6.10	50.0	50	12/02/2022 18:25	WG1968321
1,2-Dichlorobenzene	U		5.35	50.0	50	12/02/2022 18:25	WG1968321
1,3-Dichlorobenzene	U		5.50	50.0	50	12/02/2022 18:25	WG1968321
1,4-Dichlorobenzene	U		6.00	50.0	50	12/02/2022 18:25	WG1968321
Dichlorodifluoromethane	U		18.7	250	50	12/02/2022 18:25	WG1968321
1,1-Dichloroethane	7.77	J	5.00	50.0	50	12/02/2022 18:25	WG1968321
1,2-Dichloroethane	U		4.09	50.0	50	12/02/2022 18:25	WG1968321
1,1-Dichloroethene	796		9.40	50.0	50	12/02/2022 18:25	WG1968321
cis-1,2-Dichloroethene	U		6.30	50.0	50	12/02/2022 18:25	WG1968321
trans-1,2-Dichloroethene	U		7.45	50.0	50	12/02/2022 18:25	WG1968321
1,2-Dichloropropane	U		7.45	50.0	50	12/02/2022 18:25	WG1968321
1,1-Dichloropropene	U		7.10	50.0	50	12/02/2022 18:25	WG1968321
1,3-Dichloropropane	U		5.50	50.0	50	12/02/2022 18:25	WG1968321
cis-1,3-Dichloropropene	U		5.55	50.0	50	12/02/2022 18:25	WG1968321
trans-1,3-Dichloropropene	U		5.90	50.0	50	12/02/2022 18:25	WG1968321
2,2-Dichloropropane	U		8.05	50.0	50	12/02/2022 18:25	WG1968321
Dicyclopentadiene	U		12.7	50.0	50	12/02/2022 18:25	WG1968321
Di-isopropyl ether	U		5.25	50.0	50	12/02/2022 18:25	WG1968321
Ethylbenzene	U		6.85	50.0	50	12/02/2022 18:25	WG1968321
4-Ethyltoluene	U		10.4	50.0	50	12/02/2022 18:25	WG1968321
Hexachloro-1,3-butadiene	U		16.9	50.0	50	12/02/2022 18:25	WG1968321
n-Hexane	U		37.4	500	50	12/02/2022 18:25	WG1968321
Isopropylbenzene	U		5.25	50.0	50	12/02/2022 18:25	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		6.00	50.0	50	12/02/2022 18:25	WG1968321
2-Butanone (MEK)	U		59.5	500	50	12/02/2022 18:25	WG1968321
Methyl Cyclohexane	81.9		33.0	50.0	50	12/02/2022 18:25	WG1968321
Methylene Chloride	U		21.5	250	50	12/03/2022 23:55	WG1968832
4-Methyl-2-pentanone (MIBK)	U		23.9	500	50	12/02/2022 18:25	WG1968321
Methyl tert-butyl ether	U		5.05	50.0	50	12/02/2022 18:25	WG1968321
Naphthalene	U		50.0	250	50	12/02/2022 18:25	WG1968321
Propene	U		46.8	125	50	12/02/2022 18:25	WG1968321
n-Propylbenzene	U		4.97	50.0	50	12/02/2022 18:25	WG1968321
Styrene	U		5.90	50.0	50	12/02/2022 18:25	WG1968321
1,1,1,2-Tetrachloroethane	U		7.35	50.0	50	12/02/2022 18:25	WG1968321
1,1,2,2-Tetrachloroethane	U		6.65	50.0	50	12/02/2022 18:25	WG1968321
1,1,2-Trichlorotrifluoroethane	U		9.00	50.0	50	12/02/2022 18:25	WG1968321
Tetrachloroethene	U		15.0	50.0	50	12/02/2022 18:25	WG1968321
Toluene	U		13.9	50.0	50	12/02/2022 18:25	WG1968321
1,2,3-Trichlorobenzene	U		11.5	50.0	50	12/02/2022 18:25	WG1968321
1,2,4-Trichlorobenzene	U		24.1	50.0	50	12/02/2022 18:25	WG1968321
1,1,1-Trichloroethane	U		7.45	50.0	50	12/02/2022 18:25	WG1968321
1,1,2-Trichloroethane	9.46	U	7.90	50.0	50	12/02/2022 18:25	WG1968321
Trichloroethene	6620		9.50	50.0	50	12/02/2022 18:25	WG1968321
Trichlorofluoromethane	U		8.00	250	50	12/02/2022 18:25	WG1968321
1,2,3-Trichloropropane	U		11.9	125	50	12/02/2022 18:25	WG1968321
1,2,4-Trimethylbenzene	U		16.1	50.0	50	12/02/2022 18:25	WG1968321
1,2,3-Trimethylbenzene	U		5.20	50.0	50	12/02/2022 18:25	WG1968321
1,3,5-Trimethylbenzene	U		5.20	50.0	50	12/02/2022 18:25	WG1968321
Vinyl chloride	U		11.7	50.0	50	12/02/2022 18:25	WG1968321
Xylenes, Total	U		8.70	150	50	12/02/2022 18:25	WG1968321
(S) Toluene-d8	108			80.0-120		12/02/2022 18:25	WG1968321
(S) Toluene-d8	103			80.0-120		12/03/2022 23:55	WG1968832
(S) 4-Bromofluorobenzene	94.3			77.0-126		12/02/2022 18:25	WG1968321
(S) 4-Bromofluorobenzene	96.5			77.0-126		12/03/2022 23:55	WG1968832
(S) 1,2-Dichloroethane-d4	101			70.0-130		12/02/2022 18:25	WG1968321
(S) 1,2-Dichloroethane-d4	111			70.0-130		12/03/2022 23:55	WG1968832

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	735		0.597	3.00	1	12/02/2022 18:44	WG1968403
(S) Toluene-d8	101			77.0-127		12/02/2022 18:44	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	98700		300	4000	1000	12/09/2022 10:36	WG1970993

Sample Narrative:

L1562277-14 WG1970993: 1000x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		226	1000	20	12/02/2022 20:17	WG1968321
Acrolein	U		50.8	1000	20	12/02/2022 20:17	WG1968321
Acrylonitrile	U		13.4	200	20	12/02/2022 20:17	WG1968321
Benzene	U		1.88	20.0	20	12/02/2022 20:17	WG1968321
Bromobenzene	U		2.36	20.0	20	12/02/2022 20:17	WG1968321
Bromodichloromethane	U		2.72	20.0	20	12/02/2022 20:17	WG1968321
Bromoform	U		2.58	20.0	20	12/02/2022 20:17	WG1968321
Bromomethane	U	J3 J4	12.1	100	20	12/02/2022 20:17	WG1968321
1,3-Butadiene	U		5.98	40.0	20	12/02/2022 20:17	WG1968321
n-Butylbenzene	U		3.14	20.0	20	12/02/2022 20:17	WG1968321
sec-Butylbenzene	U		2.50	20.0	20	12/02/2022 20:17	WG1968321
tert-Butylbenzene	U		2.54	20.0	20	12/02/2022 20:17	WG1968321
Carbon tetrachloride	U		2.56	20.0	20	12/02/2022 20:17	WG1968321
Carbon disulfide	U		1.92	20.0	20	12/02/2022 20:17	WG1968321
Chlorobenzene	U		2.32	20.0	20	12/02/2022 20:17	WG1968321
Chlorodibromomethane	U		2.80	20.0	20	12/02/2022 20:17	WG1968321
Chloroethane	U		3.84	100	20	12/02/2022 20:17	WG1968321
Chloroform	U		2.22	100	20	12/02/2022 20:17	WG1968321
Chloromethane	U		19.2	50.0	20	12/02/2022 20:17	WG1968321
Cyclohexane	U		3.76	20.0	20	12/02/2022 20:17	WG1968321
2-Chlorotoluene	U		2.12	20.0	20	12/02/2022 20:17	WG1968321
4-Chlorotoluene	U		2.28	20.0	20	12/02/2022 20:17	WG1968321
1,2-Dibromo-3-Chloropropane	U		5.52	100	20	12/02/2022 20:17	WG1968321
1,2-Dibromoethane	U		2.52	20.0	20	12/02/2022 20:17	WG1968321
Dibromomethane	U		2.44	20.0	20	12/02/2022 20:17	WG1968321
1,2-Dichlorobenzene	U		2.14	20.0	20	12/02/2022 20:17	WG1968321
1,3-Dichlorobenzene	U		2.20	20.0	20	12/02/2022 20:17	WG1968321
1,4-Dichlorobenzene	U		2.40	20.0	20	12/02/2022 20:17	WG1968321
Dichlorodifluoromethane	U		7.48	100	20	12/02/2022 20:17	WG1968321
1,1-Dichloroethane	U		2.00	20.0	20	12/02/2022 20:17	WG1968321
1,2-Dichloroethane	U		1.64	20.0	20	12/02/2022 20:17	WG1968321
1,1-Dichloroethene	84.2		3.76	20.0	20	12/02/2022 20:17	WG1968321
cis-1,2-Dichloroethene	3.03	J	2.52	20.0	20	12/02/2022 20:17	WG1968321
trans-1,2-Dichloroethene	U		2.98	20.0	20	12/02/2022 20:17	WG1968321
1,2-Dichloropropane	U		2.98	20.0	20	12/02/2022 20:17	WG1968321
1,1-Dichloropropene	U		2.84	20.0	20	12/02/2022 20:17	WG1968321
1,3-Dichloropropane	U		2.20	20.0	20	12/02/2022 20:17	WG1968321
cis-1,3-Dichloropropene	U		2.22	20.0	20	12/02/2022 20:17	WG1968321
trans-1,3-Dichloropropene	U		2.36	20.0	20	12/02/2022 20:17	WG1968321
2,2-Dichloropropane	U		3.22	20.0	20	12/02/2022 20:17	WG1968321
Dicyclopentadiene	U		5.06	20.0	20	12/02/2022 20:17	WG1968321
Di-isopropyl ether	U		2.10	20.0	20	12/02/2022 20:17	WG1968321
Ethylbenzene	U		2.74	20.0	20	12/02/2022 20:17	WG1968321
4-Ethyltoluene	U		4.16	20.0	20	12/02/2022 20:17	WG1968321
Hexachloro-1,3-butadiene	U		6.74	20.0	20	12/02/2022 20:17	WG1968321
n-Hexane	U		15.0	200	20	12/02/2022 20:17	WG1968321
Isopropylbenzene	U		2.10	20.0	20	12/02/2022 20:17	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		2.40	20.0	20	12/02/2022 20:17	WG1968321
2-Butanone (MEK)	U		23.8	200	20	12/02/2022 20:17	WG1968321
Methyl Cyclohexane	U		13.2	20.0	20	12/02/2022 20:17	WG1968321
Methylene Chloride	U		8.60	100	20	12/02/2022 20:17	WG1968321
4-Methyl-2-pentanone (MIBK)	U		9.56	200	20	12/02/2022 20:17	WG1968321
Methyl tert-butyl ether	U		2.02	20.0	20	12/02/2022 20:17	WG1968321
Naphthalene	U		20.0	100	20	12/02/2022 20:17	WG1968321
Propene	U		18.7	50.0	20	12/02/2022 20:17	WG1968321
n-Propylbenzene	U		1.99	20.0	20	12/02/2022 20:17	WG1968321
Styrene	U		2.36	20.0	20	12/02/2022 20:17	WG1968321
1,1,1,2-Tetrachloroethane	U		2.94	20.0	20	12/02/2022 20:17	WG1968321
1,1,2,2-Tetrachloroethane	U		2.66	20.0	20	12/02/2022 20:17	WG1968321
1,1,2-Trichlorotrifluoroethane	U		3.60	20.0	20	12/02/2022 20:17	WG1968321
Tetrachloroethene	U		6.00	20.0	20	12/02/2022 20:17	WG1968321
Toluene	U		5.56	20.0	20	12/02/2022 20:17	WG1968321
1,2,3-Trichlorobenzene	U		4.60	20.0	20	12/02/2022 20:17	WG1968321
1,2,4-Trichlorobenzene	U		9.62	20.0	20	12/02/2022 20:17	WG1968321
1,1,1-Trichloroethane	U		2.98	20.0	20	12/02/2022 20:17	WG1968321
1,1,2-Trichloroethane	U		3.16	20.0	20	12/02/2022 20:17	WG1968321
Trichloroethene	612		3.80	20.0	20	12/02/2022 20:17	WG1968321
Trichlorofluoromethane	U		3.20	100	20	12/02/2022 20:17	WG1968321
1,2,3-Trichloropropane	U		4.74	50.0	20	12/02/2022 20:17	WG1968321
1,2,4-Trimethylbenzene	U		6.44	20.0	20	12/02/2022 20:17	WG1968321
1,2,3-Trimethylbenzene	U		2.08	20.0	20	12/02/2022 20:17	WG1968321
1,3,5-Trimethylbenzene	U		2.08	20.0	20	12/02/2022 20:17	WG1968321
Vinyl chloride	U		4.68	20.0	20	12/02/2022 20:17	WG1968321
Xylenes, Total	U		3.48	60.0	20	12/02/2022 20:17	WG1968321
(S) Toluene-d8	108			80.0-120		12/02/2022 20:17	WG1968321
(S) 4-Bromofluorobenzene	92.6			77.0-126		12/02/2022 20:17	WG1968321
(S) 1,2-Dichloroethane-d4	104			70.0-130		12/02/2022 20:17	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	51.5		0.597	3.00	1	12/02/2022 19:04	WG1968403
(S) Toluene-d8	104			77.0-127		12/02/2022 19:04	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	1.44	J P1	0.300	4.00	1	12/09/2022 11:03	WG1970993

Sample Narrative:

L1562277-15 WG1970993: 500x

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 16:10	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 16:10	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 16:10	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 16:10	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 16:10	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 16:10	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 16:10	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 16:10	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 16:10	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 16:10	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 16:10	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 16:10	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 16:10	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 16:10	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 16:10	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 16:10	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 16:10	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 16:10	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 16:10	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 16:10	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 16:10	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 16:10	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 16:10	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 16:10	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 16:10	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 16:10	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 16:10	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 16:10	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 16:10	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 16:10	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 16:10	WG1968321
1,1-Dichloroethene	U		0.188	1.00	1	12/02/2022 16:10	WG1968321
cis-1,2-Dichloroethene	0.188	J	0.126	1.00	1	12/02/2022 16:10	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 16:10	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 16:10	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 16:10	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 16:10	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 16:10	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 16:10	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 16:10	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 16:10	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 16:10	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 16:10	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 16:10	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 16:10	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 16:10	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 16:10	WG1968321

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 16:10	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 16:10	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 16:10	WG1968321
Methylene Chloride	U		0.430	5.00	1	12/02/2022 16:10	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 16:10	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 16:10	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 16:10	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 16:10	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 16:10	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 16:10	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 16:10	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 16:10	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 16:10	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 16:10	WG1968321
Toluene	1.12		0.278	1.00	1	12/02/2022 16:10	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 16:10	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 16:10	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 16:10	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 16:10	WG1968321
Trichloroethene	4.51		0.190	1.00	1	12/03/2022 22:49	WG1968832
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 16:10	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 16:10	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 16:10	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 16:10	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 16:10	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 16:10	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 16:10	WG1968321
(S) Toluene-d8	110			80.0-120		12/02/2022 16:10	WG1968321
(S) Toluene-d8	107			80.0-120		12/03/2022 22:49	WG1968832
(S) 4-Bromofluorobenzene	97.8			77.0-126		12/02/2022 16:10	WG1968321
(S) 4-Bromofluorobenzene	97.9			77.0-126		12/03/2022 22:49	WG1968832
(S) 1,2-Dichloroethane-d4	103			70.0-130		12/02/2022 16:10	WG1968321
(S) 1,2-Dichloroethane-d4	111			70.0-130		12/03/2022 22:49	WG1968832

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Is
8	Gl
9	Al
10	Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	3.40	<u>B</u>	0.597	3.00	1	12/02/2022 19:24	WG1968403
(S) Toluene-d8	103			77.0-127		12/02/2022 19:24	WG1968403

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	2.76	J	0.300	4.00	1	12/09/2022 16:32	WG1970993

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/02/2022 16:33	WG1968321
Acrolein	U		2.54	50.0	1	12/02/2022 16:33	WG1968321
Acrylonitrile	U		0.671	10.0	1	12/02/2022 16:33	WG1968321
Benzene	U		0.0941	1.00	1	12/02/2022 16:33	WG1968321
Bromobenzene	U		0.118	1.00	1	12/02/2022 16:33	WG1968321
Bromodichloromethane	U		0.136	1.00	1	12/02/2022 16:33	WG1968321
Bromoform	U		0.129	1.00	1	12/02/2022 16:33	WG1968321
Bromomethane	U	J3 J4	0.605	5.00	1	12/02/2022 16:33	WG1968321
1,3-Butadiene	U		0.299	2.00	1	12/02/2022 16:33	WG1968321
n-Butylbenzene	U		0.157	1.00	1	12/02/2022 16:33	WG1968321
sec-Butylbenzene	U		0.125	1.00	1	12/02/2022 16:33	WG1968321
tert-Butylbenzene	U		0.127	1.00	1	12/02/2022 16:33	WG1968321
Carbon tetrachloride	U		0.128	1.00	1	12/02/2022 16:33	WG1968321
Carbon disulfide	U		0.0962	1.00	1	12/02/2022 16:33	WG1968321
Chlorobenzene	U		0.116	1.00	1	12/02/2022 16:33	WG1968321
Chlorodibromomethane	U		0.140	1.00	1	12/02/2022 16:33	WG1968321
Chloroethane	U		0.192	5.00	1	12/02/2022 16:33	WG1968321
Chloroform	U		0.111	5.00	1	12/02/2022 16:33	WG1968321
Chloromethane	U		0.960	2.50	1	12/02/2022 16:33	WG1968321
Cyclohexane	U		0.188	1.00	1	12/02/2022 16:33	WG1968321
2-Chlorotoluene	U		0.106	1.00	1	12/02/2022 16:33	WG1968321
4-Chlorotoluene	U		0.114	1.00	1	12/02/2022 16:33	WG1968321
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/02/2022 16:33	WG1968321
1,2-Dibromoethane	U		0.126	1.00	1	12/02/2022 16:33	WG1968321
Dibromomethane	U		0.122	1.00	1	12/02/2022 16:33	WG1968321
1,2-Dichlorobenzene	U		0.107	1.00	1	12/02/2022 16:33	WG1968321
1,3-Dichlorobenzene	U		0.110	1.00	1	12/02/2022 16:33	WG1968321
1,4-Dichlorobenzene	U		0.120	1.00	1	12/02/2022 16:33	WG1968321
Dichlorodifluoromethane	U		0.374	5.00	1	12/02/2022 16:33	WG1968321
1,1-Dichloroethane	U		0.100	1.00	1	12/02/2022 16:33	WG1968321
1,2-Dichloroethane	U		0.0819	1.00	1	12/02/2022 16:33	WG1968321
1,1-Dichloroethene	U		0.188	1.00	1	12/02/2022 16:33	WG1968321
cis-1,2-Dichloroethene	0.756	J	0.126	1.00	1	12/02/2022 16:33	WG1968321
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/02/2022 16:33	WG1968321
1,2-Dichloropropane	U		0.149	1.00	1	12/02/2022 16:33	WG1968321
1,1-Dichloropropene	U		0.142	1.00	1	12/02/2022 16:33	WG1968321
1,3-Dichloropropane	U		0.110	1.00	1	12/02/2022 16:33	WG1968321
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/02/2022 16:33	WG1968321
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/02/2022 16:33	WG1968321
2,2-Dichloropropane	U		0.161	1.00	1	12/02/2022 16:33	WG1968321
Dicyclopentadiene	U		0.253	1.00	1	12/02/2022 16:33	WG1968321
Di-isopropyl ether	U		0.105	1.00	1	12/02/2022 16:33	WG1968321
Ethylbenzene	U		0.137	1.00	1	12/02/2022 16:33	WG1968321
4-Ethyltoluene	U		0.208	1.00	1	12/02/2022 16:33	WG1968321
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/02/2022 16:33	WG1968321
n-Hexane	U		0.749	10.0	1	12/02/2022 16:33	WG1968321
Isopropylbenzene	U		0.105	1.00	1	12/02/2022 16:33	WG1968321
p-Isopropyltoluene	U		0.120	1.00	1	12/02/2022 16:33	WG1968321
2-Butanone (MEK)	U		1.19	10.0	1	12/02/2022 16:33	WG1968321
Methyl Cyclohexane	U		0.660	1.00	1	12/02/2022 16:33	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/02/2022 16:33	WG1968321
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/02/2022 16:33	WG1968321
Methyl tert-butyl ether	U		0.101	1.00	1	12/02/2022 16:33	WG1968321
Naphthalene	U		1.00	5.00	1	12/02/2022 16:33	WG1968321
Propene	U		0.936	2.50	1	12/02/2022 16:33	WG1968321
n-Propylbenzene	U		0.0993	1.00	1	12/02/2022 16:33	WG1968321
Styrene	U		0.118	1.00	1	12/02/2022 16:33	WG1968321
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/02/2022 16:33	WG1968321
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/02/2022 16:33	WG1968321
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/02/2022 16:33	WG1968321
Tetrachloroethene	U		0.300	1.00	1	12/02/2022 16:33	WG1968321
Toluene	0.497	<u>J</u>	0.278	1.00	1	12/02/2022 16:33	WG1968321
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/02/2022 16:33	WG1968321
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/02/2022 16:33	WG1968321
1,1,1-Trichloroethane	U		0.149	1.00	1	12/02/2022 16:33	WG1968321
1,1,2-Trichloroethane	U		0.158	1.00	1	12/02/2022 16:33	WG1968321
Trichloroethene	1.57		0.190	1.00	1	12/02/2022 16:33	WG1968321
Trichlorofluoromethane	U		0.160	5.00	1	12/02/2022 16:33	WG1968321
1,2,3-Trichloropropane	U		0.237	2.50	1	12/02/2022 16:33	WG1968321
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/02/2022 16:33	WG1968321
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 16:33	WG1968321
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/02/2022 16:33	WG1968321
Vinyl chloride	U		0.234	1.00	1	12/02/2022 16:33	WG1968321
Xylenes, Total	U		0.174	3.00	1	12/02/2022 16:33	WG1968321
(S) Toluene-d8	107			80.0-120		12/02/2022 16:33	WG1968321
(S) 4-Bromofluorobenzene	93.9			77.0-126		12/02/2022 16:33	WG1968321
(S) 1,2-Dichloroethane-d4	107			70.0-130		12/02/2022 16:33	WG1968321

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	2.11	<u>B J</u>	0.597	3.00	1	12/02/2022 19:45	WG1968403
(S) Toluene-d8	101			77.0-127		12/02/2022 19:45	WG1968403

TRIP BLANK 2

SAMPLE RESULTS - 17

Collected date/time: 11/29/22 00:00

L1562277

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/03/2022 23:12	WG1968806
Acrolein	U		2.54	50.0	1	12/03/2022 23:12	WG1968806
Acrylonitrile	U		0.671	10.0	1	12/03/2022 23:12	WG1968806
Benzene	U		0.0941	1.00	1	12/03/2022 23:12	WG1968806
Bromobenzene	U		0.118	1.00	1	12/03/2022 23:12	WG1968806
Bromodichloromethane	U		0.136	1.00	1	12/03/2022 23:12	WG1968806
Bromoform	U		0.129	1.00	1	12/03/2022 23:12	WG1968806
Bromomethane	U		0.605	5.00	1	12/03/2022 23:12	WG1968806
1,3-Butadiene	U		0.299	2.00	1	12/03/2022 23:12	WG1968806
n-Butylbenzene	U		0.157	1.00	1	12/03/2022 23:12	WG1968806
sec-Butylbenzene	U		0.125	1.00	1	12/03/2022 23:12	WG1968806
tert-Butylbenzene	U		0.127	1.00	1	12/03/2022 23:12	WG1968806
Carbon tetrachloride	U		0.128	1.00	1	12/03/2022 23:12	WG1968806
Carbon disulfide	U		0.0962	1.00	1	12/03/2022 23:12	WG1968806
Chlorobenzene	U		0.116	1.00	1	12/03/2022 23:12	WG1968806
Chlorodibromomethane	U		0.140	1.00	1	12/03/2022 23:12	WG1968806
Chloroethane	U		0.192	5.00	1	12/03/2022 23:12	WG1968806
Chloroform	U		0.111	5.00	1	12/03/2022 23:12	WG1968806
Chloromethane	U		0.960	2.50	1	12/03/2022 23:12	WG1968806
Cyclohexane	U	J3 J4	0.188	1.00	1	12/03/2022 23:12	WG1968806
2-Chlorotoluene	U		0.106	1.00	1	12/03/2022 23:12	WG1968806
4-Chlorotoluene	U		0.114	1.00	1	12/03/2022 23:12	WG1968806
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/03/2022 23:12	WG1968806
1,2-Dibromoethane	U		0.126	1.00	1	12/03/2022 23:12	WG1968806
Dibromomethane	U		0.122	1.00	1	12/03/2022 23:12	WG1968806
1,2-Dichlorobenzene	U		0.107	1.00	1	12/03/2022 23:12	WG1968806
1,3-Dichlorobenzene	U		0.110	1.00	1	12/03/2022 23:12	WG1968806
1,4-Dichlorobenzene	U		0.120	1.00	1	12/03/2022 23:12	WG1968806
Dichlorodifluoromethane	U	J3	0.374	5.00	1	12/03/2022 23:12	WG1968806
1,1-Dichloroethane	U		0.100	1.00	1	12/03/2022 23:12	WG1968806
1,2-Dichloroethane	U		0.0819	1.00	1	12/03/2022 23:12	WG1968806
1,1-Dichloroethene	U	J3	0.188	1.00	1	12/03/2022 23:12	WG1968806
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/03/2022 23:12	WG1968806
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/03/2022 23:12	WG1968806
1,2-Dichloropropane	U		0.149	1.00	1	12/03/2022 23:12	WG1968806
1,1-Dichloropropene	U		0.142	1.00	1	12/03/2022 23:12	WG1968806
1,3-Dichloropropane	U		0.110	1.00	1	12/03/2022 23:12	WG1968806
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/03/2022 23:12	WG1968806
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/03/2022 23:12	WG1968806
2,2-Dichloropropane	U		0.161	1.00	1	12/03/2022 23:12	WG1968806
Dicyclopentadiene	U		0.253	1.00	1	12/03/2022 23:12	WG1968806
Di-isopropyl ether	U		0.105	1.00	1	12/03/2022 23:12	WG1968806
Ethylbenzene	U		0.137	1.00	1	12/03/2022 23:12	WG1968806
4-Ethyltoluene	U		0.208	1.00	1	12/03/2022 23:12	WG1968806
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/03/2022 23:12	WG1968806
n-Hexane	U	J3	0.749	10.0	1	12/03/2022 23:12	WG1968806
Isopropylbenzene	U		0.105	1.00	1	12/03/2022 23:12	WG1968806
p-Isopropyltoluene	U		0.120	1.00	1	12/03/2022 23:12	WG1968806
2-Butanone (MEK)	U		1.19	10.0	1	12/03/2022 23:12	WG1968806
Methyl Cyclohexane	U	J3	0.660	1.00	1	12/03/2022 23:12	WG1968806
Methylene Chloride	U		0.430	5.00	1	12/03/2022 23:12	WG1968806
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/03/2022 23:12	WG1968806
Methyl tert-butyl ether	U		0.101	1.00	1	12/03/2022 23:12	WG1968806
Naphthalene	U		1.00	5.00	1	12/03/2022 23:12	WG1968806
Propene	U	J3 J4	0.936	2.50	1	12/03/2022 23:12	WG1968806
n-Propylbenzene	U		0.0993	1.00	1	12/03/2022 23:12	WG1968806

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

TRIP BLANK 2

SAMPLE RESULTS - 17

Collected date/time: 11/29/22 00:00

L1562277

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Styrene	U		0.118	1.00	1	12/03/2022 23:12	WG1968806
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/03/2022 23:12	WG1968806
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/03/2022 23:12	WG1968806
1,1,2-Trichlorotrifluoroethane	U	<u>J3</u>	0.180	1.00	1	12/03/2022 23:12	WG1968806
Tetrachloroethene	U		0.300	1.00	1	12/03/2022 23:12	WG1968806
Toluene	0.293	<u>J</u>	0.278	1.00	1	12/03/2022 23:12	WG1968806
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/03/2022 23:12	WG1968806
1,2,4-Trichlorobenzene	U	<u>J3</u>	0.481	1.00	1	12/03/2022 23:12	WG1968806
1,1,1-Trichloroethane	U		0.149	1.00	1	12/03/2022 23:12	WG1968806
1,1,2-Trichloroethane	U		0.158	1.00	1	12/03/2022 23:12	WG1968806
Trichloroethene	U		0.190	1.00	1	12/03/2022 23:12	WG1968806
Trichlorofluoromethane	U	<u>J3</u>	0.160	5.00	1	12/03/2022 23:12	WG1968806
1,2,3-Trichloropropane	U		0.237	2.50	1	12/03/2022 23:12	WG1968806
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/03/2022 23:12	WG1968806
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/03/2022 23:12	WG1968806
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/03/2022 23:12	WG1968806
Vinyl chloride	U		0.234	1.00	1	12/03/2022 23:12	WG1968806
Xylenes, Total	U		0.174	3.00	1	12/03/2022 23:12	WG1968806
(S) Toluene-d8	93.3			80.0-120		12/03/2022 23:12	WG1968806
(S) 4-Bromofluorobenzene	91.6			77.0-126		12/03/2022 23:12	WG1968806
(S) 1,2-Dichloroethane-d4	95.6			70.0-130		12/03/2022 23:12	WG1968806

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Method Blank (MB)

(MB) R3870940-1 12/08/22 22:58

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

L1562277-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1562277-15 12/09/22 11:03 • (DUP) R3870940-5 12/09/22 11:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Perchlorate	1.44	1.15	1	22.7	J P1	15

Sample Narrative:

OS: 500x

Laboratory Control Sample (LCS)

(LCS) R3870940-2 12/08/22 23:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	10.3	103	90.0-110	

L1562277-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562277-02 12/09/22 01:45 • (MS) R3870940-3 12/09/22 02:13 • (MSD) R3870940-4 12/09/22 02:41

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Perchlorate	50000	179000	230000	238000	103	118	5000	80.0-120			3.19	15

Sample Narrative:

OS: 5000x

Method Blank (MB)

(MB) R3870941-2 12/09/22 00:21

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

¹Cp

²Tc

³Ss

L1562277-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1562277-04 12/09/22 04:33 • (DUP) R3870941-3 12/09/22 05:01

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Perchlorate	5.75	5.42	1	5.85		15

⁴Cn

⁵Sr

Laboratory Control Sample (LCS)

(LCS) R3870941-1 12/08/22 23:53

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	10.3	103	90.0-110	

⁶Qc

⁷Is

L1562277-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1562277-04 12/09/22 04:33 • (MS) R3870941-4 12/09/22 15:15

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	5.75	15.6	98.9	1	80.0-120	

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3867800-3 12/02/22 10:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
1,3-Butadiene	U		0.299	2.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Carbon disulfide	U		0.0962	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
Cyclohexane	U		0.188	1.00
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3867800-3 12/02/22 10:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dicyclopentadiene	U		0.253	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00
4-Ethyltoluene	U		0.208	1.00
Hexachloro-1,3-butadiene	U		0.337	1.00
n-Hexane	U		0.749	10.0
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methyl Cyclohexane	U		0.660	1.00
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
Propene	U		0.936	2.50
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	111			80.0-120
(S) 4-Bromofluorobenzene	98.0			77.0-126
(S) 1,2-Dichloroethane-d4	98.7			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867800-1 12/02/22 09:18 • (LCSD) R3867800-2 12/02/22 09:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	25.0	37.2	38.9	149	156	19.0-160			4.47	27
Acrolein	25.0	39.8	38.7	159	155	30.0-160			2.80	26
Acrylonitrile	25.0	34.4	34.5	138	138	55.0-149			0.290	20
Benzene	5.00	4.75	4.83	95.0	96.6	70.0-123			1.67	20
Bromobenzene	5.00	4.63	4.71	92.6	94.2	73.0-121			1.71	20
Bromodichloromethane	5.00	4.31	4.27	86.2	85.4	75.0-120			0.932	20
Bromoform	5.00	4.76	5.03	95.2	101	68.0-132			5.52	20
Bromomethane	5.00	0.930	0.705	18.6	14.1	30.0-160	J4	J3 J4	27.5	25
1,3-Butadiene	5.00	4.50	4.66	90.0	93.2	45.0-147			3.49	20
n-Butylbenzene	5.00	4.06	4.28	81.2	85.6	73.0-125			5.28	20
sec-Butylbenzene	5.00	4.46	4.68	89.2	93.6	75.0-125			4.81	20
tert-Butylbenzene	5.00	4.22	5.03	84.4	101	76.0-124			17.5	20
Carbon tetrachloride	5.00	3.99	4.33	79.8	86.6	68.0-126			8.17	20
Carbon disulfide	5.00	4.48	4.57	89.6	91.4	61.0-128			1.99	20
Chlorobenzene	5.00	5.25	5.36	105	107	80.0-121			2.07	20
Chlorodibromomethane	5.00	4.87	4.75	97.4	95.0	77.0-125			2.49	20
Chloroethane	5.00	3.65	3.13	73.0	62.6	47.0-150			15.3	20
Chloroform	5.00	4.72	4.51	94.4	90.2	73.0-120			4.55	20
Chloromethane	5.00	5.46	5.57	109	111	41.0-142			1.99	20
Cyclohexane	5.00	4.48	4.81	89.6	96.2	71.0-124			7.10	20
2-Chlorotoluene	5.00	4.49	4.85	89.8	97.0	76.0-123			7.71	20
4-Chlorotoluene	5.00	4.24	4.39	84.8	87.8	75.0-122			3.48	20
1,2-Dibromo-3-Chloropropane	5.00	4.00	4.61	80.0	92.2	58.0-134			14.2	20
1,2-Dibromoethane	5.00	5.30	5.20	106	104	80.0-122			1.90	20
Dibromomethane	5.00	4.81	4.58	96.2	91.6	80.0-120			4.90	20
1,2-Dichlorobenzene	5.00	4.62	4.94	92.4	98.8	79.0-121			6.69	20
1,3-Dichlorobenzene	5.00	4.54	4.68	90.8	93.6	79.0-120			3.04	20
1,4-Dichlorobenzene	5.00	4.64	4.48	92.8	89.6	79.0-120			3.51	20
Dichlorodifluoromethane	5.00	5.17	5.78	103	116	51.0-149			11.1	20
1,1-Dichloroethane	5.00	5.30	5.31	106	106	70.0-126			0.189	20
1,2-Dichloroethane	5.00	4.53	4.63	90.6	92.6	70.0-128			2.18	20
1,1-Dichloroethene	5.00	4.52	4.90	90.4	98.0	71.0-124			8.07	20
cis-1,2-Dichloroethene	5.00	4.53	4.71	90.6	94.2	73.0-120			3.90	20
trans-1,2-Dichloroethene	5.00	4.74	4.53	94.8	90.6	73.0-120			4.53	20
1,2-Dichloropropane	5.00	5.27	5.40	105	108	77.0-125			2.44	20
1,1-Dichloropropene	5.00	4.58	4.80	91.6	96.0	74.0-126			4.69	20
1,3-Dichloropropane	5.00	5.52	5.47	110	109	80.0-120			0.910	20
cis-1,3-Dichloropropene	5.00	4.50	4.55	90.0	91.0	80.0-123			1.10	20
trans-1,3-Dichloropropene	5.00	5.06	5.03	101	101	78.0-124			0.595	20
2,2-Dichloropropane	5.00	4.40	4.42	88.0	88.4	58.0-130			0.454	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867800-1 12/02/22 09:18 • (LCSD) R3867800-2 12/02/22 09:40

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Dicyclopentadiene	5.00	4.45	4.60	89.0	92.0	74.0-126			3.31	20
Di-isopropyl ether	5.00	6.18	6.18	124	124	58.0-138			0.000	20
Ethylbenzene	5.00	5.03	5.14	101	103	79.0-123			2.16	20
4-Ethyltoluene	5.00	4.47	4.71	89.4	94.2	74.0-127			5.23	20
Hexachloro-1,3-butadiene	5.00	4.97	5.02	99.4	100	54.0-138			1.00	20
n-Hexane	5.00	5.85	6.26	117	125	57.0-133			6.77	20
Isopropylbenzene	5.00	4.80	5.00	96.0	100	76.0-127			4.08	20
p-Isopropyltoluene	5.00	4.18	4.54	83.6	90.8	76.0-125			8.26	20
2-Butanone (MEK)	25.0	36.1	33.8	144	135	44.0-160			6.58	20
Methyl Cyclohexane	5.00	4.31	4.71	86.2	94.2	68.0-126			8.87	20
Methylene Chloride	5.00	4.81	4.77	96.2	95.4	67.0-120			0.835	20
4-Methyl-2-pentanone (MIBK)	25.0	35.4	35.6	142	142	68.0-142			0.563	20
Methyl tert-butyl ether	5.00	4.52	4.41	90.4	88.2	68.0-125			2.46	20
Naphthalene	5.00	2.84	3.14	56.8	62.8	54.0-135			10.0	20
Propene	5.00	2.72	2.88	54.4	57.6	30.0-160			5.71	20
n-Propylbenzene	5.00	4.44	4.56	88.8	91.2	77.0-124			2.67	20
Styrene	5.00	4.81	4.76	96.2	95.2	73.0-130			1.04	20
1,1,1,2-Tetrachloroethane	5.00	5.01	5.35	100	107	75.0-125			6.56	20
1,1,2,2-Tetrachloroethane	5.00	5.13	5.23	103	105	65.0-130			1.93	20
1,1,2-Trichlorotrifluoroethane	5.00	4.65	5.07	93.0	101	69.0-132			8.64	20
Tetrachloroethene	5.00	5.70	5.66	114	113	72.0-132			0.704	20
Toluene	5.00	5.22	5.26	104	105	79.0-120			0.763	20
1,2,3-Trichlorobenzene	5.00	4.22	4.73	84.4	94.6	50.0-138			11.4	20
1,2,4-Trichlorobenzene	5.00	4.14	4.37	82.8	87.4	57.0-137			5.41	20
1,1,1-Trichloroethane	5.00	4.44	4.60	88.8	92.0	73.0-124			3.54	20
1,1,2-Trichloroethane	5.00	5.24	5.23	105	105	80.0-120			0.191	20
Trichloroethene	5.00	4.79	4.90	95.8	98.0	78.0-124			2.27	20
Trichlorofluoromethane	5.00	3.86	4.00	77.2	80.0	59.0-147			3.56	20
1,2,3-Trichloropropane	5.00	4.88	4.96	97.6	99.2	73.0-130			1.63	20
1,2,4-Trimethylbenzene	5.00	4.43	4.65	88.6	93.0	76.0-121			4.85	20
1,2,3-Trimethylbenzene	5.00	4.34	4.55	86.8	91.0	77.0-120			4.72	20
1,3,5-Trimethylbenzene	5.00	4.17	4.48	83.4	89.6	76.0-122			7.17	20
Vinyl chloride	5.00	4.47	4.45	89.4	89.0	67.0-131			0.448	20
Xylenes, Total	15.0	15.2	15.4	101	103	79.0-123			1.31	20
(S) Toluene-d8				111	107	80.0-120				
(S) 4-Bromofluorobenzene				101	98.3	77.0-126				
(S) 1,2-Dichloroethane-d4				99.8	99.3	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

L1562277-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562277-02 12/02/22 16:55 • (MS) R3867800-4 12/02/22 20:40 • (MSD) R3867800-5 12/02/22 21:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	250	U	316	308	126	123	10	10.0-160			2.56	35
Acrolein	250	U	395	392	158	157	10	10.0-160			0.762	39
Acrylonitrile	250	U	346	325	138	130	10	21.0-160			6.26	32
Benzene	50.0	1.23	48.1	51.4	93.7	100	10	17.0-158			6.63	27
Bromobenzene	50.0	U	46.6	46.2	93.2	92.4	10	30.0-149			0.862	28
Bromodichloromethane	50.0	U	43.9	46.3	87.8	92.6	10	31.0-150			5.32	27
Bromoform	50.0	U	48.7	52.1	97.4	104	10	29.0-150			6.75	29
Bromomethane	50.0	U	10.7	11.1	21.4	22.2	10	10.0-160			3.67	38
1,3-Butadiene	50.0	U	42.4	49.6	84.8	99.2	10	10.0-160			15.7	22
n-Butylbenzene	50.0	U	40.0	43.5	80.0	87.0	10	31.0-150			8.38	30
sec-Butylbenzene	50.0	U	42.8	48.3	85.6	96.6	10	33.0-155			12.1	29
tert-Butylbenzene	50.0	U	40.2	44.2	80.4	88.4	10	34.0-153			9.48	28
Carbon tetrachloride	50.0	U	45.7	50.3	91.4	101	10	23.0-159			9.58	28
Carbon disulfide	50.0	U	41.7	45.1	83.4	90.2	10	10.0-156			7.83	28
Chlorobenzene	50.0	U	50.6	55.2	101	110	10	33.0-152			8.70	27
Chlorodibromomethane	50.0	U	48.5	49.2	97.0	98.4	10	37.0-149			1.43	27
Chloroethane	50.0	5.86	32.3	39.1	52.9	66.5	10	10.0-160			19.0	30
Chloroform	50.0	1.84	48.3	52.9	92.9	102	10	29.0-154			9.09	28
Chloromethane	50.0	U	54.0	59.5	108	119	10	10.0-160			9.69	29
Cyclohexane	50.0	U	42.9	51.0	85.8	102	10	19.0-160			17.3	23
2-Chlorotoluene	50.0	U	43.1	46.9	86.2	93.8	10	32.0-153			8.44	28
4-Chlorotoluene	50.0	U	42.2	44.7	84.4	89.4	10	32.0-150			5.75	28
1,2-Dibromo-3-Chloropropane	50.0	U	39.7	41.4	79.4	82.8	10	22.0-151			4.19	34
1,2-Dibromoethane	50.0	U	52.8	53.1	106	106	10	34.0-147			0.567	27
Dibromomethane	50.0	U	45.8	48.2	91.6	96.4	10	30.0-151			5.11	27
1,2-Dichlorobenzene	50.0	U	47.2	46.5	94.4	93.0	10	34.0-149			1.49	28
1,3-Dichlorobenzene	50.0	U	46.1	48.4	92.2	96.8	10	36.0-146			4.87	27
1,4-Dichlorobenzene	50.0	U	45.6	48.2	91.2	96.4	10	35.0-142			5.54	27
Dichlorodifluoromethane	50.0	U	52.8	62.4	106	125	10	10.0-160			16.7	29
1,1-Dichloroethane	50.0	1.07	50.3	55.3	98.5	108	10	25.0-158			9.47	27
1,2-Dichloroethane	50.0	U	48.5	47.5	97.0	95.0	10	29.0-151			2.08	27
1,1-Dichloroethene	50.0	86.9	130	136	86.2	98.2	10	11.0-160			4.51	29
cis-1,2-Dichloroethene	50.0	U	46.3	48.7	92.6	97.4	10	10.0-160			5.05	27
trans-1,2-Dichloroethene	50.0	U	43.7	50.3	87.4	101	10	17.0-153			14.0	27
1,2-Dichloropropane	50.0	U	52.8	54.6	106	109	10	30.0-156			3.35	27
1,1-Dichloropropene	50.0	U	43.7	50.9	87.4	102	10	25.0-158			15.2	27
1,3-Dichloropropane	50.0	U	53.9	54.5	108	109	10	38.0-147			1.11	27
cis-1,3-Dichloropropene	50.0	U	42.7	42.3	85.4	84.6	10	34.0-149			0.941	28
trans-1,3-Dichloropropene	50.0	U	48.3	50.0	96.6	100	10	32.0-149			3.46	28
2,2-Dichloropropane	50.0	U	44.8	50.0	89.6	100	10	24.0-152			11.0	29

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

L1562277-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562277-02 12/02/22 16:55 • (MS) R3867800-4 12/02/22 20:40 • (MSD) R3867800-5 12/02/22 21:02

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dicyclopentadiene	50.0	U	41.8	46.8	83.6	93.6	10	51.0-139			11.3	20
Di-isopropyl ether	50.0	U	61.2	61.7	122	123	10	21.0-160			0.814	28
Ethylbenzene	50.0	U	48.5	52.4	97.0	105	10	30.0-155			7.73	27
4-Ethyltoluene	50.0	U	43.6	46.2	87.2	92.4	10	10.0-160			5.79	20
Hexachloro-1,3-butadiene	50.0	U	50.9	54.3	102	109	10	20.0-154			6.46	34
n-Hexane	50.0	U	60.1	66.8	120	134	10	10.0-153			10.6	28
Isopropylbenzene	50.0	U	46.1	52.2	92.2	104	10	28.0-157			12.4	27
p-Isopropyltoluene	50.0	U	42.3	45.7	84.6	91.4	10	30.0-154			7.73	29
2-Butanone (MEK)	250	U	310	328	124	131	10	10.0-160			5.64	32
Methyl Cyclohexane	50.0	U	47.1	54.7	94.2	109	10	11.0-160			14.9	24
Methylene Chloride	50.0	U	46.1	47.7	92.2	95.4	10	23.0-144			3.41	28
4-Methyl-2-pentanone (MIBK)	250	U	345	340	138	136	10	29.0-160			1.46	29
Methyl tert-butyl ether	50.0	U	46.1	43.3	92.2	86.6	10	28.0-150			6.26	29
Naphthalene	50.0	U	24.1	26.7	48.2	53.4	10	12.0-156			10.2	35
Propene	50.0	U	26.7	29.3	53.4	58.6	10	10.0-160			9.29	29
n-Propylbenzene	50.0	U	41.7	46.5	83.4	93.0	10	31.0-154			10.9	28
Styrene	50.0	U	45.6	48.8	91.2	97.6	10	33.0-155			6.78	28
1,1,1,2-Tetrachloroethane	50.0	U	52.4	57.3	105	115	10	36.0-151			8.93	29
1,1,2,2-Tetrachloroethane	50.0	U	51.0	49.3	102	98.6	10	33.0-150			3.39	28
1,1,2-Trichlorotrifluoroethane	50.0	U	48.0	54.3	96.0	109	10	23.0-160			12.3	30
Tetrachloroethene	50.0	U	53.5	61.9	107	124	10	10.0-160			14.6	27
Toluene	50.0	U	48.3	54.0	96.6	108	10	26.0-154			11.1	28
1,2,3-Trichlorobenzene	50.0	U	40.5	41.2	81.0	82.4	10	17.0-150			1.71	36
1,2,4-Trichlorobenzene	50.0	U	38.8	40.3	77.6	80.6	10	24.0-150			3.79	33
1,1,1-Trichloroethane	50.0	U	43.3	49.3	86.6	98.6	10	23.0-160			13.0	28
1,1,2-Trichloroethane	50.0	U	54.5	54.6	109	109	10	35.0-147			0.183	27
Trichloroethene	50.0	643	647	662	8.00	38.0	10	10.0-160	✓		2.29	25
Trichlorofluoromethane	50.0	U	40.8	47.2	81.6	94.4	10	17.0-160			14.5	31
1,2,3-Trichloropropane	50.0	U	52.0	45.7	104	91.4	10	34.0-151			12.9	29
1,2,4-Trimethylbenzene	50.0	U	43.0	45.3	86.0	90.6	10	26.0-154			5.21	27
1,2,3-Trimethylbenzene	50.0	U	43.8	44.1	87.6	88.2	10	32.0-149			0.683	28
1,3,5-Trimethylbenzene	50.0	U	41.1	44.8	82.2	89.6	10	28.0-153			8.61	27
Vinyl chloride	50.0	U	42.6	49.6	85.2	99.2	10	10.0-160			15.2	27
Xylenes, Total	150	U	142	157	94.7	105	10	29.0-154			10.0	28
(S) Toluene-d8					104	107		80.0-120				
(S) 4-Bromofluorobenzene					95.5	97.8		77.0-126				
(S) 1,2-Dichloroethane-d4					104	103		70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3869347-2 12/03/22 21:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
1,3-Butadiene	U		0.299	2.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Carbon disulfide	U		0.0962	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
Cyclohexane	U		0.188	1.00
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3869347-2 12/03/22 21:42

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Dicyclopentadiene	U		0.253	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00
4-Ethyltoluene	U		0.208	1.00
Hexachloro-1,3-butadiene	U		0.337	1.00
n-Hexane	U		0.749	10.0
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	1.29	U	1.19	10.0
Methyl Cyclohexane	U		0.660	1.00
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
Propene	U		0.936	2.50
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	93.8			80.0-120
(S) 4-Bromofluorobenzene	88.8			77.0-126
(S) 1,2-Dichloroethane-d4	91.8			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869347-1 12/03/22 21:04 • (LCSD) R3869347-3 12/03/22 22:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetone	25.0	25.3	27.0	101	108	19.0-160			6.50	27
Acrolein	25.0	14.5	17.6	58.0	70.4	30.0-160			19.3	26
Acrylonitrile	25.0	24.6	25.8	98.4	103	55.0-149			4.76	20
Benzene	5.00	4.57	4.66	91.4	93.2	70.0-123			1.95	20
Bromobenzene	5.00	4.93	5.77	98.6	115	73.0-121			15.7	20
Bromodichloromethane	5.00	4.69	4.99	93.8	99.8	75.0-120			6.20	20
Bromoform	5.00	4.21	4.83	84.2	96.6	68.0-132			13.7	20
Bromomethane	5.00	4.35	4.50	87.0	90.0	30.0-160			3.39	25
1,3-Butadiene	5.00	3.93	4.53	78.6	90.6	45.0-147			14.2	20
n-Butylbenzene	5.00	4.60	5.42	92.0	108	73.0-125			16.4	20
sec-Butylbenzene	5.00	4.62	5.29	92.4	106	75.0-125			13.5	20
tert-Butylbenzene	5.00	4.64	5.45	92.8	109	76.0-124			16.1	20
Carbon tetrachloride	5.00	4.63	5.45	92.6	109	68.0-126			16.3	20
Carbon disulfide	5.00	3.92	4.54	78.4	90.8	61.0-128			14.7	20
Chlorobenzene	5.00	4.22	4.65	84.4	93.0	80.0-121			9.70	20
Chlorodibromomethane	5.00	4.79	5.35	95.8	107	77.0-125			11.0	20
Chloroethane	5.00	4.33	4.69	86.6	93.8	47.0-150			7.98	20
Chloroform	5.00	4.19	4.55	83.8	91.0	73.0-120			8.24	20
Chloromethane	5.00	4.20	4.75	84.0	95.0	41.0-142			12.3	20
Cyclohexane	5.00	3.37	4.60	67.4	92.0	71.0-124	J4	J3	30.9	20
2-Chlorotoluene	5.00	4.77	5.61	95.4	112	76.0-123			16.2	20
4-Chlorotoluene	5.00	4.76	5.36	95.2	107	75.0-122			11.9	20
1,2-Dibromo-3-Chloropropane	5.00	4.31	4.81	86.2	96.2	58.0-134			11.0	20
1,2-Dibromoethane	5.00	4.71	5.27	94.2	105	80.0-122			11.2	20
Dibromomethane	5.00	4.99	4.79	99.8	95.8	80.0-120			4.09	20
1,2-Dichlorobenzene	5.00	4.59	5.24	91.8	105	79.0-121			13.2	20
1,3-Dichlorobenzene	5.00	5.10	5.94	102	119	79.0-120			15.2	20
1,4-Dichlorobenzene	5.00	4.64	5.17	92.8	103	79.0-120			10.8	20
Dichlorodifluoromethane	5.00	4.20	5.94	84.0	119	51.0-149		J3	34.3	20
1,1-Dichloroethane	5.00	4.30	4.66	86.0	93.2	70.0-126			8.04	20
1,2-Dichloroethane	5.00	4.37	4.85	87.4	97.0	70.0-128			10.4	20
1,1-Dichloroethene	5.00	4.06	5.08	81.2	102	71.0-124		J3	22.3	20
cis-1,2-Dichloroethene	5.00	4.67	5.16	93.4	103	73.0-120			9.97	20
trans-1,2-Dichloroethene	5.00	4.69	4.98	93.8	99.6	73.0-120			6.00	20
1,2-Dichloropropane	5.00	4.70	4.82	94.0	96.4	77.0-125			2.52	20
1,1-Dichloropropene	5.00	4.53	4.85	90.6	97.0	74.0-126			6.82	20
1,3-Dichloropropane	5.00	4.67	4.98	93.4	99.6	80.0-120			6.42	20
cis-1,3-Dichloropropene	5.00	4.31	4.31	86.2	86.2	80.0-123			0.000	20
trans-1,3-Dichloropropene	5.00	4.59	4.92	91.8	98.4	78.0-124			6.94	20
2,2-Dichloropropane	5.00	4.54	5.18	90.8	104	58.0-130			13.2	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869347-1 12/03/22 21:04 • (LCSD) R3869347-3 12/03/22 22:02

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dicyclopentadiene	5.00	4.75	5.41	95.0	108	74.0-126			13.0	20
Di-isopropyl ether	5.00	4.66	4.87	93.2	97.4	58.0-138			4.41	20
Ethylbenzene	5.00	4.35	4.72	87.0	94.4	79.0-123			8.16	20
4-Ethyltoluene	5.00	4.96	5.67	99.2	113	74.0-127			13.4	20
Hexachloro-1,3-butadiene	5.00	4.32	5.13	86.4	103	54.0-138			17.1	20
n-Hexane	5.00	4.13	5.23	82.6	105	57.0-133		J3	23.5	20
Isopropylbenzene	5.00	4.59	5.38	91.8	108	76.0-127			15.8	20
p-Isopropyltoluene	5.00	4.79	5.52	95.8	110	76.0-125			14.2	20
2-Butanone (MEK)	25.0	22.2	25.2	88.8	101	44.0-160			12.7	20
Methyl Cyclohexane	5.00	3.67	4.92	73.4	98.4	68.0-126		J3	29.1	20
Methylene Chloride	5.00	4.98	5.20	99.6	104	67.0-120			4.32	20
4-Methyl-2-pentanone (MIBK)	25.0	20.7	23.1	82.8	92.4	68.0-142			11.0	20
Methyl tert-butyl ether	5.00	4.96	5.24	99.2	105	68.0-125			5.49	20
Naphthalene	5.00	3.92	4.77	78.4	95.4	54.0-135			19.6	20
Propene	5.00	U	1.67	0.000	33.4	30.0-160	J4	J3	200	20
n-Propylbenzene	5.00	4.58	5.40	91.6	108	77.0-124			16.4	20
Styrene	5.00	3.95	4.34	79.0	86.8	73.0-130			9.41	20
1,1,1,2-Tetrachloroethane	5.00	4.45	5.18	89.0	104	75.0-125			15.2	20
1,1,2,2-Tetrachloroethane	5.00	4.99	5.36	99.8	107	65.0-130			7.15	20
1,1,2-Trichlorotrifluoroethane	5.00	3.58	4.72	71.6	94.4	69.0-132		J3	27.5	20
Tetrachloroethene	5.00	4.13	4.75	82.6	95.0	72.0-132			14.0	20
Toluene	5.00	4.33	4.69	86.6	93.8	79.0-120			7.98	20
1,2,3-Trichlorobenzene	5.00	4.02	4.79	80.4	95.8	50.0-138			17.5	20
1,2,4-Trichlorobenzene	5.00	4.12	5.06	82.4	101	57.0-137		J3	20.5	20
1,1,1-Trichloroethane	5.00	4.51	5.02	90.2	100	73.0-124			10.7	20
1,1,2-Trichloroethane	5.00	4.18	4.80	83.6	96.0	80.0-120			13.8	20
Trichloroethene	5.00	4.80	5.25	96.0	105	78.0-124			8.96	20
Trichlorofluoromethane	5.00	3.64	4.99	72.8	99.8	59.0-147		J3	31.3	20
1,2,3-Trichloropropane	5.00	4.77	5.45	95.4	109	73.0-130			13.3	20
1,2,4-Trimethylbenzene	5.00	4.81	5.63	96.2	113	76.0-121			15.7	20
1,2,3-Trimethylbenzene	5.00	4.58	5.14	91.6	103	77.0-120			11.5	20
1,3,5-Trimethylbenzene	5.00	4.54	5.31	90.8	106	76.0-122			15.6	20
Vinyl chloride	5.00	4.38	4.85	87.6	97.0	67.0-131			10.2	20
Xylenes, Total	15.0	13.7	15.3	91.3	102	79.0-123			11.0	20
(S) Toluene-d8				87.8	91.2	80.0-120				
(S) 4-Bromofluorobenzene				82.2	85.6	77.0-126				
(S) 1,2-Dichloroethane-d4				91.4	93.6	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

L1562333-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562333-02 12/04/22 01:26 • (MS) R3869347-4 12/04/22 05:35 • (MSD) R3869347-5 12/04/22 05:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	29.9	29.2	120	117	1	10.0-160			2.37	35
Acrolein	25.0	U	29.9	29.5	120	118	1	10.0-160			1.35	39
Acrylonitrile	25.0	U	26.5	25.7	106	103	1	21.0-160			3.07	32
Benzene	5.00	U	4.05	2.71	81.0	54.2	1	17.0-158		U3	39.6	27
Bromobenzene	5.00	U	4.15	3.32	83.0	66.4	1	30.0-149			22.2	28
Bromodichloromethane	5.00	U	4.58	3.54	91.6	70.8	1	31.0-150			25.6	27
Bromoform	5.00	U	4.29	4.38	85.8	87.6	1	29.0-150			2.08	29
Bromomethane	5.00	U	2.98	2.02	59.6	40.4	1	10.0-160		U3	38.4	38
1,3-Butadiene	5.00	U	2.95	1.71	59.0	34.2	1	10.0-160		U3 U3	53.2	22
n-Butylbenzene	5.00	U	3.81	2.04	76.2	40.8	1	31.0-150		U3 U3 U3	60.5	30
sec-Butylbenzene	5.00	U	4.07	2.54	81.4	50.8	1	33.0-155		U3 U3 U3	46.3	29
tert-Butylbenzene	5.00	U	4.14	2.80	82.8	56.0	1	34.0-153		U3 U3 U3	38.6	28
Carbon tetrachloride	5.00	U	4.43	2.48	88.6	49.6	1	23.0-159		U3 U3 U3	56.4	28
Carbon disulfide	5.00	U	3.10	1.87	62.0	37.4	1	10.0-156		U3 U3 U3	49.5	28
Chlorobenzene	5.00	U	3.93	2.94	78.6	58.8	1	33.0-152		U3 U3 U3	28.8	27
Chlorodibromomethane	5.00	U	4.60	4.35	92.0	87.0	1	37.0-149			5.59	27
Chloroethane	5.00	U	3.88	2.33	77.6	46.6	1	10.0-160		U3	49.9	30
Chloroform	5.00	0.698	4.76	3.43	81.2	54.6	1	29.0-154		U3 U3 U3	32.5	28
Chloromethane	5.00	U	4.05	2.55	81.0	51.0	1	10.0-160		U3 U3 U3	45.5	29
Cyclohexane	5.00	U	3.61	2.11	72.2	42.2	1	19.0-160		U3 U3 U3	52.4	23
2-Chlorotoluene	5.00	U	3.99	2.91	79.8	58.2	1	32.0-153		U3 U3 U3	31.3	28
4-Chlorotoluene	5.00	U	4.13	3.11	82.6	62.2	1	32.0-150		U3 U3 U3	28.2	28
1,2-Dibromo-3-Chloropropane	5.00	U	4.71	4.75	94.2	95.0	1	22.0-151			0.846	34
1,2-Dibromoethane	5.00	U	4.90	4.48	98.0	89.6	1	34.0-147			8.96	27
Dibromomethane	5.00	U	5.05	4.14	101	82.8	1	30.0-151			19.8	27
1,2-Dichlorobenzene	5.00	U	4.08	3.52	81.6	70.4	1	34.0-149			14.7	28
1,3-Dichlorobenzene	5.00	U	4.31	3.39	86.2	67.8	1	36.0-146			23.9	27
1,4-Dichlorobenzene	5.00	U	3.89	3.21	77.8	64.2	1	35.0-142			19.2	27
Dichlorodifluoromethane	5.00	U	4.99	2.84	99.8	56.8	1	10.0-160		U3	54.9	29
1,1-Dichloroethane	5.00	U	4.00	2.77	80.0	55.4	1	25.0-158		U3	36.3	27
1,2-Dichloroethane	5.00	U	4.35	3.76	87.0	75.2	1	29.0-151			14.5	27
1,1-Dichloroethene	5.00	U	4.26	2.35	85.2	47.0	1	11.0-160		U3	57.8	29
cis-1,2-Dichloroethene	5.00	U	4.16	3.00	83.2	60.0	1	10.0-160		U3 U3	32.4	27
trans-1,2-Dichloroethene	5.00	U	4.09	2.57	81.8	51.4	1	17.0-153		U3	45.6	27
1,2-Dichloropropane	5.00	U	4.25	3.31	85.0	66.2	1	30.0-156			24.9	27
1,1-Dichloropropene	5.00	U	4.14	2.42	82.8	48.4	1	25.0-158		U3	52.4	27
1,3-Dichloropropane	5.00	U	4.53	4.35	90.6	87.0	1	38.0-147			4.05	27
cis-1,3-Dichloropropene	5.00	U	3.39	2.83	67.8	56.6	1	34.0-149			18.0	28
trans-1,3-Dichloropropene	5.00	U	4.18	3.72	83.6	74.4	1	32.0-149			11.6	28
2,2-Dichloropropane	5.00	U	3.49	2.14	69.8	42.8	1	24.0-152		U3	48.0	29

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

L1562333-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562333-02 12/04/22 01:26 • (MS) R3869347-4 12/04/22 05:35 • (MSD) R3869347-5 12/04/22 05:54

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dicyclopentadiene	5.00	U	3.69	2.36	73.8	47.2	1	51.0-139		J3 J6	44.0	20
Di-isopropyl ether	5.00	U	4.49	3.76	89.8	75.2	1	21.0-160			17.7	28
Ethylbenzene	5.00	U	4.05	2.80	81.0	56.0	1	30.0-155		J3	36.5	27
4-Ethyltoluene	5.00	U	4.36	2.81	87.2	56.2	1	10.0-160		J3	43.2	20
Hexachloro-1,3-butadiene	5.00	U	3.73	2.74	74.6	54.8	1	20.0-154			30.6	34
n-Hexane	5.00	U	4.03	2.93	80.6	58.6	1	10.0-153		J3	31.6	28
Isopropylbenzene	5.00	U	4.21	2.85	84.2	57.0	1	28.0-157		J3	38.5	27
p-Isopropyltoluene	5.00	U	4.06	2.61	81.2	52.2	1	30.0-154		J3	43.5	29
2-Butanone (MEK)	25.0	U	24.0	24.4	96.0	97.6	1	10.0-160			1.65	32
Methyl Cyclohexane	5.00	U	3.93	2.29	78.6	45.8	1	11.0-160		J3	52.7	24
Methylene Chloride	5.00	U	4.17	3.01	83.4	60.2	1	23.0-144		J3	32.3	28
4-Methyl-2-pentanone (MIBK)	25.0	U	22.4	23.6	89.6	94.4	1	29.0-160			5.22	29
Methyl tert-butyl ether	5.00	U	4.91	4.50	98.2	90.0	1	28.0-150			8.71	29
Naphthalene	5.00	U	4.05	3.85	81.0	77.0	1	12.0-156			5.06	35
Propene	5.00	U	U	U	16.0	14.3	1	10.0-160			11.5	29
n-Propylbenzene	5.00	U	3.85	2.56	77.0	51.2	1	31.0-154		J3	40.2	28
Styrene	5.00	U	3.73	2.79	74.6	55.8	1	33.0-155		J3	28.8	28
1,1,1,2-Tetrachloroethane	5.00	U	4.13	3.57	82.6	71.4	1	36.0-151			14.5	29
1,1,2,2-Tetrachloroethane	5.00	U	4.83	4.82	96.6	96.4	1	33.0-150			0.207	28
1,1,2-Trichlorotrifluoroethane	5.00	U	3.99	2.31	79.8	46.2	1	23.0-160		J3	53.3	30
Tetrachloroethene	5.00	0.320	4.07	3.03	75.0	54.2	1	10.0-160		J3	29.3	27
Toluene	5.00	U	4.36	2.90	87.2	58.0	1	26.0-154		J3	40.2	28
1,2,3-Trichlorobenzene	5.00	U	3.57	3.27	71.4	65.4	1	17.0-150			8.77	36
1,2,4-Trichlorobenzene	5.00	U	3.35	3.16	67.0	63.2	1	24.0-150			5.84	33
1,1,1-Trichloroethane	5.00	U	4.24	2.56	84.8	51.2	1	23.0-160		J3	49.4	28
1,1,2-Trichloroethane	5.00	U	4.20	4.00	84.0	80.0	1	35.0-147			4.88	27
Trichloroethene	5.00	U	4.15	2.55	83.0	51.0	1	10.0-160		J3	47.8	25
Trichlorofluoromethane	5.00	U	4.76	2.55	95.2	51.0	1	17.0-160		J3	60.5	31
1,2,3-Trichloropropane	5.00	U	4.68	4.34	93.6	86.8	1	34.0-151			7.54	29
1,2,4-Trimethylbenzene	5.00	U	4.47	3.11	89.4	62.2	1	26.0-154		J3	35.9	27
1,2,3-Trimethylbenzene	5.00	U	3.99	3.12	79.8	62.4	1	32.0-149			24.5	28
1,3,5-Trimethylbenzene	5.00	U	3.86	2.65	77.2	53.0	1	28.0-153		J3	37.2	27
Vinyl chloride	5.00	U	4.20	2.27	84.0	45.4	1	10.0-160		J3	59.7	27
Xylenes, Total	15.0	U	13.3	9.20	88.7	61.3	1	29.0-154		J3	36.4	28
(S) Toluene-d8					87.3	91.8		80.0-120				
(S) 4-Bromofluorobenzene					89.6	90.1		77.0-126				
(S) 1,2-Dichloroethane-d4					94.7	90.8		70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3867905-3 12/03/22 14:47

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Methylene Chloride	U		0.430	5.00
Trichloroethene	U		0.190	1.00
(S) Toluene-d8	109			80.0-120
(S) 4-Bromofluorobenzene	97.4			77.0-126
(S) 1,2-Dichloroethane-d4	114			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867905-1 12/03/22 13:42 • (LCSD) R3867905-2 12/03/22 14:04

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Methylene Chloride	5.00	4.43	4.87	88.6	97.4	67.0-120			9.46	20
Trichloroethene	5.00	5.20	5.49	104	110	78.0-124			5.43	20
(S) Toluene-d8				105	105	80.0-120				
(S) 4-Bromofluorobenzene				99.9	96.1	77.0-126				
(S) 1,2-Dichloroethane-d4				110	113	70.0-130				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3867978-2 12/02/22 12:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
1,4-Dioxane	1.71	⬇	0.597	3.00
(S) Toluene-d8	101			77.0-127

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3867978-1 12/02/22 11:34 • (LCSD) R3867978-5 12/02/22 21:45

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	52.2	59.6	104	119	55.0-138			13.2	24
(S) Toluene-d8				99.2	101	77.0-127				

L1562277-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562277-02 12/02/22 15:01 • (MS) R3867978-3 12/02/22 21:05 • (MSD) R3867978-4 12/02/22 21:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	230	281	321	102	182	1	13.0-160		⬇	13.3	31
(S) Toluene-d8					104	103		77.0-127				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3869324-3 12/06/22 12:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	98.3			77.0-127

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869324-1 12/06/22 11:47 • (LCSD) R3869324-2 12/06/22 12:07

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	44.9	44.1	89.8	88.2	55.0-138			1.80	24
(S) Toluene-d8				98.7	99.1	77.0-127				

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

INTERNAL STANDARD SUMMARY

Volatile Organic Compounds (GC/MS) by Method 8260B

Instrument: VOCMS6 • File ID: 1203_28

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
Standard	1203_28	265892	123917	113219
Upper Limit		531784	247834	226438
Lower Limit		132946	61959	56610
LCS R3867905-1 WG1968832 1x	1203_28LCSE	265892	123917	113219
LCSD R3867905-2 WG1968832 1x	1203_29E	265331	124805	115018
BLANK R3867905-3 WG1968832 1x	1203_31E	273032	120457	114239
L1562277-15 WG1968832 1x	1203_50	313832	142065	134222
L1562277-09 WG1968832 1000x	1203_52	302070	134721	125063
L1562277-13 WG1968832 50x	1203_53	298458	134232	124434

Instrument: VOCMS30 • File ID: 1202_02

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
Standard	1202_02	273449	119830	129836
Upper Limit		546898	239660	259672
Lower Limit		136725	59915	64918
LCS R3867800-1 WG1968321 1x	1202_02LCS	273449	119830	129836
LCSD R3867800-2 WG1968321 1x	1202_03	275987	120141	127883
BLANK R3867800-3 WG1968321 1x	1202_06A	275570	118109	123103
L1562277-01 WG1968321 1x	1202_11	267592	117342	115570
L1562277-03 WG1968321 1x	1202_12	276834	119085	119692
L1562277-04 WG1968321 1x	1202_13	276040	117362	120720
L1562277-06 WG1968321 1x	1202_14	260812	113696	114050
L1562277-08 WG1968321 1x	1202_15	259724	114113	114684
L1562277-10 WG1968321 1x	1202_16	266099	117303	117274
L1562277-11 WG1968321 1x	1202_17	253664	110906	109976
L1562277-12 WG1968321 1x	1202_18	250915	108933	111652
L1562277-15 WG1968321 1x	1202_19	259346	111567	113323
L1562277-16 WG1968321 1x	1202_20	248535	109566	110019
L1562277-02 WG1968321 10x	1202_21	241154	105619	104216
L1562277-05 WG1968321 10x	1202_22	246861	104250	104803
L1562277-07 WG1968321 10x	1202_23	236369	102722	104577
L1562277-09 WG1968321 100x	1202_24	239080	104635	105821
L1562277-13 WG1968321 50x	1202_25	246343	105338	106645

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

INTERNAL STANDARD SUMMARY

Instrument: VOCMS30 • File ID: 1202_02

12/02/22 09:18

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
L1562277-14 WG1968321 20x	1202_30	228360	99330	97256
MS R3867800-4 WG1968321 10x	1202_31	236085	107296	114638
MSD R3867800-5 WG1968321 10x	1202_32	231856	101388	111074

Instrument: VOCMS41 • File ID: 1203_31

12/03/22 21:04

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
Standard	1203_31	590186.60	243071.50	145799.70
Upper Limit		1180373	486143	291599
Lower Limit		295093	121536	72900
LCS R3869347-1 WG1968806 1x	1203_31LCS	590186.60	243071.50	145799.70
BLANK R3869347-2 WG1968806 1x	1203_33	533946.40	192904	100889
LCSD R3869347-3 WG1968806 1x	1203_34	575561.20	225283	134375
L1562277-17 WG1968806 1x	1203_36	557026.40	201270.70	141329.10
MS R3869347-4 WG1968806 1x	1203_56	575523.20	234724	152863.90
MSD R3869347-5 WG1968806 1x	1203_57	576573.90	218060.20	143396.30

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 1202_04

12/02/22 11:14

Sample ID	File ID	8260-FLUOROBENZENE Response
Standard	1202_04	705572
Upper Limit		1411144
Lower Limit		352786
LCS R3867978-1 WG1968403 1x	1202_05	694196
BLANK R3867978-2 WG1968403 1x	1202_07	675277
L1562277-01 WG1968403 1x	1202_11	750566
L1562277-02 WG1968403 1x	1202_12	686838
L1562277-03 WG1968403 1x	1202_13	716864
L1562277-05 WG1968403 1x	1202_15	829621
L1562277-06 WG1968403 1x	1202_16	710264
L1562277-07 WG1968403 1x	1202_17	800491
L1562277-08 WG1968403 1x	1202_18	702956
L1562277-10 WG1968403 1x	1202_20	649802
L1562277-11 WG1968403 1x	1202_21	714857
L1562277-12 WG1968403 1x	1202_22	665859
L1562277-13 WG1968403 1x	1202_23	639517
L1562277-14 WG1968403 1x	1202_24	740300
L1562277-15 WG1968403 1x	1202_25	677769
L1562277-16 WG1968403 1x	1202_26	651225
MS R3867978-3 WG1968403 1x	1202_30	705438
MSD R3867978-4 WG1968403 1x	1202_31	671554
LCSD R3867978-5 WG1968403 1x	1202_32	759833

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Instrument: VOCMS27 • File ID: 1206_04

12/06/22 11:27

Sample ID	File ID	8260-FLUOROBENZENE Response
Standard	1206_04	803757
Upper Limit		1607514
Lower Limit		401879
LCS R3869324-1 WG1969109 1x	1206_05A	818618
LCSD R3869324-2 WG1969109 1x	1206_06A	853442
BLANK R3869324-3 WG1969109 1x	1206_08A	728210
L1562277-04 WG1969109 1x	1206_09	729718
L1562277-09 WG1969109 50x	1206_10	760947

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Pinyon Environmental
 4815 E. Carefree Highway
 #108-274
 Cave Creek, AZ 85331

Report to: **Jeremy Musson**
 Christopher Funk
 Email To: ~~funk@pinyon-env.com~~; ~~guarnieri@pinyon-env.com~~ **Musson@pinyon-env.com**

Project Description: **Nammo TTU Groundwater Monitoring**
 City/State Collected: **Mesa, AZ**
 Please Circle: **PT** MT CT ET

Client Project # **722152201.002**
 Lab Project # **PINYONMAZ-722152201**
 Site/Facility ID #
 P.O. #
 Quote #
 Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day
 Date Results Needed **Standard TAT**
 No. of Cntrs

Collected by (print): **Isabella Foster**
 Collected by (signature): *[Signature]*
 Immediately Packed on Ice N Y

PERCHLORATE 125miHDPE-NoPres
 V8260AZ 40miAmb-HCI
 V8260LL14D 40miAmb-HCI

Pace
 PEOPLE ADVANCING SCIENCE
MT JULIET, TN
 12065 Lebanon Rd Mount Juliet, TN 37122
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **L156 227**
D148
 Acctnum: **PINYONMAZ**
 Template: **T205653**
 Prelogin: **P931176**
 PM: **288 - Daphne Richards**
 PB:
 Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125miHDPE-NoPres	V8260AZ 40miAmb-HCI	V8260LL14D 40miAmb-HCI	Remarks	Sample # (lab only)
TTU-1-50-20221128	C	GW	50	11/28/22	1358	7	X	X	X		-01
TTU-2-114-20221128	C	GW	114	↓	1419	14	X	X	X	MS/HSD	-02
TTU-5-80-20221129	G1	GW	80	11/29/22	0822	7	X	X	X		-03
TTU-9a-61-20221129	G1	GW	61		1206	7	X	X	X		-04
TTU-12-82-20221129	G1	GW	82		1336	7	X	X	X		-05
TTU-13-51-20221129	G1	GW	51		1247	7	X	X	X		-06
TTU-14-64-20221129	G1	GW	64		1212	7	X	X	X		-07
TTU-15-75-20221129	G1	GW	75		1340	7	X	X	X		-08
TTU-16-80-20221129	G1	GW	80		1336	7	X	X	X		-09
TTU-17-80-20221129	G1	GW	80	↓	1420	7	X	X	X		-10

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS FedEx Courier
 Tracking #

Sample Receipt Checklist
 COC Seal Present/Intact: Y N
 COC Signed/Accurate: Y N
 Bottles arrive intact: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
If Applicable
 VOA Zero Headspace: Y N
 Preservation Correct/Checked: Y N
 RAD Screen <0.5 mR/hr: Y N

Relinquished by: (Signature) <i>[Signature]</i>	Date: 11-29-22	Time: 1545	Received by: (Signature) <i>[Signature]</i>	Trip Blank Received: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No HCL MeqH TBR
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11-29-22	Time: 1800	Received by: (Signature) <i>[Signature]</i>	Temp: °C Bottles Received: 119
Relinquished by: (Signature) <i>[Signature]</i>	Date: 11/30/22	Time: 930	Received for lab by: (Signature) <i>[Signature]</i>	Hold: <i>[Signature]</i> Condition: <input checked="" type="checkbox"/> NCF / <input type="checkbox"/> OK

P115A2

KE

4815 E. Carefree Highway #108-274 Cave Creek, AZ 85331

Email To: funk@pinyon-env.com; guarnieri@pinyon-

Report to: **Christopher Funk** *Jeremy Musson*

City/State Collected: **Mesa, AZ** Please Circle: **PT (MT) CT ET**

Project Description: **Nammo TTU Groundwater Monitoring**

Client Project # **722152201.002** Lab Project # **PINYONMAZ-722152201**

Phone: **602-290-4774**

Site/Facility ID # P.O. #

Collected by (print): **Isabella Foster**

Quote #

Collected by (signature): *Isabella Foster*
 Immediately Packed on Ice **N** **Y**

Rush? (Lab MUST Be Notified)
 Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day
 Date Results Needed: **Standard TAT**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl											
TTU-EXT-1-69-20221129	G1	GW	69	11/29/22	0827	7	X	X	X											-11
TTU-EXT-2-74-20221129	G1	GW	74		0902	7	X	X	X											-12
TTU-EXT-3-76-20221129	G1	GW	76		0937	7	X	X	X											-13
TTU-EXT-4-77-20221129	G1	GW	77		0939	7	X	X	X											-14
TTU-EXT-5-80-20221129	G1	GW	80		0822	7	X	X	X											-15
Dup-01	G1	GW	80		1420	7	X	X	X											-16
Trip Blank	-	GW	-	-	-	10		X												-17
Trip Blank 2	-	GW	-	-	-	KFI		X												-17
		GW																		

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks: pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via: UPS FedEx Courier Tracking # _____

COC Seal Present/Intact:	<input type="checkbox"/> NP	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
COC Signed/Accurate:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Bottles arrive intact:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Correct bottles used:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Sufficient volume sent:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
If Applicable			
VOA Zero Headspace:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
Preservation Correct/Checked:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
RAD Screen <0.5 mR/hr:		<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N

Relinquished by: (Signature) *Isabella Foster*
 Date: **11/29/22** Time: **1545**

Received by: (Signature) *[Signature]*
 Date: **11-29-22** Time: **1600**

Received for lab by: (Signature) *[Signature]*
 Date: **11/30/22** Time: **830**

Trip Blank Received: Yes / No
 HCL MeOH TBR
 Temp: _____ °C Bottles Received: **119**

If preservation required by Login: Date/Time
 Hold: _____ Condition: **(NCF) / OK**

PMPA-7

L156277

10148

<u>Tracking Numbers</u>	<u>Temperature</u>
526 7122 7203	DRAG 1.6+0=1.6
526 7122 7203	DRAG 1.9+0=1.9

11/30-NCF-L1562277 PINYONMAZ TD

R5

Time estimate: oh

Time spent: oh

Members

- Troy Dunlap (responsible)
- DR Daphne Richards

- Login Clarification needed
- Chain of custody is incomplete
- Please specify Metals requested
- Please specify TCLP requested
- Received additional samples not listed on COC
- Sample IDs on containers do not match IDs on COC
- Client did not "X" analysis
- Chain of Custody is missing
- If no COC: Received by: _____
- If no COC: Date/Time: _____
- If no COC: Temp./Cont.Rec./pH: _____
- If no COC: Carrier: _____
- If no COC: Tracking #: _____
- Client informed by call
- Client informed by Email
- Client informed by Voicemail
- Date/Time: _____
- PM initials: _____
- Client Contact: _____

Comments

- Troy Dunlap* 30 November 2022 1:45 PM
1.) COC says TTU-5-80-20221129 at 0822, received TTU-5-110-2022129 at 0822. Logged per COC.
- 2.) Did not receive TRIP BLANK. Only received TRIP BLANK 2.
- Daphne Richards* 30 November 2022 2:28 PM
Client notified. Proceed with analysis
- Troy Dunlap* 30 November 2022 3:10 PM
Done.

Pinyon Environmental

Sample Delivery Group: L1563057
Samples Received: 12/01/2022
Project Number: 722152201.002
Description: Nammo TTU Groundwater Monitoring

Report To: Andrew Parker
3222 S. Vance Street Suite 200
Lakewood, CO 80227






Entire Report Reviewed By:



Daphne Richards
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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SAMPLE SUMMARY

TTU-3-143-20221130 L1563057-01 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 12:00
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1973166	1	12/10/22 01:46	12/10/22 01:46	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 10:51	12/05/22 10:51	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1969477	1	12/05/22 20:01	12/05/22 20:01	JAH	Mt. Juliet, TN



TTU-4-57-20221130 L1563057-02 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 10:33
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1973166	1	12/10/22 02:14	12/10/22 02:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 11:11	12/05/22 11:11	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 17:18	12/06/22 17:18	JAH	Mt. Juliet, TN

TTU-6-143-20221130 L1563057-03 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 10:56
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1971849	5	12/10/22 02:43	12/10/22 02:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 11:31	12/05/22 11:31	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 17:38	12/06/22 17:38	JAH	Mt. Juliet, TN

TTU-7-345-20221130 L1563057-04 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 09:57
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1973166	1	12/10/22 03:11	12/10/22 03:11	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 11:52	12/05/22 11:52	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 17:59	12/06/22 17:59	JAH	Mt. Juliet, TN

TTU-8-164-20221130 L1563057-05 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 09:53
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1973166	1	12/10/22 03:40	12/10/22 03:40	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 12:12	12/05/22 12:12	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 18:19	12/06/22 18:19	JAH	Mt. Juliet, TN

TTU-10-172-20221130 L1563057-06 GW

Collected by Isabella Foster
 Collected date/time 11/30/22 12:00
 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1973166	1	12/10/22 04:08	12/10/22 04:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 12:32	12/05/22 12:32	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 18:39	12/06/22 18:39	JAH	Mt. Juliet, TN

SAMPLE SUMMARY

TTU-11-73-20221130 L1563057-07 GW

Collected by Isabella Foster Collected date/time 11/30/22 14:50 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1971849	5	12/10/22 04:36	12/10/22 04:36	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	10	12/05/22 15:15	12/05/22 15:15	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 18:59	12/06/22 18:59	JAH	Mt. Juliet, TN



TTU-19-73-20221130 L1563057-08 GW

Collected by Isabella Foster Collected date/time 11/30/22 14:10 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1971849	20	12/10/22 06:02	12/10/22 06:02	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	5	12/05/22 15:36	12/05/22 15:36	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 19:19	12/06/22 19:19	JAH	Mt. Juliet, TN

TTU-20-73-20221130 L1563057-09 GW

Collected by Isabella Foster Collected date/time 11/30/22 14:02 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1972222	10000	12/13/22 03:17	12/13/22 03:17	SL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	100	12/05/22 15:56	12/05/22 15:56	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	100	12/06/22 23:21	12/06/22 23:21	JAH	Mt. Juliet, TN

PF-2-400-20221130 L1563057-10 GW

Collected by Isabella Foster Collected date/time 11/30/22 12:55 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 12:53	12/05/22 12:53	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970099	1	12/06/22 19:40	12/06/22 19:40	JAH	Mt. Juliet, TN

TRIP BLANK L1563057-11 GW

Collected by Isabella Foster Collected date/time 11/30/22 00:00 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1969128	1	12/05/22 10:30	12/05/22 10:30	JAH	Mt. Juliet, TN

DUP-02 L1563057-12 GW

Collected by Isabella Foster Collected date/time 11/30/22 12:00 Received date/time 12/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1976790	1	12/16/22 05:15	12/16/22 05:15	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1971428	1	12/08/22 17:15	12/08/22 17:15	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1970821	1	12/09/22 15:45	12/09/22 15:45	JAH	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Daphne Richards
Project Manager

Report Revision History

Level II Report - Version 1: 12/20/22 10:04

Project Narrative

Report format

Sample Delivery Group (SDG) Narrative

No extra volume received to perform Matrix Spike samples.

<u>Lab Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L1563057-01	TTU-3-143-20221130	8260B-SIM
L1563057-12	DUP-02	8260B, 8260B-SIM



Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	70.0		0.300	4.00	1	12/10/2022 01:46	WG1973166

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 10:51	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 10:51	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 10:51	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 10:51	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 10:51	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 10:51	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 10:51	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 10:51	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 10:51	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 10:51	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 10:51	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 10:51	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 10:51	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 10:51	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 10:51	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 10:51	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 10:51	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 10:51	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 10:51	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 10:51	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 10:51	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 10:51	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 10:51	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 10:51	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 10:51	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 10:51	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 10:51	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 10:51	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 10:51	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 10:51	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 10:51	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 10:51	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 10:51	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 10:51	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 10:51	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 10:51	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 10:51	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 10:51	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 10:51	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 10:51	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 10:51	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 10:51	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 10:51	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 10:51	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 10:51	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 10:51	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 10:51	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 10:51	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 10:51	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 10:51	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 10:51	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 10:51	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 10:51	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 10:51	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 10:51	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 10:51	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 10:51	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 10:51	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 10:51	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 10:51	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 10:51	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 10:51	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 10:51	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 10:51	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 10:51	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 10:51	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 10:51	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 10:51	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 10:51	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 10:51	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 10:51	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 10:51	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 10:51	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 10:51	WG1969128
(S) Toluene-d8	101			80.0-120		12/05/2022 10:51	WG1969128
(S) 4-Bromofluorobenzene	98.8			77.0-126		12/05/2022 10:51	WG1969128
(S) 1,2-Dichloroethane-d4	89.4			70.0-130		12/05/2022 10:51	WG1969128



Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U	<u>J3</u>	0.597	3.00	1	12/05/2022 20:01	WG1969477
(S) Toluene-d8	98.6			77.0-127		12/05/2022 20:01	WG1969477

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	1.72	J	0.300	4.00	1	12/10/2022 02:14	WG1973166

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 11:11	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 11:11	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 11:11	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 11:11	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 11:11	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 11:11	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 11:11	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 11:11	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 11:11	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 11:11	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 11:11	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 11:11	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 11:11	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 11:11	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 11:11	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 11:11	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 11:11	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 11:11	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 11:11	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 11:11	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 11:11	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 11:11	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 11:11	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 11:11	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 11:11	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 11:11	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 11:11	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 11:11	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 11:11	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 11:11	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 11:11	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 11:11	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 11:11	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 11:11	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 11:11	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 11:11	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 11:11	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 11:11	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 11:11	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 11:11	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 11:11	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 11:11	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 11:11	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 11:11	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 11:11	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 11:11	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 11:11	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 11:11	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 11:11	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 11:11	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 11:11	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 11:11	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 11:11	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 11:11	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 11:11	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 11:11	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 11:11	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 11:11	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 11:11	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 11:11	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 11:11	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 11:11	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 11:11	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 11:11	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 11:11	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 11:11	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 11:11	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 11:11	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 11:11	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 11:11	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:11	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:11	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 11:11	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 11:11	WG1969128
(S) Toluene-d8	102			80.0-120		12/05/2022 11:11	WG1969128
(S) 4-Bromofluorobenzene	99.0			77.0-126		12/05/2022 11:11	WG1969128
(S) 1,2-Dichloroethane-d4	88.7			70.0-130		12/05/2022 11:11	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	1.84	J	0.597	3.00	1	12/06/2022 17:18	WG1970099
(S) Toluene-d8	99.3			77.0-127		12/06/2022 17:18	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	144		1.50	20.0	5	12/10/2022 02:43	WG1971849

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 11:31	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 11:31	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 11:31	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 11:31	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 11:31	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 11:31	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 11:31	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 11:31	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 11:31	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 11:31	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 11:31	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 11:31	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 11:31	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 11:31	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 11:31	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 11:31	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 11:31	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 11:31	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 11:31	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 11:31	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 11:31	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 11:31	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 11:31	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 11:31	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 11:31	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 11:31	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 11:31	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 11:31	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 11:31	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 11:31	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 11:31	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 11:31	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 11:31	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 11:31	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 11:31	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 11:31	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 11:31	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 11:31	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 11:31	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 11:31	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 11:31	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 11:31	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 11:31	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 11:31	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 11:31	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 11:31	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 11:31	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 11:31	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 11:31	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 11:31	WG1969128



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 11:31	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 11:31	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 11:31	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 11:31	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 11:31	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 11:31	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 11:31	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 11:31	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 11:31	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 11:31	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 11:31	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 11:31	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 11:31	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 11:31	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 11:31	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 11:31	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 11:31	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 11:31	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 11:31	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 11:31	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:31	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:31	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 11:31	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 11:31	WG1969128
(S) Toluene-d8	102			80.0-120		12/05/2022 11:31	WG1969128
(S) 4-Bromofluorobenzene	98.5			77.0-126		12/05/2022 11:31	WG1969128
(S) 1,2-Dichloroethane-d4	90.1			70.0-130		12/05/2022 11:31	WG1969128



Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 17:38	WG1970099
(S) Toluene-d8	98.8			77.0-127		12/06/2022 17:38	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	U		0.300	4.00	1	12/10/2022 03:11	WG1973166

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 11:52	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 11:52	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 11:52	WG1969128
Benzene	0.119	J	0.0941	1.00	1	12/05/2022 11:52	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 11:52	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 11:52	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 11:52	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 11:52	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 11:52	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 11:52	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 11:52	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 11:52	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 11:52	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 11:52	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 11:52	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 11:52	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 11:52	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 11:52	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 11:52	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 11:52	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 11:52	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 11:52	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 11:52	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 11:52	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 11:52	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 11:52	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 11:52	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 11:52	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 11:52	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 11:52	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 11:52	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 11:52	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 11:52	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 11:52	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 11:52	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 11:52	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 11:52	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 11:52	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 11:52	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 11:52	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 11:52	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 11:52	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 11:52	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 11:52	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 11:52	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 11:52	WG1969128
Isopropylbenzene	0.130	J	0.105	1.00	1	12/05/2022 11:52	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 11:52	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 11:52	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 11:52	WG1969128

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Cp

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Tc

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 11:52	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 11:52	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 11:52	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 11:52	WG1969128
Propene	3.75		0.936	2.50	1	12/05/2022 11:52	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 11:52	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 11:52	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 11:52	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 11:52	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 11:52	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 11:52	WG1969128
Toluene	0.888	U	0.278	1.00	1	12/05/2022 11:52	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 11:52	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 11:52	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 11:52	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 11:52	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 11:52	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 11:52	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 11:52	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 11:52	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:52	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 11:52	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 11:52	WG1969128
Xylenes, Total	0.223	U	0.174	3.00	1	12/05/2022 11:52	WG1969128
(S) Toluene-d8	103			80.0-120		12/05/2022 11:52	WG1969128
(S) 4-Bromofluorobenzene	99.6			77.0-126		12/05/2022 11:52	WG1969128
(S) 1,2-Dichloroethane-d4	91.5			70.0-130		12/05/2022 11:52	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 17:59	WG1970099
(S) Toluene-d8	99.4			77.0-127		12/06/2022 17:59	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	1.77	J	0.300	4.00	1	12/10/2022 03:40	WG1973166

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 12:12	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 12:12	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 12:12	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 12:12	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 12:12	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 12:12	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 12:12	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 12:12	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 12:12	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 12:12	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 12:12	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 12:12	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 12:12	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 12:12	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 12:12	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 12:12	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 12:12	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 12:12	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 12:12	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 12:12	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 12:12	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 12:12	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 12:12	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 12:12	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 12:12	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 12:12	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 12:12	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 12:12	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 12:12	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 12:12	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 12:12	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 12:12	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 12:12	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 12:12	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 12:12	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 12:12	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 12:12	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 12:12	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 12:12	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 12:12	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 12:12	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 12:12	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 12:12	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 12:12	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 12:12	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 12:12	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 12:12	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 12:12	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 12:12	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 12:12	WG1969128

1 Cp
 2 Tc
 3 Ss
 4 Cn
 5 Sr
 6 Qc
 7 Is
 8 Gl
 9 Al
 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 12:12	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 12:12	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 12:12	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 12:12	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 12:12	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 12:12	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 12:12	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 12:12	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 12:12	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 12:12	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 12:12	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 12:12	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 12:12	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 12:12	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 12:12	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 12:12	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 12:12	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 12:12	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 12:12	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 12:12	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:12	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:12	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 12:12	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 12:12	WG1969128
(S) Toluene-d8	102			80.0-120		12/05/2022 12:12	WG1969128
(S) 4-Bromofluorobenzene	98.3			77.0-126		12/05/2022 12:12	WG1969128
(S) 1,2-Dichloroethane-d4	90.7			70.0-130		12/05/2022 12:12	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 18:19	WG1970099
(S) Toluene-d8	98.6			77.0-127		12/06/2022 18:19	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	U		0.300	4.00	1	12/10/2022 04:08	WG1973166

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 12:32	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 12:32	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 12:32	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 12:32	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 12:32	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 12:32	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 12:32	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 12:32	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 12:32	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 12:32	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 12:32	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 12:32	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 12:32	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 12:32	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 12:32	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 12:32	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 12:32	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 12:32	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 12:32	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 12:32	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 12:32	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 12:32	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 12:32	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 12:32	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 12:32	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 12:32	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 12:32	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 12:32	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 12:32	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 12:32	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 12:32	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 12:32	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 12:32	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 12:32	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 12:32	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 12:32	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 12:32	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 12:32	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 12:32	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 12:32	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 12:32	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 12:32	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 12:32	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 12:32	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 12:32	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 12:32	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 12:32	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 12:32	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 12:32	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 12:32	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/05/2022 12:32	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 12:32	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 12:32	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 12:32	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 12:32	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 12:32	WG1969128
Styrene	U		0.118	1.00	1	12/05/2022 12:32	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 12:32	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 12:32	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 12:32	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 12:32	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 12:32	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 12:32	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 12:32	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 12:32	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 12:32	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 12:32	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 12:32	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 12:32	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 12:32	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:32	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:32	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 12:32	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 12:32	WG1969128
(S) Toluene-d8	101			80.0-120		12/05/2022 12:32	WG1969128
(S) 4-Bromofluorobenzene	98.6			77.0-126		12/05/2022 12:32	WG1969128
(S) 1,2-Dichloroethane-d4	91.0			70.0-130		12/05/2022 12:32	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 18:39	WG1970099
(S) Toluene-d8	98.8			77.0-127		12/06/2022 18:39	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	U		1.50	20.0	5	12/10/2022 04:36	WG1971849

Sample Narrative:

L1563057-07 WG1971849: dilution due to matrix

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	825		113	500	10	12/05/2022 15:15	WG1969128
Acrolein	U		25.4	500	10	12/05/2022 15:15	WG1969128
Acrylonitrile	U		6.71	100	10	12/05/2022 15:15	WG1969128
Benzene	U		0.941	10.0	10	12/05/2022 15:15	WG1969128
Bromobenzene	U		1.18	10.0	10	12/05/2022 15:15	WG1969128
Bromodichloromethane	U		1.36	10.0	10	12/05/2022 15:15	WG1969128
Bromoform	U		1.29	10.0	10	12/05/2022 15:15	WG1969128
Bromomethane	U	J3	6.05	50.0	10	12/05/2022 15:15	WG1969128
1,3-Butadiene	U		2.99	20.0	10	12/05/2022 15:15	WG1969128
n-Butylbenzene	U		1.57	10.0	10	12/05/2022 15:15	WG1969128
sec-Butylbenzene	U		1.25	10.0	10	12/05/2022 15:15	WG1969128
tert-Butylbenzene	U		1.27	10.0	10	12/05/2022 15:15	WG1969128
Carbon tetrachloride	U		1.28	10.0	10	12/05/2022 15:15	WG1969128
Carbon disulfide	U		0.962	10.0	10	12/05/2022 15:15	WG1969128
Chlorobenzene	U		1.16	10.0	10	12/05/2022 15:15	WG1969128
Chlorodibromomethane	U		1.40	10.0	10	12/05/2022 15:15	WG1969128
Chloroethane	U		1.92	50.0	10	12/05/2022 15:15	WG1969128
Chloroform	U		1.11	50.0	10	12/05/2022 15:15	WG1969128
Chloromethane	U		9.60	25.0	10	12/05/2022 15:15	WG1969128
Cyclohexane	U		1.88	10.0	10	12/05/2022 15:15	WG1969128
2-Chlorotoluene	U		1.06	10.0	10	12/05/2022 15:15	WG1969128
4-Chlorotoluene	U		1.14	10.0	10	12/05/2022 15:15	WG1969128
1,2-Dibromo-3-Chloropropane	U		2.76	50.0	10	12/05/2022 15:15	WG1969128
1,2-Dibromoethane	U		1.26	10.0	10	12/05/2022 15:15	WG1969128
Dibromomethane	U		1.22	10.0	10	12/05/2022 15:15	WG1969128
1,2-Dichlorobenzene	U		1.07	10.0	10	12/05/2022 15:15	WG1969128
1,3-Dichlorobenzene	U		1.10	10.0	10	12/05/2022 15:15	WG1969128
1,4-Dichlorobenzene	U		1.20	10.0	10	12/05/2022 15:15	WG1969128
Dichlorodifluoromethane	U		3.74	50.0	10	12/05/2022 15:15	WG1969128
1,1-Dichloroethane	U		1.00	10.0	10	12/05/2022 15:15	WG1969128
1,2-Dichloroethane	U		0.819	10.0	10	12/05/2022 15:15	WG1969128
1,1-Dichloroethene	6.96	J	1.88	10.0	10	12/05/2022 15:15	WG1969128
cis-1,2-Dichloroethene	15.1		1.26	10.0	10	12/05/2022 15:15	WG1969128
trans-1,2-Dichloroethene	U		1.49	10.0	10	12/05/2022 15:15	WG1969128
1,2-Dichloropropane	U		1.49	10.0	10	12/05/2022 15:15	WG1969128
1,1-Dichloropropene	U		1.42	10.0	10	12/05/2022 15:15	WG1969128
1,3-Dichloropropane	U		1.10	10.0	10	12/05/2022 15:15	WG1969128
cis-1,3-Dichloropropene	U		1.11	10.0	10	12/05/2022 15:15	WG1969128
trans-1,3-Dichloropropene	U		1.18	10.0	10	12/05/2022 15:15	WG1969128
2,2-Dichloropropane	U		1.61	10.0	10	12/05/2022 15:15	WG1969128
Dicyclopentadiene	U		2.53	10.0	10	12/05/2022 15:15	WG1969128
Di-isopropyl ether	U		1.05	10.0	10	12/05/2022 15:15	WG1969128
Ethylbenzene	U		1.37	10.0	10	12/05/2022 15:15	WG1969128
4-Ethyltoluene	U		2.08	10.0	10	12/05/2022 15:15	WG1969128
Hexachloro-1,3-butadiene	U		3.37	10.0	10	12/05/2022 15:15	WG1969128
n-Hexane	U		7.49	100	10	12/05/2022 15:15	WG1969128
Isopropylbenzene	U		1.05	10.0	10	12/05/2022 15:15	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		1.20	10.0	10	12/05/2022 15:15	WG1969128
2-Butanone (MEK)	446		11.9	100	10	12/05/2022 15:15	WG1969128
Methyl Cyclohexane	U		6.60	10.0	10	12/05/2022 15:15	WG1969128
Methylene Chloride	U		4.30	50.0	10	12/05/2022 15:15	WG1969128
4-Methyl-2-pentanone (MIBK)	113		4.78	100	10	12/05/2022 15:15	WG1969128
Methyl tert-butyl ether	U		1.01	10.0	10	12/05/2022 15:15	WG1969128
Naphthalene	U		10.0	50.0	10	12/05/2022 15:15	WG1969128
Propene	U		9.36	25.0	10	12/05/2022 15:15	WG1969128
n-Propylbenzene	U		0.993	10.0	10	12/05/2022 15:15	WG1969128
Styrene	U		1.18	10.0	10	12/05/2022 15:15	WG1969128
1,1,1,2-Tetrachloroethane	U		1.47	10.0	10	12/05/2022 15:15	WG1969128
1,1,2,2-Tetrachloroethane	U		1.33	10.0	10	12/05/2022 15:15	WG1969128
1,1,2-Trichlorotrifluoroethane	U		1.80	10.0	10	12/05/2022 15:15	WG1969128
Tetrachloroethene	U		3.00	10.0	10	12/05/2022 15:15	WG1969128
Toluene	U		2.78	10.0	10	12/05/2022 15:15	WG1969128
1,2,3-Trichlorobenzene	U		2.30	10.0	10	12/05/2022 15:15	WG1969128
1,2,4-Trichlorobenzene	U		4.81	10.0	10	12/05/2022 15:15	WG1969128
1,1,1-Trichloroethane	U		1.49	10.0	10	12/05/2022 15:15	WG1969128
1,1,2-Trichloroethane	U		1.58	10.0	10	12/05/2022 15:15	WG1969128
Trichloroethene	71.5		1.90	10.0	10	12/05/2022 15:15	WG1969128
Trichlorofluoromethane	U		1.60	50.0	10	12/05/2022 15:15	WG1969128
1,2,3-Trichloropropane	U		2.37	25.0	10	12/05/2022 15:15	WG1969128
1,2,4-Trimethylbenzene	U		3.22	10.0	10	12/05/2022 15:15	WG1969128
1,2,3-Trimethylbenzene	U		1.04	10.0	10	12/05/2022 15:15	WG1969128
1,3,5-Trimethylbenzene	U		1.04	10.0	10	12/05/2022 15:15	WG1969128
Vinyl chloride	U		2.34	10.0	10	12/05/2022 15:15	WG1969128
Xylenes, Total	U		1.74	30.0	10	12/05/2022 15:15	WG1969128
(S) Toluene-d8	101			80.0-120		12/05/2022 15:15	WG1969128
(S) 4-Bromofluorobenzene	99.4			77.0-126		12/05/2022 15:15	WG1969128
(S) 1,2-Dichloroethane-d4	91.1			70.0-130		12/05/2022 15:15	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Sample Narrative:

L1563057-07 WG1969128: Lowest possible dilution due to sample foaming.

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U	<u>J3</u>	0.597	3.00	1	12/06/2022 18:59	WG1970099
(S) Toluene-d8	108			77.0-127		12/06/2022 18:59	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	120		6.00	80.0	20	12/10/2022 06:02	WG1971849

Sample Narrative:

L1563057-08 WG1971849: dilution due to matrix

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	331		56.5	250	5	12/05/2022 15:36	WG1969128
Acrolein	U		12.7	250	5	12/05/2022 15:36	WG1969128
Acrylonitrile	U		3.36	50.0	5	12/05/2022 15:36	WG1969128
Benzene	5.24		0.471	5.00	5	12/05/2022 15:36	WG1969128
Bromobenzene	U		0.590	5.00	5	12/05/2022 15:36	WG1969128
Bromodichloromethane	U		0.680	5.00	5	12/05/2022 15:36	WG1969128
Bromoform	U		0.645	5.00	5	12/05/2022 15:36	WG1969128
Bromomethane	U	J3	3.03	25.0	5	12/05/2022 15:36	WG1969128
1,3-Butadiene	U		1.49	10.0	5	12/05/2022 15:36	WG1969128
n-Butylbenzene	U		0.785	5.00	5	12/05/2022 15:36	WG1969128
sec-Butylbenzene	U		0.625	5.00	5	12/05/2022 15:36	WG1969128
tert-Butylbenzene	U		0.635	5.00	5	12/05/2022 15:36	WG1969128
Carbon tetrachloride	U		0.640	5.00	5	12/05/2022 15:36	WG1969128
Carbon disulfide	1.24	J	0.481	5.00	5	12/05/2022 15:36	WG1969128
Chlorobenzene	U		0.580	5.00	5	12/05/2022 15:36	WG1969128
Chlorodibromomethane	U		0.700	5.00	5	12/05/2022 15:36	WG1969128
Chloroethane	U		0.960	25.0	5	12/05/2022 15:36	WG1969128
Chloroform	U		0.555	25.0	5	12/05/2022 15:36	WG1969128
Chloromethane	U		4.80	12.5	5	12/05/2022 15:36	WG1969128
Cyclohexane	U		0.940	5.00	5	12/05/2022 15:36	WG1969128
2-Chlorotoluene	U		0.530	5.00	5	12/05/2022 15:36	WG1969128
4-Chlorotoluene	U		0.570	5.00	5	12/05/2022 15:36	WG1969128
1,2-Dibromo-3-Chloropropane	U		1.38	25.0	5	12/05/2022 15:36	WG1969128
1,2-Dibromoethane	U		0.630	5.00	5	12/05/2022 15:36	WG1969128
Dibromomethane	U		0.610	5.00	5	12/05/2022 15:36	WG1969128
1,2-Dichlorobenzene	U		0.535	5.00	5	12/05/2022 15:36	WG1969128
1,3-Dichlorobenzene	U		0.550	5.00	5	12/05/2022 15:36	WG1969128
1,4-Dichlorobenzene	U		0.600	5.00	5	12/05/2022 15:36	WG1969128
Dichlorodifluoromethane	U		1.87	25.0	5	12/05/2022 15:36	WG1969128
1,1-Dichloroethane	U		0.500	5.00	5	12/05/2022 15:36	WG1969128
1,2-Dichloroethane	U		0.409	5.00	5	12/05/2022 15:36	WG1969128
1,1-Dichloroethene	53.5		0.940	5.00	5	12/05/2022 15:36	WG1969128
cis-1,2-Dichloroethene	78.7		0.630	5.00	5	12/05/2022 15:36	WG1969128
trans-1,2-Dichloroethene	3.82	J	0.745	5.00	5	12/05/2022 15:36	WG1969128
1,2-Dichloropropane	U		0.745	5.00	5	12/05/2022 15:36	WG1969128
1,1-Dichloropropene	U		0.710	5.00	5	12/05/2022 15:36	WG1969128
1,3-Dichloropropane	U		0.550	5.00	5	12/05/2022 15:36	WG1969128
cis-1,3-Dichloropropene	U		0.555	5.00	5	12/05/2022 15:36	WG1969128
trans-1,3-Dichloropropene	U		0.590	5.00	5	12/05/2022 15:36	WG1969128
2,2-Dichloropropane	U		0.805	5.00	5	12/05/2022 15:36	WG1969128
Dicyclopentadiene	U		1.27	5.00	5	12/05/2022 15:36	WG1969128
Di-isopropyl ether	U		0.525	5.00	5	12/05/2022 15:36	WG1969128
Ethylbenzene	U		0.685	5.00	5	12/05/2022 15:36	WG1969128
4-Ethyltoluene	U		1.04	5.00	5	12/05/2022 15:36	WG1969128
Hexachloro-1,3-butadiene	U		1.69	5.00	5	12/05/2022 15:36	WG1969128
n-Hexane	U		3.74	50.0	5	12/05/2022 15:36	WG1969128
Isopropylbenzene	U		0.525	5.00	5	12/05/2022 15:36	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
p-Isopropyltoluene	U		0.600	5.00	5	12/05/2022 15:36	WG1969128
2-Butanone (MEK)	436		5.95	50.0	5	12/05/2022 15:36	WG1969128
Methyl Cyclohexane	U		3.30	5.00	5	12/05/2022 15:36	WG1969128
Methylene Chloride	6.60	U	2.15	25.0	5	12/05/2022 15:36	WG1969128
4-Methyl-2-pentanone (MIBK)	5.05	U	2.39	50.0	5	12/05/2022 15:36	WG1969128
Methyl tert-butyl ether	U		0.505	5.00	5	12/05/2022 15:36	WG1969128
Naphthalene	U		5.00	25.0	5	12/05/2022 15:36	WG1969128
Propene	U		4.68	12.5	5	12/05/2022 15:36	WG1969128
n-Propylbenzene	U		0.497	5.00	5	12/05/2022 15:36	WG1969128
Styrene	U		0.590	5.00	5	12/05/2022 15:36	WG1969128
1,1,1,2-Tetrachloroethane	U		0.735	5.00	5	12/05/2022 15:36	WG1969128
1,1,2,2-Tetrachloroethane	U		0.665	5.00	5	12/05/2022 15:36	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.900	5.00	5	12/05/2022 15:36	WG1969128
Tetrachloroethene	U		1.50	5.00	5	12/05/2022 15:36	WG1969128
Toluene	U		1.39	5.00	5	12/05/2022 15:36	WG1969128
1,2,3-Trichlorobenzene	U		1.15	5.00	5	12/05/2022 15:36	WG1969128
1,2,4-Trichlorobenzene	U		2.41	5.00	5	12/05/2022 15:36	WG1969128
1,1,1-Trichloroethane	U		0.745	5.00	5	12/05/2022 15:36	WG1969128
1,1,2-Trichloroethane	U		0.790	5.00	5	12/05/2022 15:36	WG1969128
Trichloroethene	360		0.950	5.00	5	12/05/2022 15:36	WG1969128
Trichlorofluoromethane	U		0.800	25.0	5	12/05/2022 15:36	WG1969128
1,2,3-Trichloropropane	U		1.19	12.5	5	12/05/2022 15:36	WG1969128
1,2,4-Trimethylbenzene	U		1.61	5.00	5	12/05/2022 15:36	WG1969128
1,2,3-Trimethylbenzene	U		0.520	5.00	5	12/05/2022 15:36	WG1969128
1,3,5-Trimethylbenzene	U		0.520	5.00	5	12/05/2022 15:36	WG1969128
Vinyl chloride	3.34	U	1.17	5.00	5	12/05/2022 15:36	WG1969128
Xylenes, Total	U		0.870	15.0	5	12/05/2022 15:36	WG1969128
(S) Toluene-d8	102			80.0-120		12/05/2022 15:36	WG1969128
(S) 4-Bromofluorobenzene	102			77.0-126		12/05/2022 15:36	WG1969128
(S) 1,2-Dichloroethane-d4	91.1			70.0-130		12/05/2022 15:36	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 19:19	WG1970099
(S) Toluene-d8	108			77.0-127		12/06/2022 19:19	WG1970099

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	581000		3000	40000	10000	12/13/2022 03:17	WG1972222

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		1130	5000	100	12/05/2022 15:56	WG1969128
Acrolein	U		254	5000	100	12/05/2022 15:56	WG1969128
Acrylonitrile	U		67.1	1000	100	12/05/2022 15:56	WG1969128
Benzene	73.9	J	9.41	100	100	12/05/2022 15:56	WG1969128
Bromobenzene	U		11.8	100	100	12/05/2022 15:56	WG1969128
Bromodichloromethane	U		13.6	100	100	12/05/2022 15:56	WG1969128
Bromoform	U		12.9	100	100	12/05/2022 15:56	WG1969128
Bromomethane	U	J3	60.5	500	100	12/05/2022 15:56	WG1969128
1,3-Butadiene	U		29.9	200	100	12/05/2022 15:56	WG1969128
n-Butylbenzene	U		15.7	100	100	12/05/2022 15:56	WG1969128
sec-Butylbenzene	U		12.5	100	100	12/05/2022 15:56	WG1969128
tert-Butylbenzene	U		12.7	100	100	12/05/2022 15:56	WG1969128
Carbon tetrachloride	U		12.8	100	100	12/05/2022 15:56	WG1969128
Carbon disulfide	U		9.62	100	100	12/05/2022 15:56	WG1969128
Chlorobenzene	U		11.6	100	100	12/05/2022 15:56	WG1969128
Chlorodibromomethane	U		14.0	100	100	12/05/2022 15:56	WG1969128
Chloroethane	U		19.2	500	100	12/05/2022 15:56	WG1969128
Chloroform	18.9	J	11.1	500	100	12/05/2022 15:56	WG1969128
Chloromethane	U		96.0	250	100	12/05/2022 15:56	WG1969128
Cyclohexane	U		18.8	100	100	12/05/2022 15:56	WG1969128
2-Chlorotoluene	U		10.6	100	100	12/05/2022 15:56	WG1969128
4-Chlorotoluene	U		11.4	100	100	12/05/2022 15:56	WG1969128
1,2-Dibromo-3-Chloropropane	U		27.6	500	100	12/05/2022 15:56	WG1969128
1,2-Dibromoethane	U		12.6	100	100	12/05/2022 15:56	WG1969128
Dibromomethane	U		12.2	100	100	12/05/2022 15:56	WG1969128
1,2-Dichlorobenzene	U		10.7	100	100	12/05/2022 15:56	WG1969128
1,3-Dichlorobenzene	U		11.0	100	100	12/05/2022 15:56	WG1969128
1,4-Dichlorobenzene	U		12.0	100	100	12/05/2022 15:56	WG1969128
Dichlorodifluoromethane	U		37.4	500	100	12/05/2022 15:56	WG1969128
1,1-Dichloroethane	29.0	J	10.0	100	100	12/05/2022 15:56	WG1969128
1,2-Dichloroethane	U		8.19	100	100	12/05/2022 15:56	WG1969128
1,1-Dichloroethene	2660		18.8	100	100	12/05/2022 15:56	WG1969128
cis-1,2-Dichloroethene	154		12.6	100	100	12/05/2022 15:56	WG1969128
trans-1,2-Dichloroethene	21.7	J	14.9	100	100	12/05/2022 15:56	WG1969128
1,2-Dichloropropane	U		14.9	100	100	12/05/2022 15:56	WG1969128
1,1-Dichloropropene	U		14.2	100	100	12/05/2022 15:56	WG1969128
1,3-Dichloropropane	U		11.0	100	100	12/05/2022 15:56	WG1969128
cis-1,3-Dichloropropene	U		11.1	100	100	12/05/2022 15:56	WG1969128
trans-1,3-Dichloropropene	U		11.8	100	100	12/05/2022 15:56	WG1969128
2,2-Dichloropropane	U		16.1	100	100	12/05/2022 15:56	WG1969128
Dicyclopentadiene	U		25.3	100	100	12/05/2022 15:56	WG1969128
Di-isopropyl ether	U		10.5	100	100	12/05/2022 15:56	WG1969128
Ethylbenzene	U		13.7	100	100	12/05/2022 15:56	WG1969128
4-Ethyltoluene	U		20.8	100	100	12/05/2022 15:56	WG1969128
Hexachloro-1,3-butadiene	U		33.7	100	100	12/05/2022 15:56	WG1969128
n-Hexane	U		74.9	1000	100	12/05/2022 15:56	WG1969128
Isopropylbenzene	U		10.5	100	100	12/05/2022 15:56	WG1969128
p-Isopropyltoluene	U		12.0	100	100	12/05/2022 15:56	WG1969128
2-Butanone (MEK)	U		119	1000	100	12/05/2022 15:56	WG1969128
Methyl Cyclohexane	U		66.0	100	100	12/05/2022 15:56	WG1969128

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	69.3	U	43.0	500	100	12/05/2022 15:56	WG1969128
4-Methyl-2-pentanone (MIBK)	U		47.8	1000	100	12/05/2022 15:56	WG1969128
Methyl tert-butyl ether	U		10.1	100	100	12/05/2022 15:56	WG1969128
Naphthalene	U		100	500	100	12/05/2022 15:56	WG1969128
Propene	U		93.6	250	100	12/05/2022 15:56	WG1969128
n-Propylbenzene	U		9.93	100	100	12/05/2022 15:56	WG1969128
Styrene	U		11.8	100	100	12/05/2022 15:56	WG1969128
1,1,1,2-Tetrachloroethane	U		14.7	100	100	12/05/2022 15:56	WG1969128
1,1,2,2-Tetrachloroethane	U		13.3	100	100	12/05/2022 15:56	WG1969128
1,1,2-Trichlorotrifluoroethane	U		18.0	100	100	12/05/2022 15:56	WG1969128
Tetrachloroethene	U		30.0	100	100	12/05/2022 15:56	WG1969128
Toluene	U		27.8	100	100	12/05/2022 15:56	WG1969128
1,2,3-Trichlorobenzene	U		23.0	100	100	12/05/2022 15:56	WG1969128
1,2,4-Trichlorobenzene	U		48.1	100	100	12/05/2022 15:56	WG1969128
1,1,1-Trichloroethane	U		14.9	100	100	12/05/2022 15:56	WG1969128
1,1,2-Trichloroethane	U		15.8	100	100	12/05/2022 15:56	WG1969128
Trichloroethene	12400		19.0	100	100	12/05/2022 15:56	WG1969128
Trichlorofluoromethane	U		16.0	500	100	12/05/2022 15:56	WG1969128
1,2,3-Trichloropropane	U		23.7	250	100	12/05/2022 15:56	WG1969128
1,2,4-Trimethylbenzene	U		32.2	100	100	12/05/2022 15:56	WG1969128
1,2,3-Trimethylbenzene	U		10.4	100	100	12/05/2022 15:56	WG1969128
1,3,5-Trimethylbenzene	U		10.4	100	100	12/05/2022 15:56	WG1969128
Vinyl chloride	U		23.4	100	100	12/05/2022 15:56	WG1969128
Xylenes, Total	U		17.4	300	100	12/05/2022 15:56	WG1969128
(S) Toluene-d8	100			80.0-120		12/05/2022 15:56	WG1969128
(S) 4-Bromofluorobenzene	97.0			77.0-126		12/05/2022 15:56	WG1969128
(S) 1,2-Dichloroethane-d4	90.8			70.0-130		12/05/2022 15:56	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	1490		59.7	300	100	12/06/2022 23:21	WG1970099
(S) Toluene-d8	101			77.0-127		12/06/2022 23:21	WG1970099

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 12:53	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 12:53	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 12:53	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 12:53	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 12:53	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 12:53	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 12:53	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 12:53	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 12:53	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 12:53	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 12:53	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 12:53	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 12:53	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 12:53	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 12:53	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 12:53	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 12:53	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 12:53	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 12:53	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 12:53	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 12:53	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 12:53	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 12:53	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 12:53	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 12:53	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 12:53	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 12:53	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 12:53	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 12:53	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 12:53	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 12:53	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 12:53	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 12:53	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 12:53	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 12:53	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 12:53	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 12:53	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 12:53	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 12:53	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 12:53	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 12:53	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 12:53	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 12:53	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 12:53	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 12:53	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 12:53	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 12:53	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 12:53	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 12:53	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 12:53	WG1969128
Methylene Chloride	U		0.430	5.00	1	12/05/2022 12:53	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 12:53	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 12:53	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 12:53	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 12:53	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 12:53	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Styrene	U		0.118	1.00	1	12/05/2022 12:53	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 12:53	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 12:53	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 12:53	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 12:53	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 12:53	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 12:53	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 12:53	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 12:53	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 12:53	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 12:53	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 12:53	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 12:53	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 12:53	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:53	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 12:53	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 12:53	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 12:53	WG1969128
(S) Toluene-d8	101			80.0-120		12/05/2022 12:53	WG1969128
(S) 4-Bromofluorobenzene	97.4			77.0-126		12/05/2022 12:53	WG1969128
(S) 1,2-Dichloroethane-d4	92.4			70.0-130		12/05/2022 12:53	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/06/2022 19:40	WG1970099
(S) Toluene-d8	98.7			77.0-127		12/06/2022 19:40	WG1970099

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SAMPLE RESULTS - 11

Collected date/time: 11/30/22 00:00

L1563057

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/05/2022 10:30	WG1969128
Acrolein	U		2.54	50.0	1	12/05/2022 10:30	WG1969128
Acrylonitrile	U		0.671	10.0	1	12/05/2022 10:30	WG1969128
Benzene	U		0.0941	1.00	1	12/05/2022 10:30	WG1969128
Bromobenzene	U		0.118	1.00	1	12/05/2022 10:30	WG1969128
Bromodichloromethane	U		0.136	1.00	1	12/05/2022 10:30	WG1969128
Bromoform	U		0.129	1.00	1	12/05/2022 10:30	WG1969128
Bromomethane	U	J3	0.605	5.00	1	12/05/2022 10:30	WG1969128
1,3-Butadiene	U		0.299	2.00	1	12/05/2022 10:30	WG1969128
n-Butylbenzene	U		0.157	1.00	1	12/05/2022 10:30	WG1969128
sec-Butylbenzene	U		0.125	1.00	1	12/05/2022 10:30	WG1969128
tert-Butylbenzene	U		0.127	1.00	1	12/05/2022 10:30	WG1969128
Carbon tetrachloride	U		0.128	1.00	1	12/05/2022 10:30	WG1969128
Carbon disulfide	U		0.0962	1.00	1	12/05/2022 10:30	WG1969128
Chlorobenzene	U		0.116	1.00	1	12/05/2022 10:30	WG1969128
Chlorodibromomethane	U		0.140	1.00	1	12/05/2022 10:30	WG1969128
Chloroethane	U		0.192	5.00	1	12/05/2022 10:30	WG1969128
Chloroform	U		0.111	5.00	1	12/05/2022 10:30	WG1969128
Chloromethane	U		0.960	2.50	1	12/05/2022 10:30	WG1969128
Cyclohexane	U		0.188	1.00	1	12/05/2022 10:30	WG1969128
2-Chlorotoluene	U		0.106	1.00	1	12/05/2022 10:30	WG1969128
4-Chlorotoluene	U		0.114	1.00	1	12/05/2022 10:30	WG1969128
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/05/2022 10:30	WG1969128
1,2-Dibromoethane	U		0.126	1.00	1	12/05/2022 10:30	WG1969128
Dibromomethane	U		0.122	1.00	1	12/05/2022 10:30	WG1969128
1,2-Dichlorobenzene	U		0.107	1.00	1	12/05/2022 10:30	WG1969128
1,3-Dichlorobenzene	U		0.110	1.00	1	12/05/2022 10:30	WG1969128
1,4-Dichlorobenzene	U		0.120	1.00	1	12/05/2022 10:30	WG1969128
Dichlorodifluoromethane	U		0.374	5.00	1	12/05/2022 10:30	WG1969128
1,1-Dichloroethane	U		0.100	1.00	1	12/05/2022 10:30	WG1969128
1,2-Dichloroethane	U		0.0819	1.00	1	12/05/2022 10:30	WG1969128
1,1-Dichloroethene	U		0.188	1.00	1	12/05/2022 10:30	WG1969128
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/05/2022 10:30	WG1969128
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/05/2022 10:30	WG1969128
1,2-Dichloropropane	U		0.149	1.00	1	12/05/2022 10:30	WG1969128
1,1-Dichloropropene	U		0.142	1.00	1	12/05/2022 10:30	WG1969128
1,3-Dichloropropane	U		0.110	1.00	1	12/05/2022 10:30	WG1969128
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/05/2022 10:30	WG1969128
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/05/2022 10:30	WG1969128
2,2-Dichloropropane	U		0.161	1.00	1	12/05/2022 10:30	WG1969128
Dicyclopentadiene	U		0.253	1.00	1	12/05/2022 10:30	WG1969128
Di-isopropyl ether	U		0.105	1.00	1	12/05/2022 10:30	WG1969128
Ethylbenzene	U		0.137	1.00	1	12/05/2022 10:30	WG1969128
4-Ethyltoluene	U		0.208	1.00	1	12/05/2022 10:30	WG1969128
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/05/2022 10:30	WG1969128
n-Hexane	U		0.749	10.0	1	12/05/2022 10:30	WG1969128
Isopropylbenzene	U		0.105	1.00	1	12/05/2022 10:30	WG1969128
p-Isopropyltoluene	U		0.120	1.00	1	12/05/2022 10:30	WG1969128
2-Butanone (MEK)	U		1.19	10.0	1	12/05/2022 10:30	WG1969128
Methyl Cyclohexane	U		0.660	1.00	1	12/05/2022 10:30	WG1969128
Methylene Chloride	U		0.430	5.00	1	12/05/2022 10:30	WG1969128
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/05/2022 10:30	WG1969128
Methyl tert-butyl ether	U		0.101	1.00	1	12/05/2022 10:30	WG1969128
Naphthalene	U		1.00	5.00	1	12/05/2022 10:30	WG1969128
Propene	U		0.936	2.50	1	12/05/2022 10:30	WG1969128
n-Propylbenzene	U		0.0993	1.00	1	12/05/2022 10:30	WG1969128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

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SAMPLE RESULTS - 11

Collected date/time: 11/30/22 00:00

L1563057

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Styrene	U		0.118	1.00	1	12/05/2022 10:30	WG1969128
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/05/2022 10:30	WG1969128
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/05/2022 10:30	WG1969128
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/05/2022 10:30	WG1969128
Tetrachloroethene	U		0.300	1.00	1	12/05/2022 10:30	WG1969128
Toluene	U		0.278	1.00	1	12/05/2022 10:30	WG1969128
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/05/2022 10:30	WG1969128
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/05/2022 10:30	WG1969128
1,1,1-Trichloroethane	U		0.149	1.00	1	12/05/2022 10:30	WG1969128
1,1,2-Trichloroethane	U		0.158	1.00	1	12/05/2022 10:30	WG1969128
Trichloroethene	U		0.190	1.00	1	12/05/2022 10:30	WG1969128
Trichlorofluoromethane	U		0.160	5.00	1	12/05/2022 10:30	WG1969128
1,2,3-Trichloropropane	U		0.237	2.50	1	12/05/2022 10:30	WG1969128
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/05/2022 10:30	WG1969128
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 10:30	WG1969128
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/05/2022 10:30	WG1969128
Vinyl chloride	U		0.234	1.00	1	12/05/2022 10:30	WG1969128
Xylenes, Total	U		0.174	3.00	1	12/05/2022 10:30	WG1969128
(S) Toluene-d8	101			80.0-120		12/05/2022 10:30	WG1969128
(S) 4-Bromofluorobenzene	97.7			77.0-126		12/05/2022 10:30	WG1969128
(S) 1,2-Dichloroethane-d4	89.7			70.0-130		12/05/2022 10:30	WG1969128

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	78.2	<u>V</u>	0.300	4.00	1	12/16/2022 05:15	WG1976790

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	50.0	1	12/08/2022 17:15	WG1971428
Acrolein	U		2.54	50.0	1	12/08/2022 17:15	WG1971428
Acrylonitrile	U		0.671	10.0	1	12/08/2022 17:15	WG1971428
Benzene	U		0.0941	1.00	1	12/08/2022 17:15	WG1971428
Bromobenzene	U		0.118	1.00	1	12/08/2022 17:15	WG1971428
Bromodichloromethane	U		0.136	1.00	1	12/08/2022 17:15	WG1971428
Bromoform	U		0.129	1.00	1	12/08/2022 17:15	WG1971428
Bromomethane	U		0.605	5.00	1	12/08/2022 17:15	WG1971428
1,3-Butadiene	U		0.299	2.00	1	12/08/2022 17:15	WG1971428
n-Butylbenzene	U		0.157	1.00	1	12/08/2022 17:15	WG1971428
sec-Butylbenzene	U		0.125	1.00	1	12/08/2022 17:15	WG1971428
tert-Butylbenzene	U		0.127	1.00	1	12/08/2022 17:15	WG1971428
Carbon tetrachloride	U		0.128	1.00	1	12/08/2022 17:15	WG1971428
Carbon disulfide	U		0.0962	1.00	1	12/08/2022 17:15	WG1971428
Chlorobenzene	U		0.116	1.00	1	12/08/2022 17:15	WG1971428
Chlorodibromomethane	U		0.140	1.00	1	12/08/2022 17:15	WG1971428
Chloroethane	U		0.192	5.00	1	12/08/2022 17:15	WG1971428
Chloroform	U		0.111	5.00	1	12/08/2022 17:15	WG1971428
Chloromethane	U		0.960	2.50	1	12/08/2022 17:15	WG1971428
Cyclohexane	U		0.188	1.00	1	12/08/2022 17:15	WG1971428
2-Chlorotoluene	U		0.106	1.00	1	12/08/2022 17:15	WG1971428
4-Chlorotoluene	U		0.114	1.00	1	12/08/2022 17:15	WG1971428
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	12/08/2022 17:15	WG1971428
1,2-Dibromoethane	U		0.126	1.00	1	12/08/2022 17:15	WG1971428
Dibromomethane	U		0.122	1.00	1	12/08/2022 17:15	WG1971428
1,2-Dichlorobenzene	U		0.107	1.00	1	12/08/2022 17:15	WG1971428
1,3-Dichlorobenzene	U		0.110	1.00	1	12/08/2022 17:15	WG1971428
1,4-Dichlorobenzene	U		0.120	1.00	1	12/08/2022 17:15	WG1971428
Dichlorodifluoromethane	U		0.374	5.00	1	12/08/2022 17:15	WG1971428
1,1-Dichloroethane	U		0.100	1.00	1	12/08/2022 17:15	WG1971428
1,2-Dichloroethane	U		0.0819	1.00	1	12/08/2022 17:15	WG1971428
1,1-Dichloroethene	U		0.188	1.00	1	12/08/2022 17:15	WG1971428
cis-1,2-Dichloroethene	U		0.126	1.00	1	12/08/2022 17:15	WG1971428
trans-1,2-Dichloroethene	U		0.149	1.00	1	12/08/2022 17:15	WG1971428
1,2-Dichloropropane	U		0.149	1.00	1	12/08/2022 17:15	WG1971428
1,1-Dichloropropene	U		0.142	1.00	1	12/08/2022 17:15	WG1971428
1,3-Dichloropropane	U		0.110	1.00	1	12/08/2022 17:15	WG1971428
cis-1,3-Dichloropropene	U		0.111	1.00	1	12/08/2022 17:15	WG1971428
trans-1,3-Dichloropropene	U		0.118	1.00	1	12/08/2022 17:15	WG1971428
2,2-Dichloropropane	U		0.161	1.00	1	12/08/2022 17:15	WG1971428
Dicyclopentadiene	U		0.253	1.00	1	12/08/2022 17:15	WG1971428
Di-isopropyl ether	U		0.105	1.00	1	12/08/2022 17:15	WG1971428
Ethylbenzene	U		0.137	1.00	1	12/08/2022 17:15	WG1971428
4-Ethyltoluene	U		0.208	1.00	1	12/08/2022 17:15	WG1971428
Hexachloro-1,3-butadiene	U		0.337	1.00	1	12/08/2022 17:15	WG1971428
n-Hexane	U		0.749	10.0	1	12/08/2022 17:15	WG1971428
Isopropylbenzene	U		0.105	1.00	1	12/08/2022 17:15	WG1971428
p-Isopropyltoluene	U		0.120	1.00	1	12/08/2022 17:15	WG1971428
2-Butanone (MEK)	U		1.19	10.0	1	12/08/2022 17:15	WG1971428
Methyl Cyclohexane	U		0.660	1.00	1	12/08/2022 17:15	WG1971428

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		0.430	5.00	1	12/08/2022 17:15	WG1971428
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	12/08/2022 17:15	WG1971428
Methyl tert-butyl ether	U		0.101	1.00	1	12/08/2022 17:15	WG1971428
Naphthalene	U		1.00	5.00	1	12/08/2022 17:15	WG1971428
Propene	U		0.936	2.50	1	12/08/2022 17:15	WG1971428
n-Propylbenzene	U		0.0993	1.00	1	12/08/2022 17:15	WG1971428
Styrene	U		0.118	1.00	1	12/08/2022 17:15	WG1971428
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	12/08/2022 17:15	WG1971428
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	12/08/2022 17:15	WG1971428
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	12/08/2022 17:15	WG1971428
Tetrachloroethene	U		0.300	1.00	1	12/08/2022 17:15	WG1971428
Toluene	U		0.278	1.00	1	12/08/2022 17:15	WG1971428
1,2,3-Trichlorobenzene	U		0.230	1.00	1	12/08/2022 17:15	WG1971428
1,2,4-Trichlorobenzene	U		0.481	1.00	1	12/08/2022 17:15	WG1971428
1,1,1-Trichloroethane	U		0.149	1.00	1	12/08/2022 17:15	WG1971428
1,1,2-Trichloroethane	U		0.158	1.00	1	12/08/2022 17:15	WG1971428
Trichloroethene	U		0.190	1.00	1	12/08/2022 17:15	WG1971428
Trichlorofluoromethane	U		0.160	5.00	1	12/08/2022 17:15	WG1971428
1,2,3-Trichloropropane	U		0.237	2.50	1	12/08/2022 17:15	WG1971428
1,2,4-Trimethylbenzene	U		0.322	1.00	1	12/08/2022 17:15	WG1971428
1,2,3-Trimethylbenzene	U		0.104	1.00	1	12/08/2022 17:15	WG1971428
1,3,5-Trimethylbenzene	U		0.104	1.00	1	12/08/2022 17:15	WG1971428
Vinyl chloride	U		0.234	1.00	1	12/08/2022 17:15	WG1971428
Xylenes, Total	U		0.174	3.00	1	12/08/2022 17:15	WG1971428
(S) Toluene-d8	108			80.0-120		12/08/2022 17:15	WG1971428
(S) 4-Bromofluorobenzene	103			77.0-126		12/08/2022 17:15	WG1971428
(S) 1,2-Dichloroethane-d4	99.5			70.0-130		12/08/2022 17:15	WG1971428

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,4-Dioxane	U		0.597	3.00	1	12/09/2022 15:45	WG1970821
(S) Toluene-d8	93.2			77.0-127		12/09/2022 15:45	WG1970821

Method Blank (MB)

(MB) R3870900-1 12/09/22 12:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1562295-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1562295-01 12/09/22 15:16 • (DUP) R3870900-3 12/09/22 15:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Perchlorate	U	U	1	0.000		15

⁷Is

⁸Gl

⁹Al

¹⁰Sc

L1562373-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1562373-16 12/10/22 00:49 • (DUP) R3870900-6 12/10/22 01:18

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Perchlorate	U	U	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3870900-2 12/09/22 13:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	9.77	97.7	90.0-110	

L1562295-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1562295-06 12/09/22 19:05 • (MS) R3870900-4 12/09/22 19:34 • (MSD) R3870900-5 12/09/22 20:02

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Perchlorate	10.0	U	10.4	11.2	104	112	1	80.0-120			6.69	15

Method Blank (MB)

(MB) R3871949-1 12/13/22 00:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

1 Cp

2 Tc

3 Ss

L1563724-19 Original Sample (OS) • Duplicate (DUP)

(OS) L1563724-19 12/13/22 14:13 • (DUP) R3871949-5 12/13/22 14:42

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Perchlorate	U	U	1	0.000		15

4 Cn

5 Sr

6 Qc

Laboratory Control Sample (LCS)

(LCS) R3871949-2 12/13/22 01:14

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	10.2	102	90.0-110	

7 Is

8 Gl

9 Al

L1563724-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563724-10 12/13/22 08:32 • (MS) R3871949-3 12/13/22 09:01 • (MSD) R3871949-4 12/13/22 09:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Perchlorate	10.0	U	9.91	9.87	99.1	98.7	1	80.0-120			0.418	15

10 Sc

Method Blank (MB)

(MB) R3870901-2 12/09/22 14:12

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

¹Cp

²Tc

³Ss

Laboratory Control Sample (LCS)

(LCS) R3870901-1 12/09/22 13:37

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	9.77	97.7	90.0-110	

⁴Cn

⁵Sr

L1562373-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1562373-01 12/09/22 20:59 • (MS) R3870901-3 12/10/22 06:30

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	15.1	25.3	102	1	80.0-120	

⁶Qc

⁷Is

L1562373-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1562373-02 12/09/22 21:27 • (MS) R3870901-4 12/10/22 06:59

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	2.37	14.1	117	1	80.0-120	

⁸Gl

⁹Al

L1562373-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1562373-03 12/09/22 21:56 • (MS) R3870901-5 12/10/22 07:27

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	4.97	15.5	105	1	80.0-120	

¹⁰Sc

L1563057-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-01 12/10/22 01:46 • (MS) R3870901-6 12/10/22 07:55

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	70.0	80.5	105	1	80.0-120	

L1563057-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-02 12/10/22 02:14 • (MS) R3870901-7 12/10/22 08:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	1.72	12.2	105	1	80.0-120	

¹Cp

²Tc

³Ss

L1563057-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-04 12/10/22 03:11 • (MS) R3870901-8 12/10/22 08:52

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	U	11.7	117	1	80.0-120	

⁴Cn

⁵Sr

L1563057-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-05 12/10/22 03:40 • (MS) R3870901-9 12/10/22 09:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	1.77	11.1	93.2	1	80.0-120	

⁶Qc

⁷Is

L1563057-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-06 12/10/22 04:08 • (MS) R3870901-10 12/10/22 09:49

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	U	10.7	107	1	80.0-120	

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3873520-2 12/16/22 04:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Perchlorate	U		0.300	4.00

¹Cp

²Tc

³Ss

Laboratory Control Sample (LCS)

(LCS) R3873520-1 12/16/22 03:47

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Perchlorate	10.0	9.90	99.0	90.0-110	

⁴Cn

⁵Sr

⁶Qc

L1563057-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563057-12 12/16/22 05:15 • (MS) R3873520-3 12/16/22 05:46

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	78.2	83.0	48.0	1	80.0-120	<u>V</u>

⁷Is

⁸Gl

L1563724-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563724-05 12/16/22 06:14 • (MS) R3873520-4 12/16/22 06:43

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	68.2	77.7	95.6	1	80.0-120	

⁹Al

¹⁰Sc

L1563724-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1563724-13 12/16/22 08:08 • (MS) R3873520-5 12/16/22 08:36

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Perchlorate	10.0	13.5	22.9	93.8	1	80.0-120	

Method Blank (MB)

(MB) R3869659-3 12/05/22 09:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
1,3-Butadiene	U		0.299	2.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Carbon disulfide	U		0.0962	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
Cyclohexane	U		0.188	1.00
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3869659-3 12/05/22 09:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dicyclopentadiene	U		0.253	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00
4-Ethyltoluene	U		0.208	1.00
Hexachloro-1,3-butadiene	U		0.337	1.00
n-Hexane	U		0.749	10.0
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methyl Cyclohexane	U		0.660	1.00
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
Propene	U		0.936	2.50
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	102			80.0-120
(S) 4-Bromofluorobenzene	97.2			77.0-126
(S) 1,2-Dichloroethane-d4	87.8			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869659-1 12/05/22 08:32 • (LCSD) R3869659-2 12/05/22 08:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	25.7	25.6	103	102	19.0-160			0.390	27
Acrolein	25.0	25.6	24.8	102	99.2	30.0-160			3.17	26
Acrylonitrile	25.0	26.1	25.7	104	103	55.0-149			1.54	20
Benzene	5.00	5.15	5.04	103	101	70.0-123			2.16	20
Bromobenzene	5.00	4.42	4.37	88.4	87.4	73.0-121			1.14	20
Bromodichloromethane	5.00	5.08	4.99	102	99.8	75.0-120			1.79	20
Bromoform	5.00	4.44	4.36	88.8	87.2	68.0-132			1.82	20
Bromomethane	5.00	2.04	2.75	40.8	55.0	30.0-160		J3	29.6	25
1,3-Butadiene	5.00	3.95	3.93	79.0	78.6	45.0-147			0.508	20
n-Butylbenzene	5.00	4.70	4.68	94.0	93.6	73.0-125			0.426	20
sec-Butylbenzene	5.00	4.86	4.91	97.2	98.2	75.0-125			1.02	20
tert-Butylbenzene	5.00	4.90	4.95	98.0	99.0	76.0-124			1.02	20
Carbon tetrachloride	5.00	5.28	5.45	106	109	68.0-126			3.17	20
Carbon disulfide	5.00	4.25	4.23	85.0	84.6	61.0-128			0.472	20
Chlorobenzene	5.00	5.06	5.12	101	102	80.0-121			1.18	20
Chlorodibromomethane	5.00	4.79	4.80	95.8	96.0	77.0-125			0.209	20
Chloroethane	5.00	3.99	4.86	79.8	97.2	47.0-150			19.7	20
Chloroform	5.00	4.96	4.95	99.2	99.0	73.0-120			0.202	20
Chloromethane	5.00	4.36	4.60	87.2	92.0	41.0-142			5.36	20
Cyclohexane	5.00	5.23	5.18	105	104	71.0-124			0.961	20
2-Chlorotoluene	5.00	4.69	4.68	93.8	93.6	76.0-123			0.213	20
4-Chlorotoluene	5.00	4.64	4.71	92.8	94.2	75.0-122			1.50	20
1,2-Dibromo-3-Chloropropane	5.00	4.57	4.39	91.4	87.8	58.0-134			4.02	20
1,2-Dibromoethane	5.00	4.78	4.71	95.6	94.2	80.0-122			1.48	20
Dibromomethane	5.00	4.71	4.67	94.2	93.4	80.0-120			0.853	20
1,2-Dichlorobenzene	5.00	4.77	4.76	95.4	95.2	79.0-121			0.210	20
1,3-Dichlorobenzene	5.00	4.75	4.78	95.0	95.6	79.0-120			0.630	20
1,4-Dichlorobenzene	5.00	4.62	4.64	92.4	92.8	79.0-120			0.432	20
Dichlorodifluoromethane	5.00	5.50	5.41	110	108	51.0-149			1.65	20
1,1-Dichloroethane	5.00	5.13	5.16	103	103	70.0-126			0.583	20
1,2-Dichloroethane	5.00	4.53	4.54	90.6	90.8	70.0-128			0.221	20
1,1-Dichloroethene	5.00	5.35	5.27	107	105	71.0-124			1.51	20
cis-1,2-Dichloroethene	5.00	5.39	5.30	108	106	73.0-120			1.68	20
trans-1,2-Dichloroethene	5.00	5.23	5.19	105	104	73.0-120			0.768	20
1,2-Dichloropropane	5.00	5.21	5.27	104	105	77.0-125			1.15	20
1,1-Dichloropropene	5.00	5.32	5.40	106	108	74.0-126			1.49	20
1,3-Dichloropropane	5.00	4.84	4.85	96.8	97.0	80.0-120			0.206	20
cis-1,3-Dichloropropene	5.00	4.96	5.08	99.2	102	80.0-123			2.39	20
trans-1,3-Dichloropropene	5.00	4.85	4.68	97.0	93.6	78.0-124			3.57	20
2,2-Dichloropropane	5.00	4.47	4.53	89.4	90.6	58.0-130			1.33	20

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Is
- 8 Gl
- 9 Al
- 10 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869659-1 12/05/22 08:32 • (LCSD) R3869659-2 12/05/22 08:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Dicyclopentadiene	5.00	4.72	4.82	94.4	96.4	74.0-126			2.10	20
Di-isopropyl ether	5.00	5.21	5.18	104	104	58.0-138			0.577	20
Ethylbenzene	5.00	5.01	5.11	100	102	79.0-123			1.98	20
4-Ethyltoluene	5.00	4.82	4.84	96.4	96.8	74.0-127			0.414	20
Hexachloro-1,3-butadiene	5.00	4.40	4.17	88.0	83.4	54.0-138			5.37	20
n-Hexane	5.00	4.84	4.84	96.8	96.8	57.0-133			0.000	20
Isopropylbenzene	5.00	5.21	5.21	104	104	76.0-127			0.000	20
p-Isopropyltoluene	5.00	4.95	5.03	99.0	101	76.0-125			1.60	20
2-Butanone (MEK)	25.0	26.4	25.9	106	104	44.0-160			1.91	20
Methyl Cyclohexane	5.00	5.08	5.10	102	102	68.0-126			0.393	20
Methylene Chloride	5.00	5.13	5.07	103	101	67.0-120			1.18	20
4-Methyl-2-pentanone (MIBK)	25.0	25.0	24.9	100	99.6	68.0-142			0.401	20
Methyl tert-butyl ether	5.00	4.75	4.73	95.0	94.6	68.0-125			0.422	20
Naphthalene	5.00	4.68	4.65	93.6	93.0	54.0-135			0.643	20
Propene	5.00	2.31	2.32	46.2	46.4	30.0-160			0.432	20
n-Propylbenzene	5.00	4.73	4.78	94.6	95.6	77.0-124			1.05	20
Styrene	5.00	5.13	5.19	103	104	73.0-130			1.16	20
1,1,1,2-Tetrachloroethane	5.00	5.01	5.06	100	101	75.0-125			0.993	20
1,1,2,2-Tetrachloroethane	5.00	4.13	4.05	82.6	81.0	65.0-130			1.96	20
1,1,2-Trichlorotrifluoroethane	5.00	5.27	5.31	105	106	69.0-132			0.756	20
Tetrachloroethene	5.00	5.37	5.59	107	112	72.0-132			4.01	20
Toluene	5.00	4.86	4.94	97.2	98.8	79.0-120			1.63	20
1,2,3-Trichlorobenzene	5.00	4.80	4.83	96.0	96.6	50.0-138			0.623	20
1,2,4-Trichlorobenzene	5.00	4.91	4.80	98.2	96.0	57.0-137			2.27	20
1,1,1-Trichloroethane	5.00	5.30	5.33	106	107	73.0-124			0.564	20
1,1,2-Trichloroethane	5.00	4.94	4.84	98.8	96.8	80.0-120			2.04	20
Trichloroethene	5.00	5.77	5.94	115	119	78.0-124			2.90	20
Trichlorofluoromethane	5.00	4.55	4.56	91.0	91.2	59.0-147			0.220	20
1,2,3-Trichloropropane	5.00	4.35	4.31	87.0	86.2	73.0-130			0.924	20
1,2,4-Trimethylbenzene	5.00	4.85	4.82	97.0	96.4	76.0-121			0.620	20
1,2,3-Trimethylbenzene	5.00	4.87	4.79	97.4	95.8	77.0-120			1.66	20
1,3,5-Trimethylbenzene	5.00	4.84	4.84	96.8	96.8	76.0-122			0.000	20
Vinyl chloride	5.00	5.13	5.03	103	101	67.0-131			1.97	20
Xylenes, Total	15.0	15.3	15.5	102	103	79.0-123			1.30	20
(S) Toluene-d8				102	102	80.0-120				
(S) 4-Bromofluorobenzene				99.4	98.6	77.0-126				
(S) 1,2-Dichloroethane-d4				88.9	89.3	70.0-130				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Is
8 Gl
9 Al
10 Sc

L1563112-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563112-03 12/05/22 14:14 • (MS) R3869659-4 12/05/22 17:17 • (MSD) R3869659-5 12/05/22 17:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	24.9	26.2	99.6	105	1	10.0-160			5.09	35
Acrolein	25.0	U	26.4	24.9	106	99.6	1	10.0-160			5.85	39
Acrylonitrile	25.0	U	26.2	29.1	105	116	1	21.0-160			10.5	32
Benzene	5.00	U	5.15	5.67	103	113	1	17.0-158			9.61	27
Bromobenzene	5.00	U	4.45	5.13	89.0	103	1	30.0-149			14.2	28
Bromodichloromethane	5.00	U	5.78	5.84	116	117	1	31.0-150			1.03	27
Bromoform	5.00	U	5.31	4.89	106	97.8	1	29.0-150			8.24	29
Bromomethane	5.00	U	2.94	4.21	58.8	84.2	1	10.0-160			35.5	38
1,3-Butadiene	5.00	U	3.49	4.13	69.8	82.6	1	10.0-160			16.8	22
n-Butylbenzene	5.00	U	4.65	5.45	93.0	109	1	31.0-150			15.8	30
sec-Butylbenzene	5.00	U	5.41	5.84	108	117	1	33.0-155			7.64	29
tert-Butylbenzene	5.00	U	5.31	5.87	106	117	1	34.0-153			10.0	28
Carbon tetrachloride	5.00	U	6.31	6.40	126	128	1	23.0-159			1.42	28
Carbon disulfide	5.00	U	3.45	2.98	69.0	59.6	1	10.0-156			14.6	28
Chlorobenzene	5.00	U	5.60	5.66	112	113	1	33.0-152			1.07	27
Chlorodibromomethane	5.00	U	5.52	5.21	110	104	1	37.0-149			5.78	27
Chloroethane	5.00	U	4.63	5.09	92.6	102	1	10.0-160			9.47	30
Chloroform	5.00	3.26	8.33	8.96	101	114	1	29.0-154			7.29	28
Chloromethane	5.00	U	4.18	4.57	83.6	91.4	1	10.0-160			8.91	29
Cyclohexane	5.00	U	5.10	5.77	102	115	1	19.0-160			12.3	23
2-Chlorotoluene	5.00	U	5.00	5.46	100	109	1	32.0-153			8.80	28
4-Chlorotoluene	5.00	U	4.73	5.48	94.6	110	1	32.0-150			14.7	28
1,2-Dibromo-3-Chloropropane	5.00	U	4.85	5.15	97.0	103	1	22.0-151			6.00	34
1,2-Dibromoethane	5.00	U	5.41	5.11	108	102	1	34.0-147			5.70	27
Dibromomethane	5.00	U	5.05	5.11	101	102	1	30.0-151			1.18	27
1,2-Dichlorobenzene	5.00	U	5.12	5.47	102	109	1	34.0-149			6.61	28
1,3-Dichlorobenzene	5.00	U	5.18	5.58	104	112	1	36.0-146			7.43	27
1,4-Dichlorobenzene	5.00	U	5.05	5.32	101	106	1	35.0-142			5.21	27
Dichlorodifluoromethane	5.00	U	5.50	5.91	110	118	1	10.0-160			7.19	29
1,1-Dichloroethane	5.00	U	5.21	5.83	104	117	1	25.0-158			11.2	27
1,2-Dichloroethane	5.00	U	5.00	5.09	100	102	1	29.0-151			1.78	27
1,1-Dichloroethene	5.00	U	5.28	4.45	106	89.0	1	11.0-160			17.1	29
cis-1,2-Dichloroethene	5.00	U	5.19	5.82	104	116	1	10.0-160			11.4	27
trans-1,2-Dichloroethene	5.00	U	4.97	5.55	99.4	111	1	17.0-153			11.0	27
1,2-Dichloropropane	5.00	U	5.72	6.05	114	121	1	30.0-156			5.61	27
1,1-Dichloropropene	5.00	U	5.63	6.21	113	124	1	25.0-158			9.80	27
1,3-Dichloropropane	5.00	U	5.28	5.31	106	106	1	38.0-147			0.567	27
cis-1,3-Dichloropropene	5.00	U	5.33	5.57	107	111	1	34.0-149			4.40	28
trans-1,3-Dichloropropene	5.00	U	5.60	5.26	112	105	1	32.0-149			6.26	28
2,2-Dichloropropane	5.00	U	5.52	5.81	110	116	1	24.0-152			5.12	29

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

L1563112-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563112-03 12/05/22 14:14 • (MS) R3869659-4 12/05/22 17:17 • (MSD) R3869659-5 12/05/22 17:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Dicyclopentadiene	5.00	U	4.19	4.80	83.8	96.0	1	51.0-139			13.6	20
Di-isopropyl ether	5.00	U	5.51	5.96	110	119	1	21.0-160			7.85	28
Ethylbenzene	5.00	U	5.57	5.72	111	114	1	30.0-155			2.66	27
4-Ethyltoluene	5.00	U	5.05	5.61	101	112	1	10.0-160			10.5	20
Hexachloro-1,3-butadiene	5.00	U	4.84	5.13	96.8	103	1	20.0-154			5.82	34
n-Hexane	5.00	U	4.31	4.72	86.2	94.4	1	10.0-153			9.08	28
Isopropylbenzene	5.00	U	6.35	5.56	127	111	1	28.0-157			13.3	27
p-Isopropyltoluene	5.00	U	5.35	5.93	107	119	1	30.0-154			10.3	29
2-Butanone (MEK)	25.0	U	26.9	28.6	108	114	1	10.0-160			6.13	32
Methyl Cyclohexane	5.00	U	5.36	5.46	107	109	1	11.0-160			1.85	24
Methylene Chloride	5.00	0.505	5.18	6.01	93.5	110	1	23.0-144			14.8	28
4-Methyl-2-pentanone (MIBK)	25.0	U	29.7	28.5	119	114	1	29.0-160			4.12	29
Methyl tert-butyl ether	5.00	U	4.69	5.23	93.8	105	1	28.0-150			10.9	29
Naphthalene	5.00	U	5.06	5.23	101	105	1	12.0-156			3.30	35
Propene	5.00	U	2.17	2.30	43.4	46.0	1	10.0-160			5.82	29
n-Propylbenzene	5.00	U	5.02	5.73	100	115	1	31.0-154			13.2	28
Styrene	5.00	U	5.91	5.56	118	111	1	33.0-155			6.10	28
1,1,1,2-Tetrachloroethane	5.00	U	5.91	5.81	118	116	1	36.0-151			1.71	29
1,1,2,2-Tetrachloroethane	5.00	U	4.66	5.30	93.2	106	1	33.0-150			12.9	28
1,1,2-Trichlorotrifluoroethane	5.00	U	5.49	4.76	110	95.2	1	23.0-160			14.2	30
Tetrachloroethene	5.00	U	6.47	6.01	129	120	1	10.0-160			7.37	27
Toluene	5.00	U	5.51	5.41	110	108	1	26.0-154			1.83	28
1,2,3-Trichlorobenzene	5.00	U	5.26	5.33	105	107	1	17.0-150			1.32	36
1,2,4-Trichlorobenzene	5.00	U	5.17	5.30	103	106	1	24.0-150			2.48	33
1,1,1-Trichloroethane	5.00	U	6.28	6.43	126	129	1	23.0-160			2.36	28
1,1,2-Trichloroethane	5.00	U	5.71	5.53	114	111	1	35.0-147			3.20	27
Trichloroethene	5.00	U	6.15	6.02	123	120	1	10.0-160			2.14	25
Trichlorofluoromethane	5.00	U	5.98	5.09	120	102	1	17.0-160			16.1	31
1,2,3-Trichloropropane	5.00	U	4.55	5.19	91.0	104	1	34.0-151			13.1	29
1,2,4-Trimethylbenzene	5.00	U	4.93	5.59	98.6	112	1	26.0-154			12.5	27
1,2,3-Trimethylbenzene	5.00	U	5.19	5.53	104	111	1	32.0-149			6.34	28
1,3,5-Trimethylbenzene	5.00	U	5.22	5.63	104	113	1	28.0-153			7.56	27
Vinyl chloride	5.00	U	4.46	5.41	89.2	108	1	10.0-160			19.3	27
Xylenes, Total	15.0	U	17.4	17.1	116	114	1	29.0-154			1.74	28
(S) Toluene-d8					106	100		80.0-120				
(S) 4-Bromofluorobenzene					101	85.3		77.0-126				
(S) 1,2-Dichloroethane-d4					94.0	92.4		70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3870119-3 12/08/22 13:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
1,3-Butadiene	U		0.299	2.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon tetrachloride	U		0.128	1.00
Carbon disulfide	U		0.0962	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
Cyclohexane	U		0.188	1.00
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
1,2-Dibromoethane	U		0.126	1.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Method Blank (MB)

(MB) R3870119-3 12/08/22 13:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Dicyclopentadiene	U		0.253	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00
4-Ethyltoluene	U		0.208	1.00
Hexachloro-1,3-butadiene	U		0.337	1.00
n-Hexane	U		0.749	10.0
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methyl Cyclohexane	U		0.660	1.00
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	U		1.00	5.00
Propene	U		0.936	2.50
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,3-Trichloropropane	U		0.237	2.50
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	105			80.0-120
(S) 4-Bromofluorobenzene	103			77.0-126
(S) 1,2-Dichloroethane-d4	99.2			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3870119-1 12/08/22 12:15 • (LCSD) R3870119-2 12/08/22 12:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	25.2	24.3	101	97.2	19.0-160			3.64	27
Acrolein	25.0	31.7	32.8	127	131	30.0-160			3.41	26
Acrylonitrile	25.0	24.5	26.0	98.0	104	55.0-149			5.94	20
Benzene	5.00	5.11	5.20	102	104	70.0-123			1.75	20
Bromobenzene	5.00	5.35	5.22	107	104	73.0-121			2.46	20
Bromodichloromethane	5.00	5.24	5.12	105	102	75.0-120			2.32	20
Bromoform	5.00	5.16	5.41	103	108	68.0-132			4.73	20
Bromomethane	5.00	4.88	5.06	97.6	101	30.0-160			3.62	25
1,3-Butadiene	5.00	5.16	5.32	103	106	45.0-147			3.05	20
n-Butylbenzene	5.00	4.89	4.74	97.8	94.8	73.0-125			3.12	20
sec-Butylbenzene	5.00	5.41	5.35	108	107	75.0-125			1.12	20
tert-Butylbenzene	5.00	5.46	5.34	109	107	76.0-124			2.22	20
Carbon tetrachloride	5.00	5.11	5.20	102	104	68.0-126			1.75	20
Carbon disulfide	5.00	5.17	5.21	103	104	61.0-128			0.771	20
Chlorobenzene	5.00	5.25	5.20	105	104	80.0-121			0.957	20
Chlorodibromomethane	5.00	5.04	5.56	101	111	77.0-125			9.81	20
Chloroethane	5.00	5.19	5.00	104	100	47.0-150			3.73	20
Chloroform	5.00	5.24	5.11	105	102	73.0-120			2.51	20
Chloromethane	5.00	5.43	5.19	109	104	41.0-142			4.52	20
Cyclohexane	5.00	5.43	5.42	109	108	71.0-124			0.184	20
2-Chlorotoluene	5.00	5.49	5.38	110	108	76.0-123			2.02	20
4-Chlorotoluene	5.00	5.33	5.25	107	105	75.0-122			1.51	20
1,2-Dibromo-3-Chloropropane	5.00	4.56	4.59	91.2	91.8	58.0-134			0.656	20
1,2-Dibromoethane	5.00	5.14	5.37	103	107	80.0-122			4.38	20
Dibromomethane	5.00	5.03	5.35	101	107	80.0-120			6.17	20
1,2-Dichlorobenzene	5.00	5.36	5.29	107	106	79.0-121			1.31	20
1,3-Dichlorobenzene	5.00	5.41	5.43	108	109	79.0-120			0.369	20
1,4-Dichlorobenzene	5.00	5.23	5.28	105	106	79.0-120			0.951	20
Dichlorodifluoromethane	5.00	5.77	5.75	115	115	51.0-149			0.347	20
1,1-Dichloroethane	5.00	5.37	5.39	107	108	70.0-126			0.372	20
1,2-Dichloroethane	5.00	5.25	5.22	105	104	70.0-128			0.573	20
1,1-Dichloroethene	5.00	5.41	5.43	108	109	71.0-124			0.369	20
cis-1,2-Dichloroethene	5.00	5.20	5.28	104	106	73.0-120			1.53	20
trans-1,2-Dichloroethene	5.00	5.16	5.28	103	106	73.0-120			2.30	20
1,2-Dichloropropane	5.00	5.24	5.32	105	106	77.0-125			1.52	20
1,1-Dichloropropene	5.00	4.99	5.02	99.8	100	74.0-126			0.599	20
1,3-Dichloropropane	5.00	5.11	5.41	102	108	80.0-120			5.70	20
cis-1,3-Dichloropropene	5.00	5.44	5.29	109	106	80.0-123			2.80	20
trans-1,3-Dichloropropene	5.00	5.16	5.26	103	105	78.0-124			1.92	20
2,2-Dichloropropane	5.00	5.28	5.42	106	108	58.0-130			2.62	20

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3870119-1 12/08/22 12:15 • (LCSD) R3870119-2 12/08/22 12:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dicyclopentadiene	5.00	5.38	5.32	108	106	74.0-126			1.12	20
Di-isopropyl ether	5.00	5.26	5.23	105	105	58.0-138			0.572	20
Ethylbenzene	5.00	5.15	5.42	103	108	79.0-123			5.11	20
4-Ethyltoluene	5.00	5.45	5.37	109	107	74.0-127			1.48	20
Hexachloro-1,3-butadiene	5.00	5.40	5.51	108	110	54.0-138			2.02	20
n-Hexane	5.00	4.96	5.11	99.2	102	57.0-133			2.98	20
Isopropylbenzene	5.00	5.24	5.30	105	106	76.0-127			1.14	20
p-Isopropyltoluene	5.00	5.61	5.36	112	107	76.0-125			4.56	20
2-Butanone (MEK)	25.0	24.1	24.6	96.4	98.4	44.0-160			2.05	20
Methyl Cyclohexane	5.00	5.35	5.24	107	105	68.0-126			2.08	20
Methylene Chloride	5.00	5.36	5.34	107	107	67.0-120			0.374	20
4-Methyl-2-pentanone (MIBK)	25.0	24.4	25.2	97.6	101	68.0-142			3.23	20
Methyl tert-butyl ether	5.00	5.12	5.17	102	103	68.0-125			0.972	20
Naphthalene	5.00	3.92	4.04	78.4	80.8	54.0-135			3.02	20
Propene	5.00	5.35	5.73	107	115	30.0-160			6.86	20
n-Propylbenzene	5.00	5.35	5.29	107	106	77.0-124			1.13	20
Styrene	5.00	5.11	5.36	102	107	73.0-130			4.78	20
1,1,1,2-Tetrachloroethane	5.00	5.21	5.30	104	106	75.0-125			1.71	20
1,1,2,2-Tetrachloroethane	5.00	5.24	5.19	105	104	65.0-130			0.959	20
1,1,2-Trichlorotrifluoroethane	5.00	5.45	5.33	109	107	69.0-132			2.23	20
Tetrachloroethene	5.00	5.22	5.23	104	105	72.0-132			0.191	20
Toluene	5.00	5.12	5.28	102	106	79.0-120			3.08	20
1,2,3-Trichlorobenzene	5.00	4.59	4.40	91.8	88.0	50.0-138			4.23	20
1,2,4-Trichlorobenzene	5.00	4.52	4.53	90.4	90.6	57.0-137			0.221	20
1,1,1-Trichloroethane	5.00	5.46	5.31	109	106	73.0-124			2.79	20
1,1,2-Trichloroethane	5.00	4.96	5.07	99.2	101	80.0-120			2.19	20
Trichloroethene	5.00	5.46	5.42	109	108	78.0-124			0.735	20
Trichlorofluoromethane	5.00	5.40	5.23	108	105	59.0-147			3.20	20
1,2,3-Trichloropropane	5.00	5.29	5.24	106	105	73.0-130			0.950	20
1,2,4-Trimethylbenzene	5.00	5.52	5.18	110	104	76.0-121			6.36	20
1,2,3-Trimethylbenzene	5.00	5.23	5.27	105	105	77.0-120			0.762	20
1,3,5-Trimethylbenzene	5.00	5.17	5.24	103	105	76.0-122			1.34	20
Vinyl chloride	5.00	5.08	4.91	102	98.2	67.0-131			3.40	20
Xylenes, Total	15.0	15.4	15.9	103	106	79.0-123			3.19	20
(S) Toluene-d8				102	106	80.0-120				
(S) 4-Bromofluorobenzene				101	105	77.0-126				
(S) 1,2-Dichloroethane-d4				103	102	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3869306-3 12/05/22 12:19

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	96.7			77.0-127

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869306-1 12/05/22 11:19 • (LCSD) R3869306-2 12/05/22 11:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	34.3	48.8	68.6	97.6	55.0-138		J3	34.9	24
(S) Toluene-d8				95.8	96.9	77.0-127				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3869325-3 12/06/22 12:48

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	98.3			77.0-127

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3869325-1 12/06/22 11:47 • (LCSD) R3869325-2 12/06/22 12:07

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	44.9	44.1	89.8	88.2	55.0-138			1.80	24
(S) Toluene-d8				98.7	99.1	77.0-127				

L1563057-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563057-05 12/06/22 18:19 • (MS) R3869325-4 12/07/22 00:01 • (MSD) R3869325-5 12/07/22 00:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	U	27.6	30.0	55.2	60.0	1	13.0-160			8.33	31
(S) Toluene-d8					98.9	99.0		77.0-127				

L1563057-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1563057-07 12/06/22 18:59 • (MS) R3869325-6 12/07/22 00:41 • (MSD) R3869325-7 12/07/22 01:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	U	33.5	48.6	67.0	97.2	1	13.0-160		J3	36.8	31
(S) Toluene-d8					98.8	97.5		77.0-127				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Is

8 Gl

9 Al

10 Sc

Method Blank (MB)

(MB) R3870264-3 12/09/22 13:53

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	93.9			77.0-127

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3870264-1 12/09/22 12:52 • (LCSD) R3870264-2 12/09/22 13:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
1,4-Dioxane	50.0	32.6	29.0	65.2	58.0	55.0-138			11.7	24
(S) Toluene-d8				93.3	93.9	77.0-127				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

INTERNAL STANDARD SUMMARY

Instrument: VOCMS26 • File ID: 1205_02

12/05/22 08:32

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	1205_02	466635	197505	222715
Upper Limit		933270	395010	445430
Lower Limit		233318	98753	111358
LCS R3869659-1 WG1969128 1x	1205_02LCS	466635	197505	222715
LCSD R3869659-2 WG1969128 1x	1205_03	479387	201835	225584
BLANK R3869659-3 WG1969128 1x	1205_05	459849	190580	210699
L1563057-11 WG1969128 1x	1205_06	493986	205707	219706
L1563057-01 WG1969128 1x	1205_07	470919	195968	210242
L1563057-02 WG1969128 1x	1205_08	478150	198318	217811
L1563057-03 WG1969128 1x	1205_09	466217	192308	208596
L1563057-04 WG1969128 1x	1205_10	466464	189563	209719
L1563057-05 WG1969128 1x	1205_11	455180	189981	206997
L1563057-06 WG1969128 1x	1205_12	460898	192117	206006
L1563057-10 WG1969128 1x	1205_13	452804	190803	205381
L1563057-07 WG1969128 10x	1205_20	454133	192533	212066
L1563057-08 WG1969128 5x	1205_21	457966	190803	216895
L1563057-09 WG1969128 100x	1205_22	448331	190419	203946
MS R3869659-4 WG1969128 1x	1205_26	382583	158041	195900
MSD R3869659-5 WG1969128 1x	1205_27	451131	192886	210169



Instrument: VOCMS36 • File ID: 1208_02

12/08/22 12:15

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	1208_02	468814	209757	179450
Upper Limit		937628	419514	358900
Lower Limit		234407	104879	89725
LCS R3870119-1 WG1971428 1x	1208_02LCSA	468814	209757	179450
LCSD R3870119-2 WG1971428 1x	1208_03A	451600	196710	177406
BLANK R3870119-3 WG1971428 1x	1208_05A	456019	196846	175286
L1563057-12 WG1971428 1x	1208_13	433904	183422	164003

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 1205_03

12/05/22 10:58

Sample ID	File ID	8260-FLUOROBENZENE Response
Standard	1205_03	755169
Upper Limit		1510338
Lower Limit		377585
LCS R3869306-1 WG1969477 1x	1205_04	923249
LCSD R3869306-2 WG1969477 1x	1205_05	849024
BLANK R3869306-3 WG1969477 1x	1205_07	922430
L1563057-01 WG1969477 1x	1205_27	841306

Instrument: VOCMS27 • File ID: 1206_04

12/06/22 11:27

Sample ID	File ID	8260-FLUOROBENZENE Response
Standard	1206_04	803757
Upper Limit		1607514
Lower Limit		401879
LCS R3869325-1 WG1970099 1x	1206_05	818618
LCSD R3869325-2 WG1970099 1x	1206_06	853442
BLANK R3869325-3 WG1970099 1x	1206_08	728210
L1563057-02 WG1970099 1x	1206_11	649336
L1563057-03 WG1970099 1x	1206_12	723985
L1563057-04 WG1970099 1x	1206_13	791157
L1563057-05 WG1970099 1x	1206_14	696794
L1563057-06 WG1970099 1x	1206_15	707491
L1563057-07 WG1970099 1x	1206_16	616267
L1563057-08 WG1970099 1x	1206_17	720112
L1563057-10 WG1970099 1x	1206_18	827855
L1563057-09 WG1970099 100x	1206_29	617241
MS R3869325-4 WG1970099 1x	1206_31	719214
MSD R3869325-5 WG1970099 1x	1206_32	707669
MS R3869325-6 WG1970099 1x	1206_33	693707
MSD R3869325-7 WG1970099 1x	1206_34	593650

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Is

⁸Gl

⁹Al

¹⁰Sc

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 1209_04

12/09/22 12:32

Sample ID	File ID	8260-FLUOROBENZENE Response
Standard	1209_04	1297376
Upper Limit		2594752
Lower Limit		648688
LCS R3870264-1 WG1970821 1x	1209_05	1575845
LCSD R3870264-2 WG1970821 1x	1209_06	1811757
BLANK R3870264-3 WG1970821 1x	1209_08	1676165
L1563057-12 WG1970821 1x	1209_09	1518177

- ¹Cp
- ²Tc
- ³Ss
- ⁴Cn
- ⁵Sr
- ⁶Qc
- ⁷Is
- ⁸Gl
- ⁹Al
- ¹⁰Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:
Pinyon Environmental
 4815 E. Carefree Highway
 #108-274
 Cave Creek, AZ 85331

Billing Information:
 Accounts Payable
 3222 S Vance Street
 Suite 200
 Lakewood, CO 80227

Analysis / Container / Preservative									



MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # **L1563057**
E245

Acctnum: **PINYONMAZ**
 Template: **T205653**
 Prelogin: **P931176**
 PM: **288 - Daphne Richards**
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Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: **Mesa, AZ**

Please Circle:
 PT MT CT ET

Phone: **602-290-4774**

Client Project #
722152201.002

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Isabella Foster

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]
 Immediately
 Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 ___ Same Day ___ Five Day
 ___ Next Day ___ 5 Day (Rad Only)
 ___ Two Day ___ 10 Day (Rad Only)
 ___ Three Day

Quote #
Standard TAT

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
-----------	-----------	----------	-------	------	------	--------------

TTU-3-143-20221130	G	GW	143	11/30/22	1200	7
TTU-4-57-20221130		GW	57		1033	7
TTU-6-143-20221130		GW	143		1050	7
TTU-7-345-20221130		GW	345		0957	7
TTU-8-164-20221130		GW	164		0953	7
TTU-10-172-20221130		GW	172		1200	14
TTU-11-73-20221130		GW	73		1450	7
TTU-19-73-20221130		GW	73		1410	7
TTU-20-73-20221130		GW	73		1402	7
PF-2-400-20221130	C	GW	400		1255	6

PERCHLORATE 125mlHDPE-NoPres

V8260AZ 40mlAmb-HCl

V8260LL14D 40mlAmb-HCl

* Matrix:
 SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - WasteWater
 DW - Drinking Water
 OT - Other

Remarks:
 pH _____ Temp _____
 Flow _____ Other _____
 Samples returned via:
 ___ UPS ___ FedEx ___ Courier _____
 Tracking # _____

Sample Receipt Checklist	
COC Seal Present/Intact:	<input type="checkbox"/> NP <input type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero HeadSpace:	<input type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Relinquished by: (Signature)
[Signature]

Date: **11/30/22**

Time: **1631**

Received by: (Signature)
[Signature]

Trip Blank Received: No
 HCL/MeOH
 TBR

Relinquished by: (Signature)
[Signature]

Date: **11/30/22**

Time: **1800**

Received by: (Signature)
[Signature]

Temp: **0.82008**
 Bottles Received: **83**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date: **12/01/22**

Time: **0900**

Received for lab by: (Signature)
[Signature]

Date: **12/01/22**
 Time: **0900**

Hold: _____
 Condition: **NCF / OK**

Company Name/Address:

Pinyon Environmental

4815 E. Carefree Highway
#108-274
Cave Creek, AZ 85331

Billing Information:

Accounts Payable
3222 S Vance Street
Suite 200
Lakewood, CO 80227

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2



MT JULIET, TN

12065 Lebanon Rd. Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at:
<https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>

Report to: **Jeremy Musson**
Christopher Funk

Email To: **funk@pinyon-env.com; guarnieri@pinyon-env.com**
Musson@pinyon-env.com

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Nammo TTU Groundwater Monitoring

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Collected by (print):
Isabella Foster

Site/Facility ID #

P.O. #

Collected by (signature):
[Signature]

Rush? (Lab MUST Be Notified)

Quote #

Same Day Five Day
 Next Day 5 Day (Rad Only)
 Two Day 10 Day (Rad Only)
 Three Day

Date Results Needed

Standard TAT

Immediately Packed on Ice N Y

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE	125mlHDPE-NoPres	V8260AZ	40mlAmb-HCl	V8260LL14D	40mlAmb-HCl							
Trip Blank	-	-GW	-	-	-	1	X	X	X										
Dup-02	G1	-GW	143	11/30/22	1200	7	X	X	X										
TRIP BLANK		-GW																	
TRIP BLANK		-GW																	

SDG # **L1563057**
Table #
Acctnum: **PINYONMAZ**
Template: **T205653**
Prelogin: **P931176**
PM: **288 - Daphne Richards**
PB:
Shipped Via:
Remarks Sample # (lab only)

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Sample Receipt Checklist	
COC Seal Present/Intact:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
COC Signed/Accurate:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Bottles arrive intact:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Correct bottles used:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Sufficient volume sent:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Preservation Correct/Checked:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N

Samples returned via:
 UPS FedEx Courier

Tracking #

Relinquished by: (Signature)
[Signature]
Date: **11/30/22**
Time: **1631**

Received by: (Signature)
[Signature]
Date: **11/30/22**
Time: **180**

Received for lab by: (Signature)
[Signature]
Date: **12/10/22**
Time: **0900**

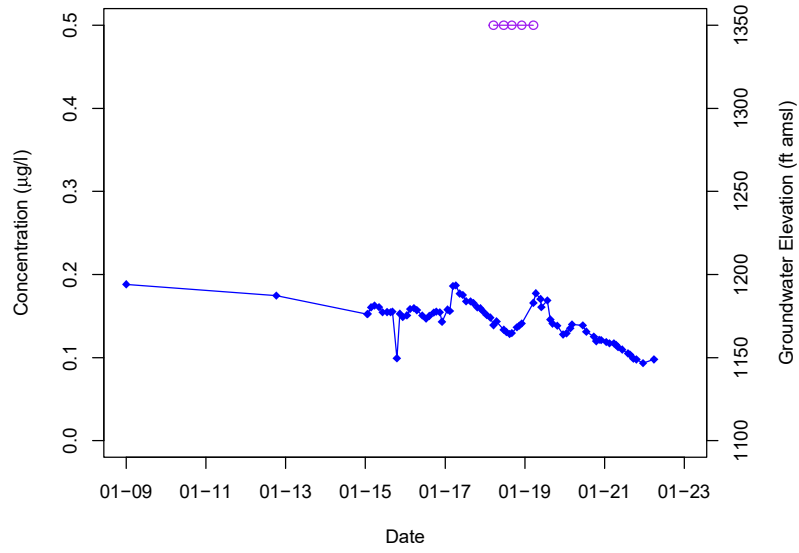
Trip Blank Received: Yes / No
 HQ / MeOH
 TBR
Temp: **08.50 = 0.8**
Bottles Received: **83**

If preservation required by Login: Date/Time
Hold:
Condition: NCF / OK

ONPAZ

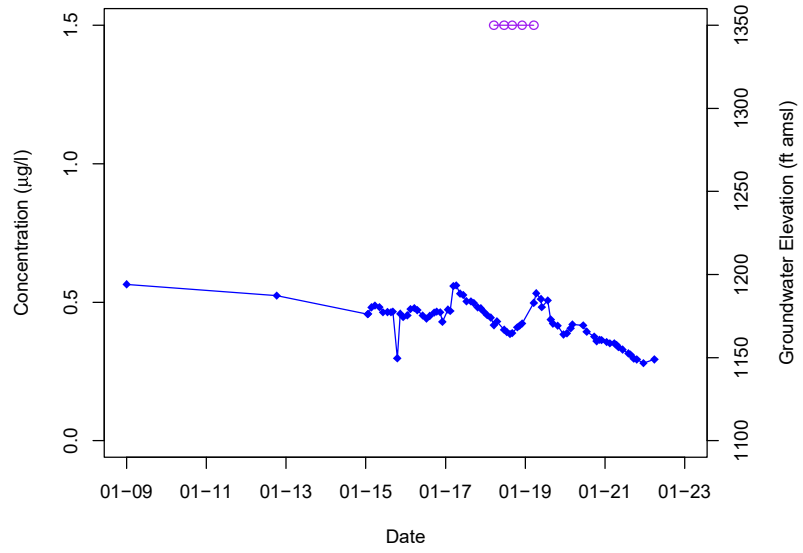
Attachment 3 – Concentration and Groundwater Elevation versus Time Plots

PF-1



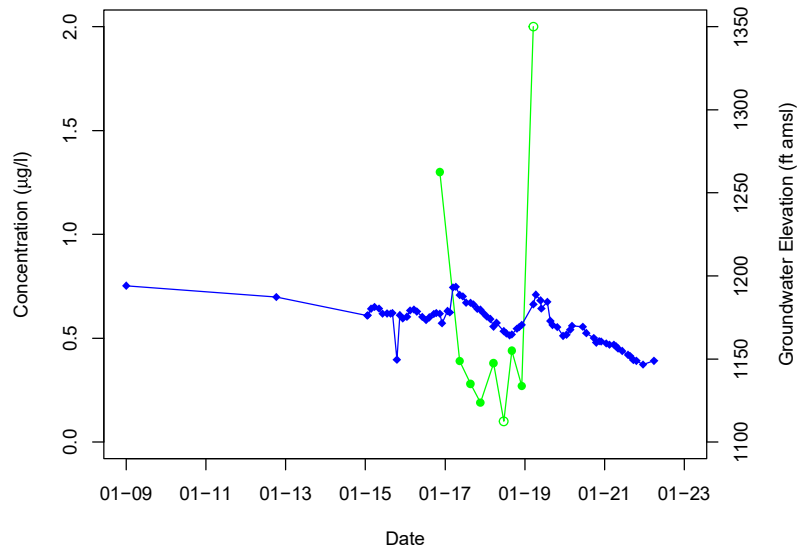
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

PF-1



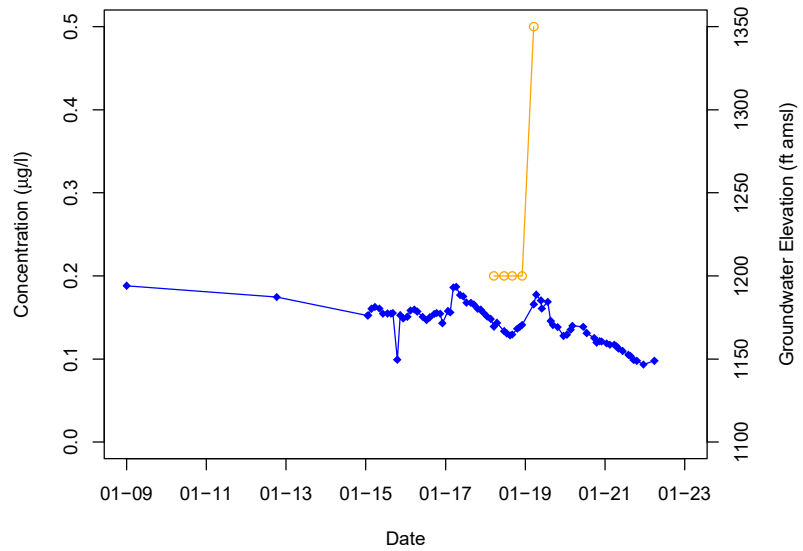
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

PF-1



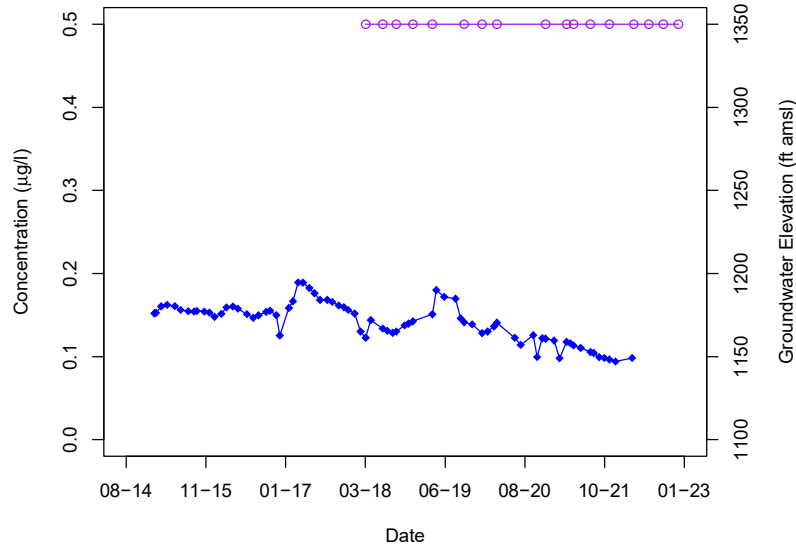
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

PF-1



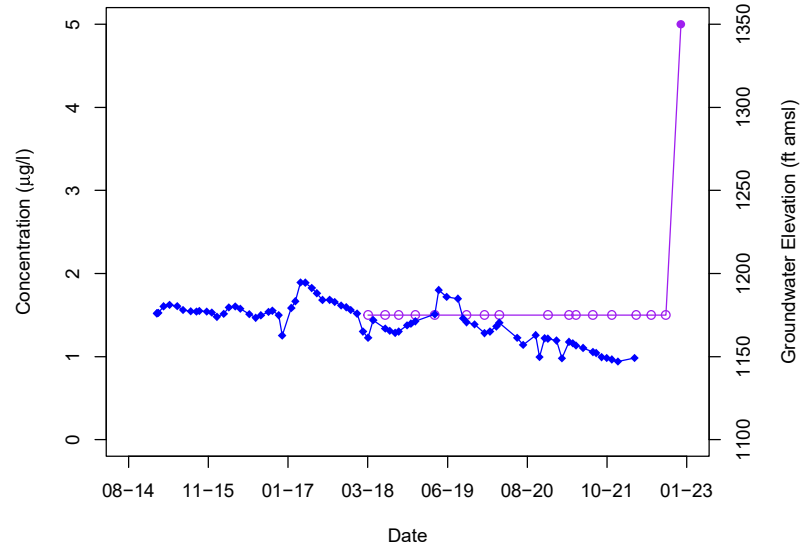
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

PF-2



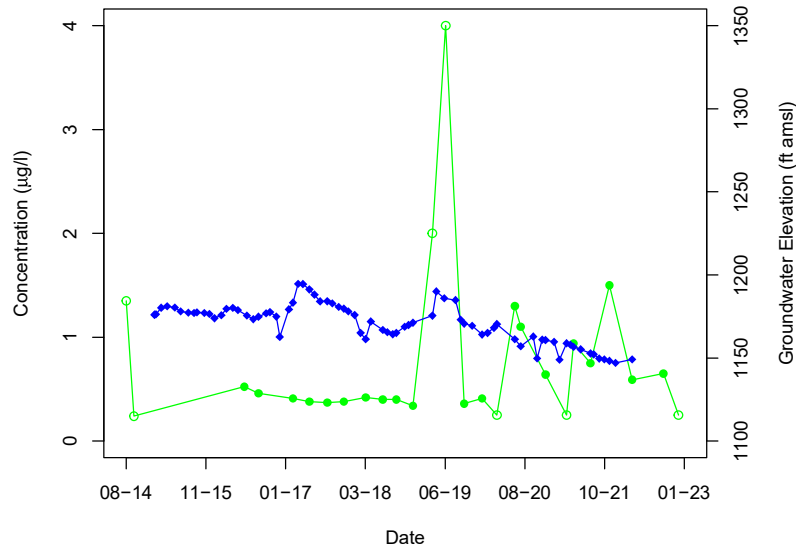
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

PF-2



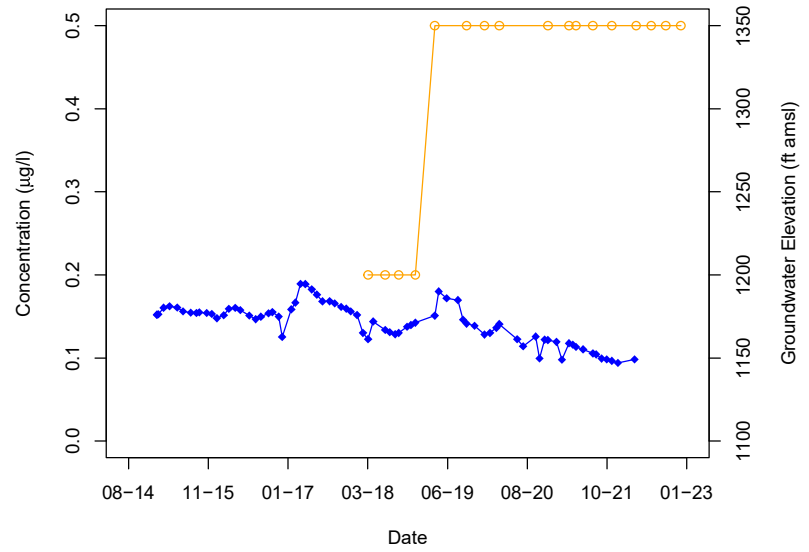
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

PF-2



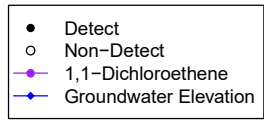
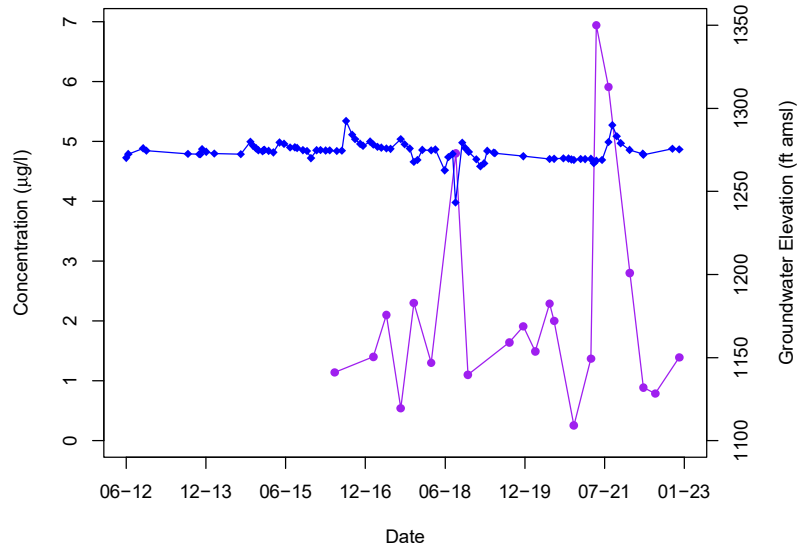
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

PF-2

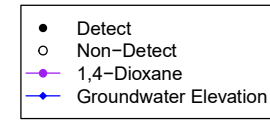
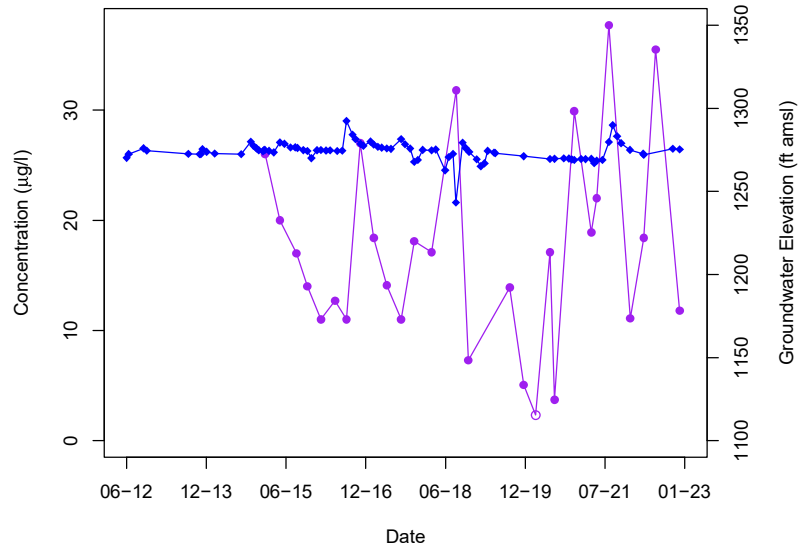


- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

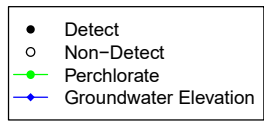
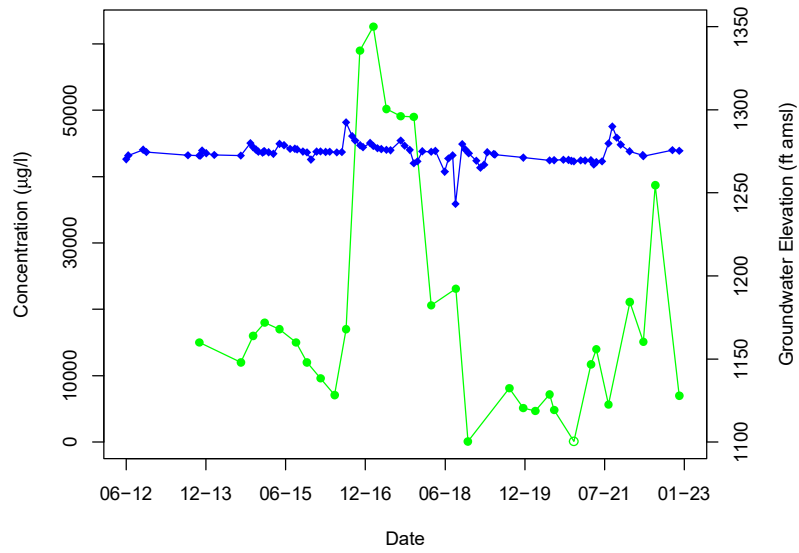
TTU-1



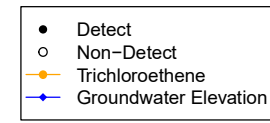
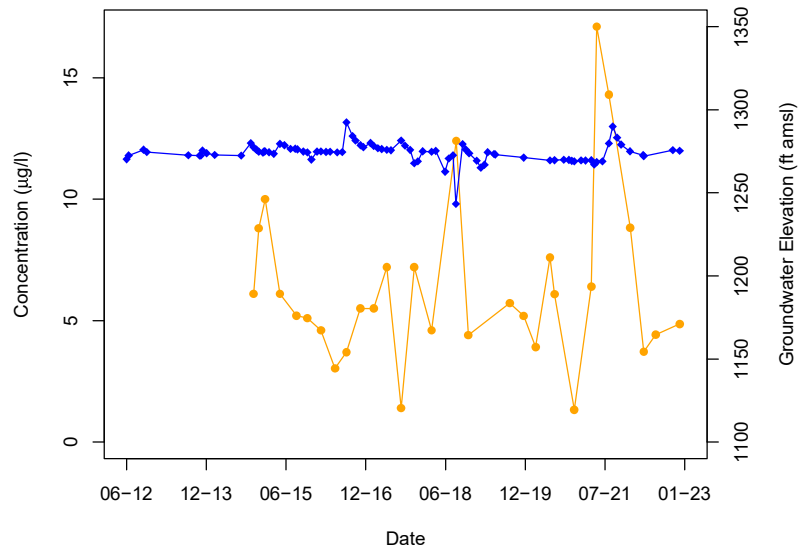
TTU-1



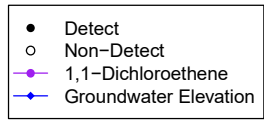
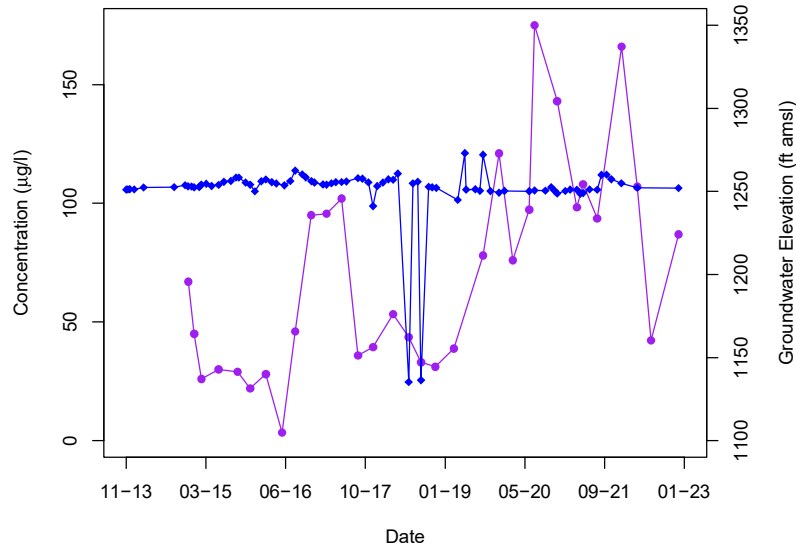
TTU-1



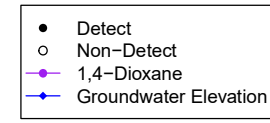
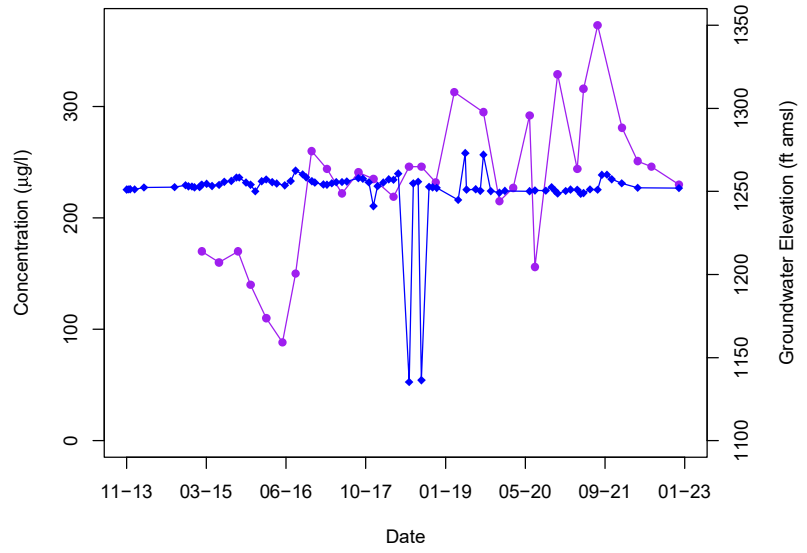
TTU-1



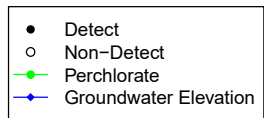
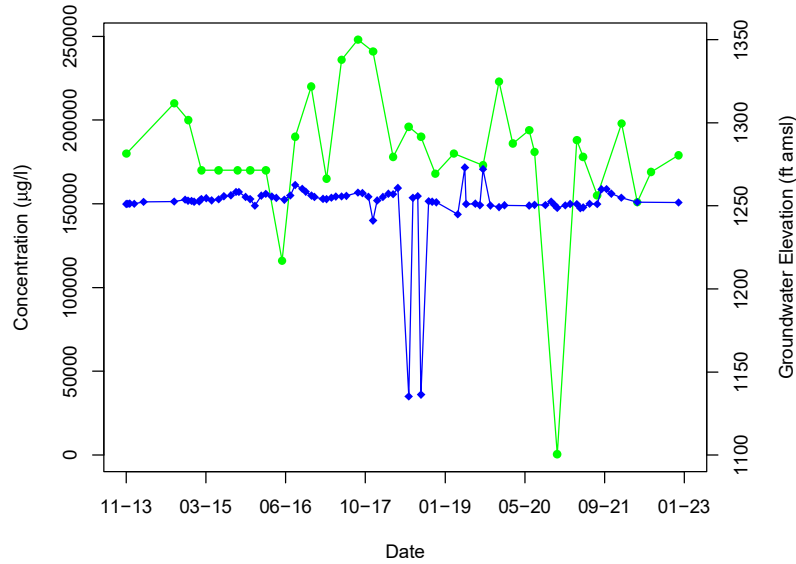
TTU-2



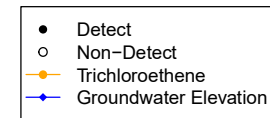
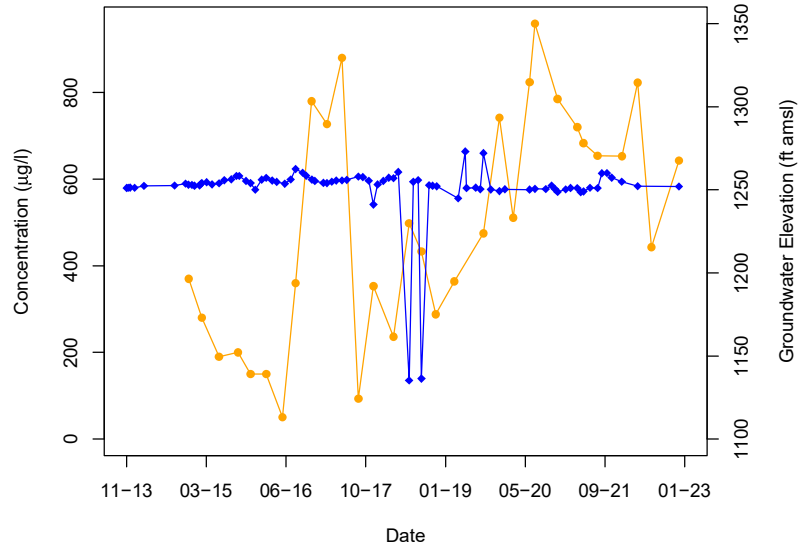
TTU-2



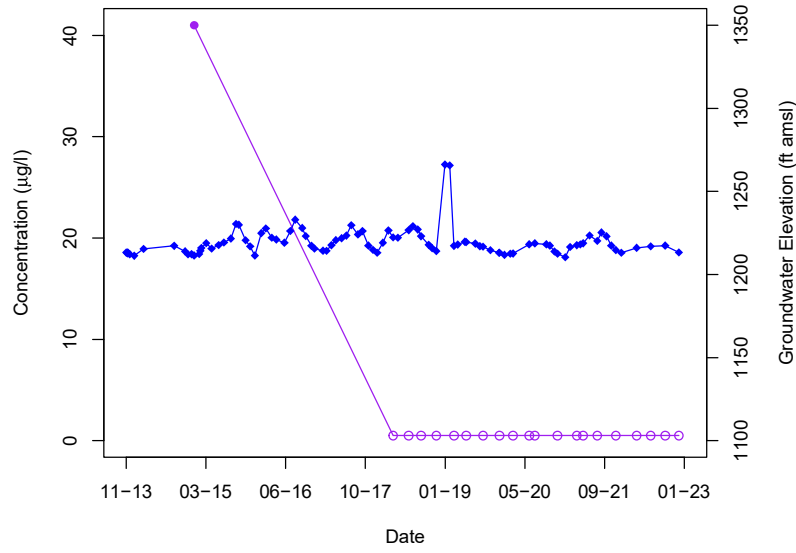
TTU-2



TTU-2

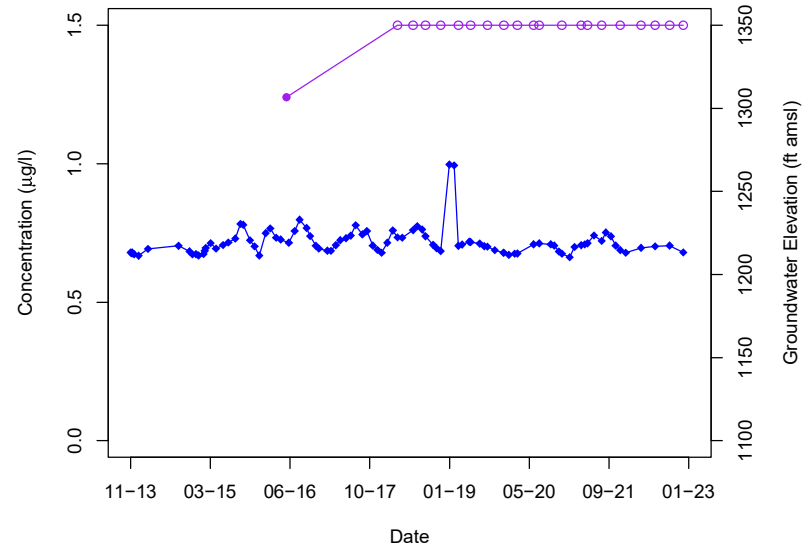


TTU-3



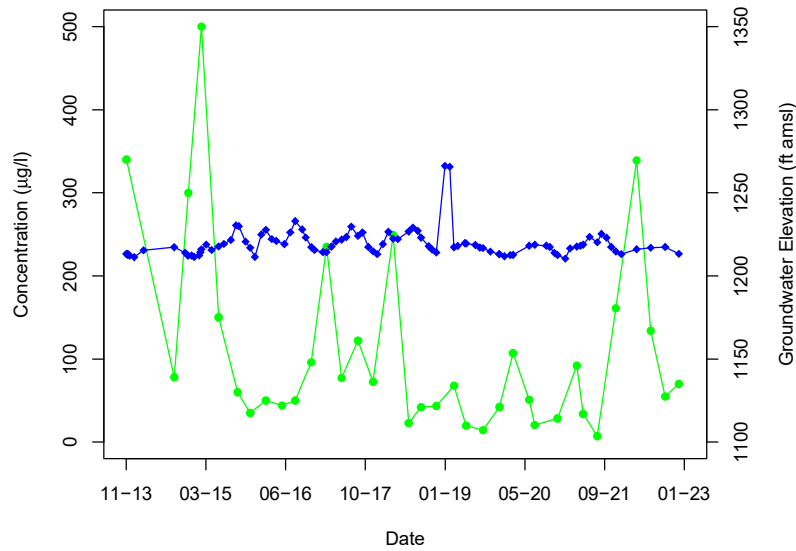
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-3



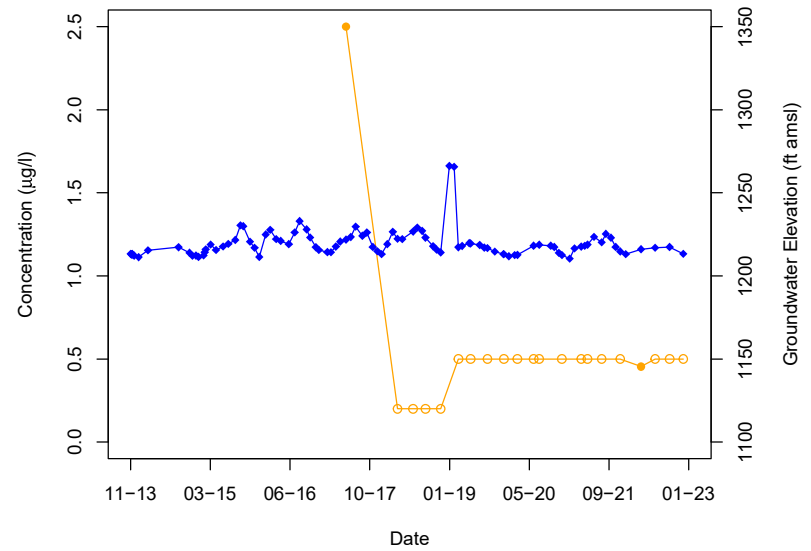
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-3



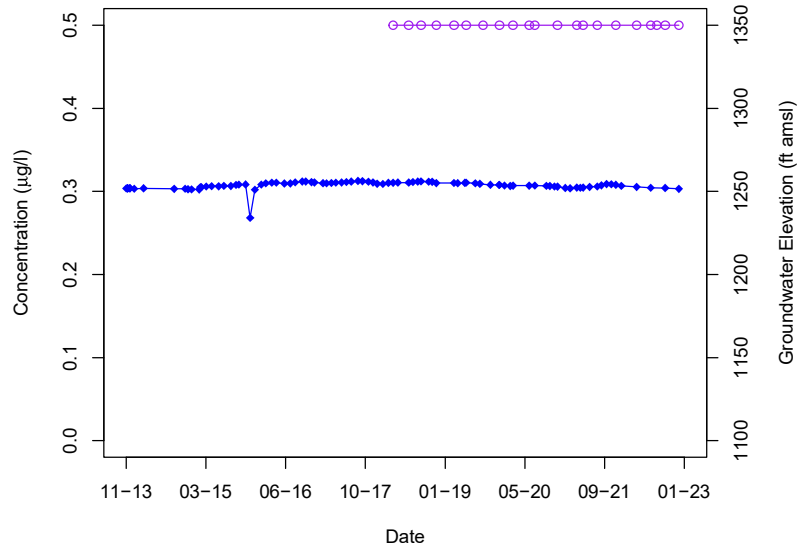
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-3



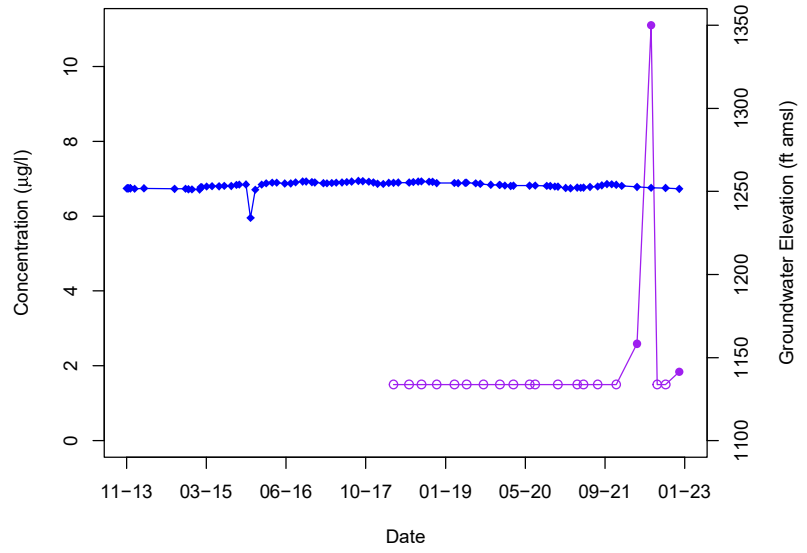
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-4



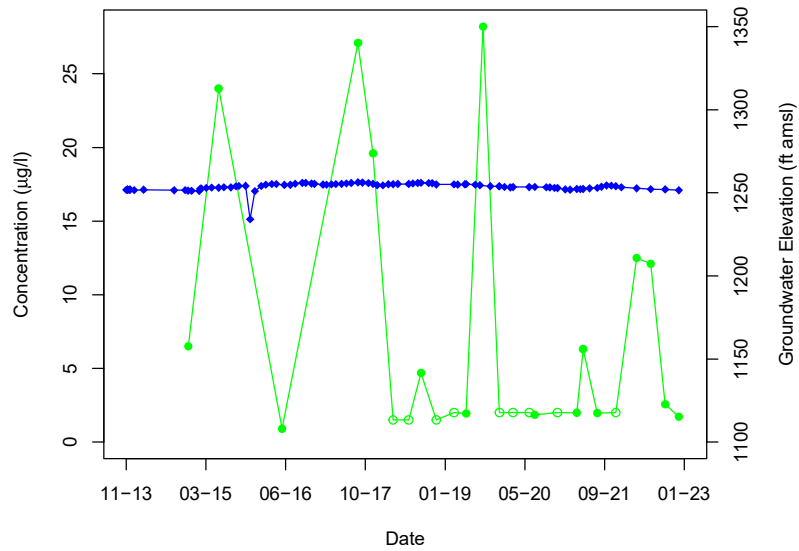
- Detect
- Non-Detect
- 1,1-Dichloroethene
- ◆— Groundwater Elevation

TTU-4



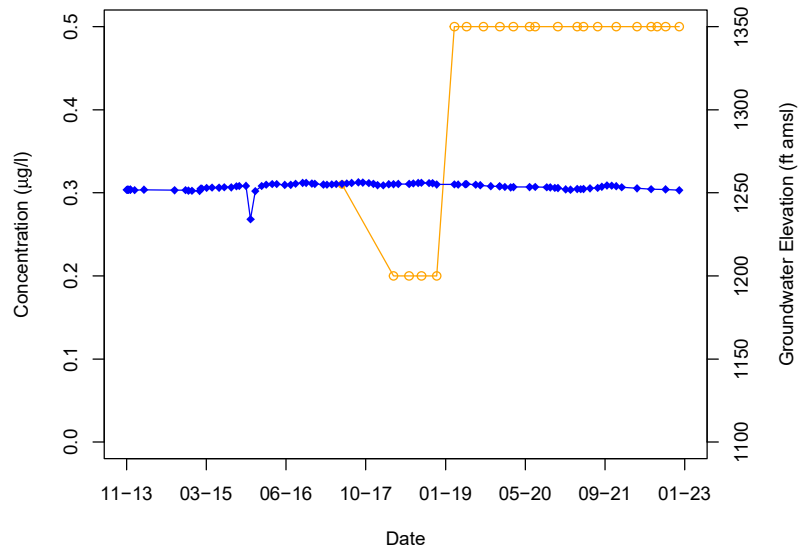
- Detect
- Non-Detect
- 1,4-Dioxane
- ◆— Groundwater Elevation

TTU-4



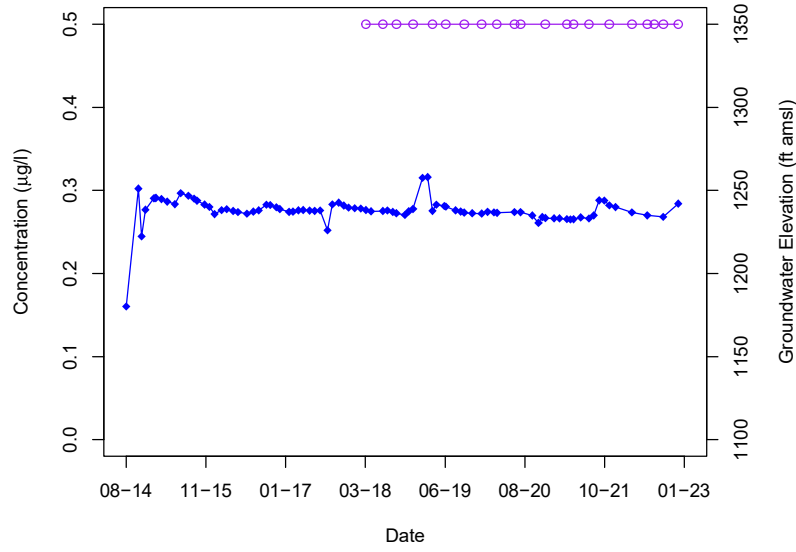
- Detect
- Non-Detect
- Perchlorate
- ◆— Groundwater Elevation

TTU-4



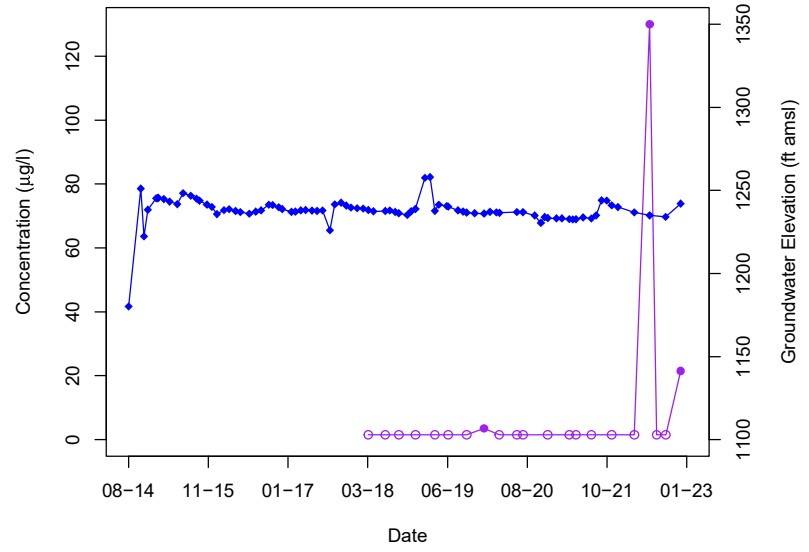
- Detect
- Non-Detect
- Trichloroethene
- ◆— Groundwater Elevation

TTU-5



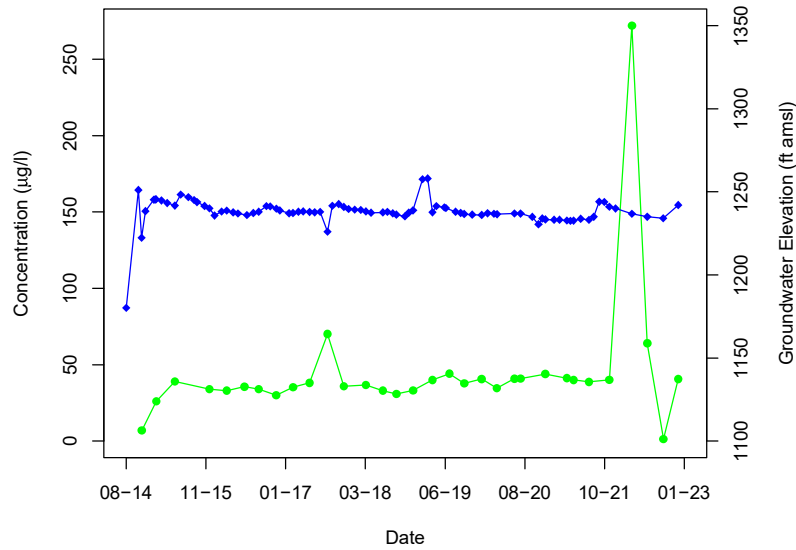
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-5



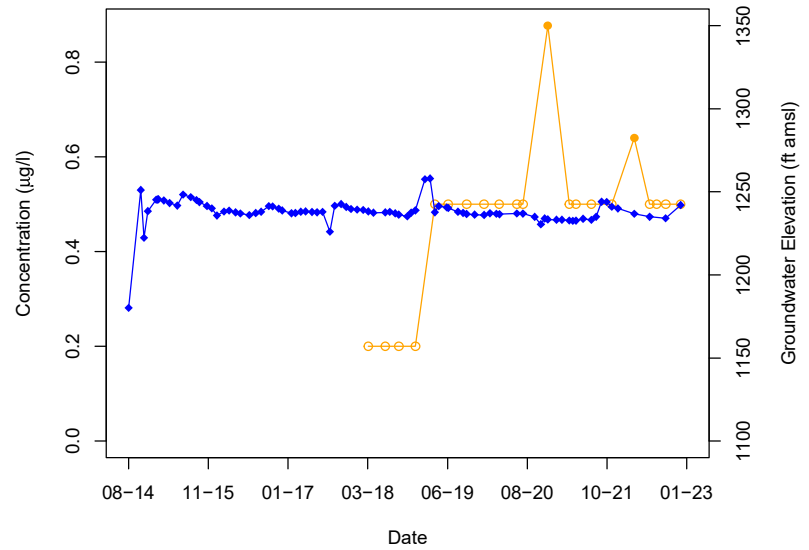
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-5



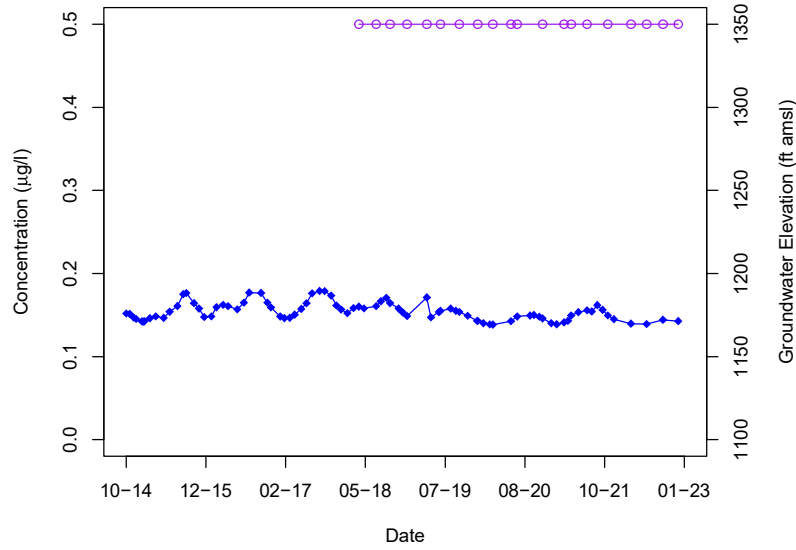
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-5



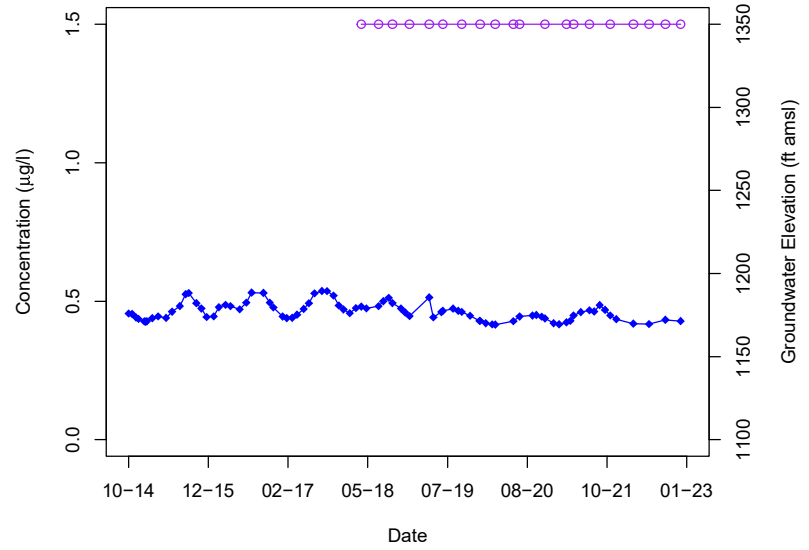
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-6



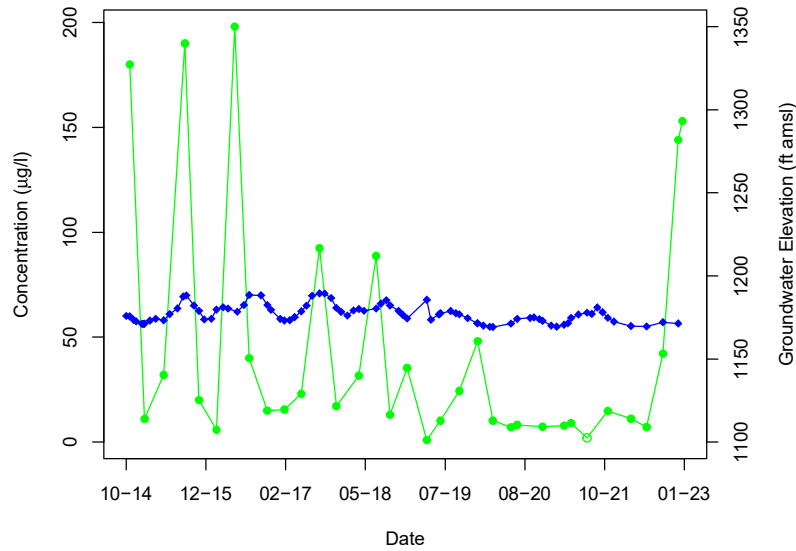
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-6



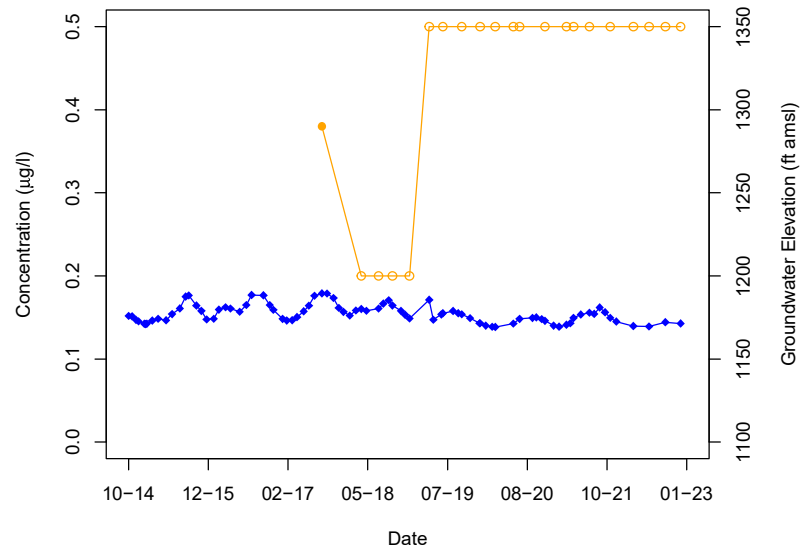
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-6



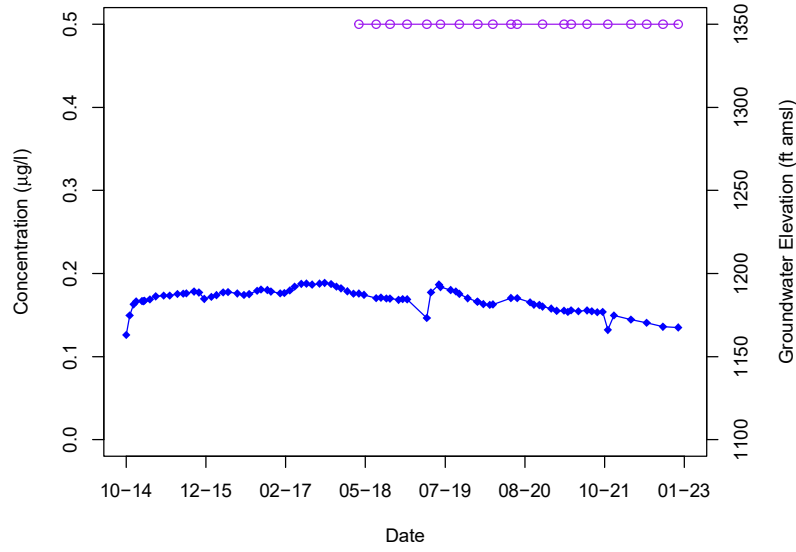
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-6



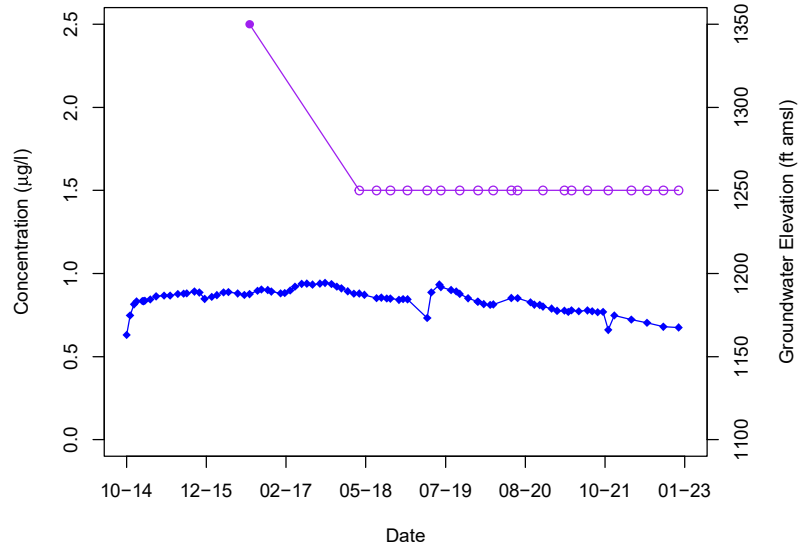
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-7



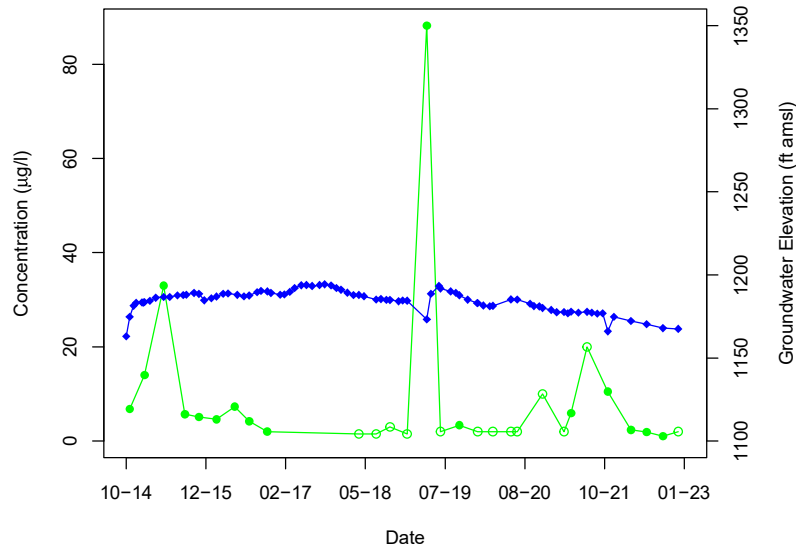
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-7



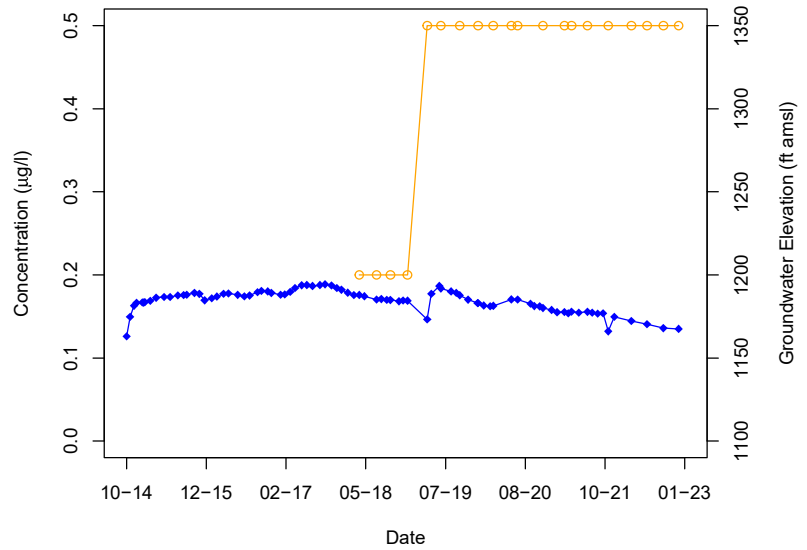
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-7



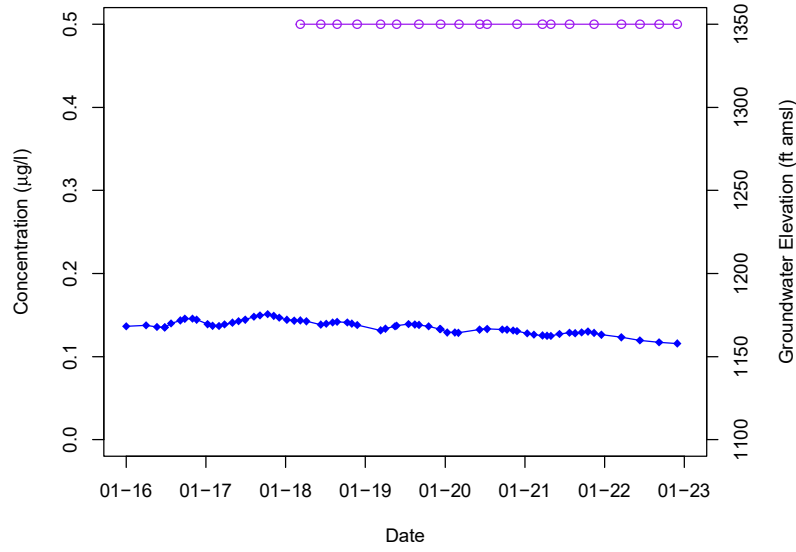
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-7



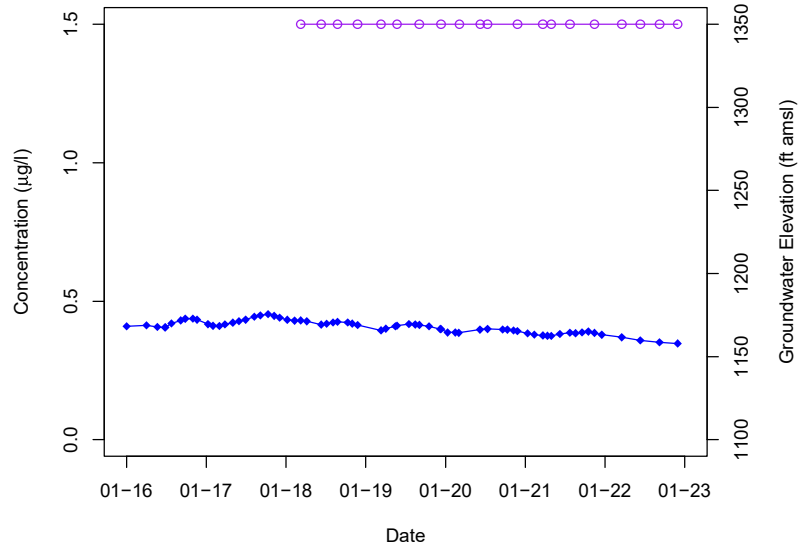
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-8



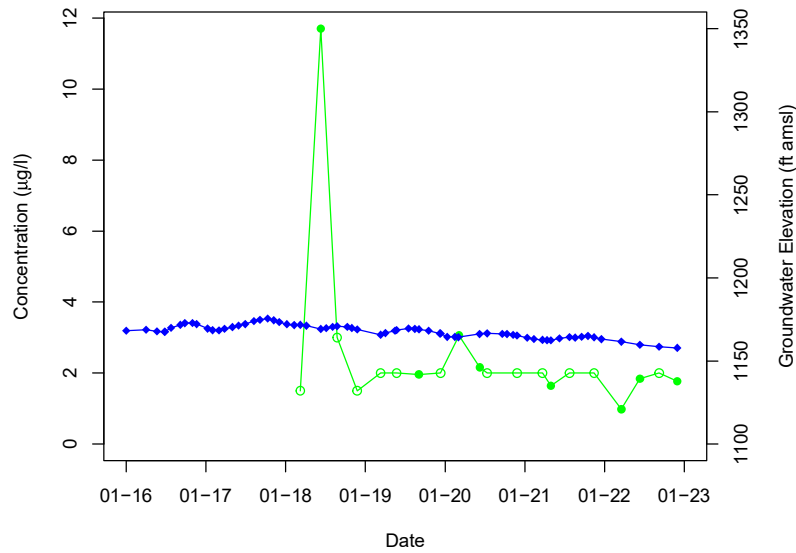
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-8



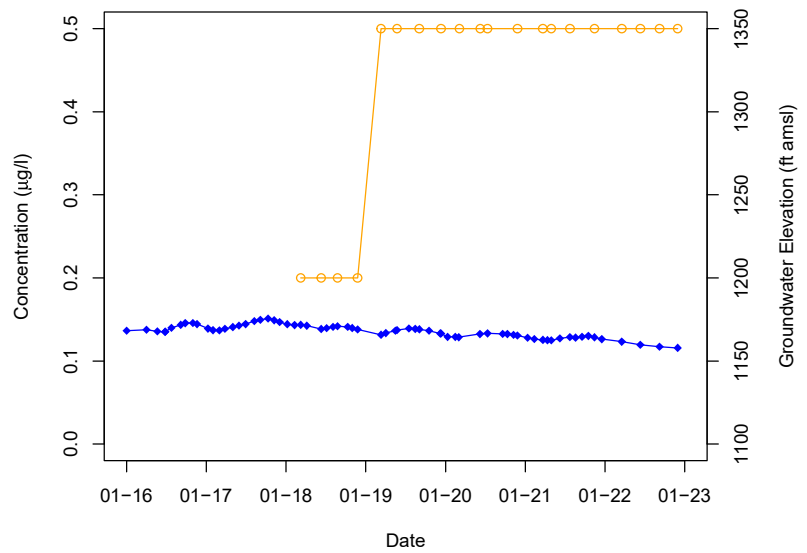
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-8



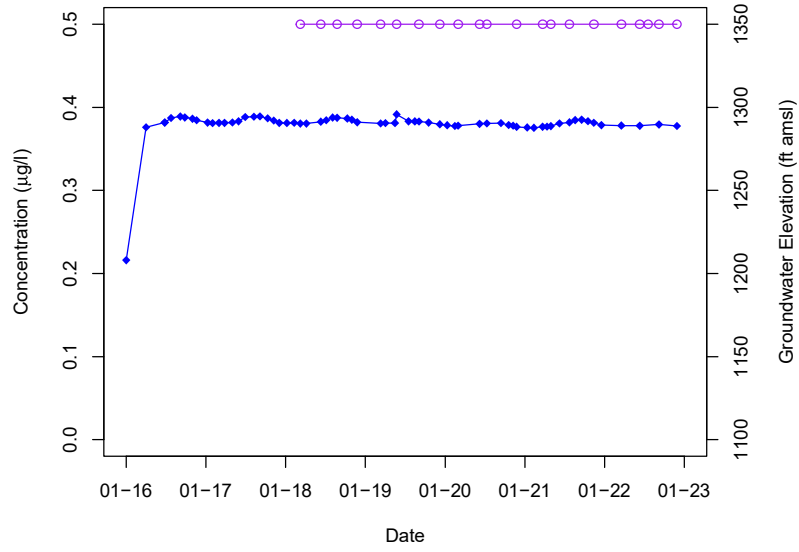
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-8



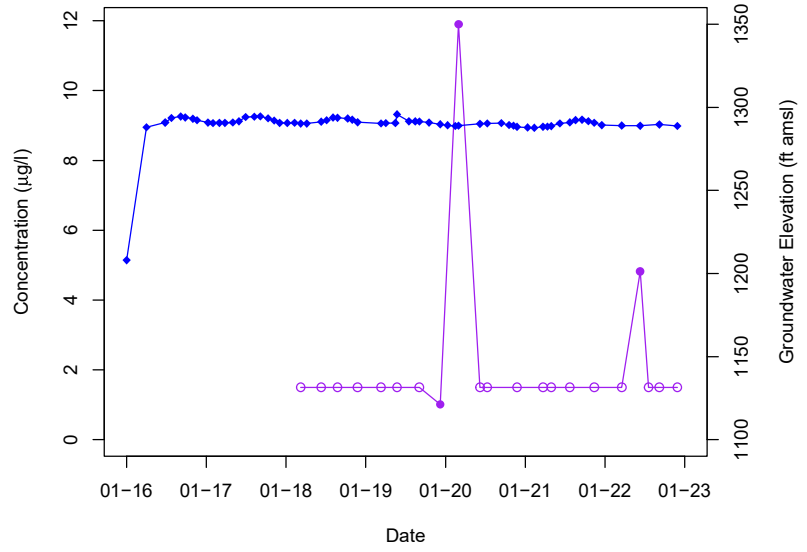
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-9A



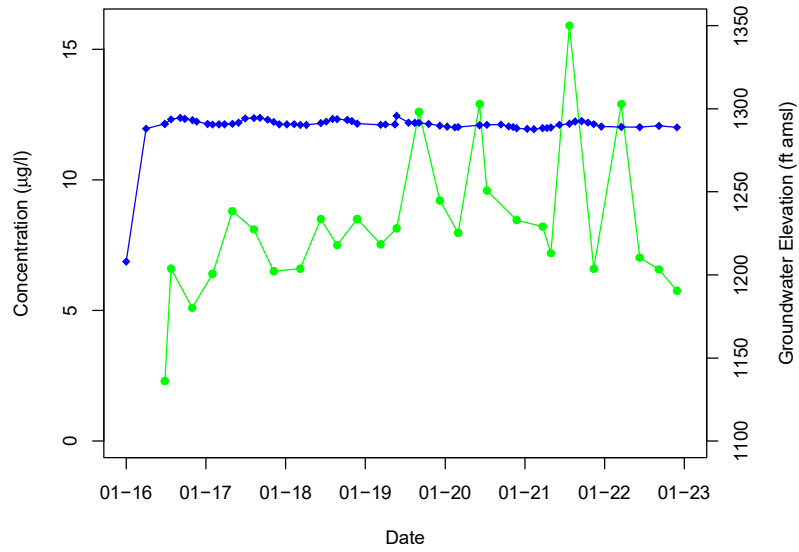
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-9A



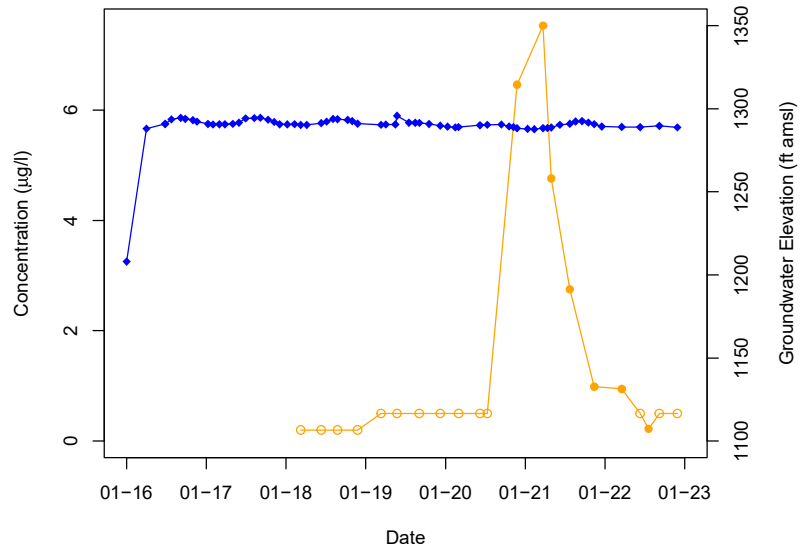
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-9A



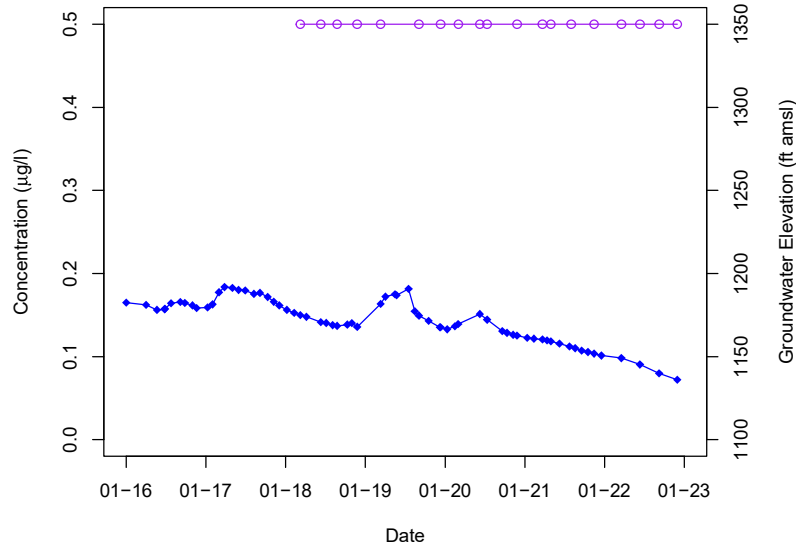
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-9A



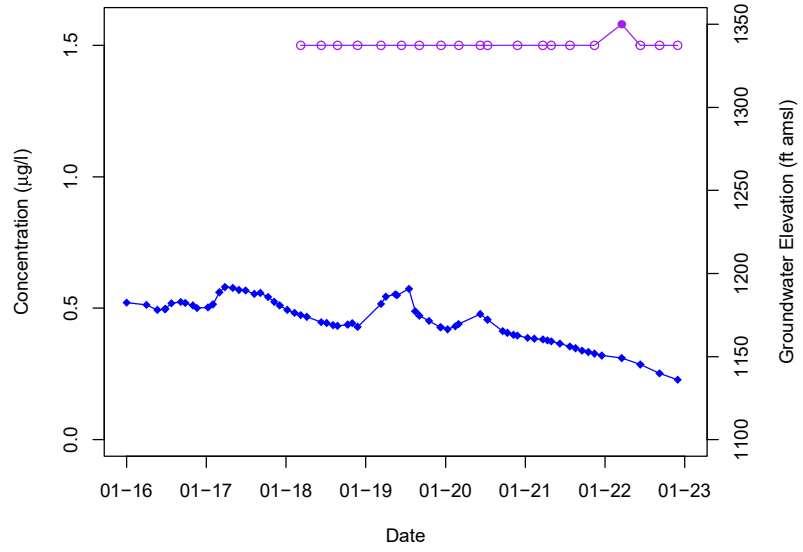
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-10



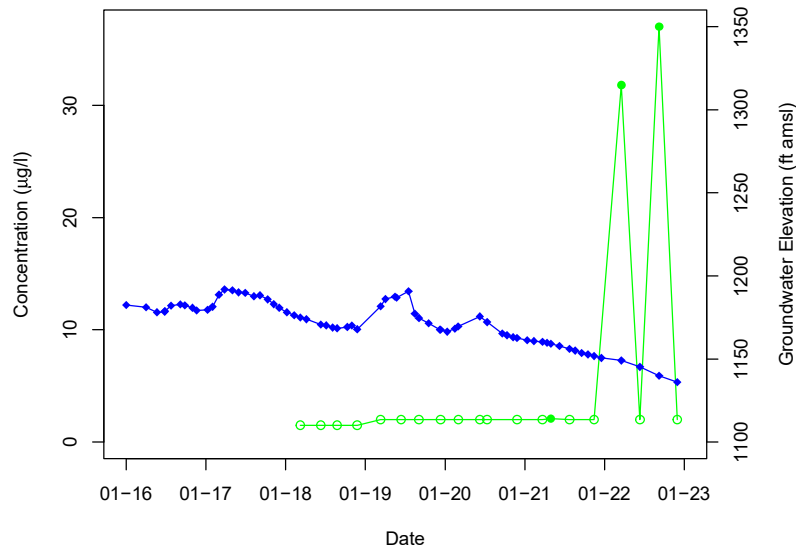
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-10



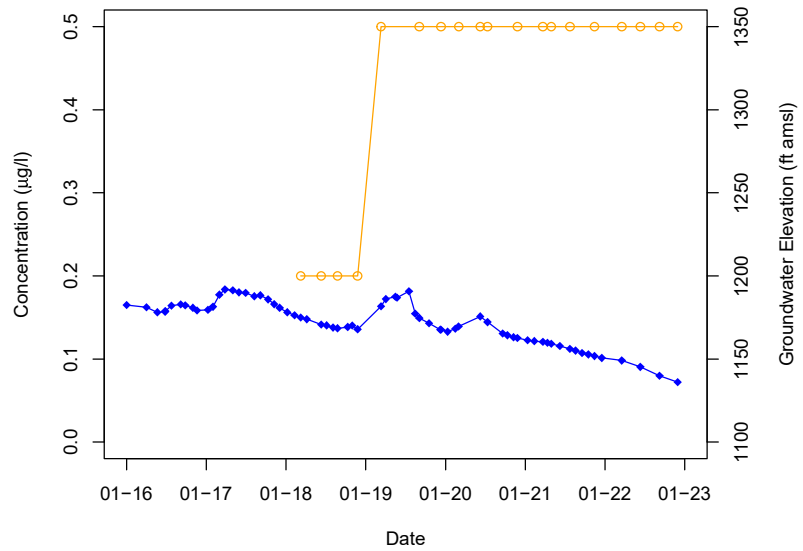
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-10



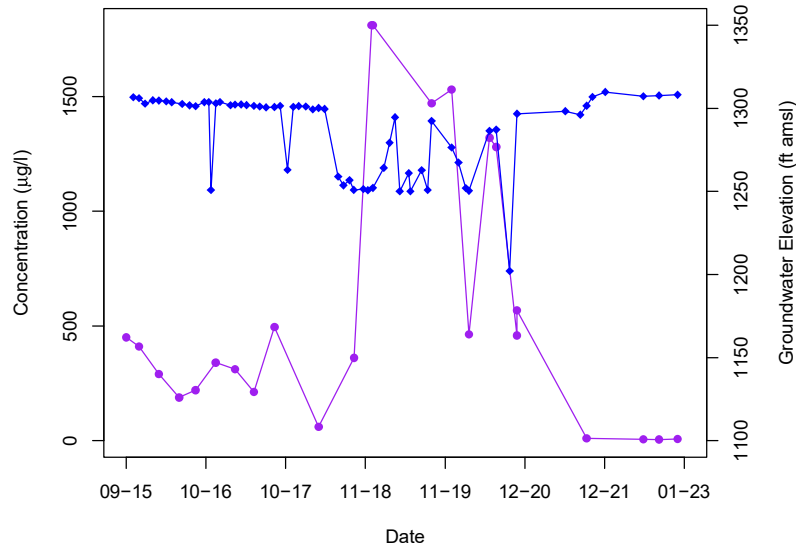
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-10



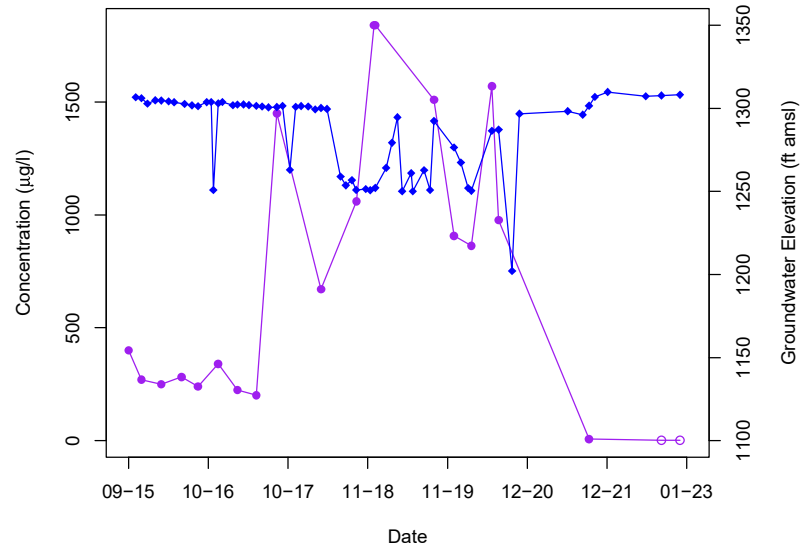
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-11



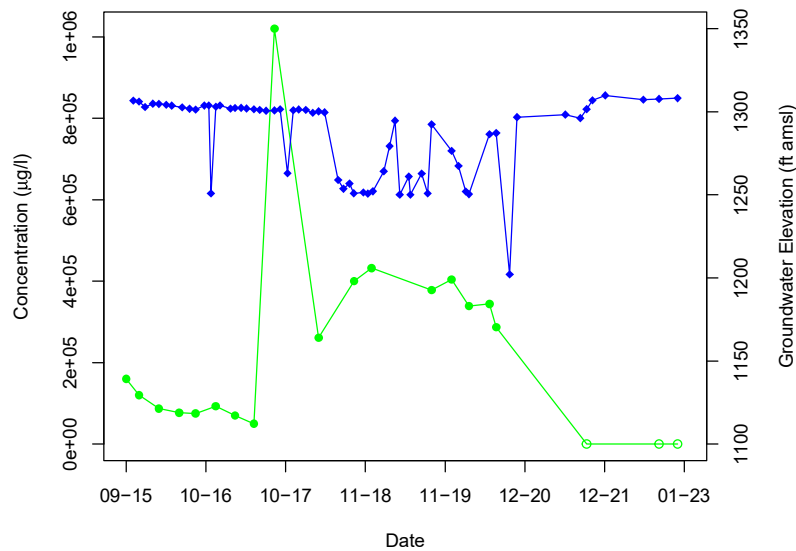
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-11



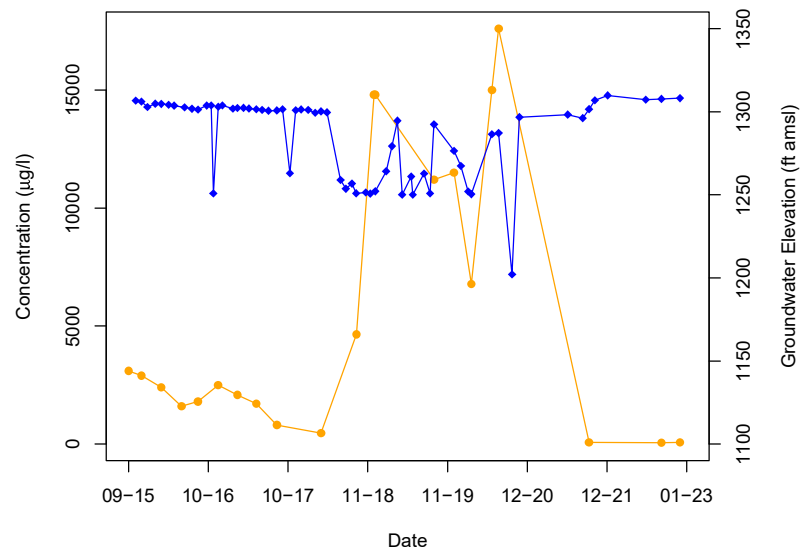
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-11



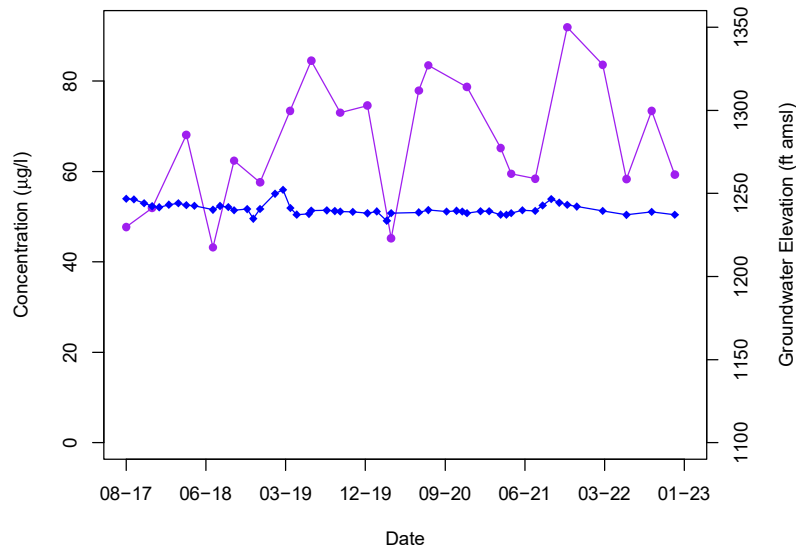
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-11



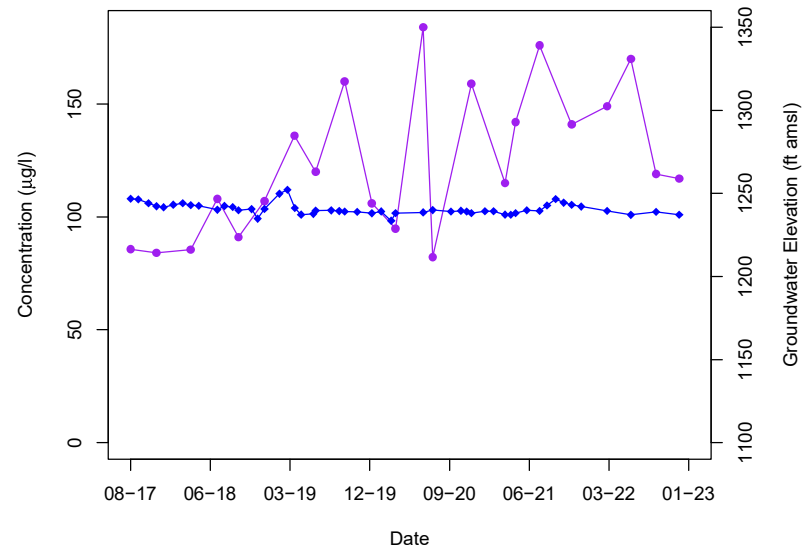
- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

TTU-12



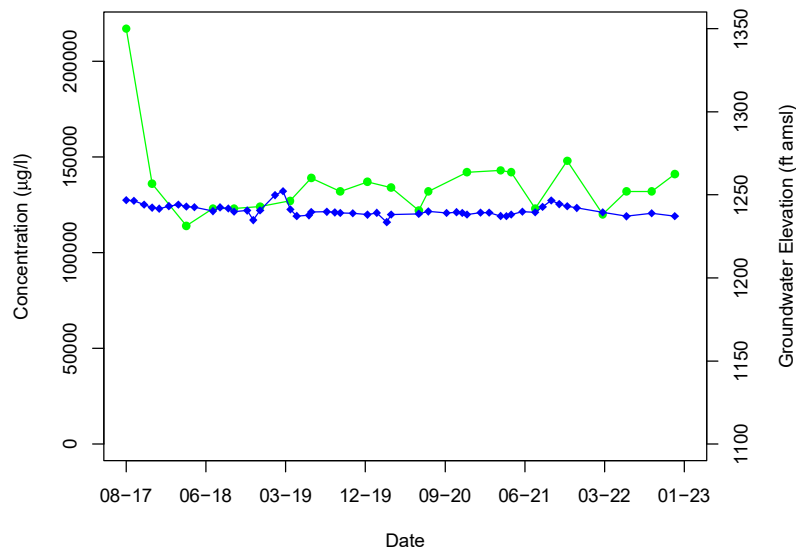
- Detect
- Non-Detect
- 1,1-Dichloroethene
- Groundwater Elevation

TTU-12



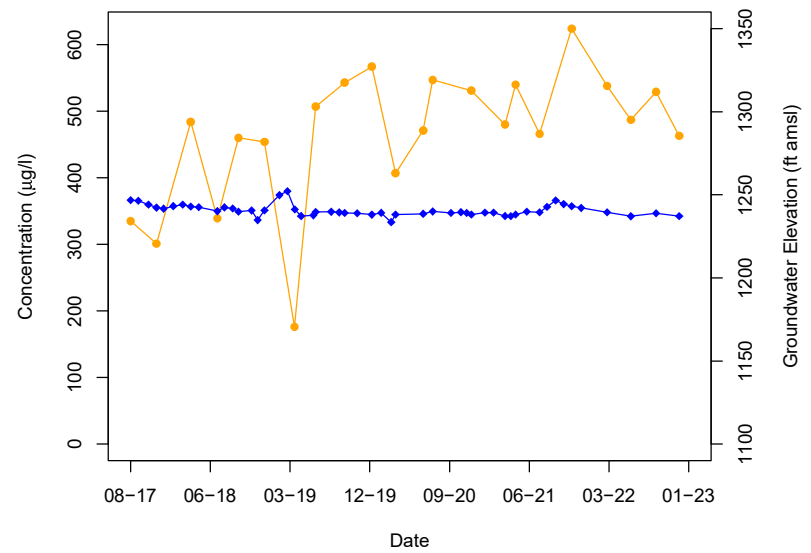
- Detect
- Non-Detect
- 1,4-Dioxane
- Groundwater Elevation

TTU-12



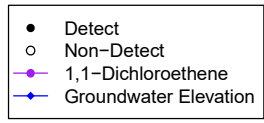
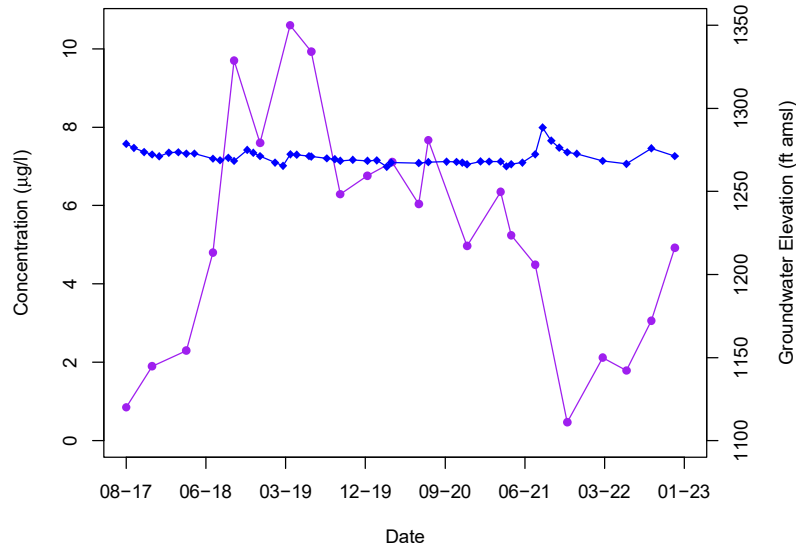
- Detect
- Non-Detect
- Perchlorate
- Groundwater Elevation

TTU-12

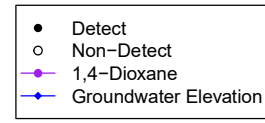
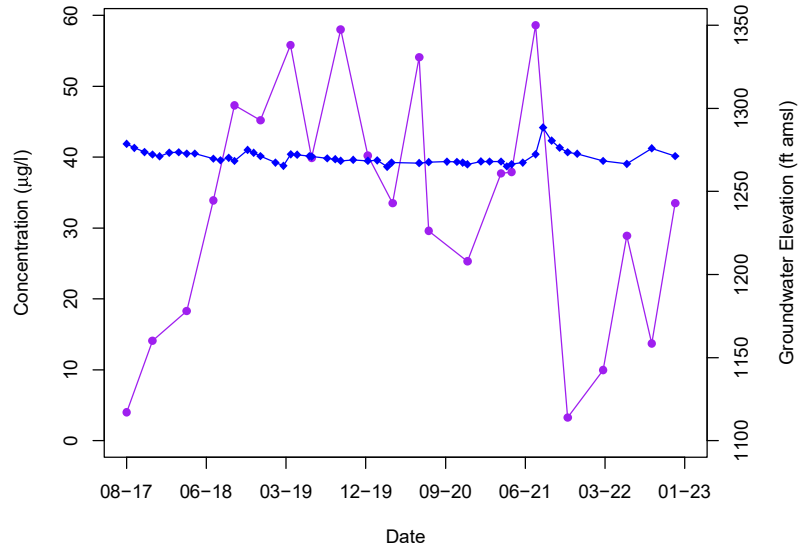


- Detect
- Non-Detect
- Trichloroethene
- Groundwater Elevation

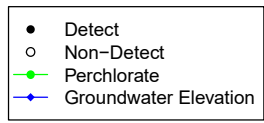
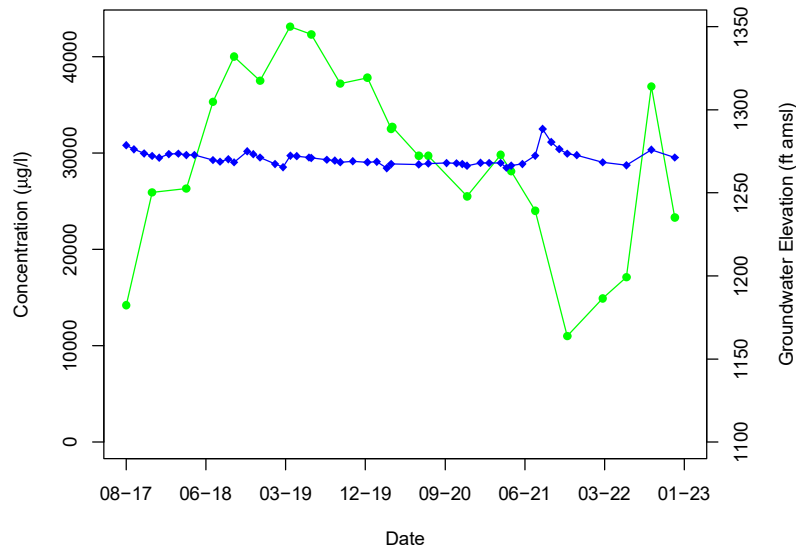
TTU-13



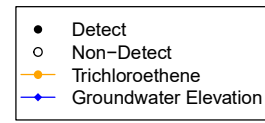
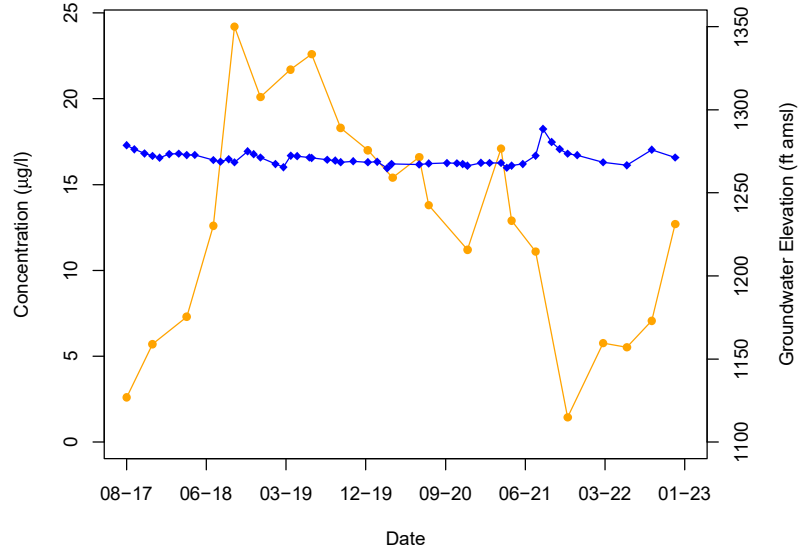
TTU-13



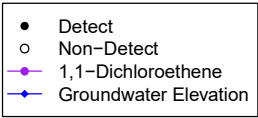
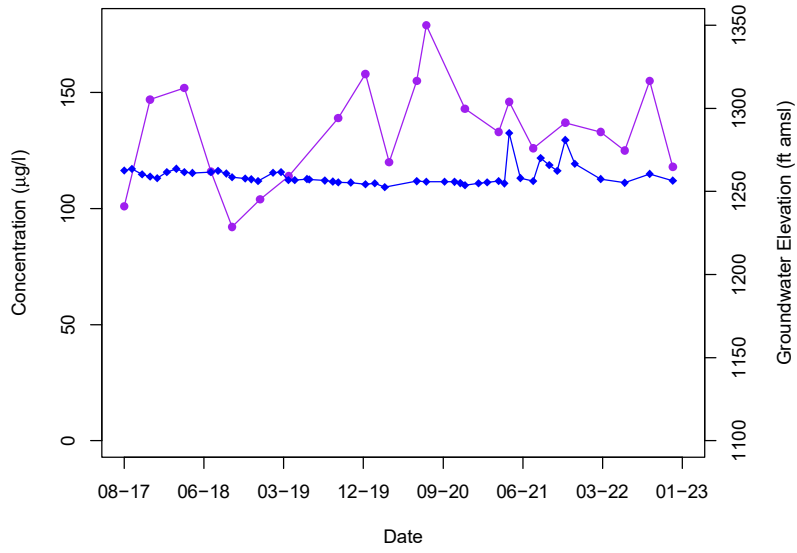
TTU-13



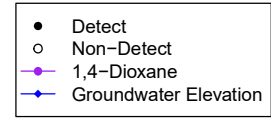
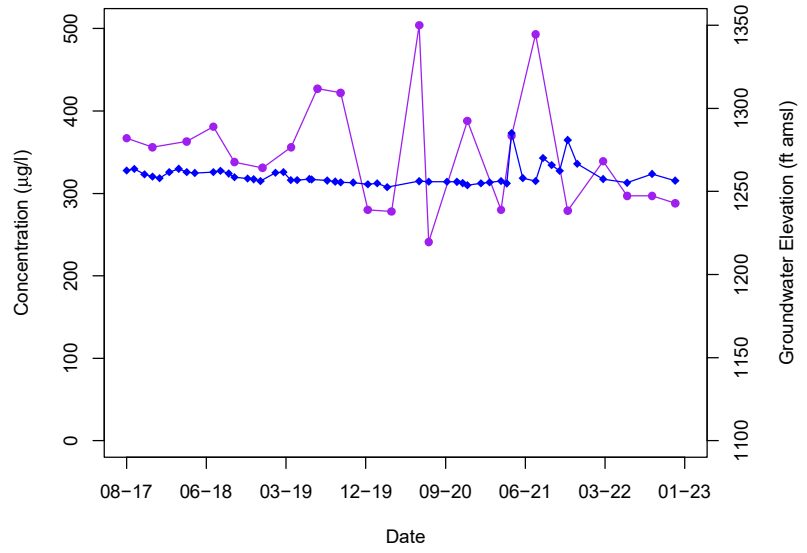
TTU-13



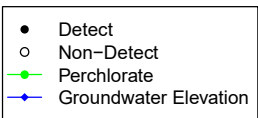
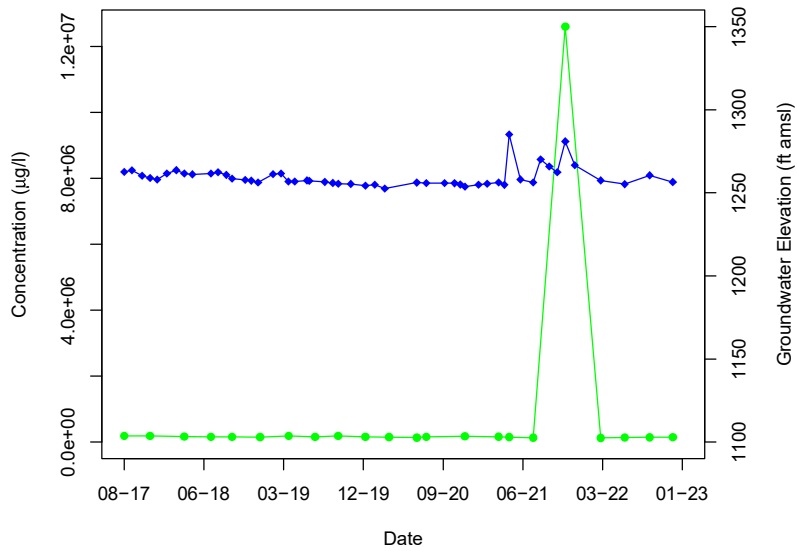
TTU-14



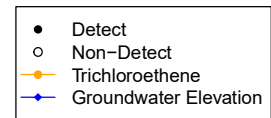
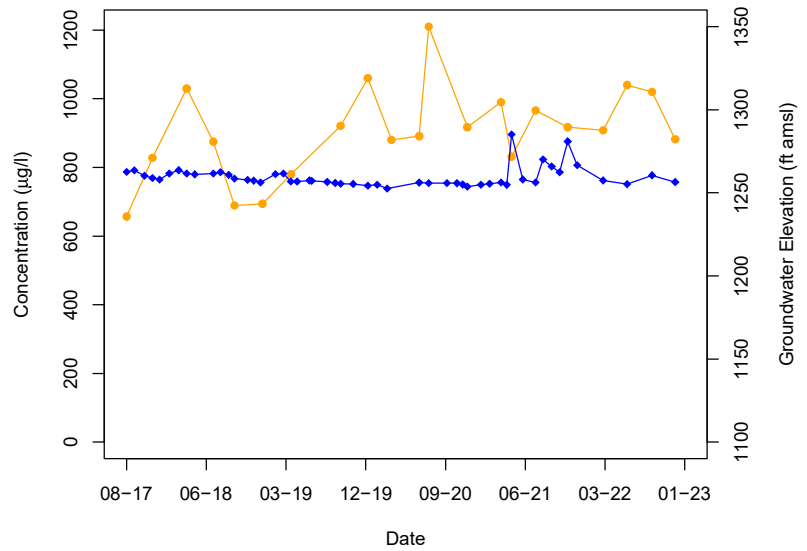
TTU-14



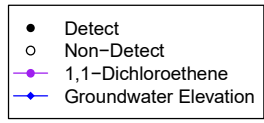
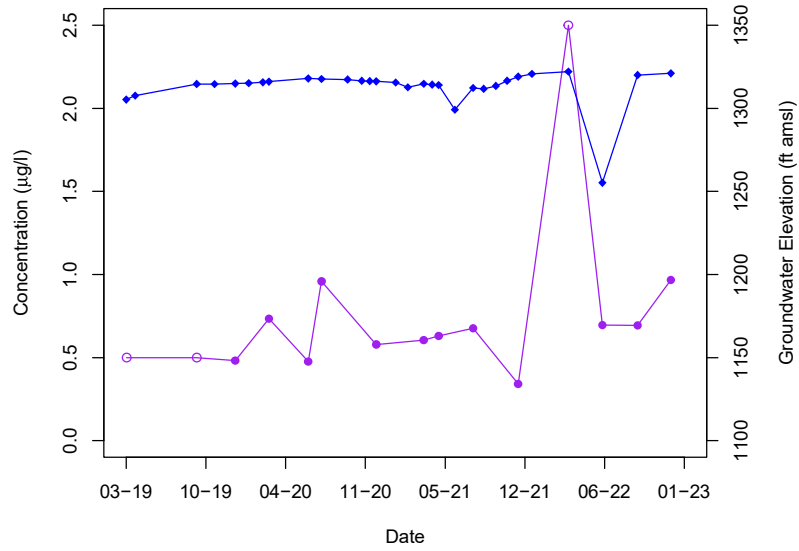
TTU-14



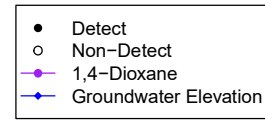
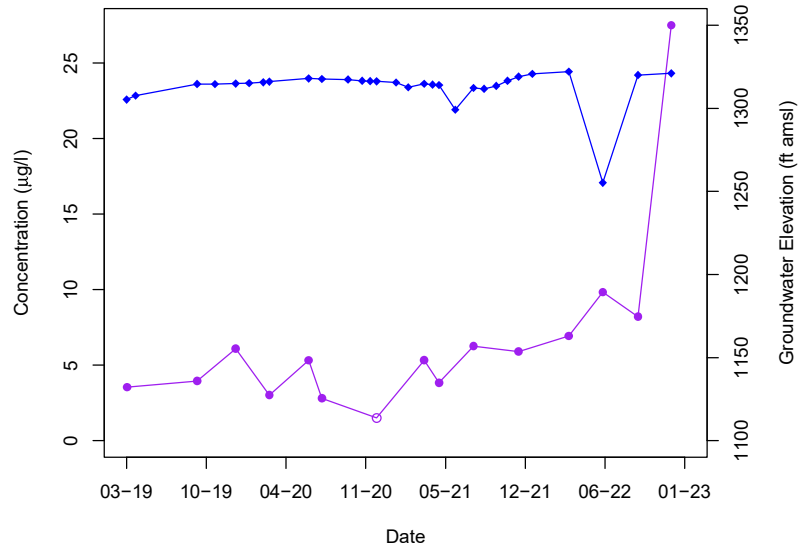
TTU-14



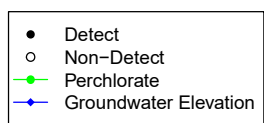
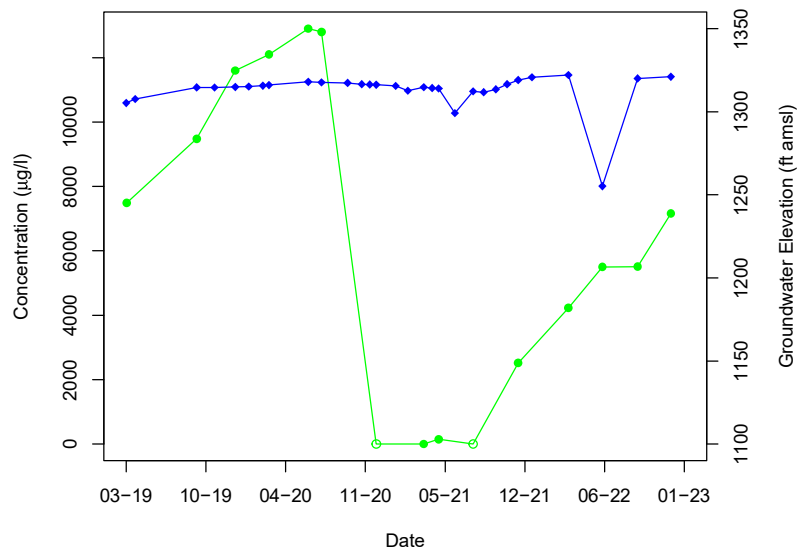
TTU-15



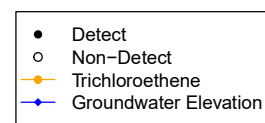
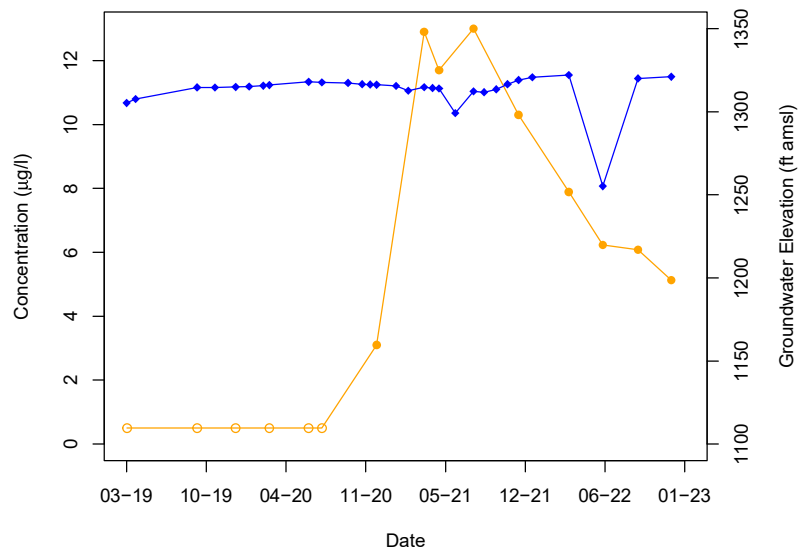
TTU-15



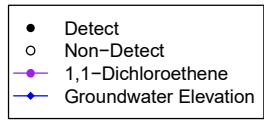
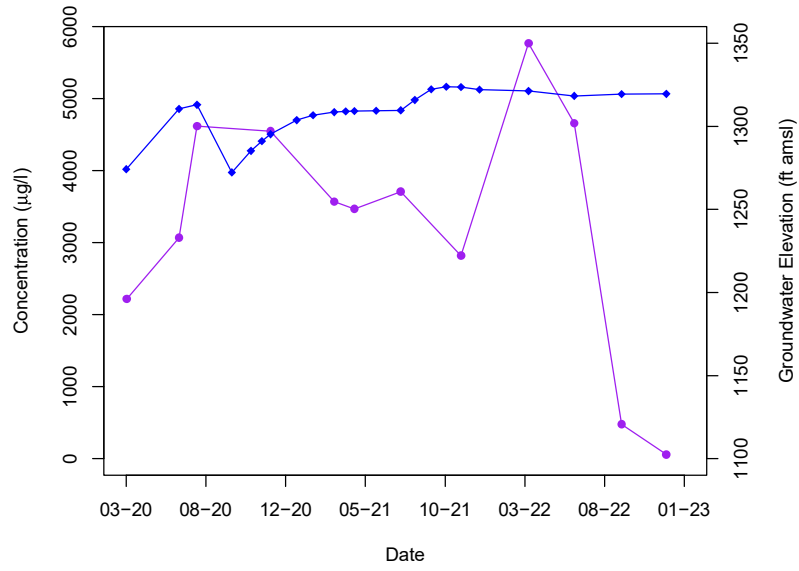
TTU-15



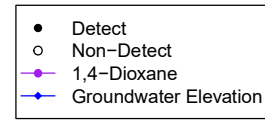
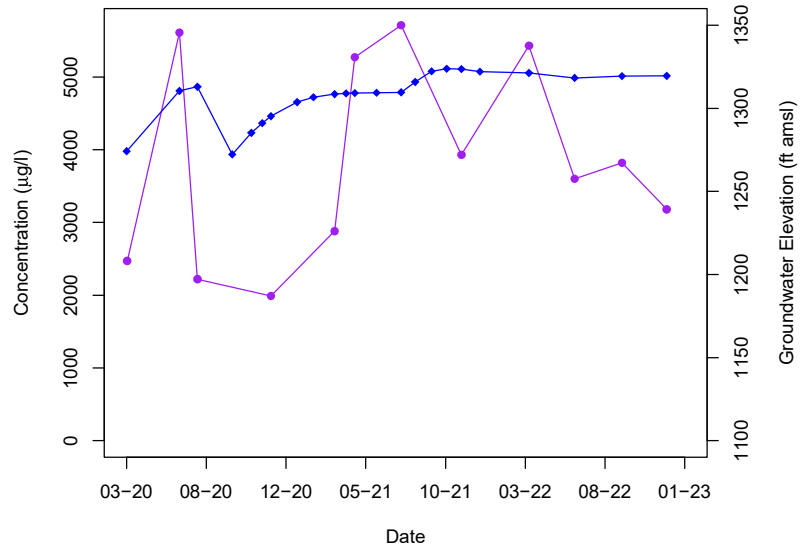
TTU-15



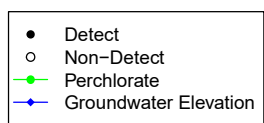
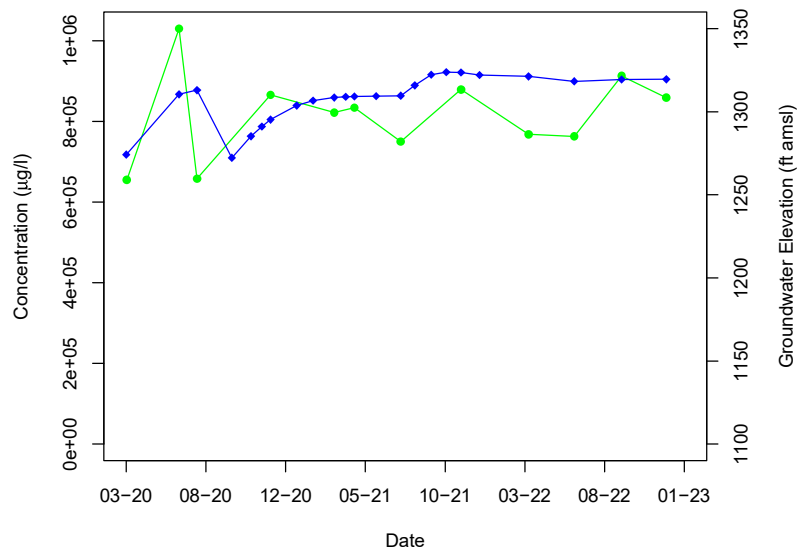
TTU-16



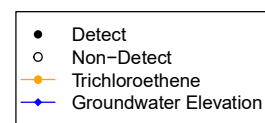
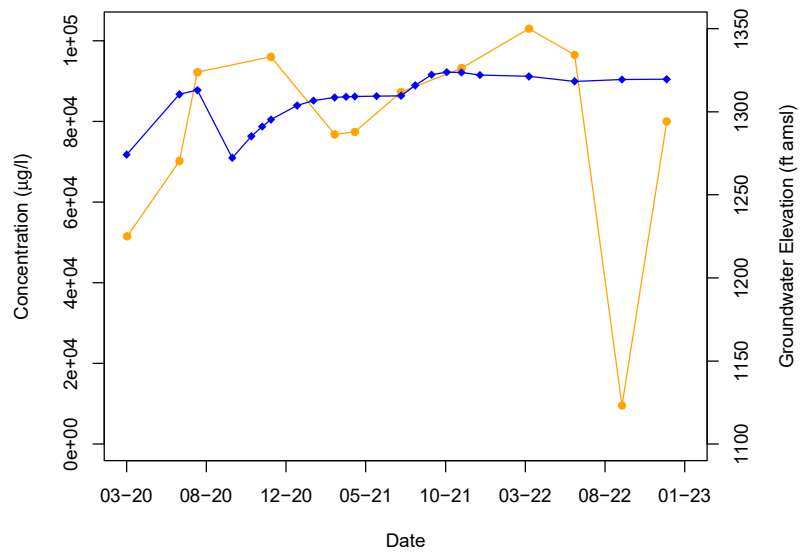
TTU-16



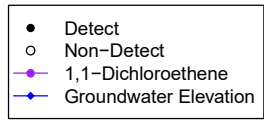
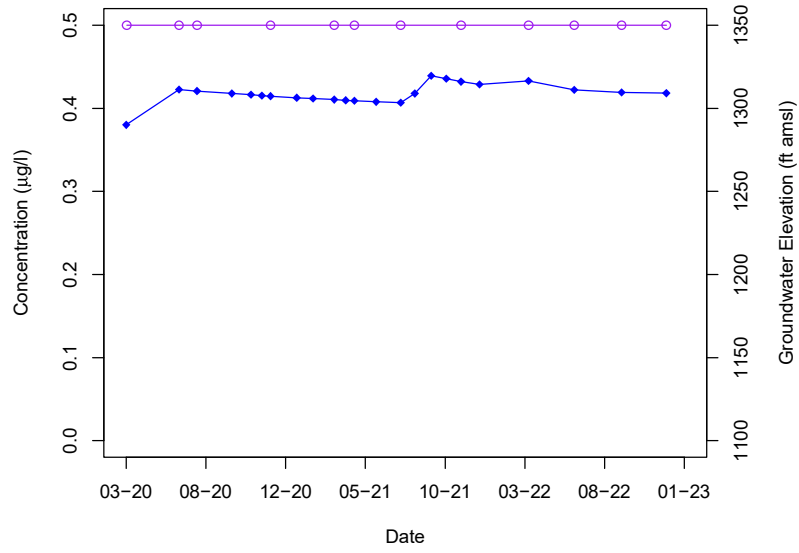
TTU-16



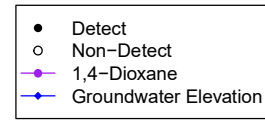
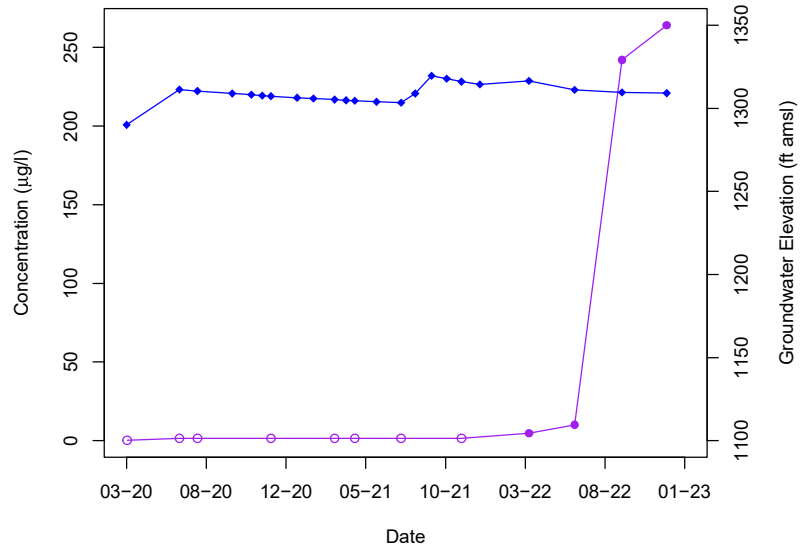
TTU-16



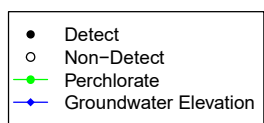
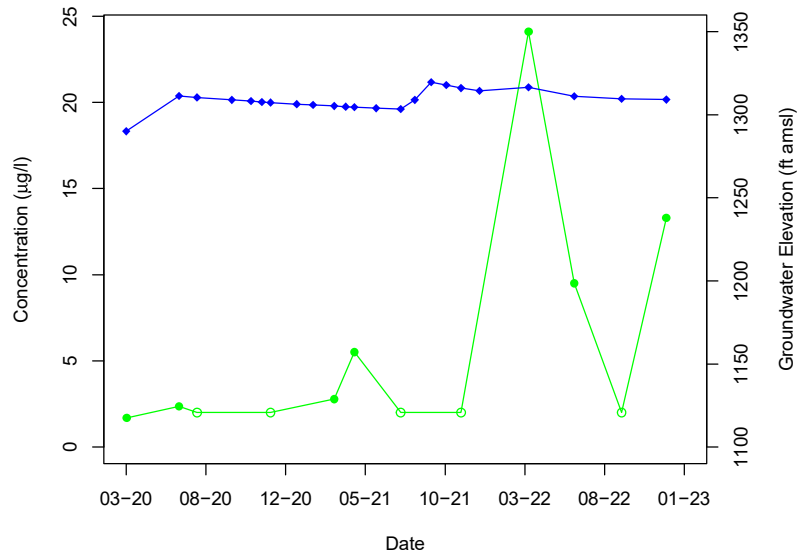
TTU-17



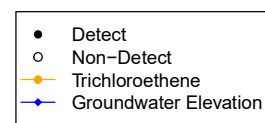
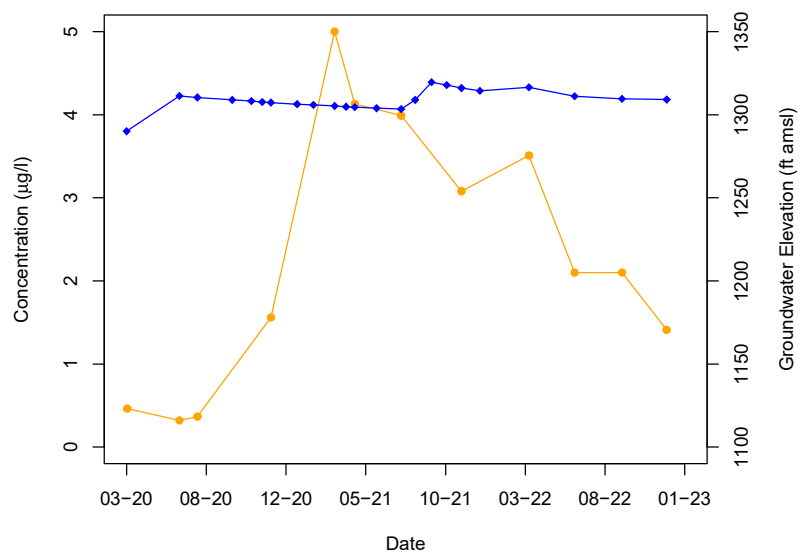
TTU-17



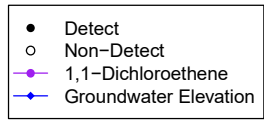
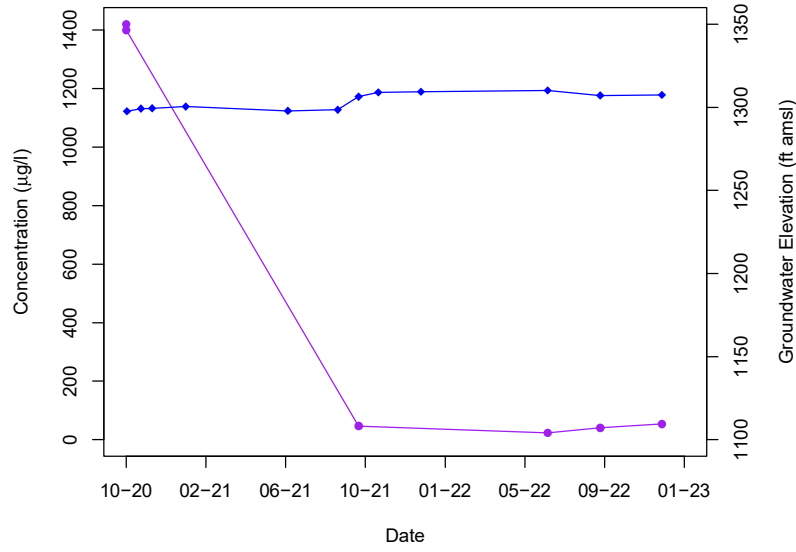
TTU-17



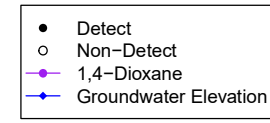
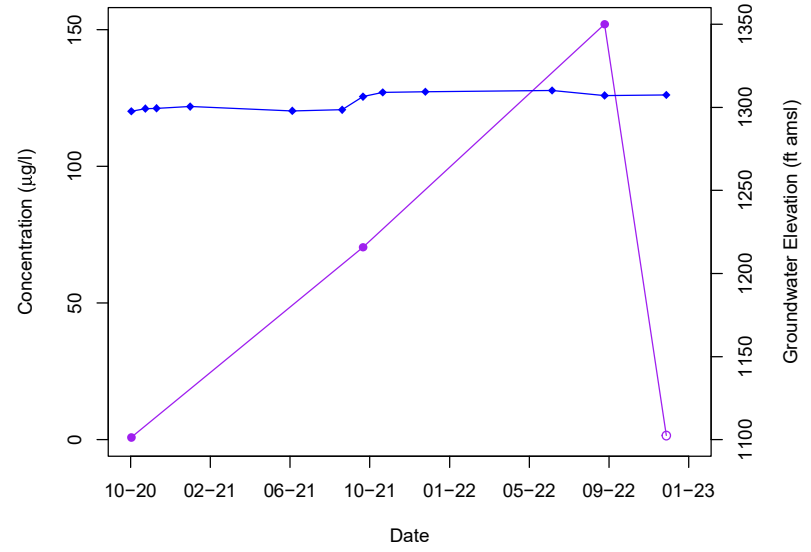
TTU-17



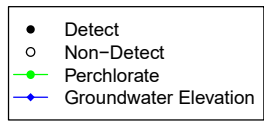
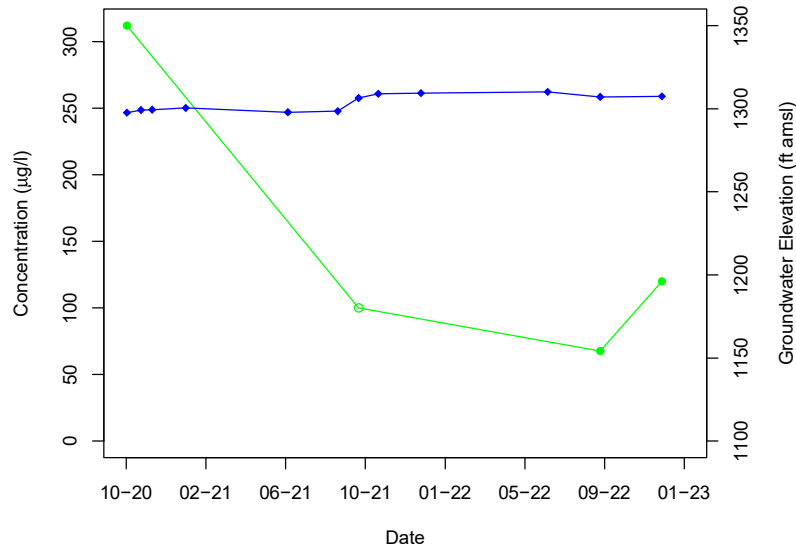
TTU-19



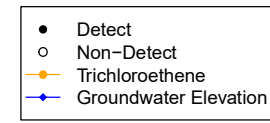
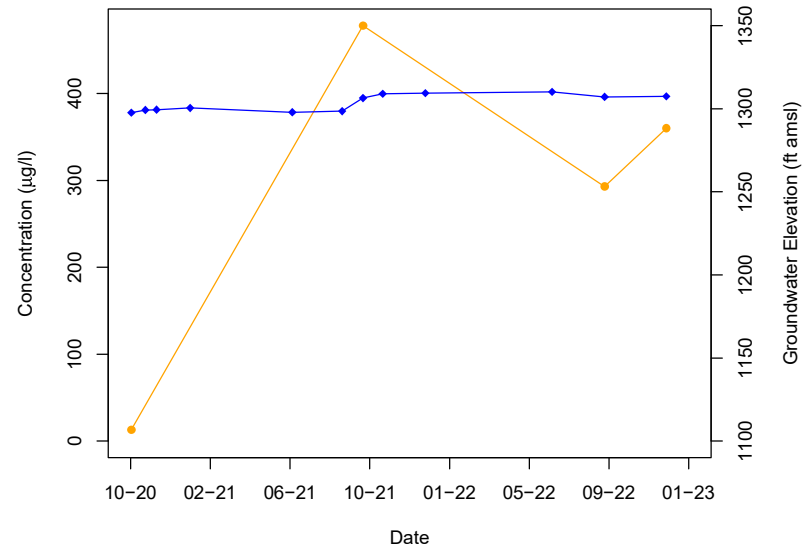
TTU-19

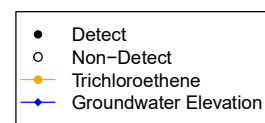
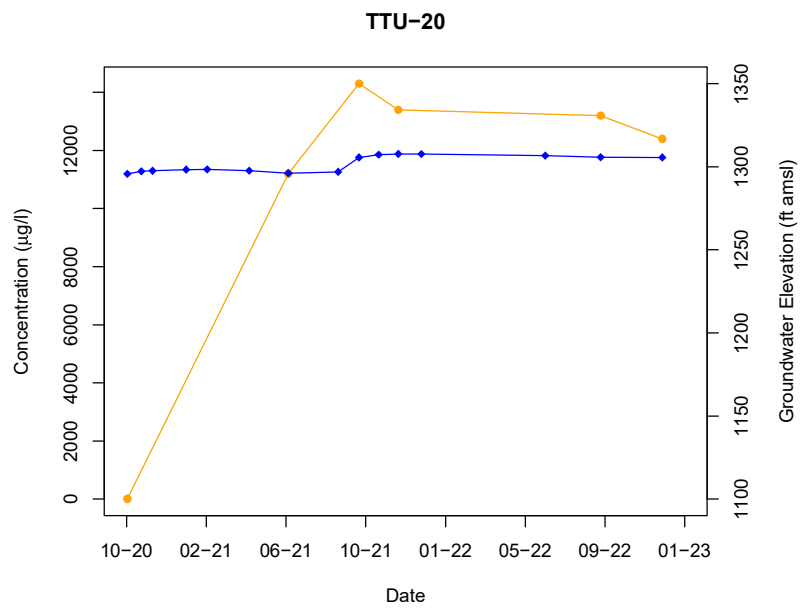
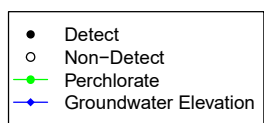
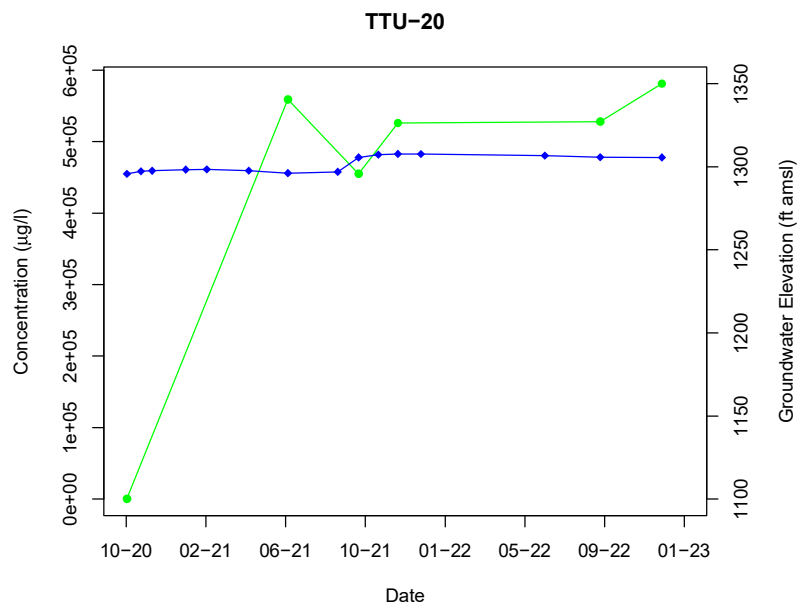
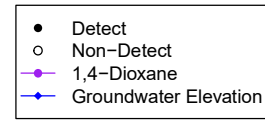
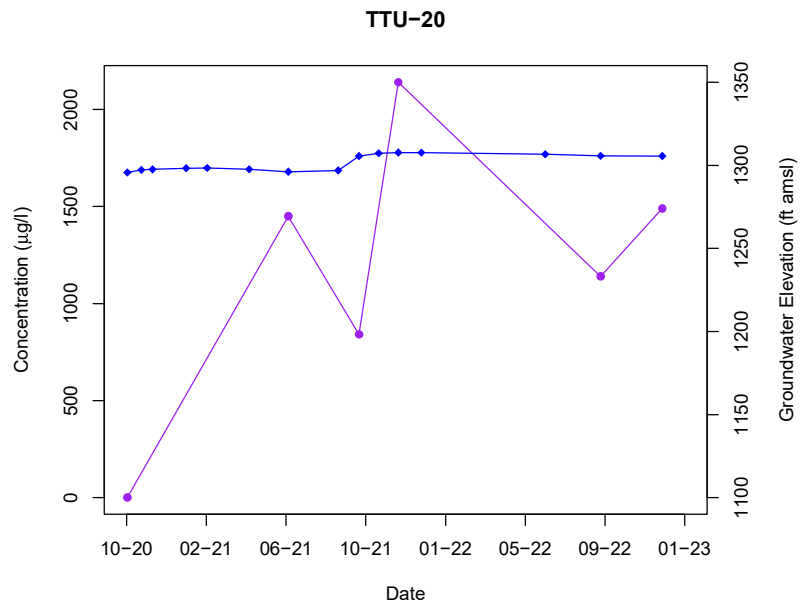
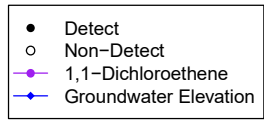
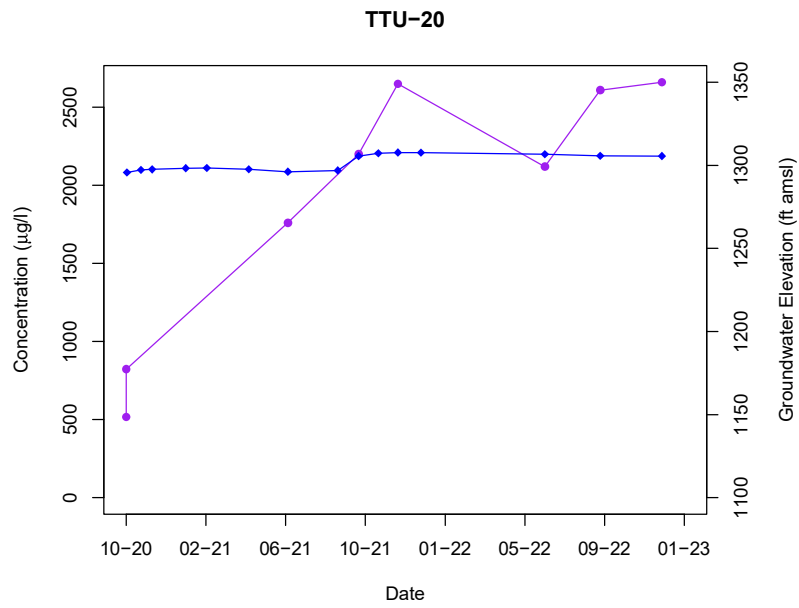


TTU-19

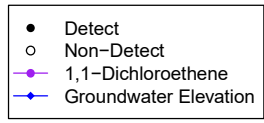
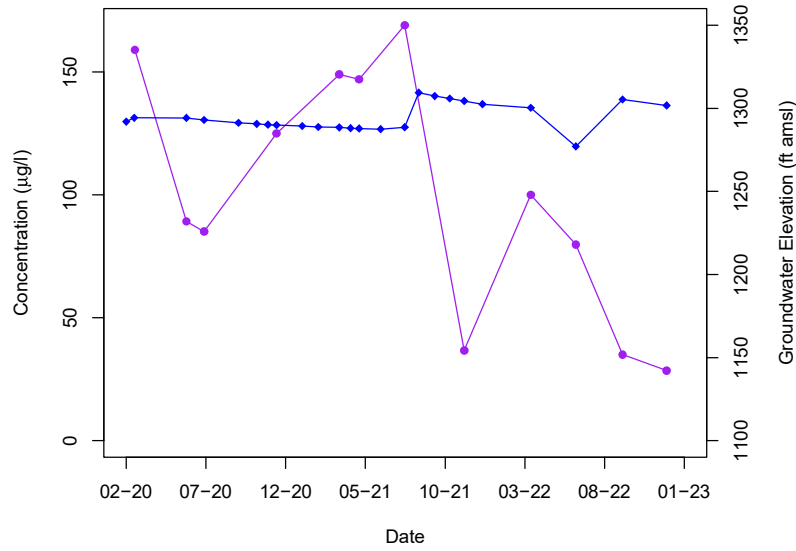


TTU-19

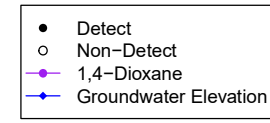
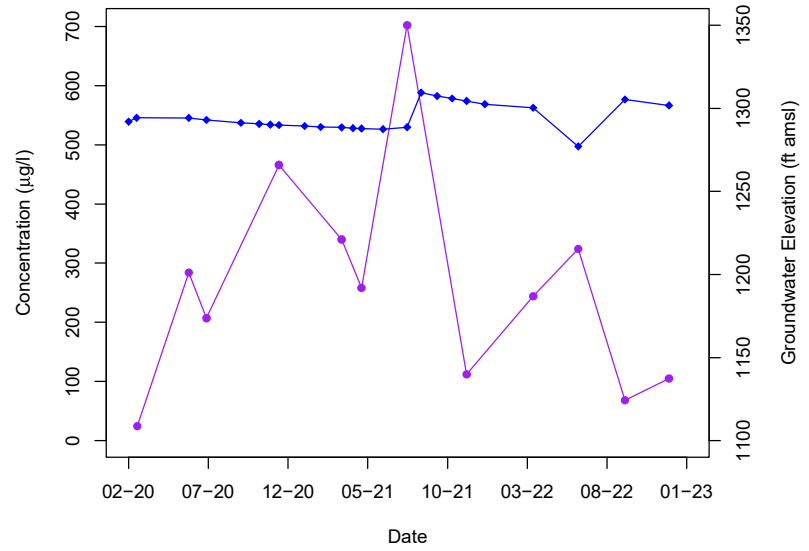




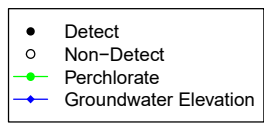
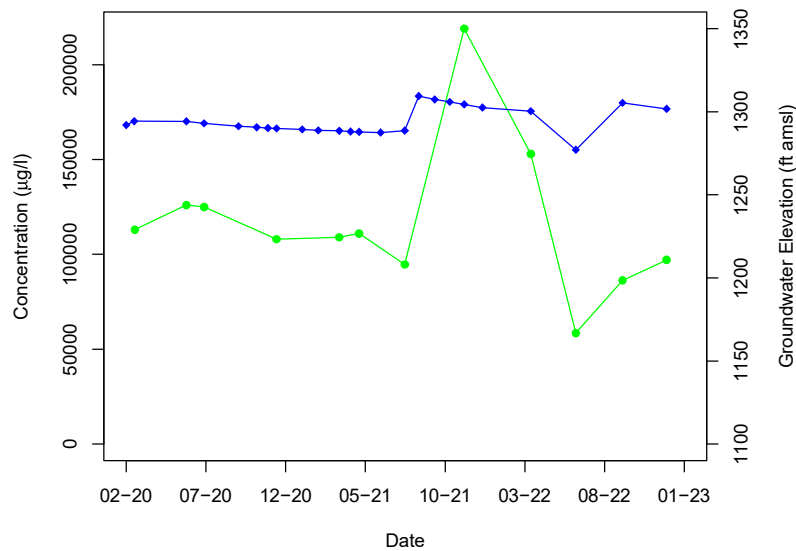
TTU-EX-1



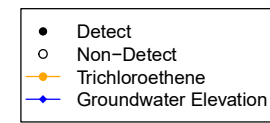
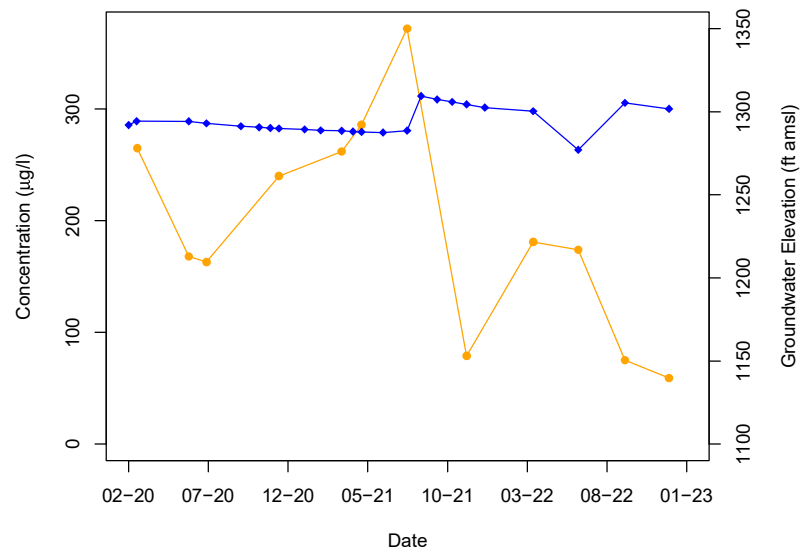
TTU-EX-1



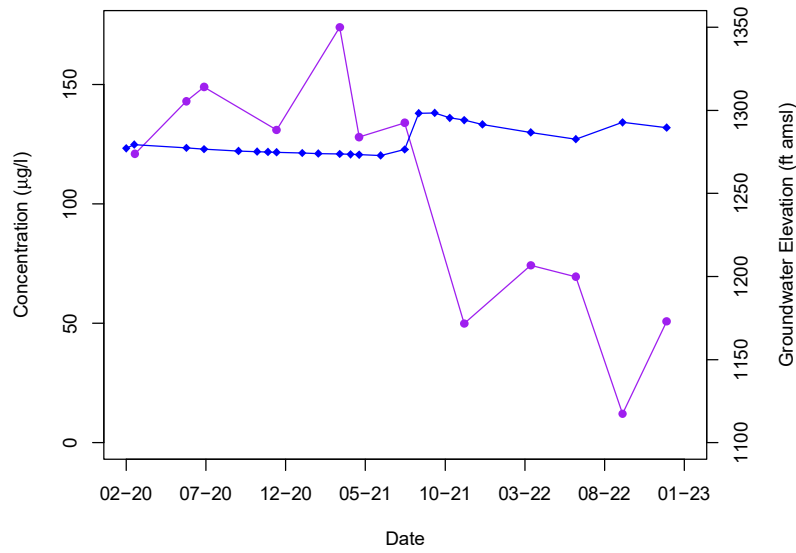
TTU-EX-1



TTU-EX-1

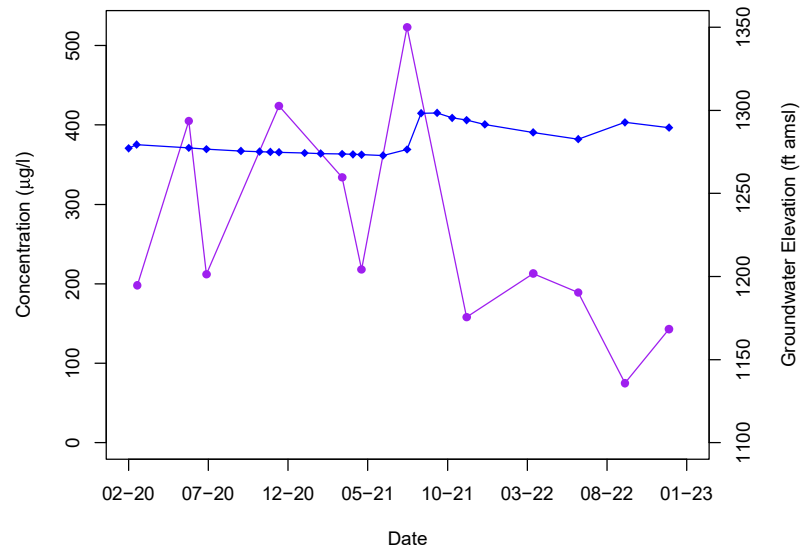


TTU-EX-2



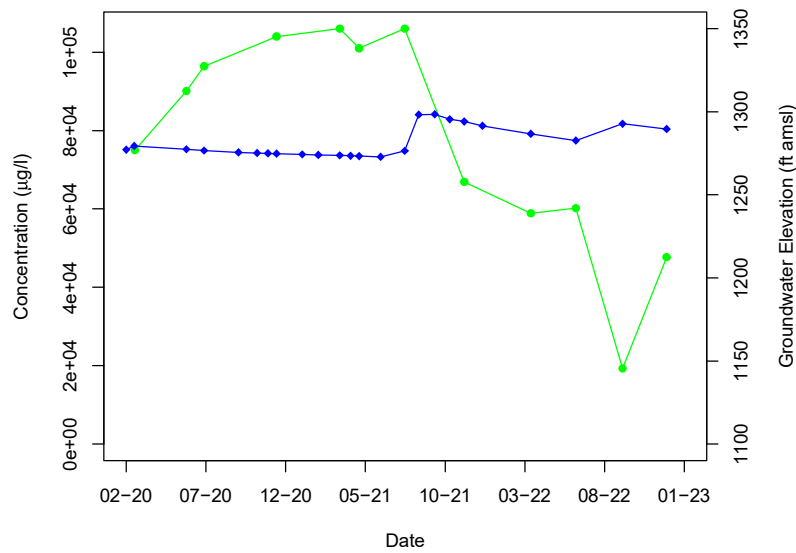
- Detect
- Non-Detect
- 1,1-Dichloroethene
- ◆ Groundwater Elevation

TTU-EX-2



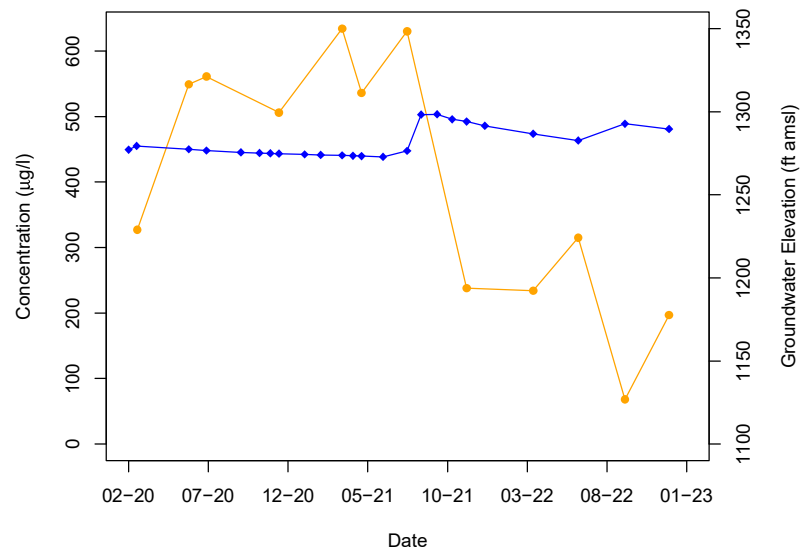
- Detect
- Non-Detect
- 1,4-Dioxane
- ◆ Groundwater Elevation

TTU-EX-2



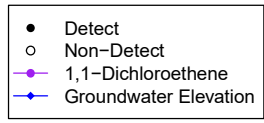
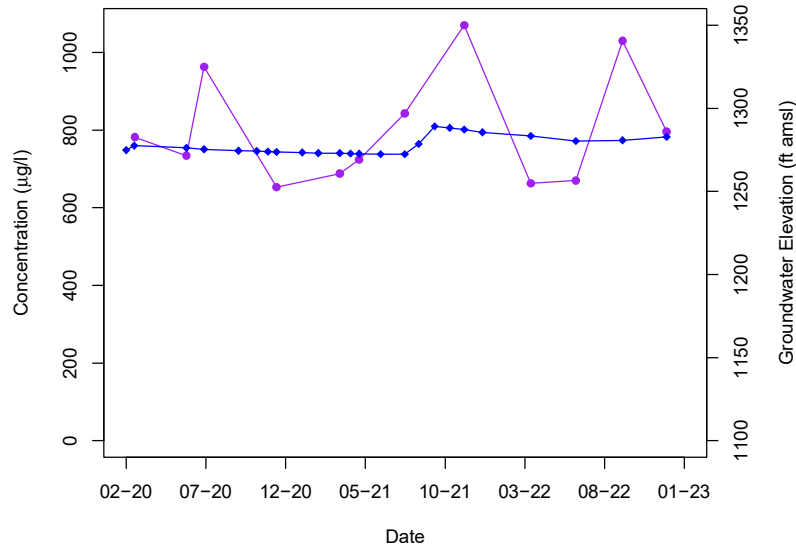
- Detect
- Non-Detect
- Perchlorate
- ◆ Groundwater Elevation

TTU-EX-2

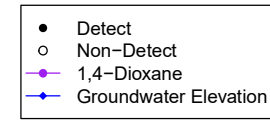
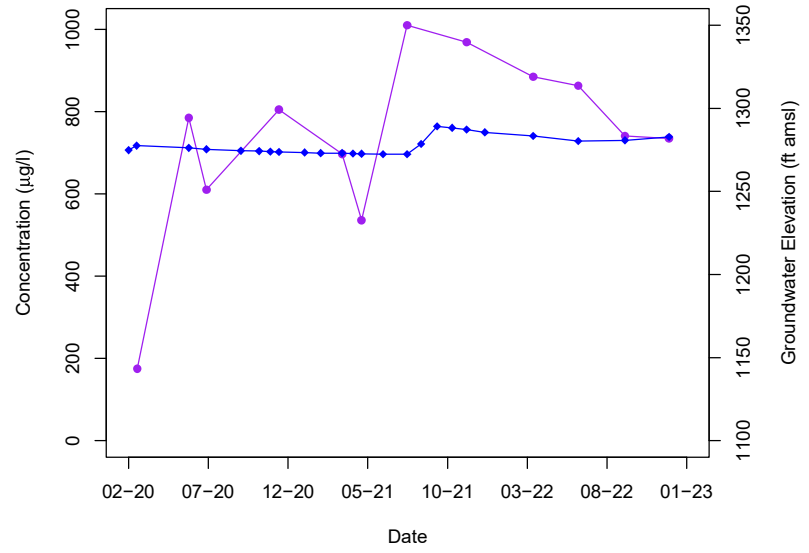


- Detect
- Non-Detect
- Trichloroethene
- ◆ Groundwater Elevation

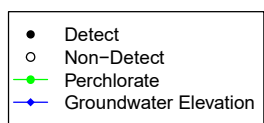
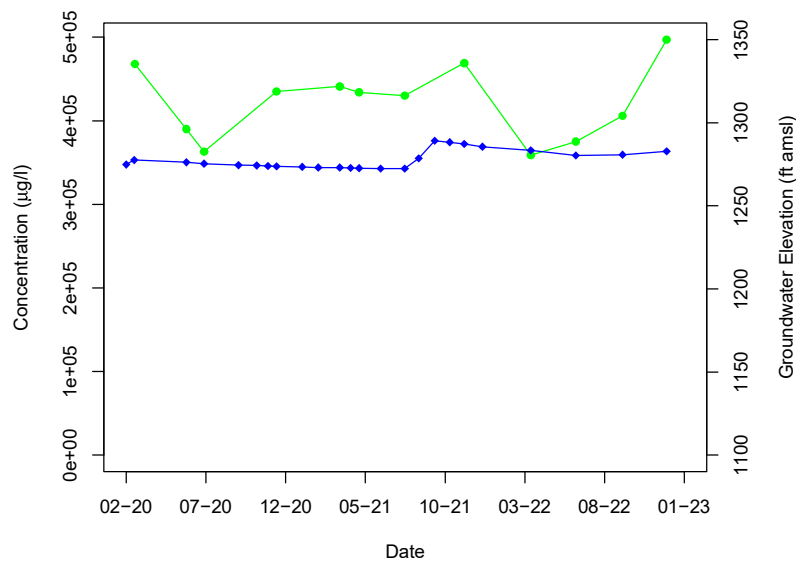
TTU-EX-3



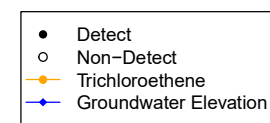
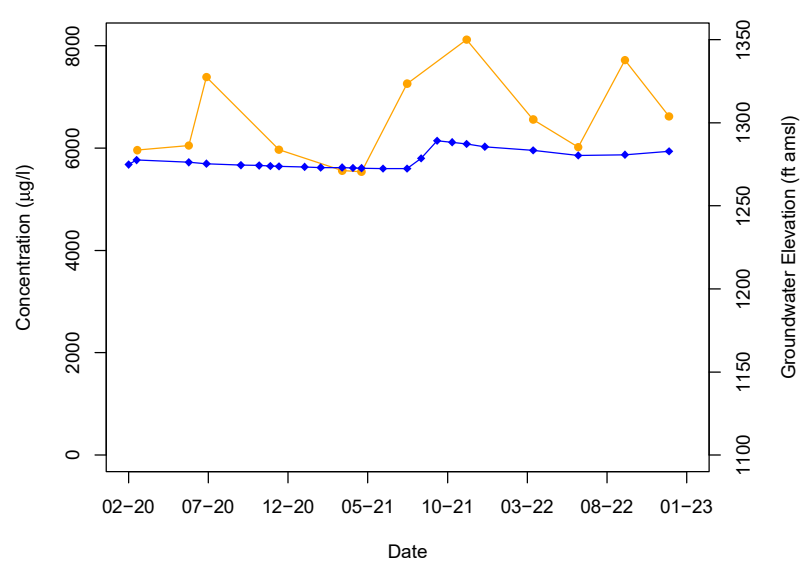
TTU-EX-3



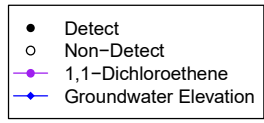
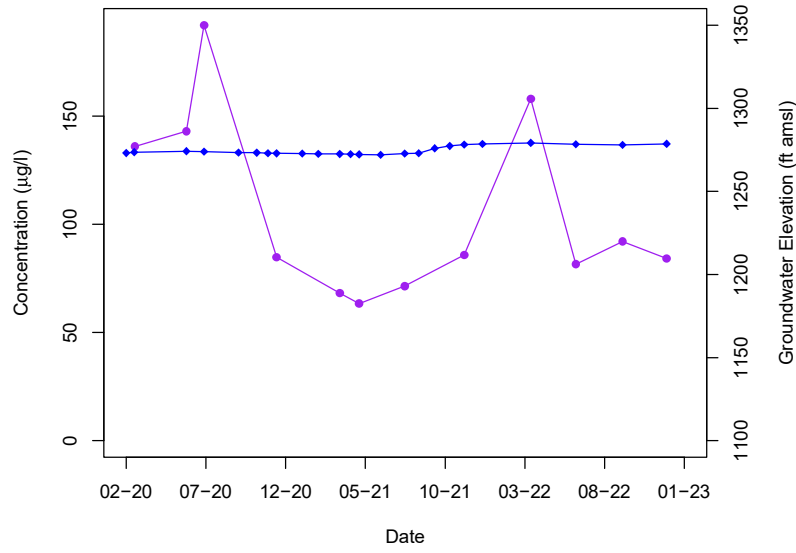
TTU-EX-3



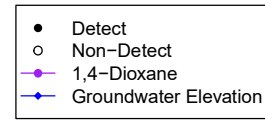
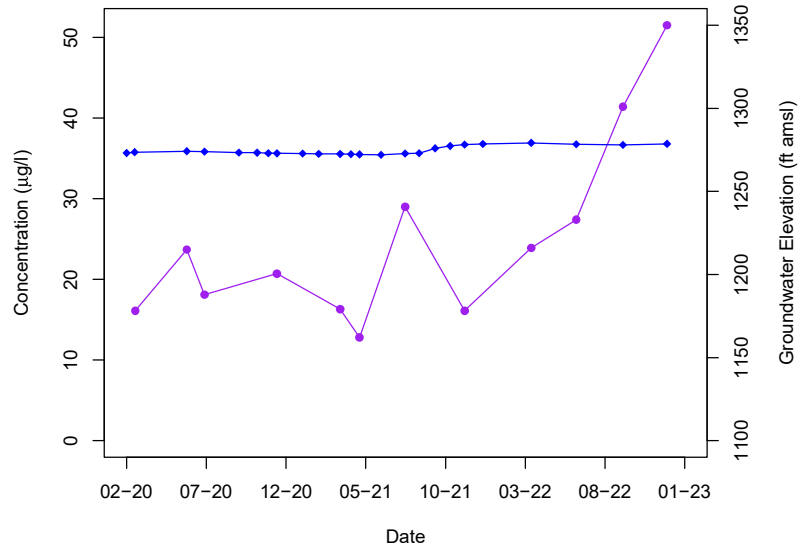
TTU-EX-3



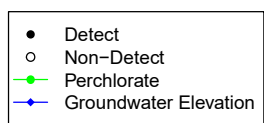
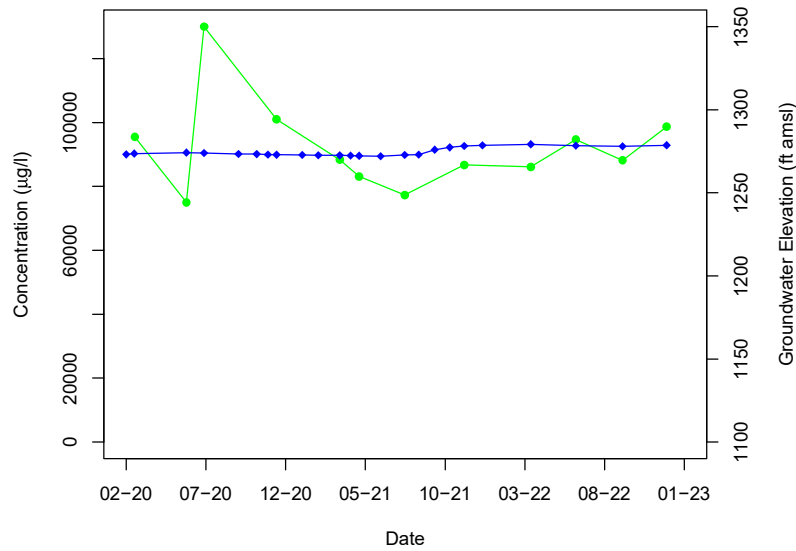
TTU-EX-4



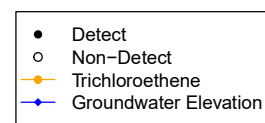
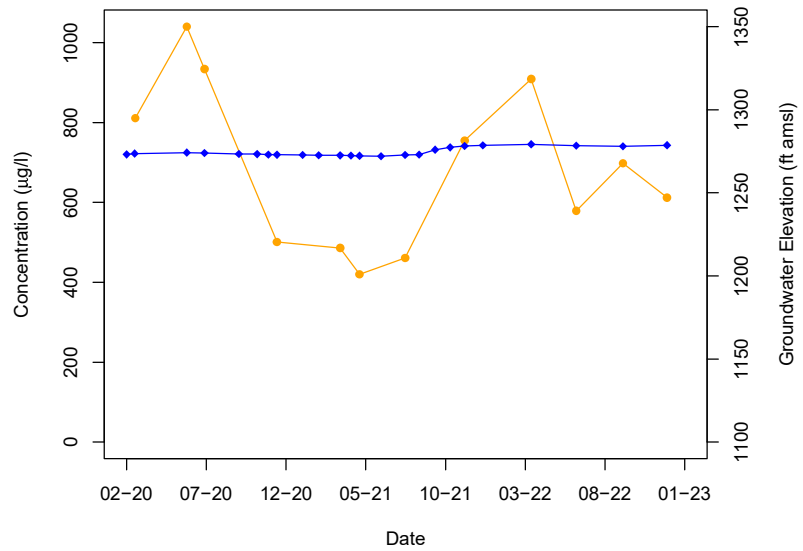
TTU-EX-4



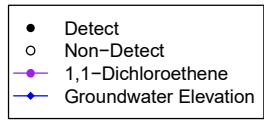
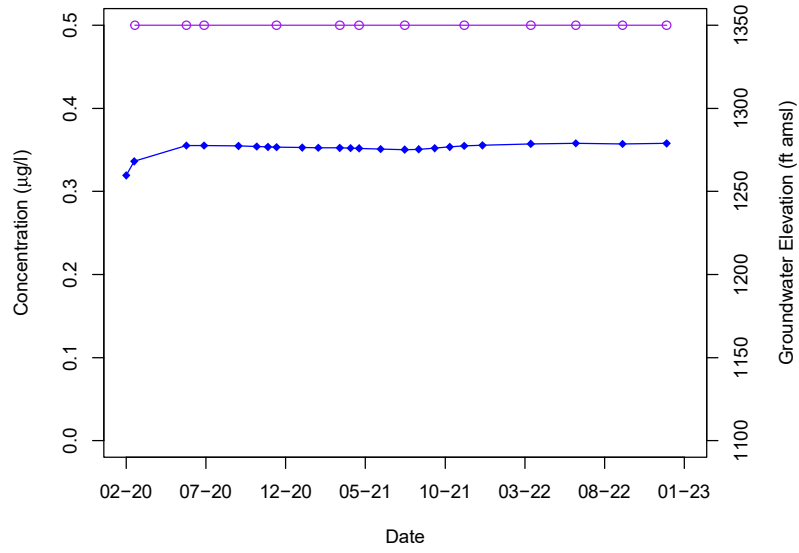
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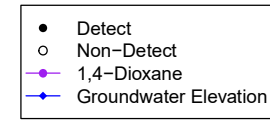
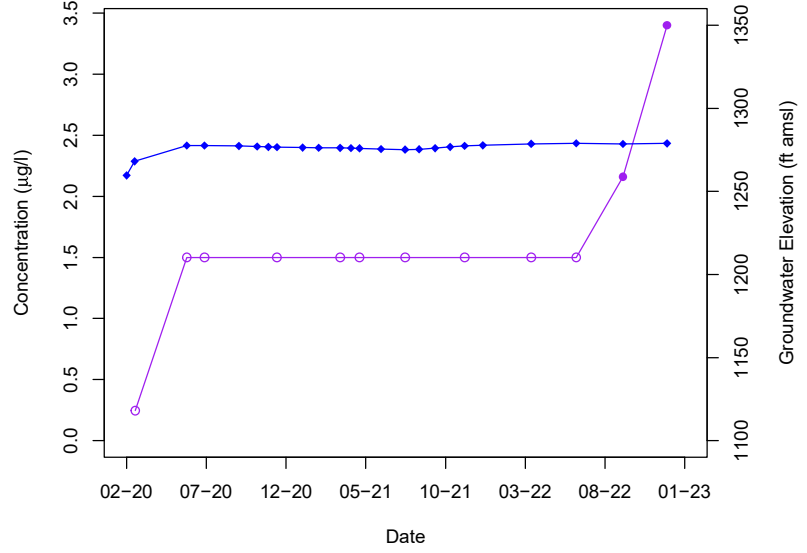
TTU-EX-4



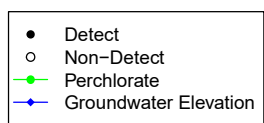
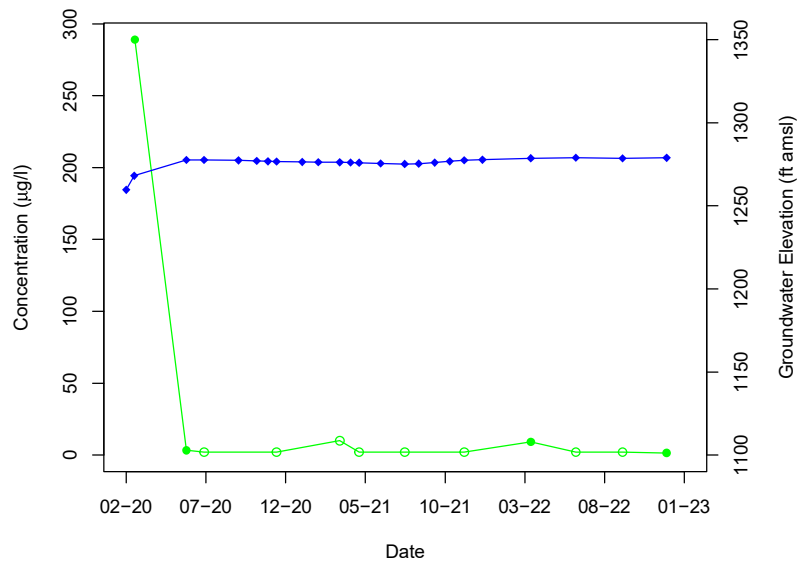
TTU-EX-5



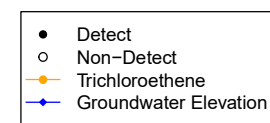
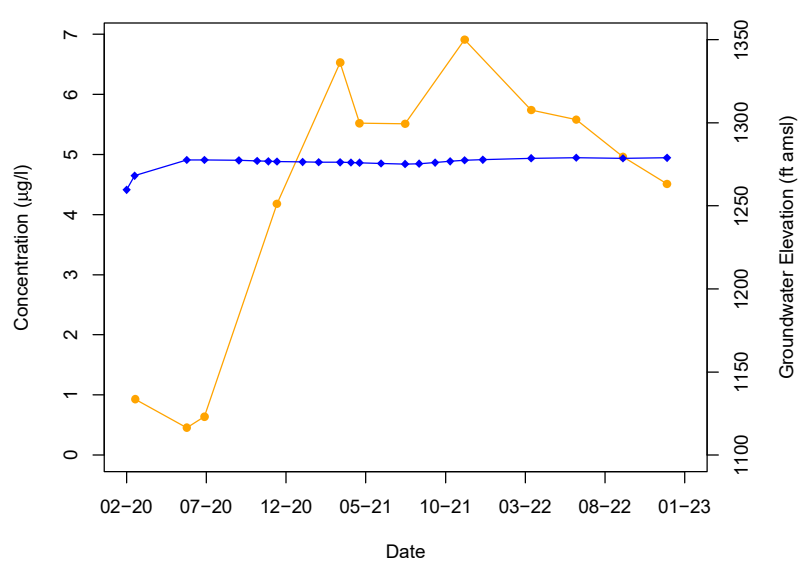
TTU-EX-5



TTU-EX-5



TTU-EX-5



Attachment 4 – Mann-Kendall Trend Analysis

TABLE ?? - Summary of Mann-Kendall Trends
Nammo Defense Systems Thermal Treatment Unit, Mesa Arizona

Well Name	Parameter	Full Period Trend ¹							3-Year Trend ²						
		Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV	Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV
PF-1	I,1-Dichloroethene	NA	NA	NA	5	NA	NA	NA	Well not recently sampled						
PF-2	I,1-Dichloroethene	NA	NA	NA	16	NA	NA	NA	NA	NA	NA	10	NA	NA	NA
TTU-1	I,1-Dichloroethene	Stable	0.0003	-3.9163	20	0	1.0000	0.8127	Stable	-0.0004	10.0	11	-7	0.6404	0.9001
TTU-10	I,1-Dichloroethene	NA	NA	NA	18	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-11	I,1-Dichloroethene	No Trend	0.0160	305.6534	23	-18	0.6533	1.0234	Decreasing	-1.0678	20,504.0	9	-24	0.0165	1.1581
TTU-12	I,1-Dichloroethene	No Trend	0.0064	-49.3952	21	37	0.2768	0.1963	Stable	0.0014	44.1	12	-4	0.8370	0.1999
TTU-13	I,1-Dichloroethene	Probably Decreasing	-0.0019	41.2780	21	-64	0.0571	0.5205	Decreasing	-0.0048	94.7	12	-36	0.0164	0.4944
TTU-14	I,1-Dichloroethene	No Trend	0.0057	30.3836	20	8	0.8202	0.1544	Stable	-0.0186	489.7	12	-18	0.2415	0.1267
TTU-15	I,1-Dichloroethene	No Trend	0.0001	-1.8841	14	20	0.1926	0.2804	No Trend	0.0001	-0.9	12	13	0.3502	0.2745
TTU-16	I,1-Dichloroethene	Stable	-2.6693	53,705.6060	11	-13	0.3502	0.5204	Stable	-2.6693	53,705.6	11	-13	0.3502	0.5204
TTU-17	I,1-Dichloroethene	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	11	NA	NA	NA
TTU-19	I,1-Dichloroethene	No Trend	-1.6673	32,050.7186	5	-2	0.8065	1.9449	No Trend	-1.6673	32,050.7	5	-2	0.8065	1.9449
TTU-2	I,1-Dichloroethene	Increasing	0.0317	-494.7967	31	213	0.0003	0.6247	Stable	-0.0337	741.6	11	-9	0.5334	0.3605
TTU-20	I,1-Dichloroethene	Increasing	2.0608	-37,013.3425	7	15	0.0355	0.3127	Increasing	2.0608	-37,013.3	7	15	0.0355	0.3127
TTU-3	I,1-Dichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-4	I,1-Dichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	13	NA	NA	NA
TTU-5	I,1-Dichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	13	NA	NA	NA
TTU-6	I,1-Dichloroethene	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-7	I,1-Dichloroethene	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-8	I,1-Dichloroethene	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-9A	I,1-Dichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	13	NA	NA	NA
TTU-EX-1	I,1-Dichloroethene	Stable	-0.0835	1,669.8373	11	-21	0.1195	0.5139	Stable	-0.0835	1,669.8	11	-21	0.1195	0.5139
TTU-EX-2	I,1-Dichloroethene	Decreasing	-0.1437	2,813.1625	11	-35	0.0081	0.5109	Decreasing	-0.1437	2,813.2	11	-35	0.0081	0.5109
TTU-EX-3	I,1-Dichloroethene	No Trend	0.0716	-547.0825	11	7	0.6404	0.1905	No Trend	0.0716	-547.1	11	7	0.6404	0.1905
TTU-EX-4	I,1-Dichloroethene	Stable	-0.0494	1,034.7649	11	-3	0.8763	0.4136	Stable	-0.0494	1,034.8	11	-3	0.8763	0.4136
TTU-EX-5	I,1-Dichloroethene	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	11	NA	NA	NA
PF-1	I,4-Dioxane	NA	NA	NA	5	NA	NA	NA	Well not recently sampled						
PF-2	I,4-Dioxane	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	10	NA	NA	NA
TTU-1	I,4-Dioxane	No Trend	0.0015	-8.1474	28	20	0.6917	0.4905	No Trend	0.0052	-77.9	11	5	0.7205	0.5305
TTU-10	I,4-Dioxane	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-11	I,4-Dioxane	No Trend	0.4151	-6,534.8387	21	44	0.1322	0.7759	Stable	-2.1008	39,782.7	6	-2	0.7341	0.7542
TTU-12	I,4-Dioxane	Increasing	0.0302	-430.4880	22	89	0.0131	0.2582	No Trend	0.0136	-117.9	12	2	0.9453	0.2351
TTU-13	I,4-Dioxane	Stable	-0.0021	71.2952	22	-18	0.6315	0.5160	Stable	-0.0206	417.9	12	-13	0.4095	0.5367
TTU-14	I,4-Dioxane	Stable	-0.0280	863.7685	22	-44	0.2248	0.1984	Stable	-0.0572	1,415.0	12	-3	0.8907	0.2537

TABLE ?? - Summary of Mann-Kendall Trends
Nammo Defense Systems Thermal Treatment Unit, Mesa Arizona

Well Name	Parameter	Full Period Trend ¹							3-Year Trend ²						
		Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV	Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV
TTU-15	1,4-Dioxane	Increasing	0.0090	-162.0061	15	57	0.0022	0.8836	Increasing	0.0138	-252.7	12	43	0.0011	0.8924
TTU-16	1,4-Dioxane	No Trend	0.8195	-11,582.5507	12	8	0.6312	0.3557	No Trend	0.8195	-11,582.6	12	8	0.6312	0.3557
TTU-17	1,4-Dioxane	Probably Increasing	1.1979	-22,869.1327	12	6	0.0894	1.0912	Probably Increasing	1.1979	-22,869.1	12	6	0.0894	1.0912
TTU-19	1,4-Dioxane	NA	0.2238	-4,154.6604	4	NA	NA	NA	NA	0.2238	-4,154.7	4	NA	NA	NA
TTU-2	1,4-Dioxane	Increasing	0.0493	-650.5632	30	180	0.0014	0.2852	Stable	0.0089	100.4	11	-1	1.0000	0.2204
TTU-20	1,4-Dioxane	No Trend	1.3378	-24,188.1875	6	7	0.2597	0.6124	No Trend	1.3378	-24,188.2	6	7	0.2597	0.6124
TTU-3	1,4-Dioxane	NA	NA	NA	21	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-4	1,4-Dioxane	NA	-0.0104	205.4243	21	NA	NA	NA	NA	-0.0104	205.4	13	NA	NA	NA
TTU-5	1,4-Dioxane	NA	0.0576	-1,038.0644	21	NA	NA	NA	NA	-0.6420	12,428.4	13	NA	NA	NA
TTU-6	1,4-Dioxane	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-7	1,4-Dioxane	NA	NA	NA	21	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-8	1,4-Dioxane	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-9A	1,4-Dioxane	NA	-0.0010	24.0706	21	NA	NA	NA	NA	-0.0086	169.6	13	NA	NA	NA
TTU-EX-1	1,4-Dioxane	Stable	-0.0691	1,560.9524	12	-8	0.6312	0.7209	Stable	-0.0691	1,561.0	12	-8	0.6312	0.7209
TTU-EX-2	1,4-Dioxane	Probably Decreasing	-0.1922	3,876.2716	12	-26	0.0865	0.5181	Probably Decreasing	-0.1922	3,876.3	12	-26	0.0865	0.5181
TTU-EX-3	1,4-Dioxane	No Trend	0.3456	-5,770.1445	12	14	0.3727	0.3037	No Trend	0.3456	-5,770.1	12	14	0.3727	0.3037
TTU-EX-4	1,4-Dioxane	Increasing	0.0247	-439.3653	12	31	0.0392	0.4630	Increasing	0.0247	-439.4	12	31	0.0392	0.4630
TTU-EX-5	1,4-Dioxane	NA	0.0151	-288.8317	12	NA	NA	NA	NA	0.0151	-288.8	12	NA	NA	NA
PF-1	Perchlorate	Stable	-0.0009	15.9607	9	-7	0.3675	0.8148	Well not recently sampled						
PF-2	Perchlorate	Probably Increasing	0.0003	-4.4363	27	61	0.0512	0.5488	Stable	-0.0005	9.8	11	-10	0.2655	0.3623
TTU-1	Perchlorate	Stable	-3.0240	73,312.4151	31	-64	0.2608	0.8714	Increasing	16.8555	-304,019.2	11	23	0.0491	0.8085
TTU-10	Perchlorate	NA	0.0739	-1,381.8398	20	NA	NA	NA	NA	0.0739	-1,381.8	12	NA	NA	NA
TTU-11	Perchlorate	No Trend	168.0236	-2,677,614.3360	20	36	0.1494	0.8815	NA	-294.0279	5,736,092.9	6	NA	NA	NA
TTU-12	Perchlorate	No Trend	-5.9531	244,966.8579	22	35	0.3351	0.1492	No Trend	1.8422	99,574.1	12	2	0.9447	0.0684
TTU-13	Perchlorate	Decreasing	-5.4961	130,310.0167	23	-82	0.0324	0.3093	Probably Decreasing	-9.9587	212,865.3	13	-33	0.0505	0.2942
TTU-14	Perchlorate	Decreasing	966.5299	-17,036,645.0500	22	-89	0.0129	3.6707	No Trend	1,279	-22,885,527.5	12	-10	0.5371	3.0360
TTU-15	Perchlorate	Stable	-5.3180	106,367.2554	15	-8	0.6693	0.6491	No Trend	-6.7711	133,879.7	12	1	1.0000	0.7820
TTU-16	Perchlorate	No Trend	64.5970	-399,476.3950	12	12	0.4507	0.1302	No Trend	64.5970	-399,476.4	12	12	0.4507	0.1302
TTU-17	Perchlorate	Increasing	0.0158	-289.1399	12	17	0.0163	0.9565	Increasing	0.0158	-289.1	12	17	0.0163	0.9565
TTU-19	Perchlorate	NA	-0.2931	5,747.7521	4	NA	NA	NA	NA	-0.2931	5,747.8	4	NA	NA	NA
TTU-2	Perchlorate	Stable	-8.0648	322,987.0225	33	-51	0.4374	0.2326	Stable	14.4938	-110,548.1	11	-11	0.4363	0.3430
TTU-20	Perchlorate	No Trend	569.1904	-10,350,282.4500	6	9	0.1329	0.4989	No Trend	569.1904	-10,350,282.4	6	9	0.1329	0.4989
TTU-3	Perchlorate	Probably Decreasing	-0.0385	792.5395	35	-120	0.0910	1.0413	No Trend	0.0904	-1,609.2	12	12	0.4507	0.9938
TTU-4	Perchlorate	No Trend	-0.0036	74.5660	25	-22	0.3444	1.0184	No Trend	0.0044	-78.3	12	2	0.9015	0.9122

TABLE ?? - Summary of Mann-Kendall Trends
Nammo Defense Systems Thermal Treatment Unit, Mesa Arizona

Well Name	Parameter	Full Period Trend ¹							3-Year Trend ²						
		Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV	Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV
TTU-5	Perchlorate	Increasing	0.0147	-219.3043	32	208	0.0008	0.9811	No Trend	0.0420	-732.1	12	4	0.8370	1.1818
TTU-6	Perchlorate	No Trend	-0.0122	264.3594	34	-91	0.1631	1.2856	Increasing	0.0996	-1,843.6	13	36	0.0164	1.5328
TTU-7	Perchlorate	Decreasing	-0.0012	33.3157	29	-54	0.0170	1.7674	Probably Decreasing	-0.0139	268.7	12	-8	0.0864	0.9003
TTU-8	Perchlorate	Probably Decreasing	-0.0046	87.8820	20	-16	0.0635	1.1175	Stable	-0.0012	24.1	12	-7	0.2597	0.3590
TTU-9A	Perchlorate	No Trend	0.0014	-17.1716	27	68	0.1622	0.3354	Decreasing	-0.0029	62.8	12	-31	0.0392	0.3476
TTU-EX-1	Perchlorate	Stable	-18.3083	461,329.0027	12	-20	0.1926	0.3398	Stable	-18.3083	461,329.0	12	-20	0.1926	0.3398
TTU-EX-2	Perchlorate	Probably Decreasing	-59.5788	1,199,067.2390	12	-25	0.0990	0.3567	Probably Decreasing	-59.5788	1,199,067.2	12	-25	0.0990	0.3567
TTU-EX-3	Perchlorate	Stable	9.1863	249,338.3605	12	0	1.0000	0.1050	Stable	9.1863	249,338.4	12	0	1.0000	0.1050
TTU-EX-4	Perchlorate	Stable	-7.7764	238,431.5997	12	0	1.0000	0.1558	Stable	-7.7764	238,431.6	12	0	1.0000	0.1558
TTU-EX-5	Perchlorate	No Trend	-0.1844	3,540.9001	12	-4	0.3082	1.8780	No Trend	-0.1844	3,540.9	12	-4	0.3082	1.8780
PF-1	Trichloroethene	NA	NA	NA	5	NA	NA	NA	Well not recently sampled						
PF-2	Trichloroethene	NA	NA	NA	17	NA	NA	NA	NA	NA	NA	10	NA	NA	NA
TTU-1	Trichloroethene	Stable	0.0005	-1.9718	30	-7	0.9147	0.5450	No Trend	-0.0001	8.7	11	1	1.0000	0.6622
TTU-10	Trichloroethene	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-11	Trichloroethene	No Trend	1.7074	-24,857.1386	21	7	0.8562	1.0740	No Trend	-14.6356	281,463.3	6	-5	0.4524	1.2121
TTU-12	Trichloroethene	Increasing	0.0950	-1,279.4105	22	77	0.0321	0.2184	No Trend	0.0383	-214.4	12	2	0.9453	0.1104
TTU-13	Trichloroethene	Stable	-0.0028	63.4610	22	-59	0.1019	0.5100	Decreasing	-0.0094	187.7	12	-32	0.0335	0.4524
TTU-14	Trichloroethene	Increasing	0.1038	-1,005.3076	21	71	0.0345	0.1479	No Trend	-0.0113	1,167.2	12	7	0.6800	0.1064
TTU-15	Trichloroethene	Stable	-0.0054	111.4962	15	-16	0.1179	0.4271	Stable	-0.0054	111.5	12	-16	0.1179	0.4271
TTU-16	Trichloroethene	No Trend	-5.2238	176,128.8783	12	18	0.2437	0.3304	No Trend	-5.2238	176,128.9	12	18	0.2437	0.3304
TTU-17	Trichloroethene	No Trend	0.0016	-27.9346	12	7	0.6800	0.6830	No Trend	0.0016	-27.9	12	7	0.6800	0.6830
TTU-19	Trichloroethene	No Trend	0.3410	-6,195.4969	4	2	0.7341	0.6905	No Trend	0.3410	-6,195.5	4	2	0.7341	0.6905
TTU-2	Trichloroethene	Increasing	0.1806	-2,723.3668	31	180	0.0023	0.5264	Probably Decreasing	-0.1563	3,636.3	11	-23	0.0868	0.2094
TTU-20	Trichloroethene	No Trend	12.9656	-235,076.7143	6	3	0.7071	0.4991	No Trend	12.9656	-235,076.7	6	3	0.7071	0.4991
TTU-3	Trichloroethene	NA	-0.0012	22.5761	21	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-4	Trichloroethene	NA	NA	NA	22	NA	NA	NA	NA	NA	NA	13	NA	NA	NA
TTU-5	Trichloroethene	NA	-0.0005	10.1760	21	NA	NA	NA	NA	-0.0005	10.2	13	NA	NA	NA
TTU-6	Trichloroethene	NA	NA	NA	21	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-7	Trichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-8	Trichloroethene	NA	NA	NA	20	NA	NA	NA	NA	NA	NA	12	NA	NA	NA
TTU-9A	Trichloroethene	Decreasing	-0.0126	240.3386	21	-19	0.0069	0.8600	Decreasing	-0.0126	240.3	13	-19	0.0069	0.8600
TTU-EX-1	Trichloroethene	Stable	-0.1466	2,952.6231	12	-22	0.1499	0.4915	Stable	-0.1466	2,952.6	12	-22	0.1499	0.4915
TTU-EX-2	Trichloroethene	Decreasing	-0.3871	7,685.1841	12	-30	0.0467	0.4791	Decreasing	-0.3871	7,685.2	12	-30	0.0467	0.4791
TTU-EX-3	Trichloroethene	No Trend	0.8692	-9,797.2098	12	16	0.3037	0.1320	No Trend	0.8692	-9,797.2	12	16	0.3037	0.1320

**TABLE ?? - Summary of Mann-Kendall Trends
Nammo Defense Systems Thermal Treatment Unit, Mesa Arizona**

Well Name	Parameter	Full Period Trend ¹							3-Year Trend ²						
		Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV	Trend	Slope	Intercept	Number of Points	Mann Kendall Test Value	p Value	Calculated COV
TTU-EX-4	Trichloroethene	Stable	-0.1775	4,025.5705	12	-12	0.4507	0.3021	Stable	-0.1775	4,025.6	12	-12	0.4507	0.3021
TTU-EX-5	Trichloroethene	No Trend	0.0047	-84.4184	12	20	0.1926	0.5377	No Trend	0.0047	-84.4	12	20	0.1926	0.5377

Notes:

NA - not applicable. In most instances, an NA designation suggests concentrations at this location have been below the laboratory detection limits, as concentrations below the detection limits were not used in the Mann-Kendall statistic calculation.

1 - Full Period - all available data used to calculate Mann-Kendall statistic

No Trend - no increasing or decreasing trend is suggested by the data

Increasing Trend - data suggests concentration is increasing over time with 95% or greater confidence

Probably Increasing Trend - data suggests concentration is increasing over time with 90% to 95% confidence

2 - 3 year period, included data collected from 1/1/2020 to present in calculation of Mann-Kendall statistic

Stable Trend - data suggests concentration is not increasing or decreasing

Decreasing Trend - data suggests concentration is decreasing over time with 95% or greater confidence

Probably Decreasing Trend - data suggests concentration is decreasing over time with 90% to 95% confidence

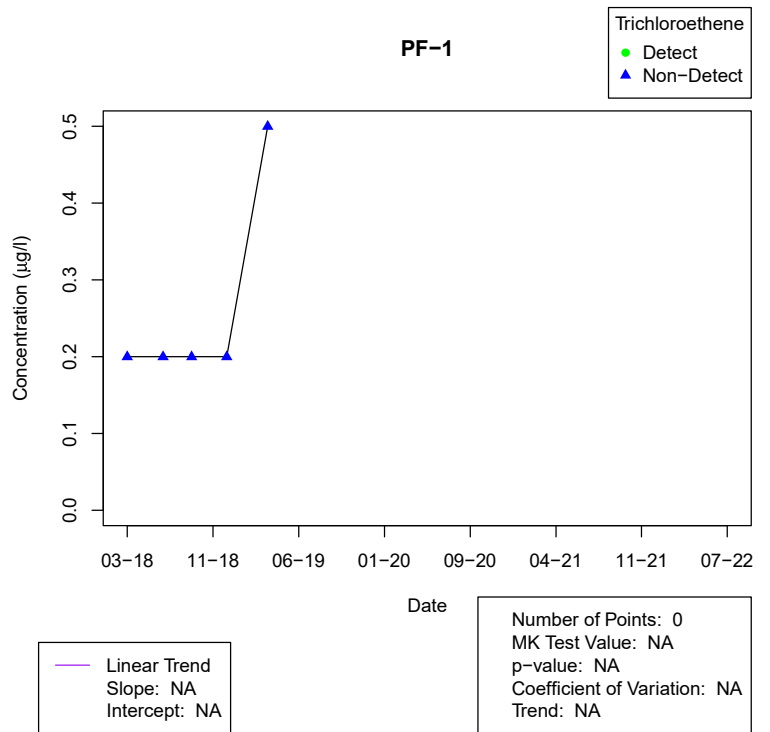
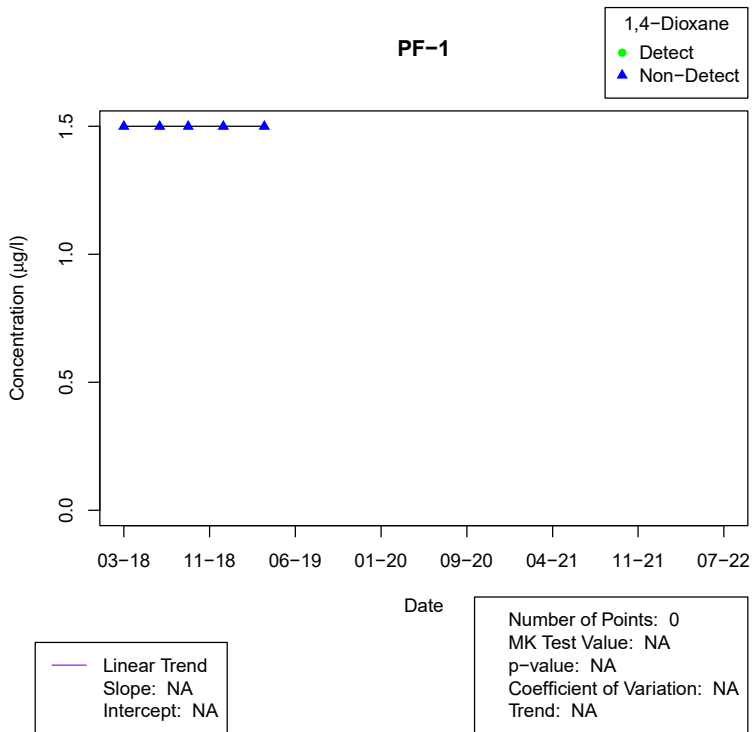
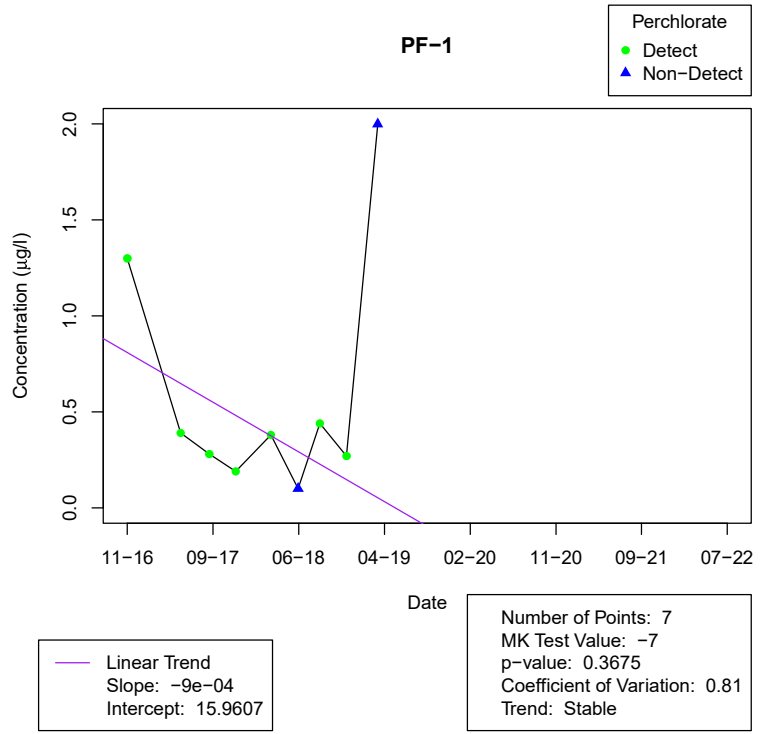
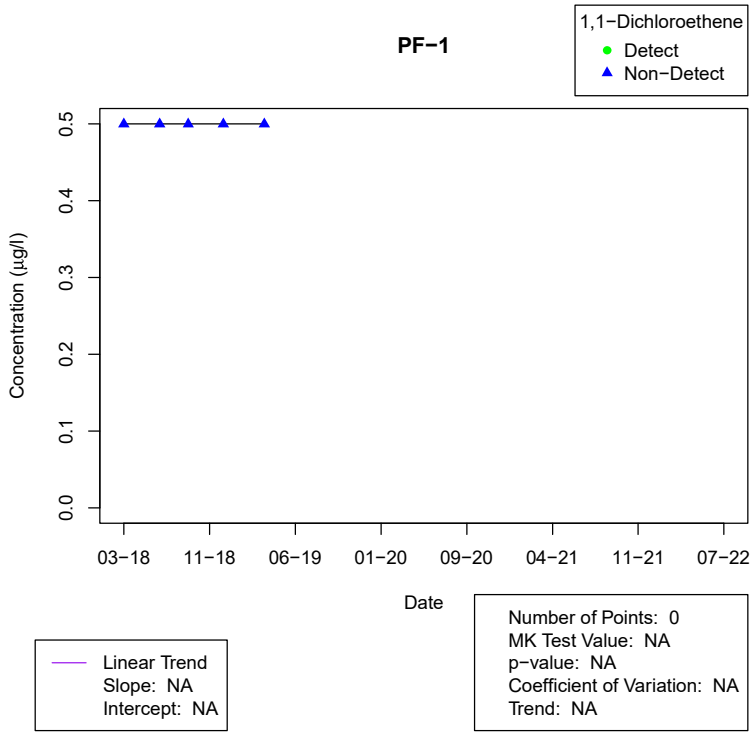
COV - coefficient of variance = standard deviation divided by mean. It shows the extent of variability in relation to the mean of the population. The coefficient of variation should be computed only for data measured on scales that have a meaningful zero (ratio scale) and hence allow relative comparison of two measurements.

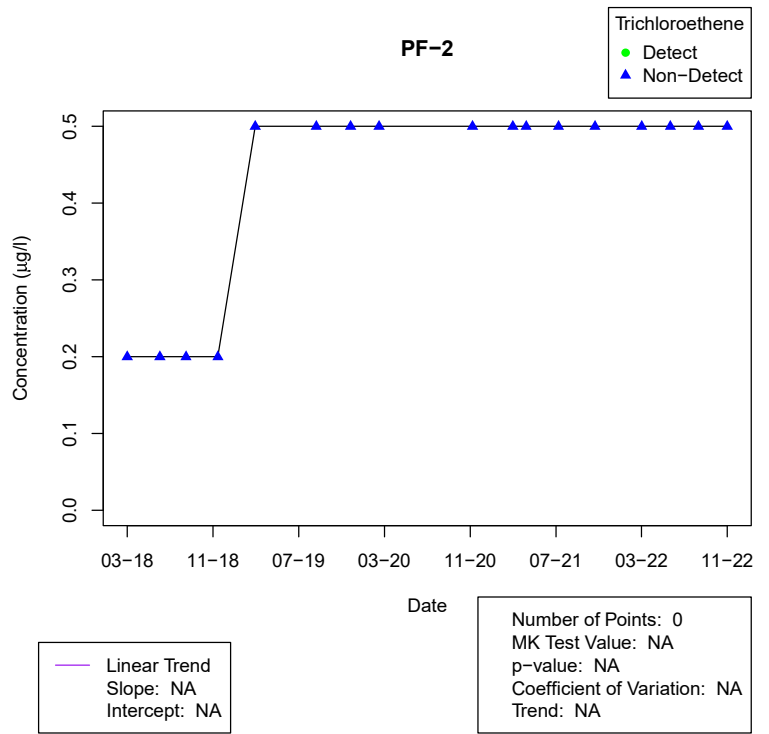
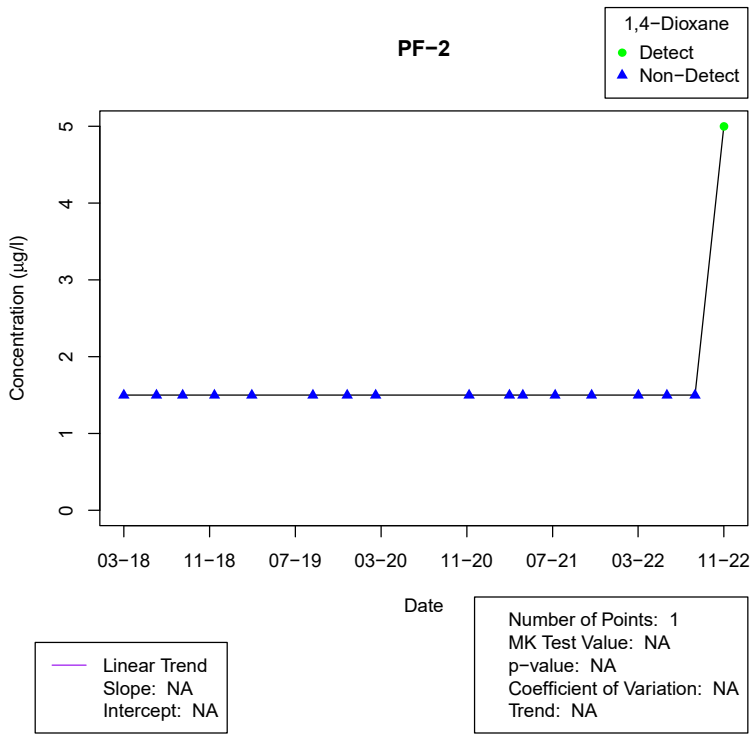
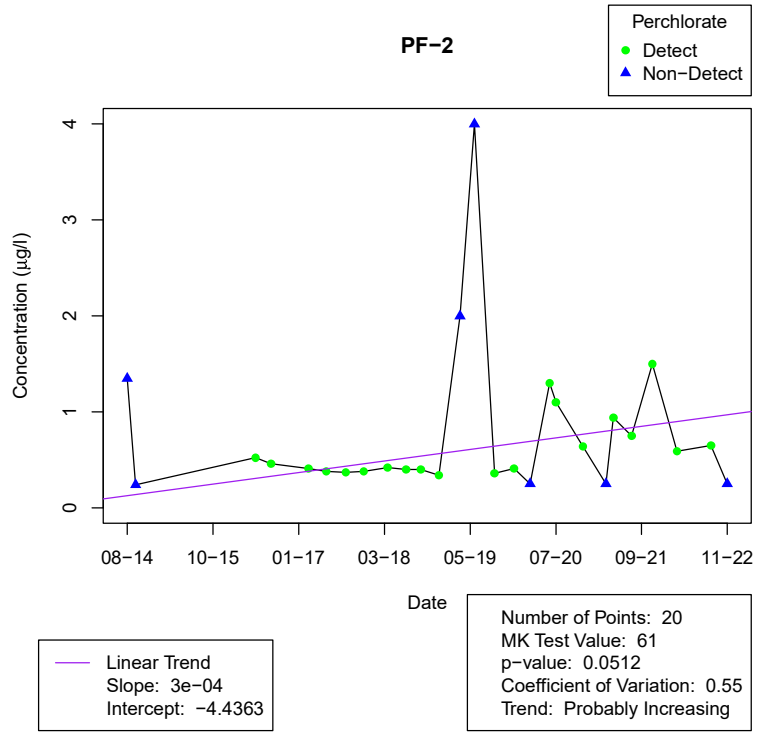
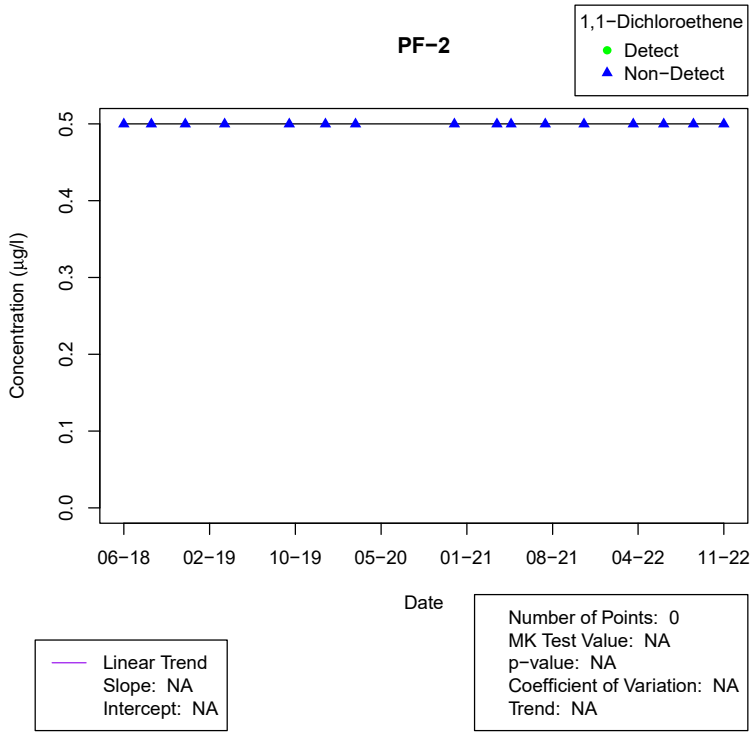
p Value - The probability that a particular statistical measure, such as the mean or standard deviation, of an assumed probability distribution will be greater than or equal to (or less than or equal to in some instances) observed results.

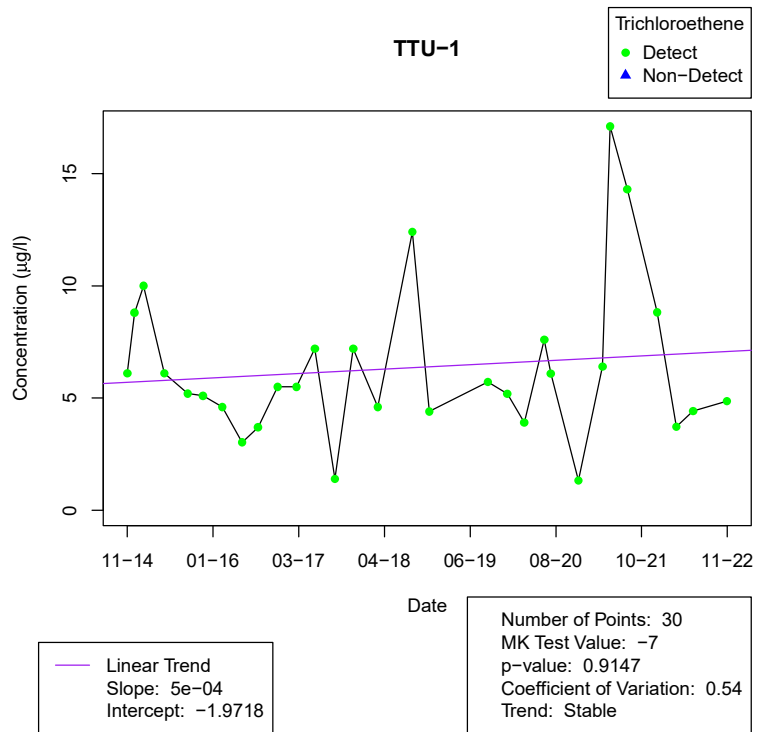
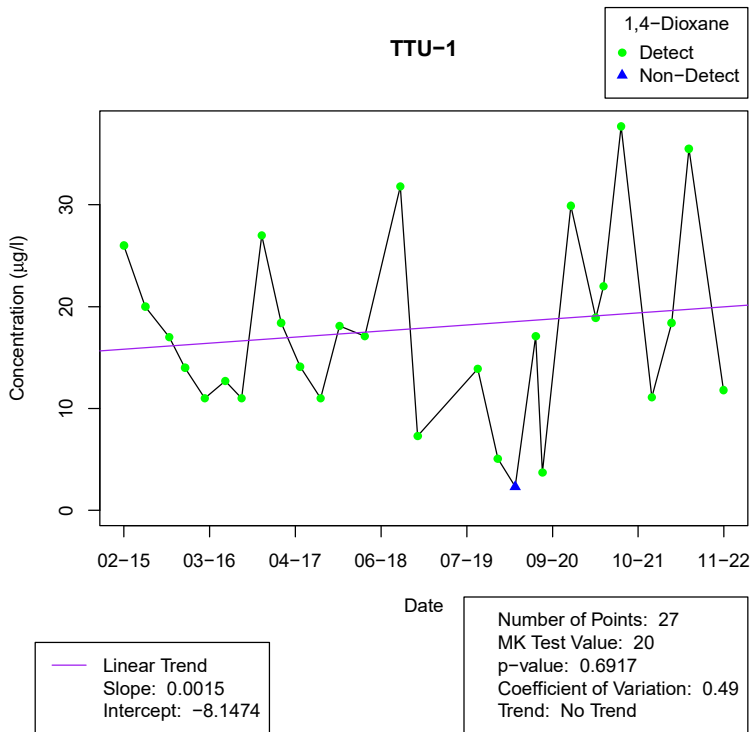
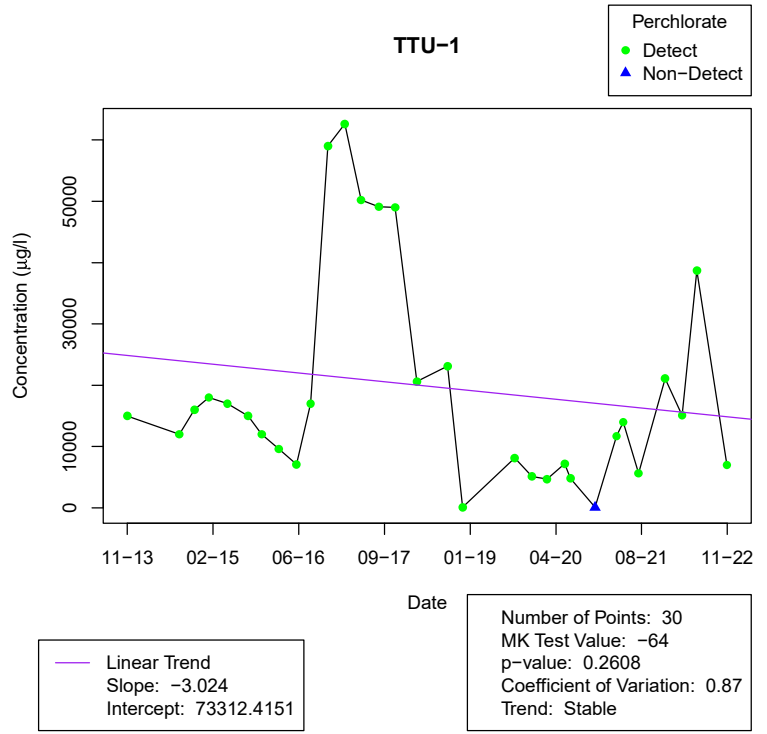
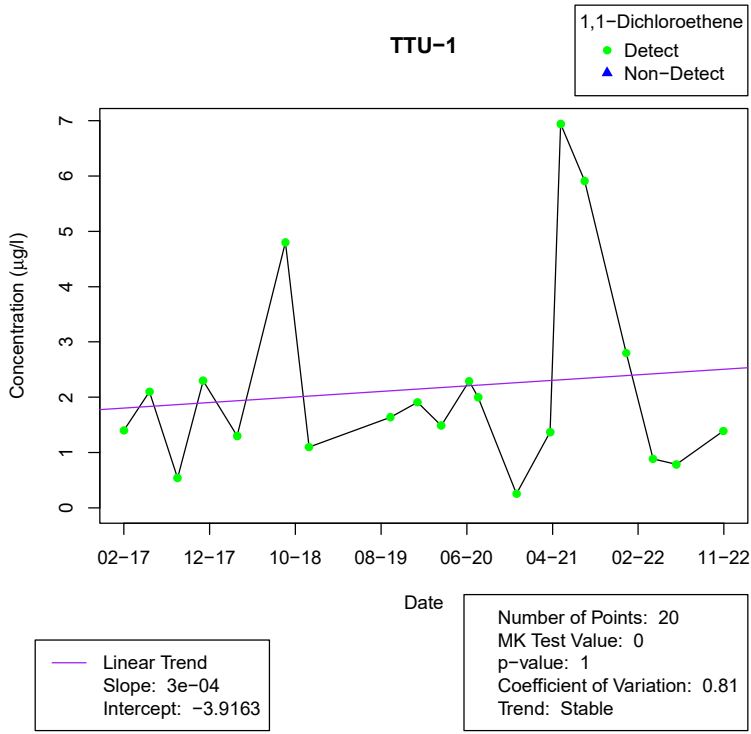
NA - not enough data points with concentrations in excess of the laboratory detection limits to calculate the statistics

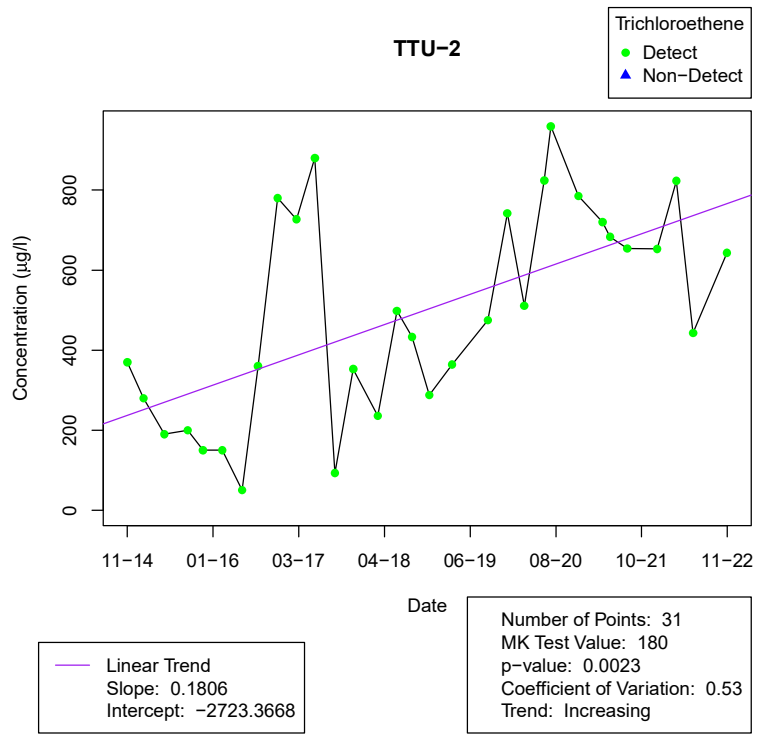
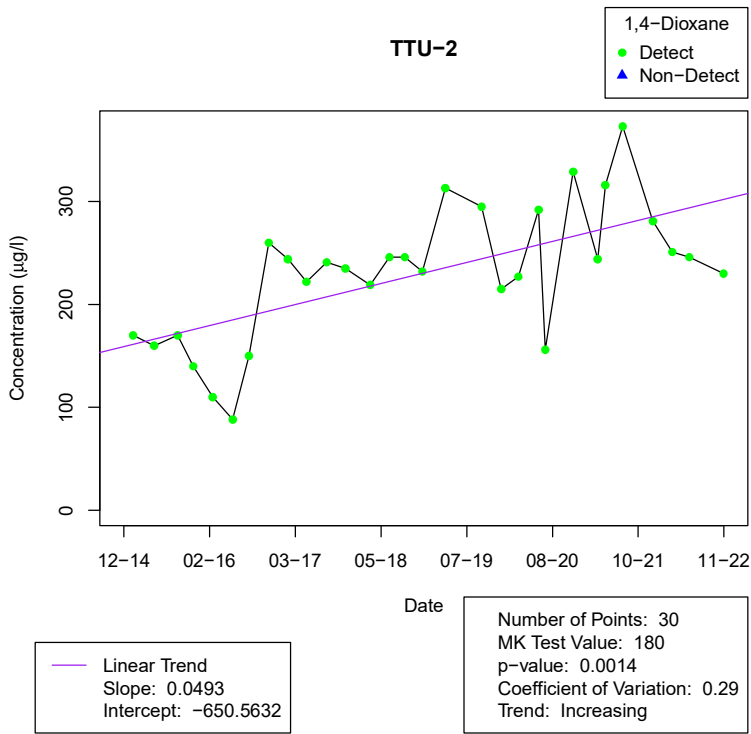
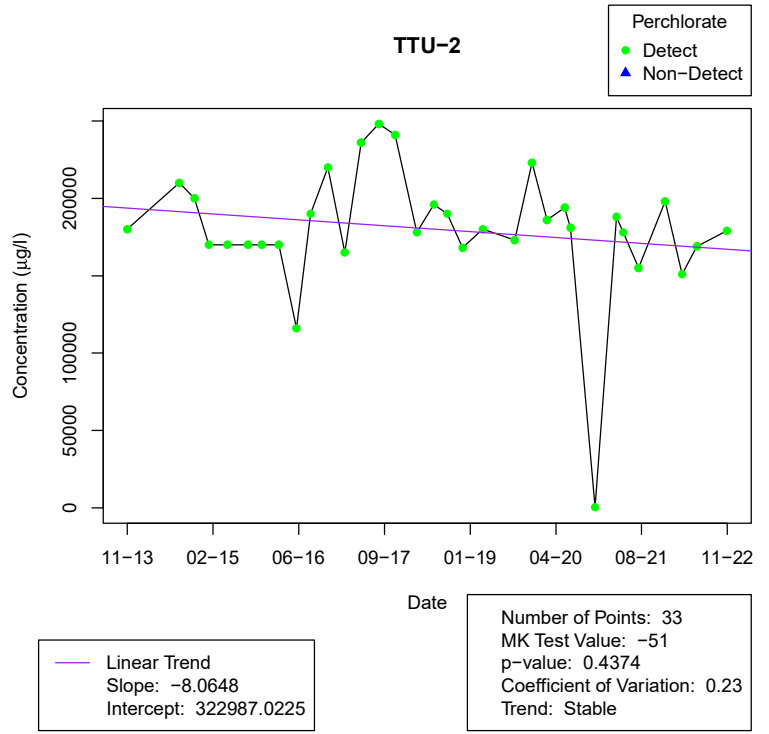
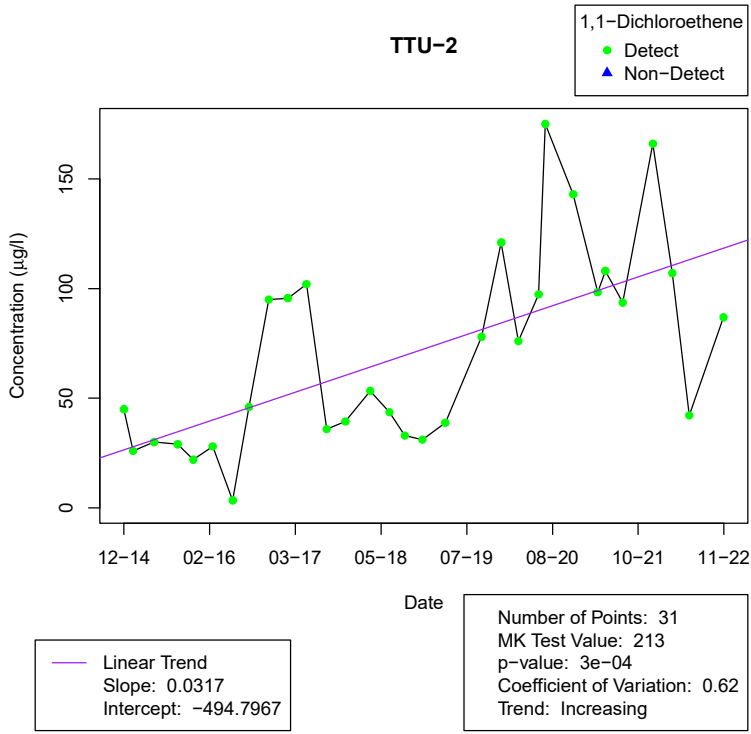
Mann-Kendall Statistic Limits:

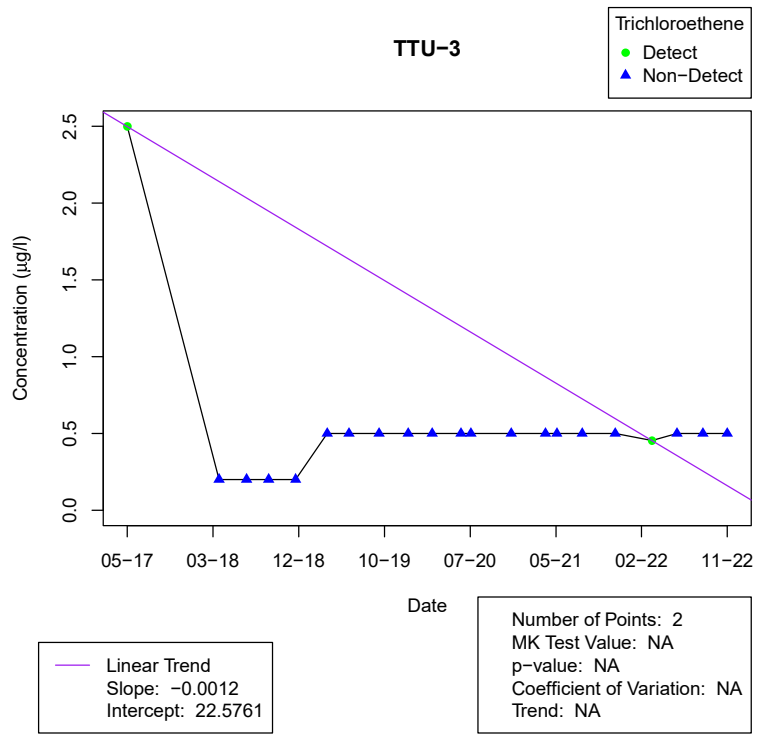
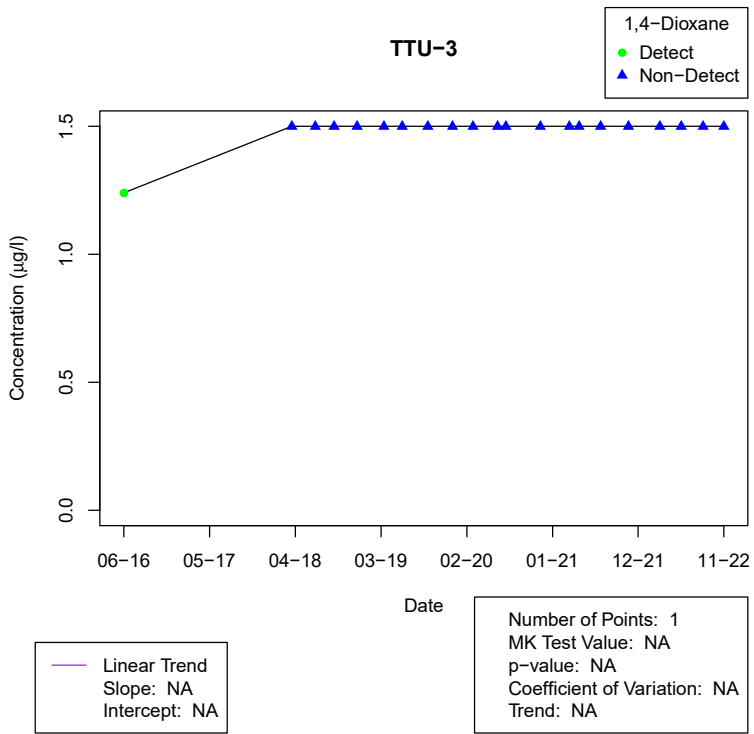
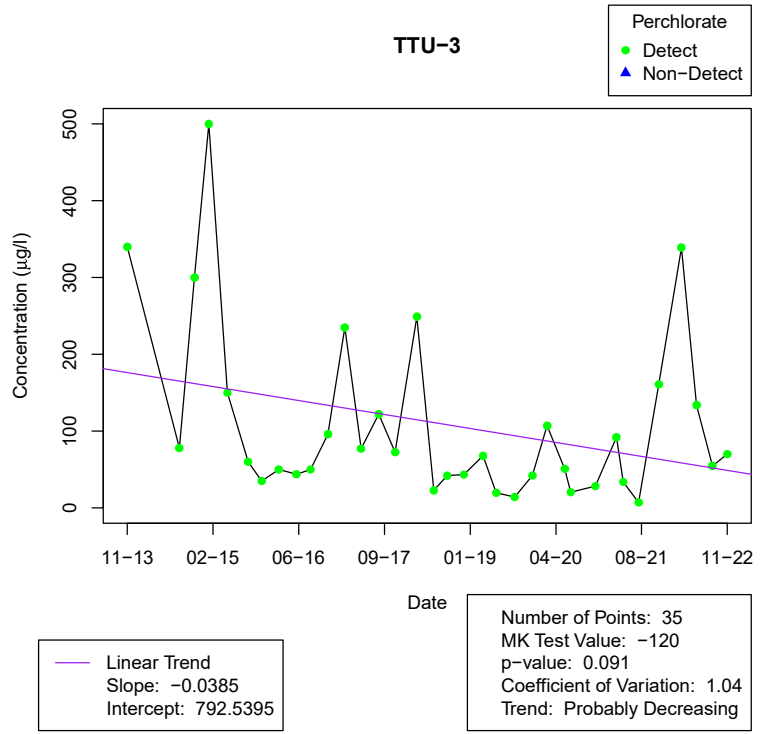
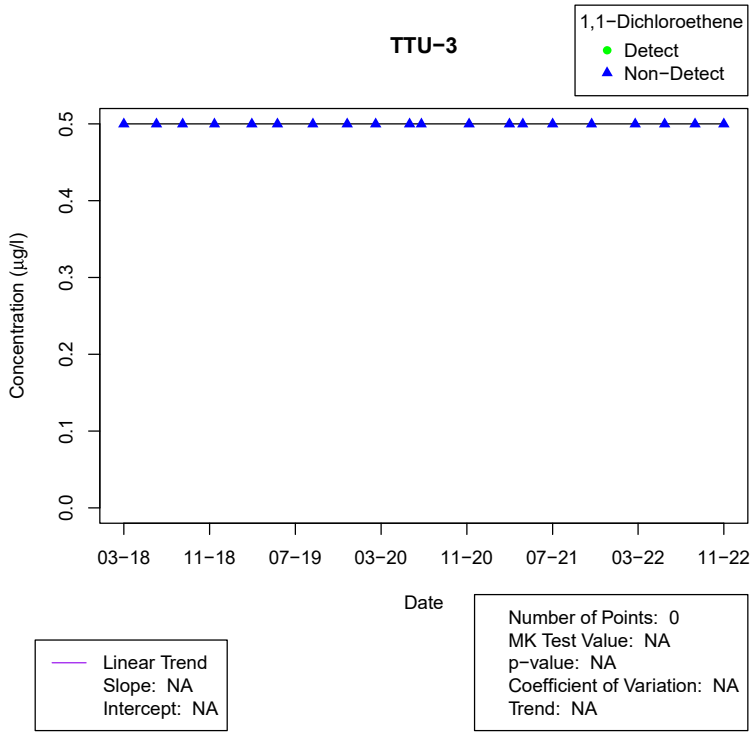
Mann Kendall Statistic Value	Confidence in Trend	Concentration Trend
$S > 0$	> 95%	Increasing
$S > 0$	90% to 95%	Probably Increasing
$S > 0$	< 90%	No Trend
$S \leq 0$	< 90% and $COV \geq 1$	No Trend
$S \leq 0$	90% and $COV < 1$	Stable
$S < 0$	90% to 95%	Probably Decreasing
$S < 0$	95%	Decreasing

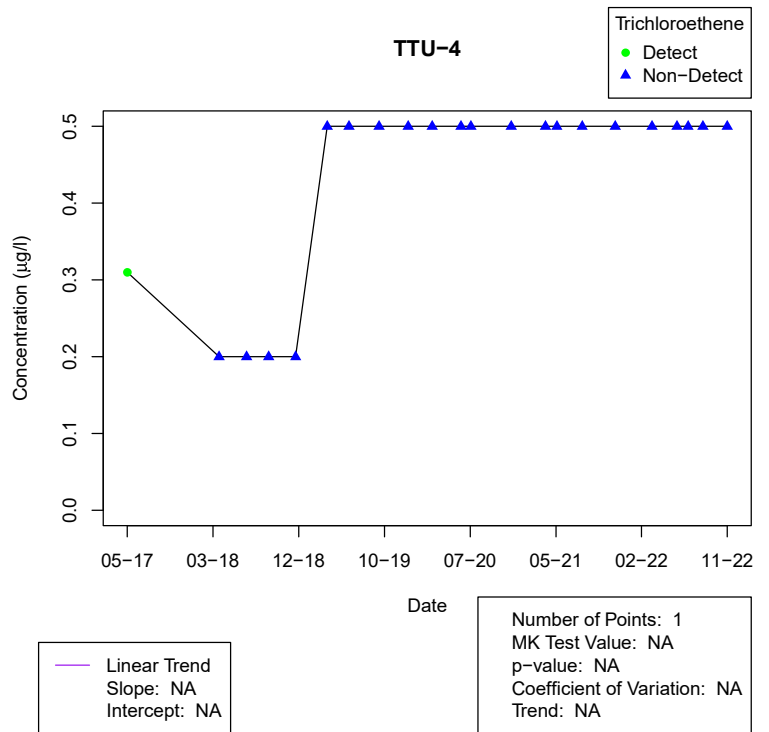
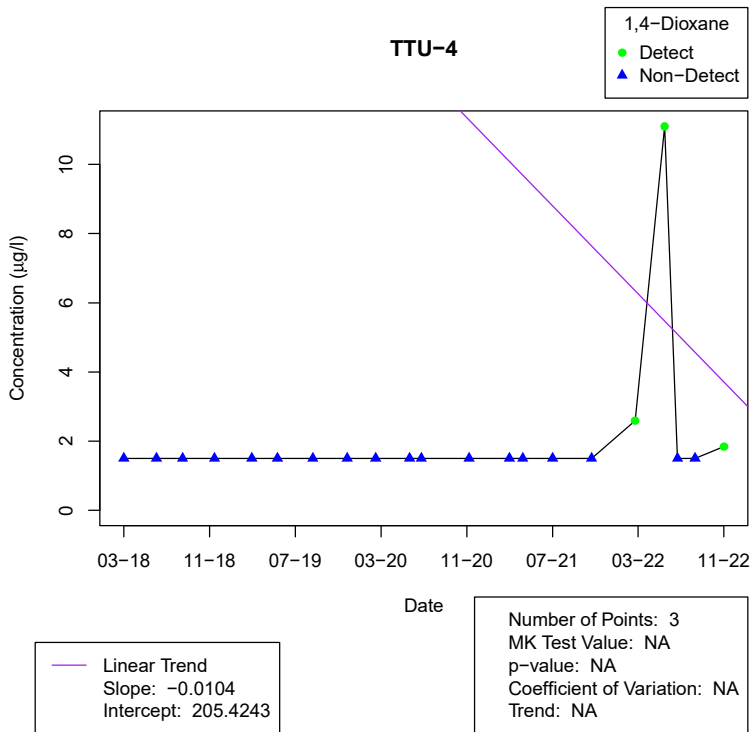
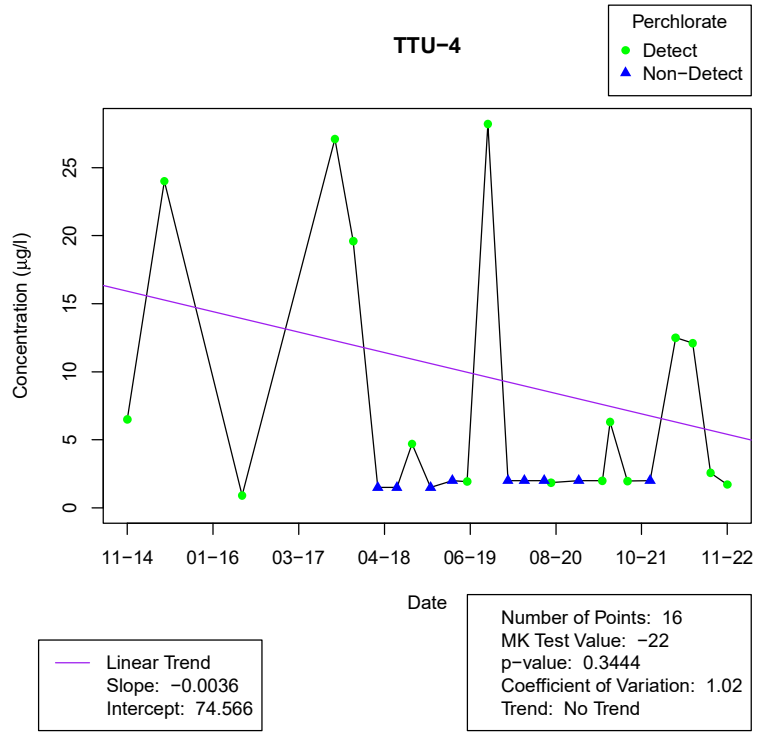
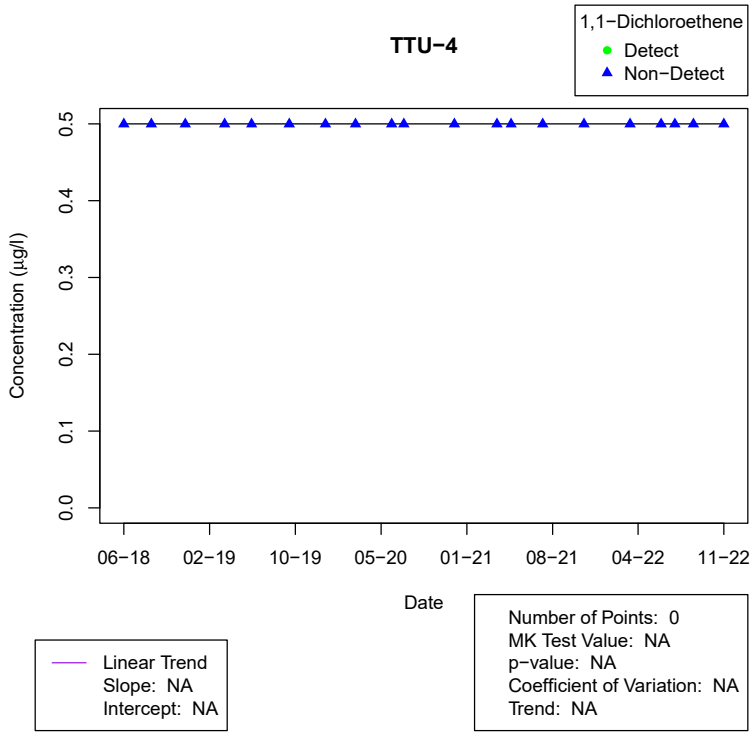


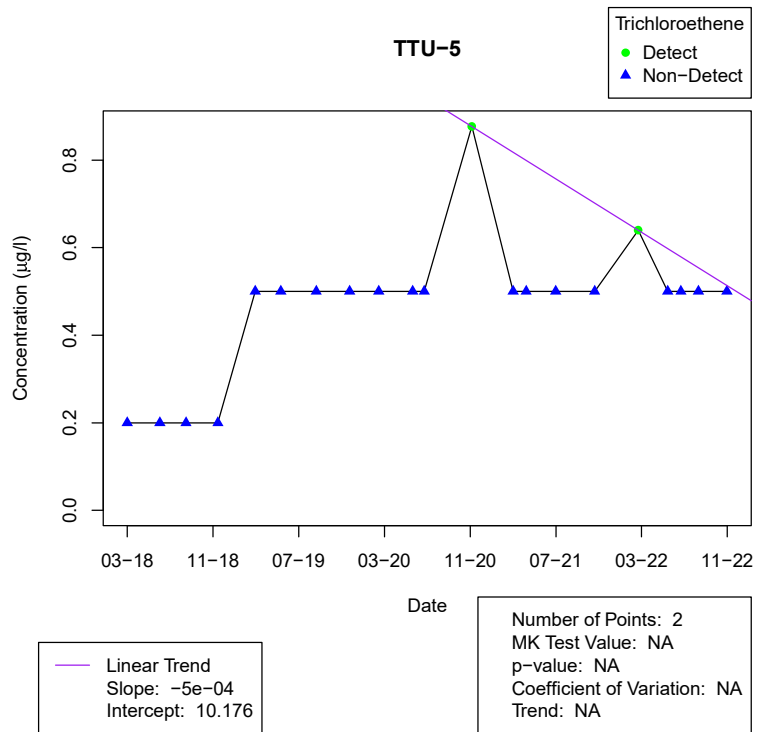
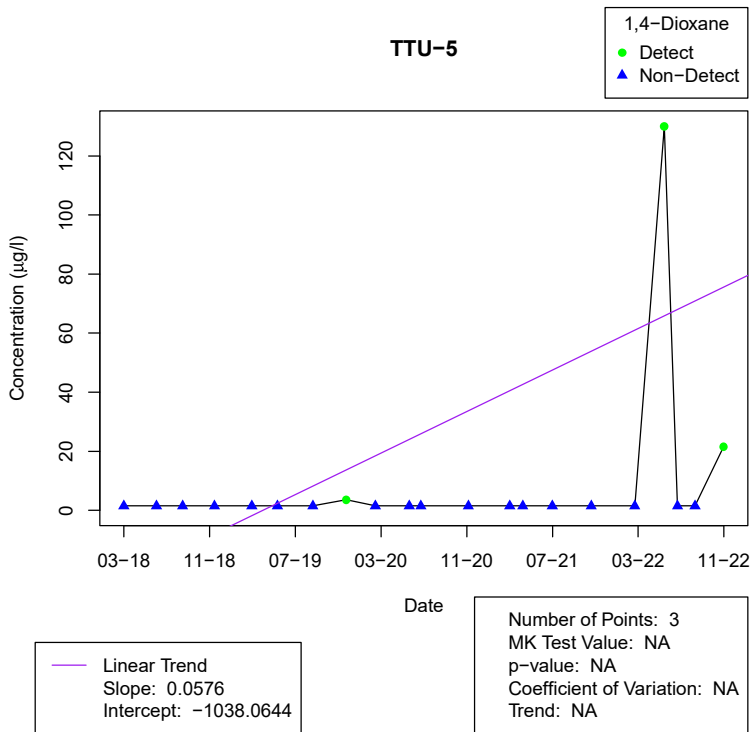
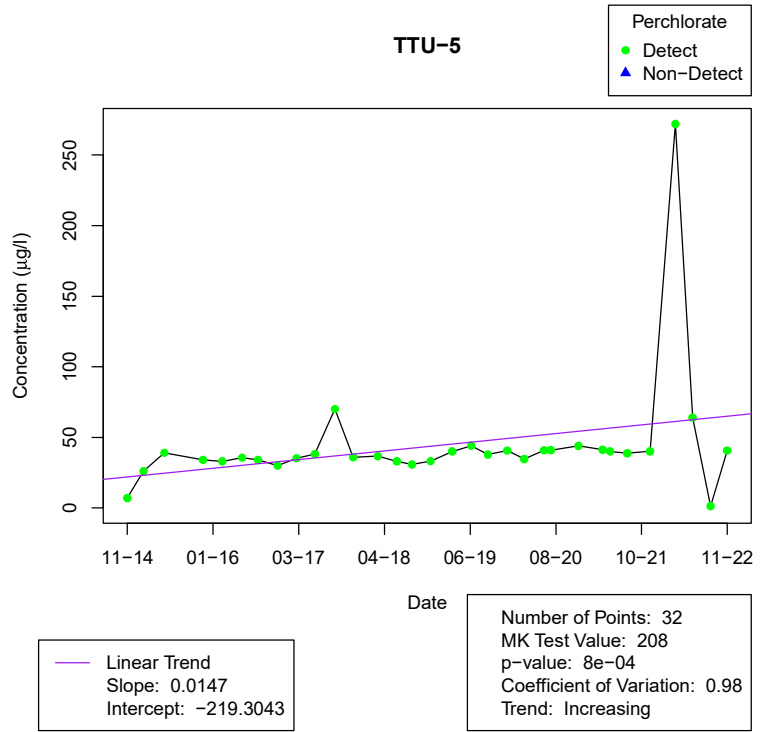
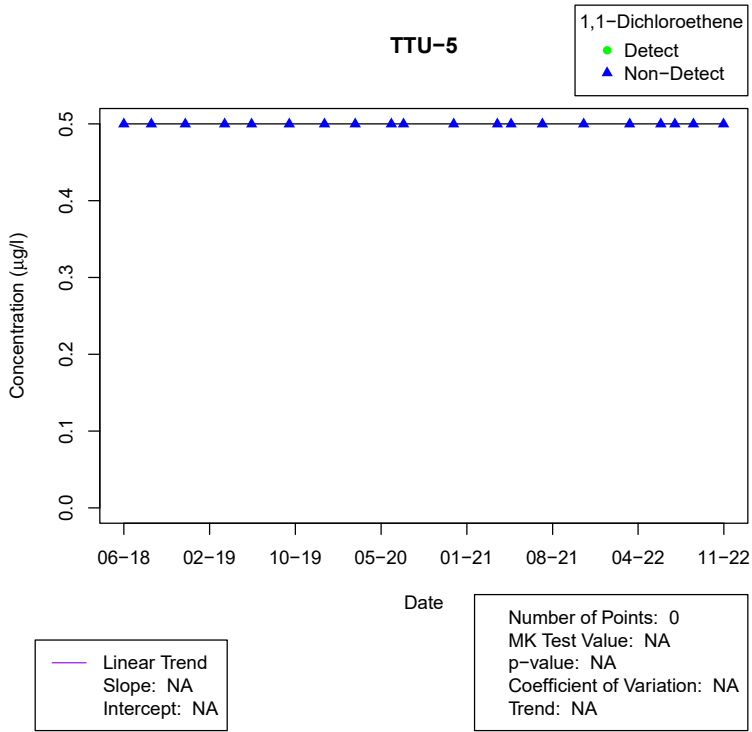


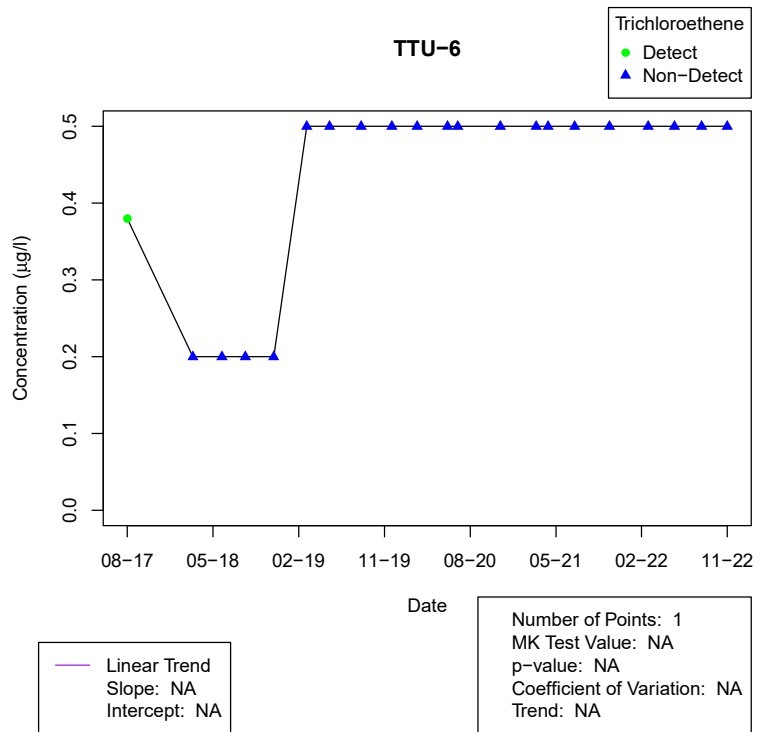
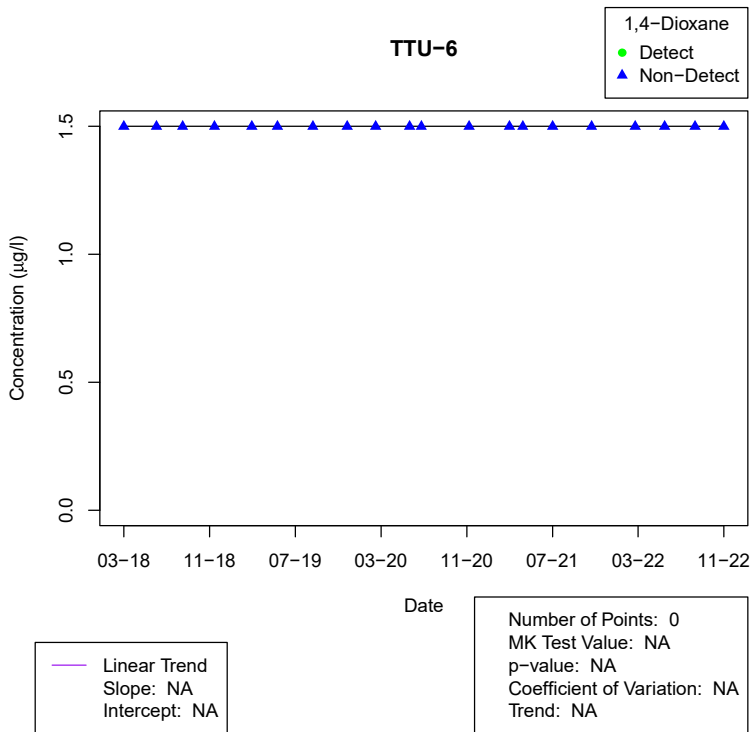
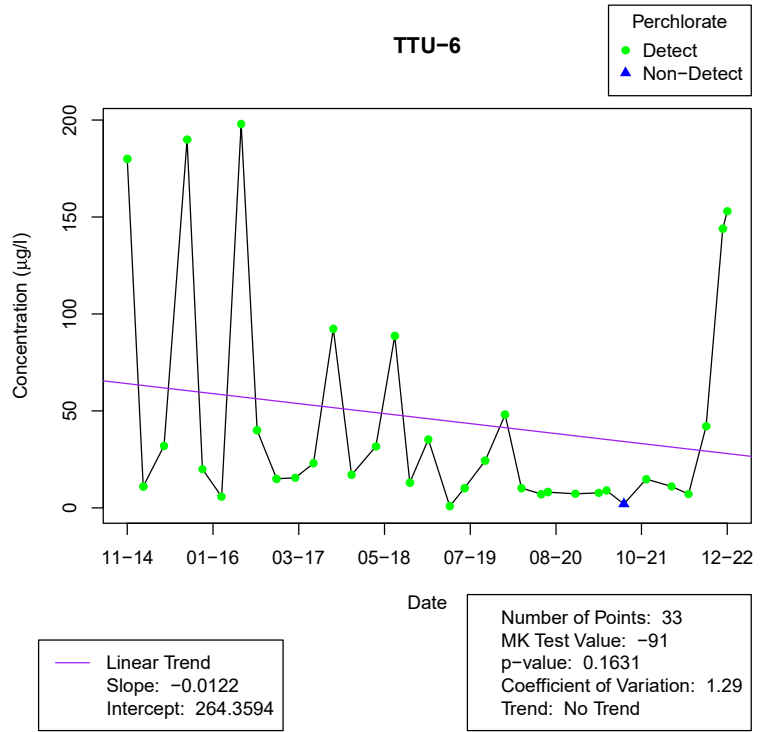
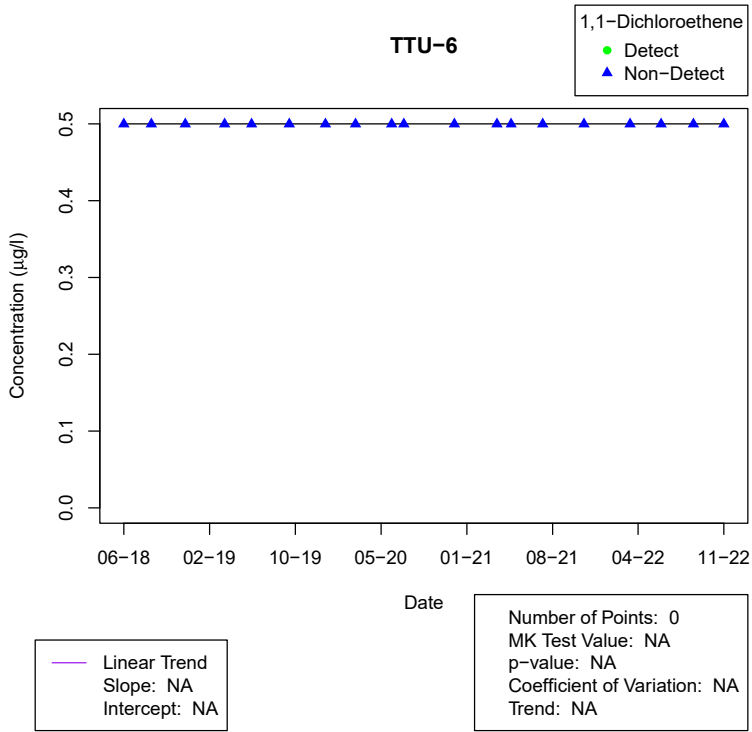


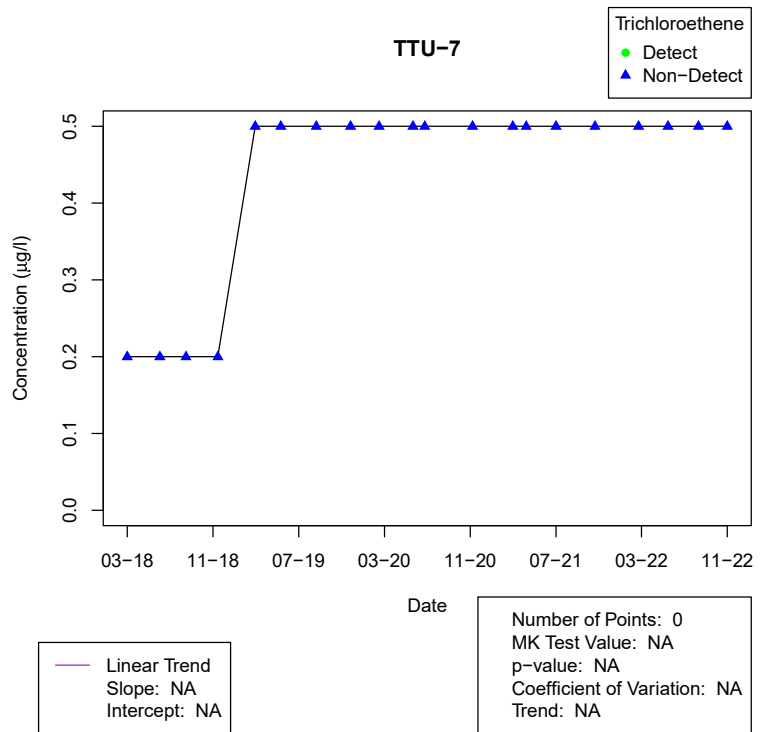
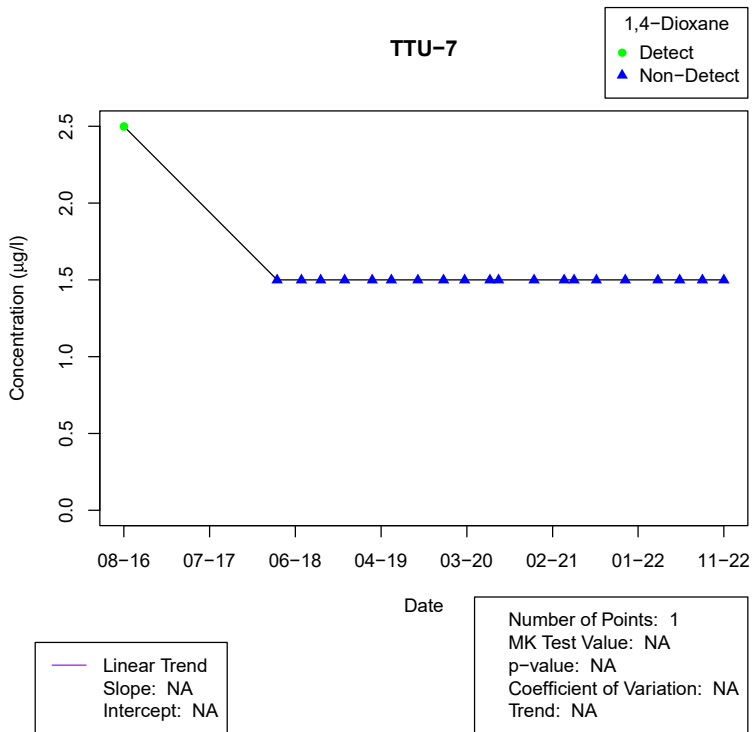
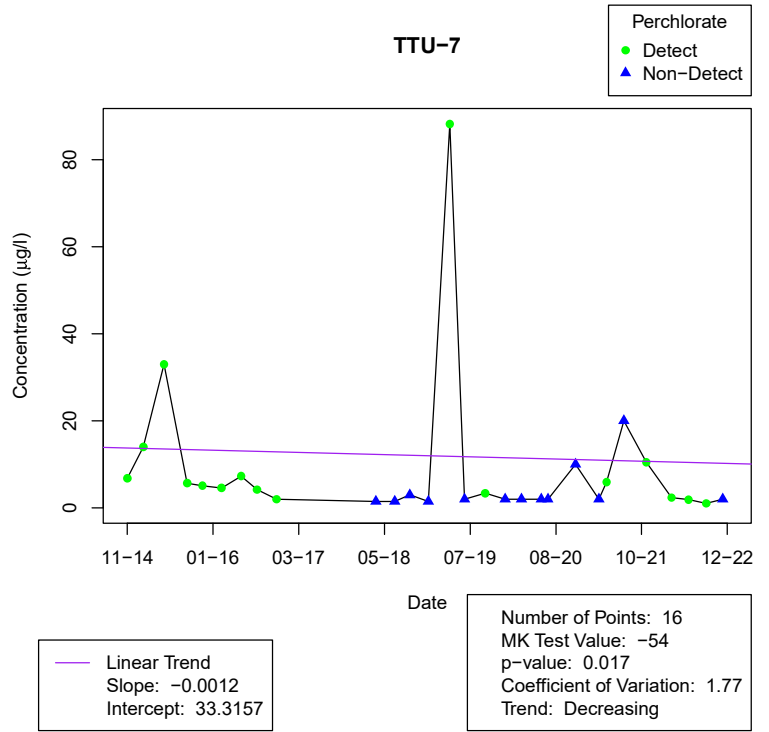
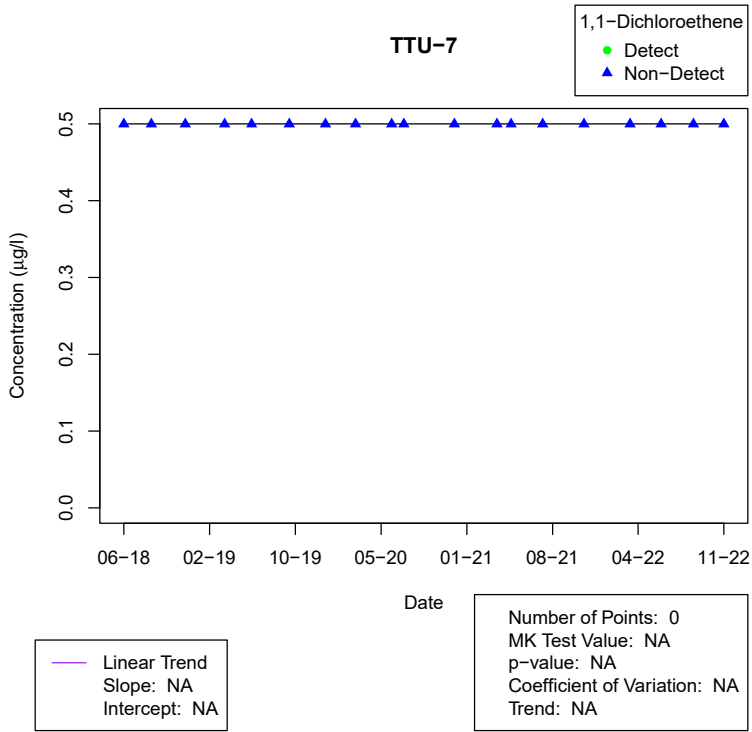


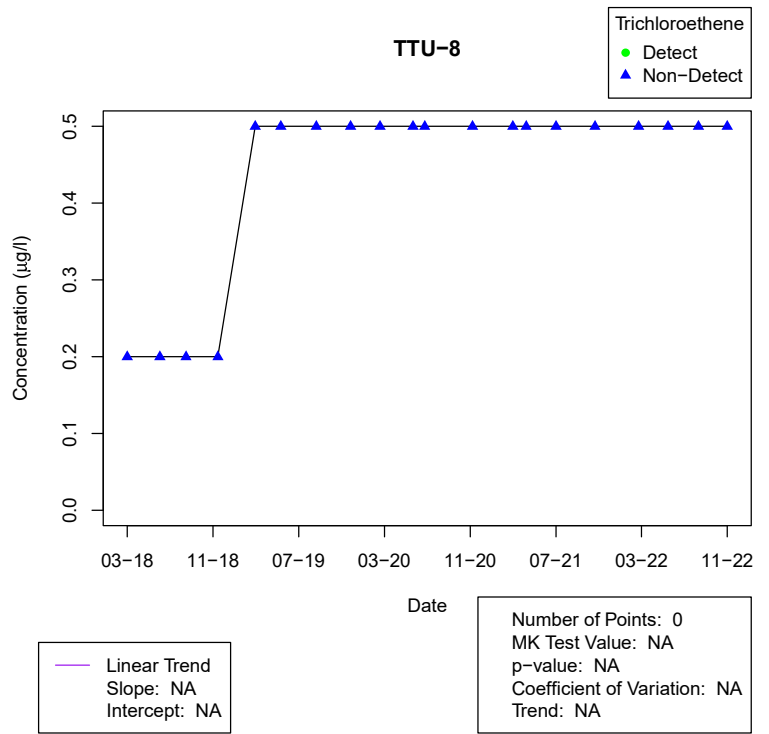
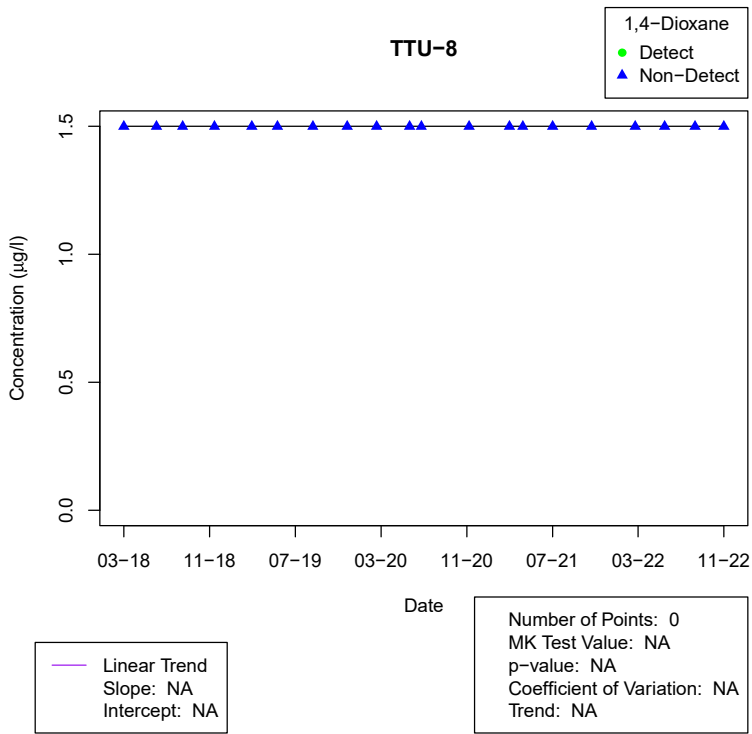
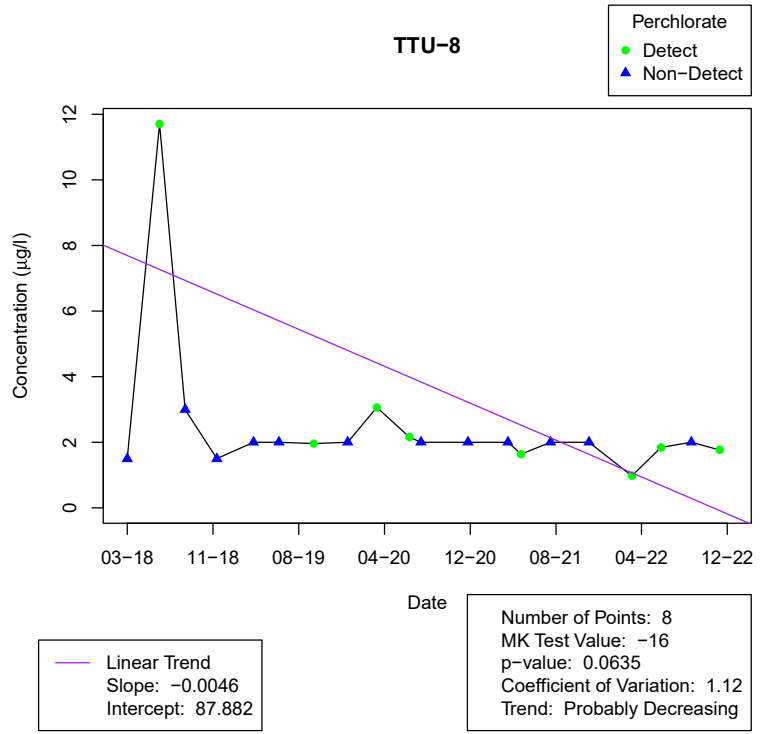
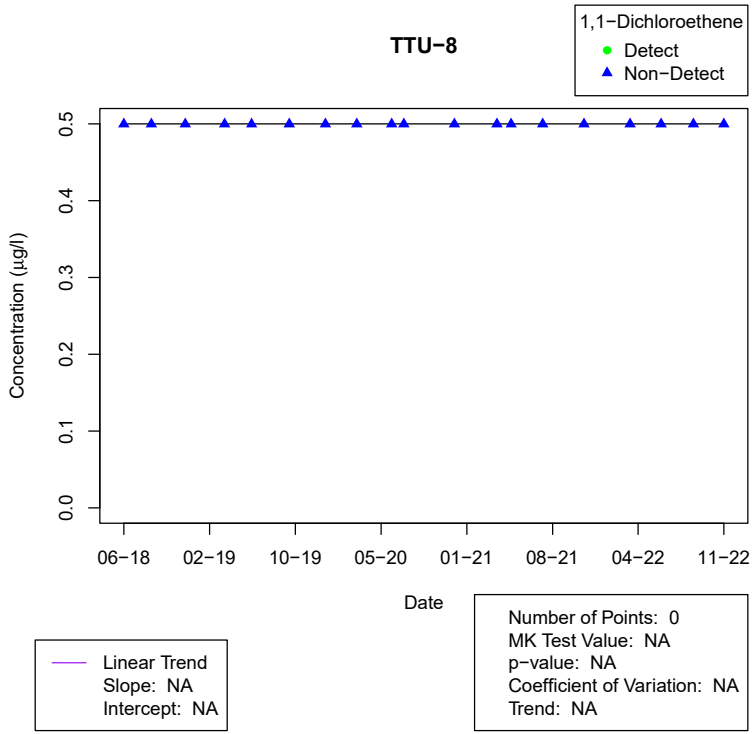


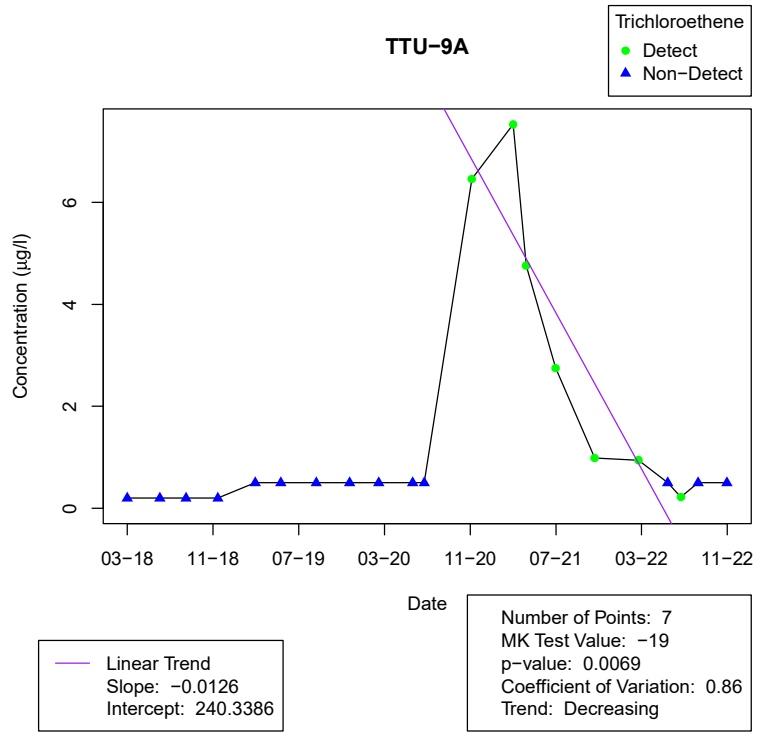
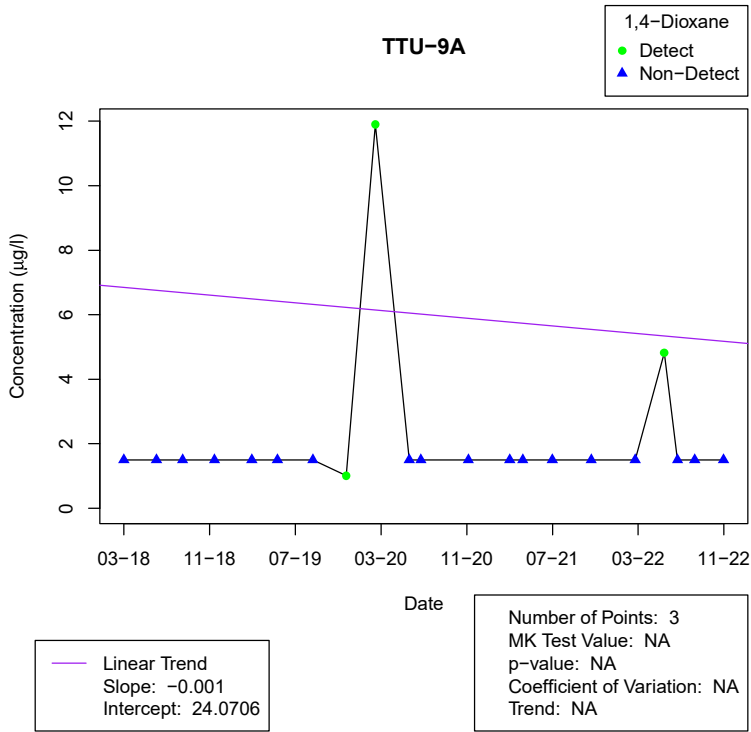
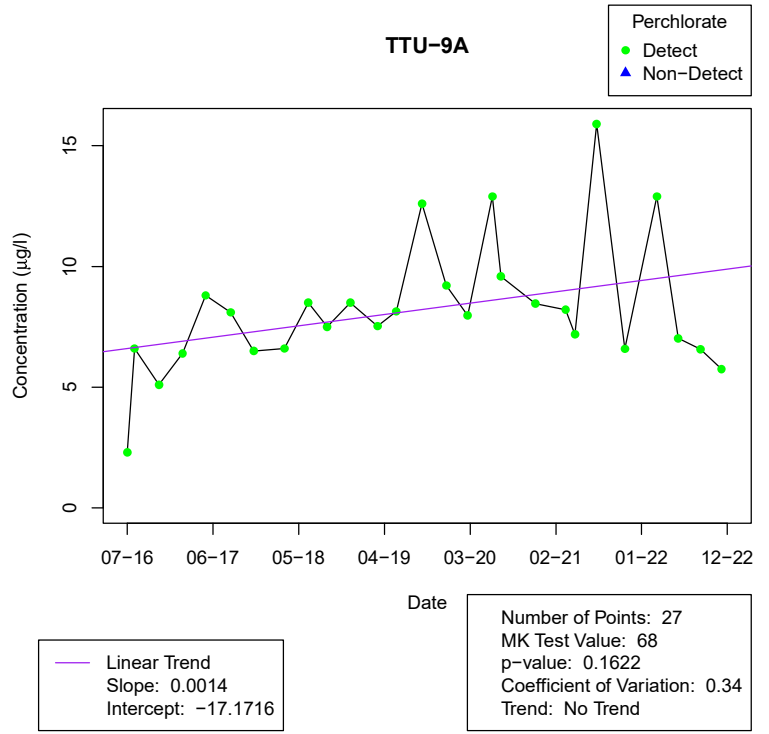
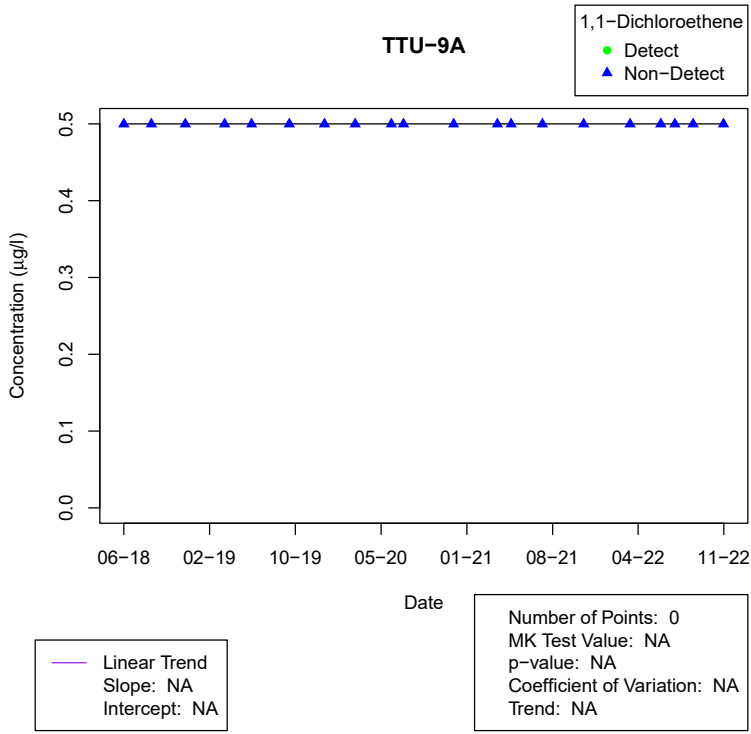


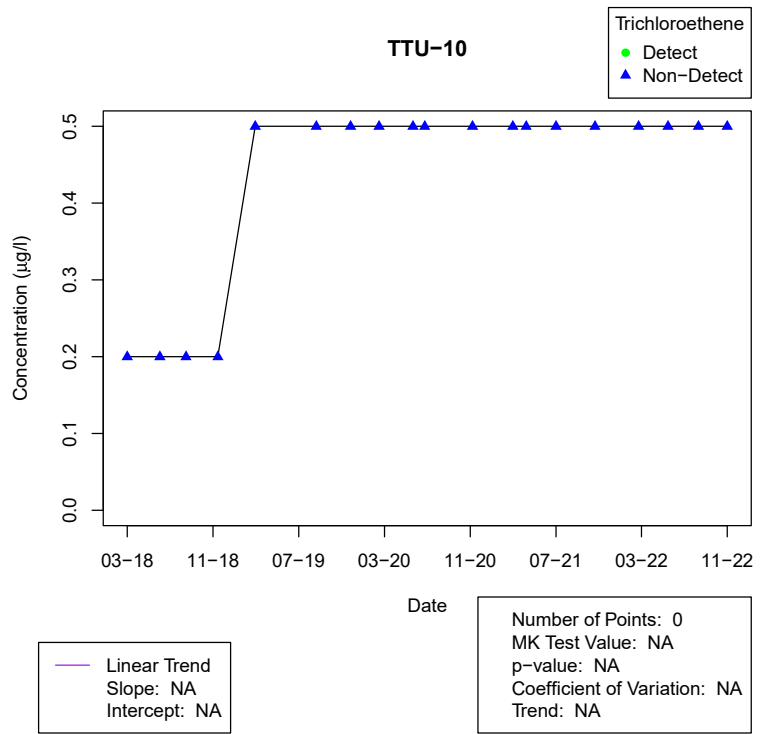
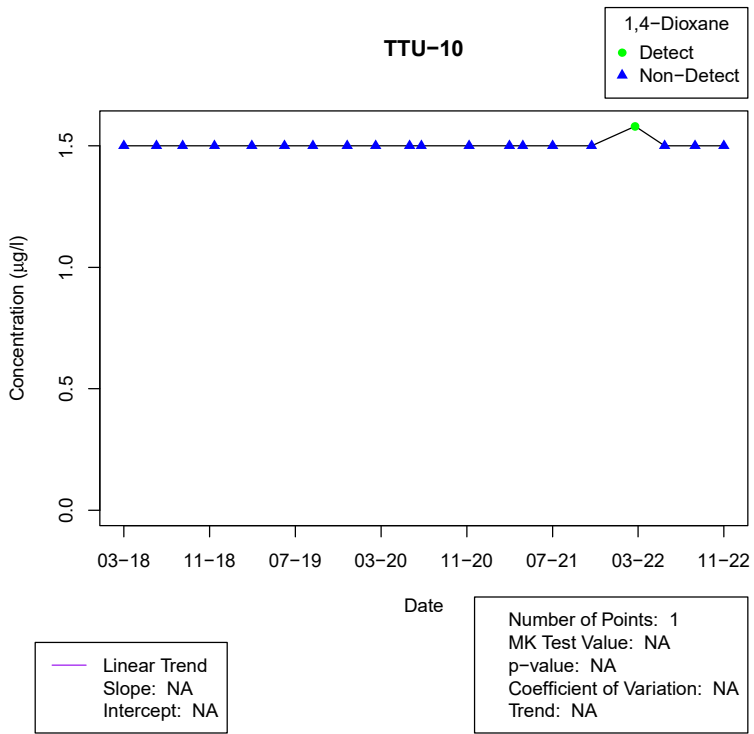
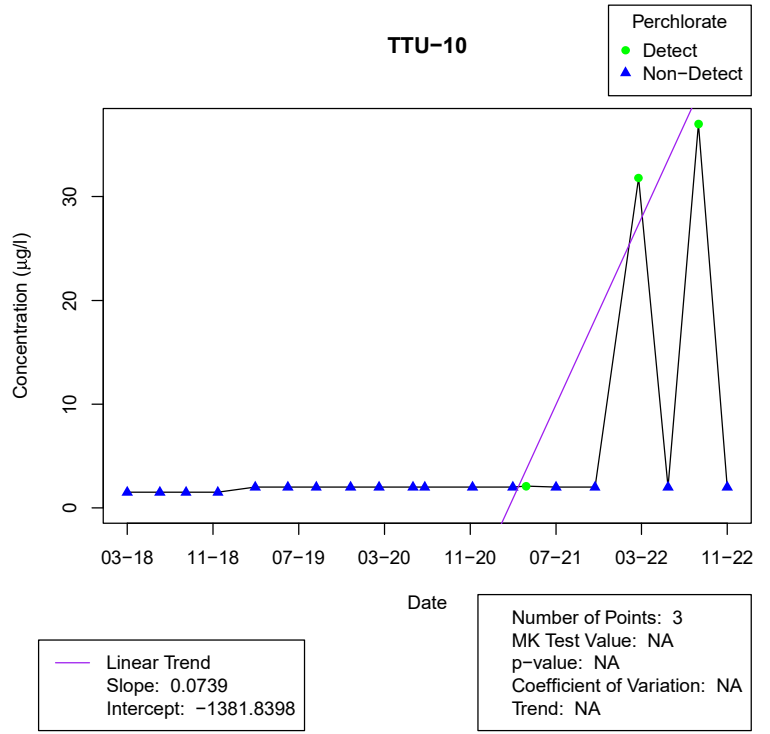
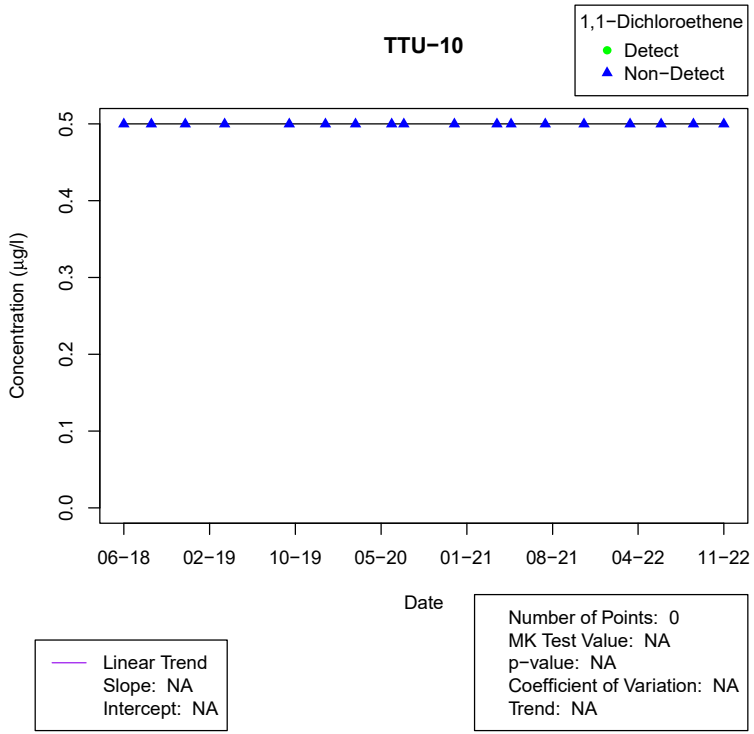


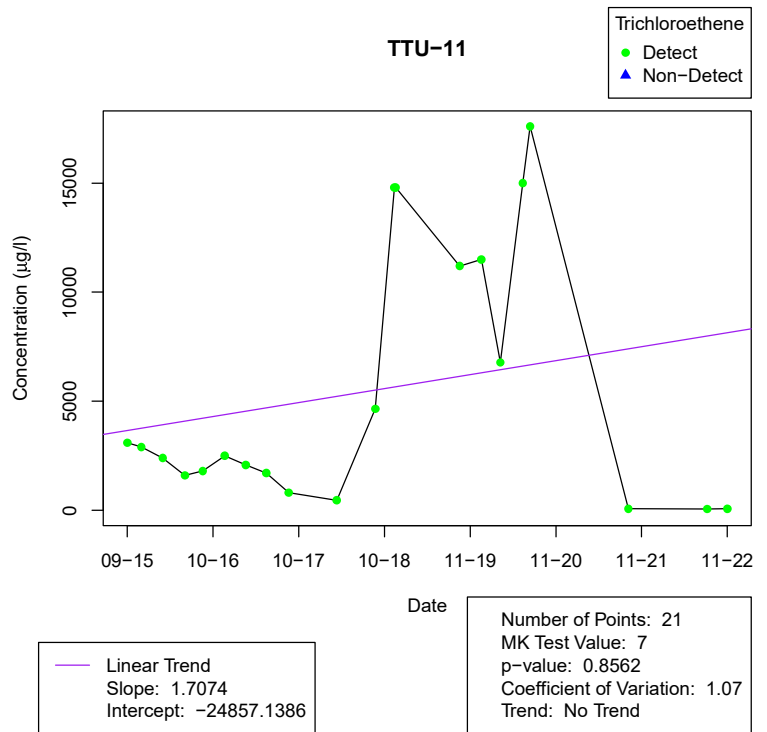
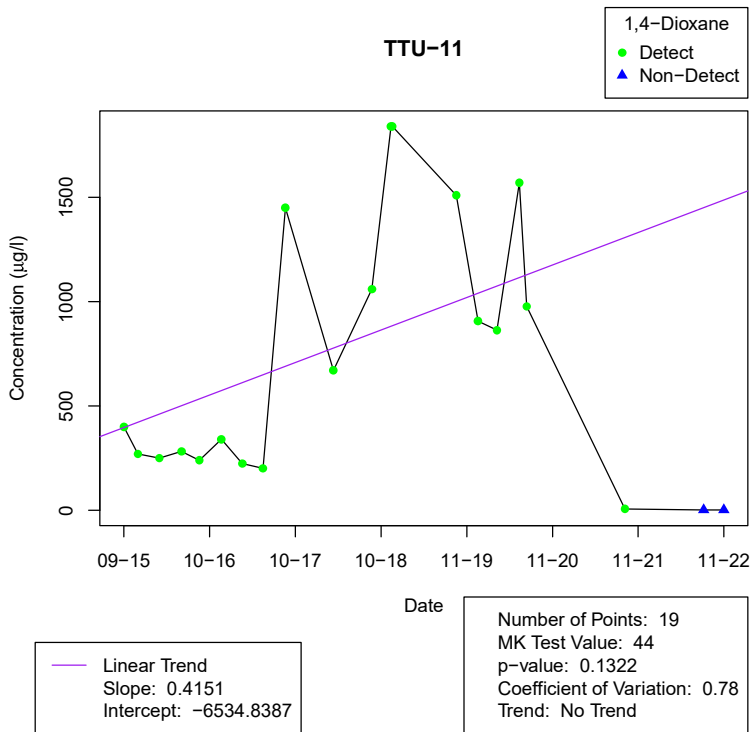
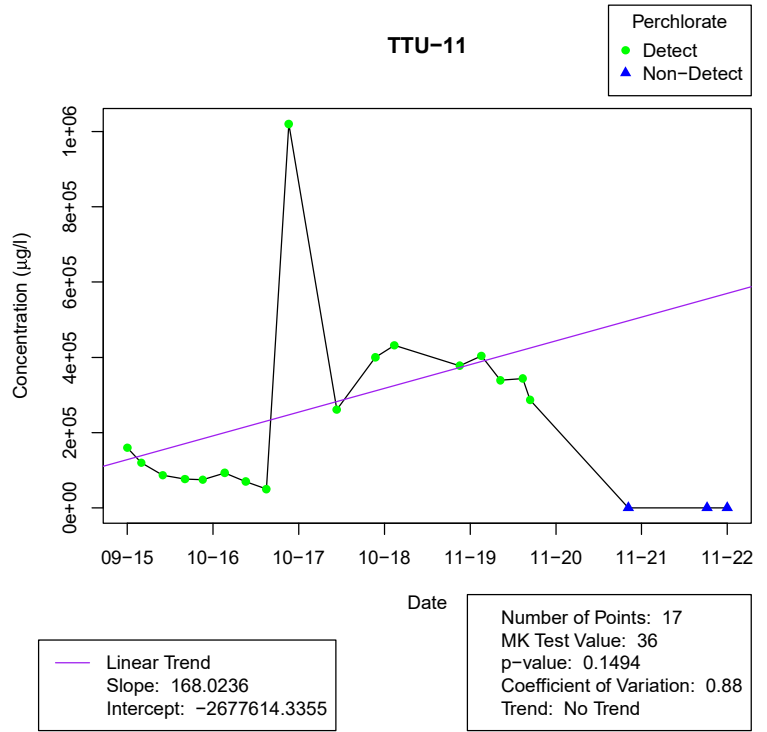
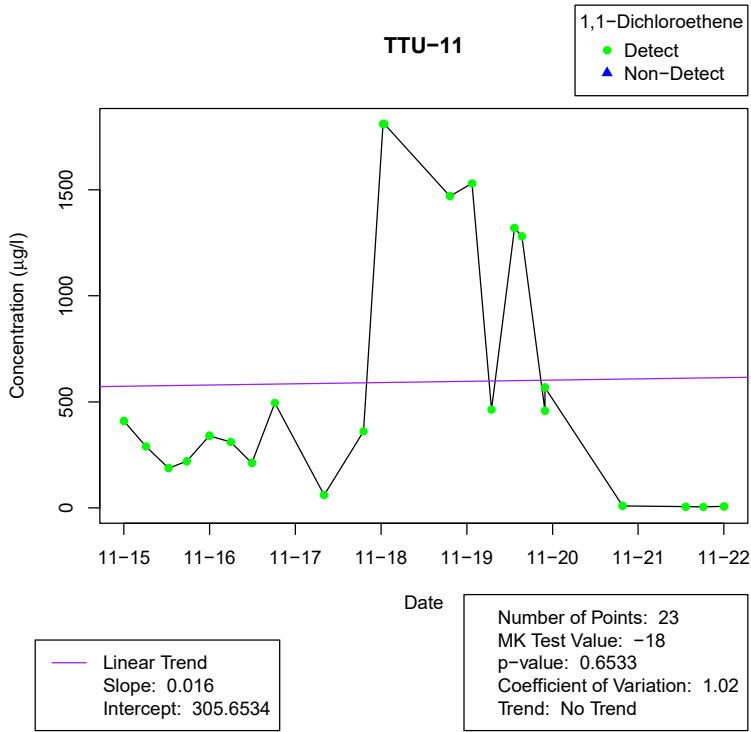


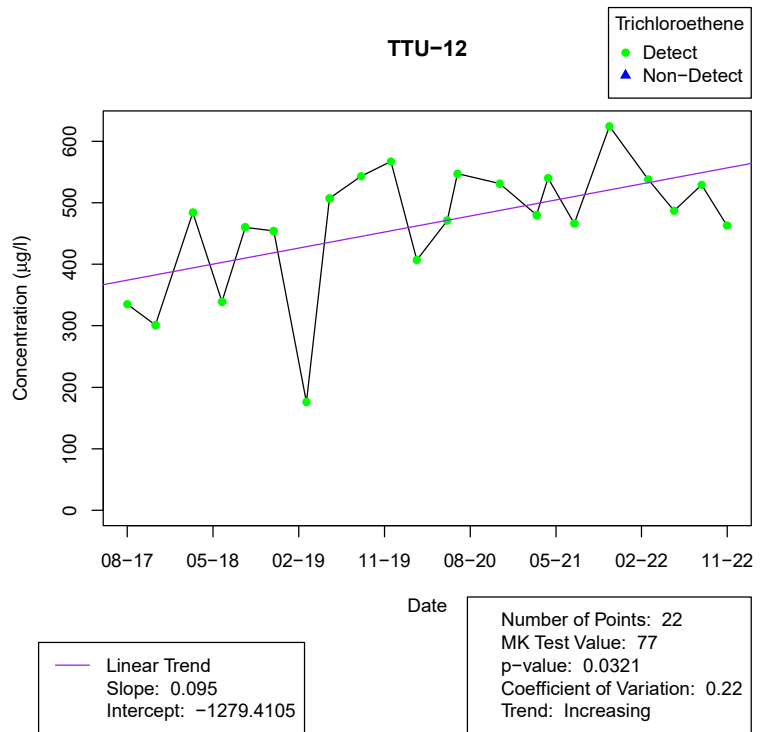
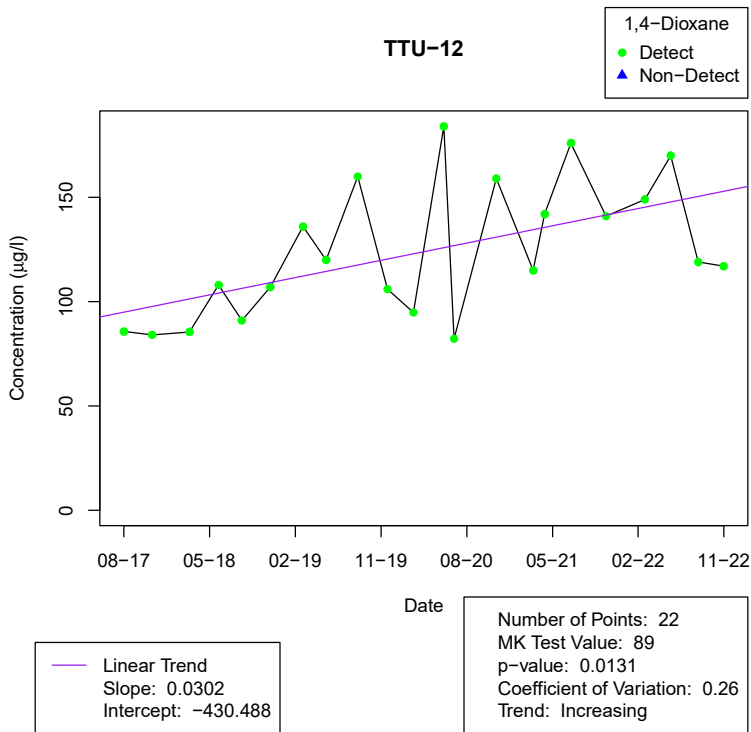
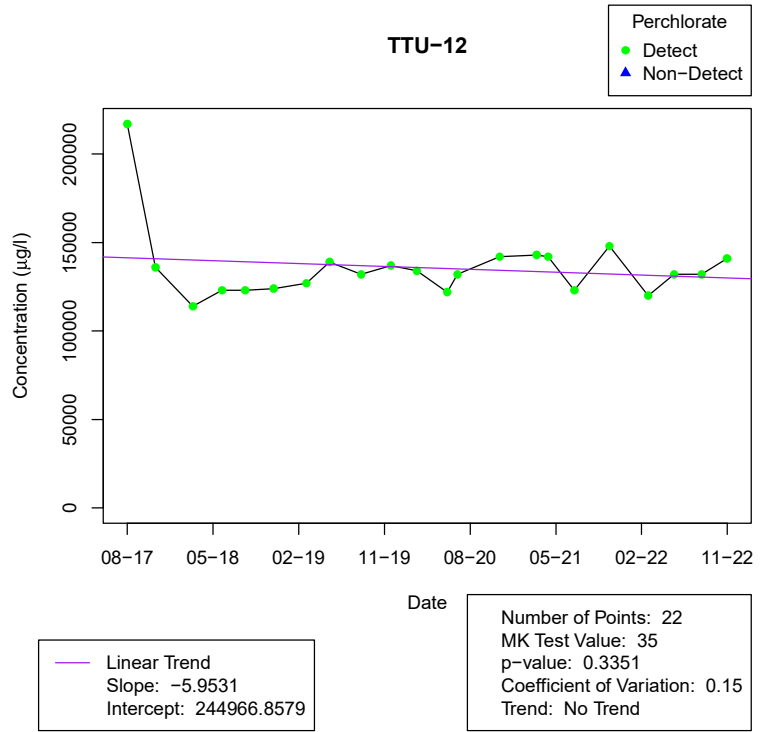
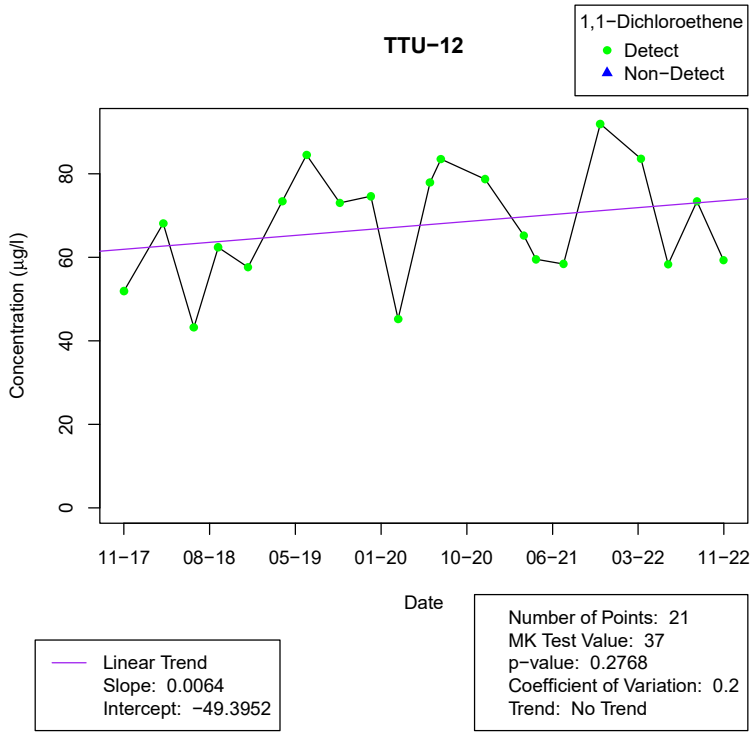


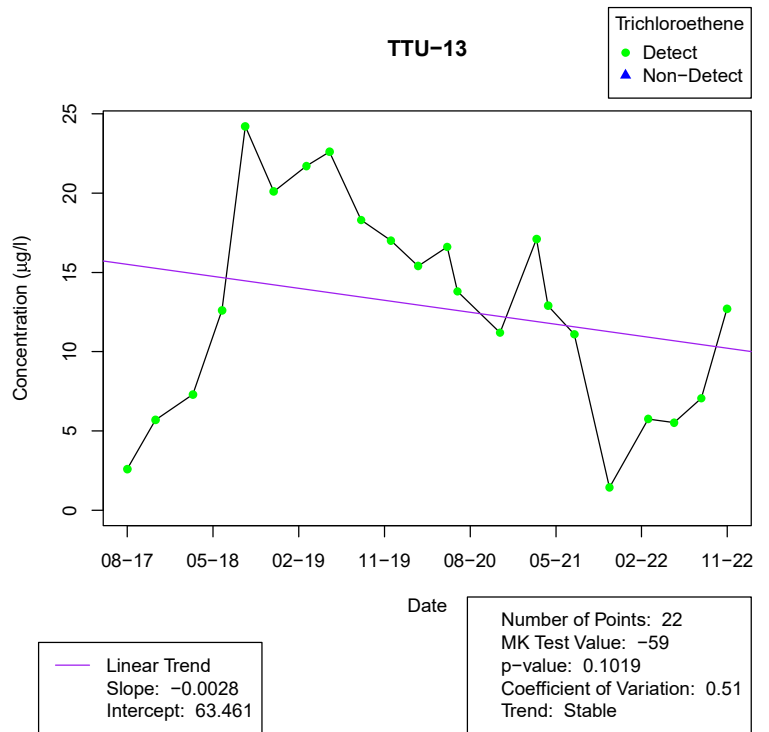
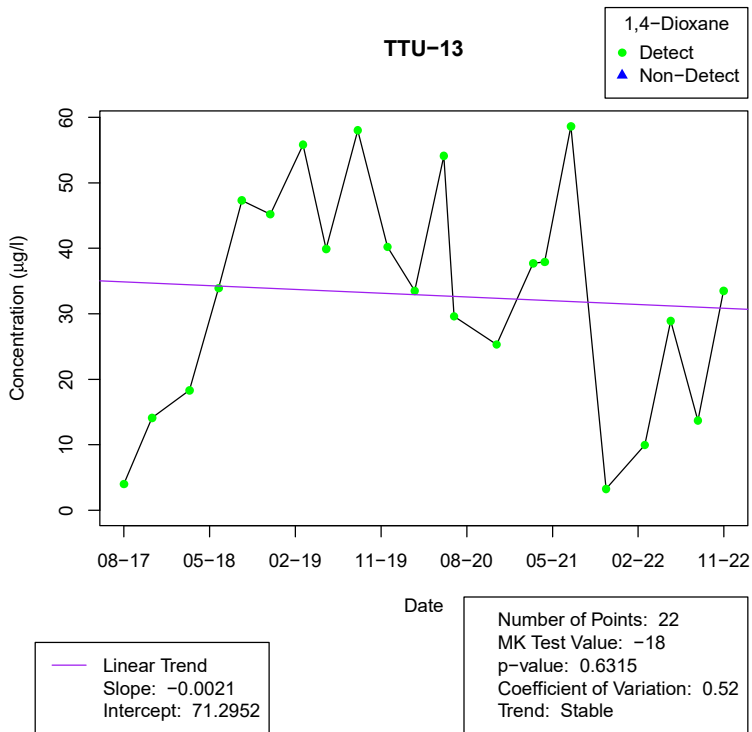
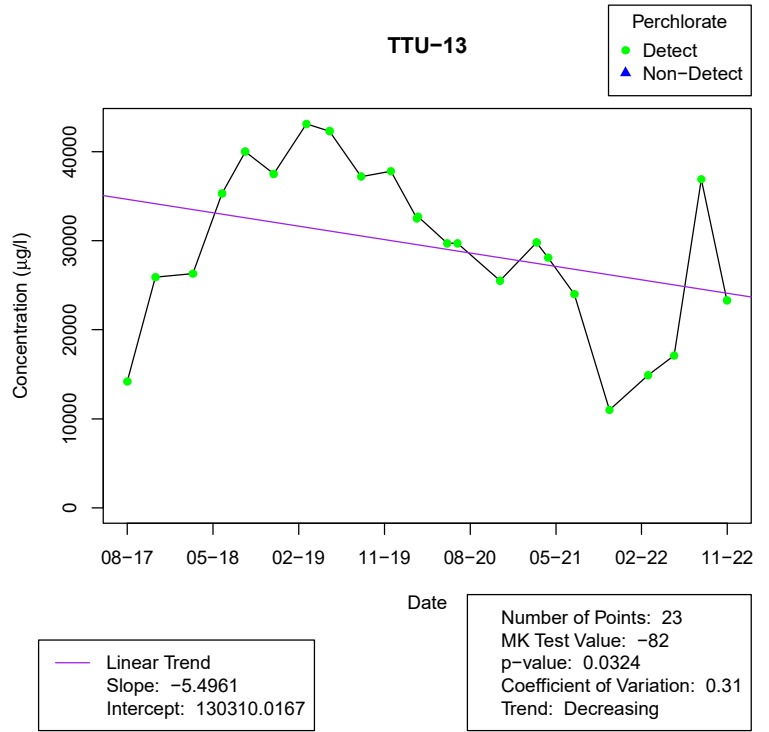
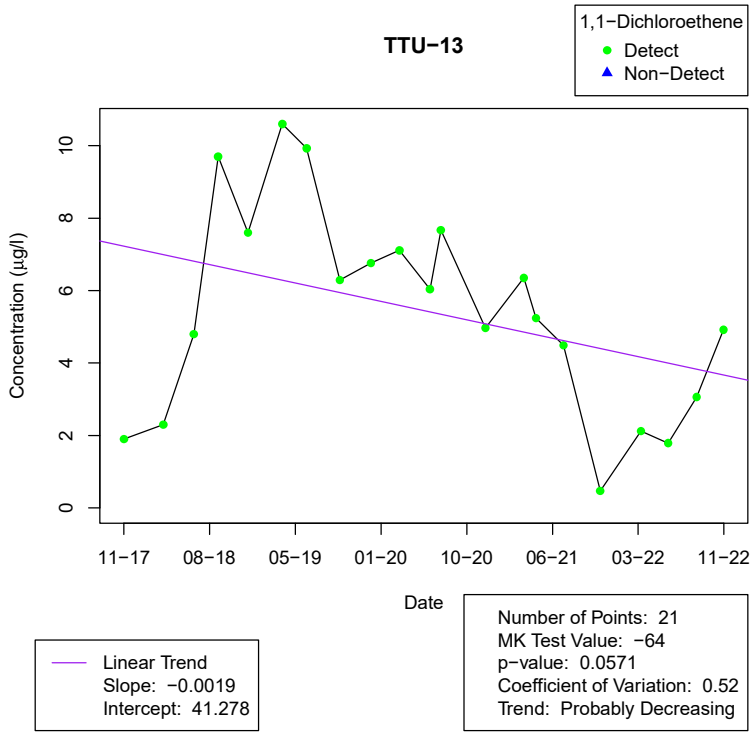


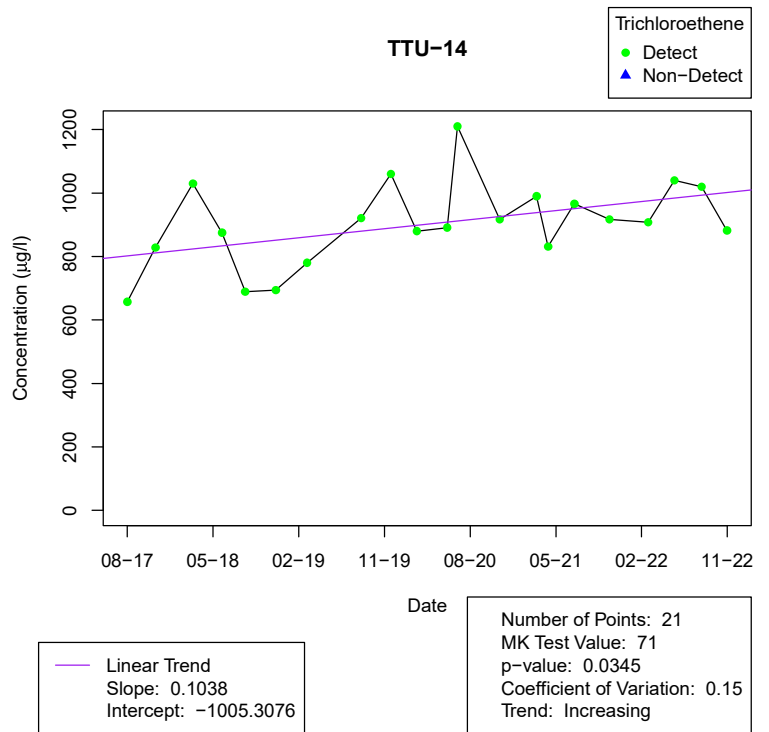
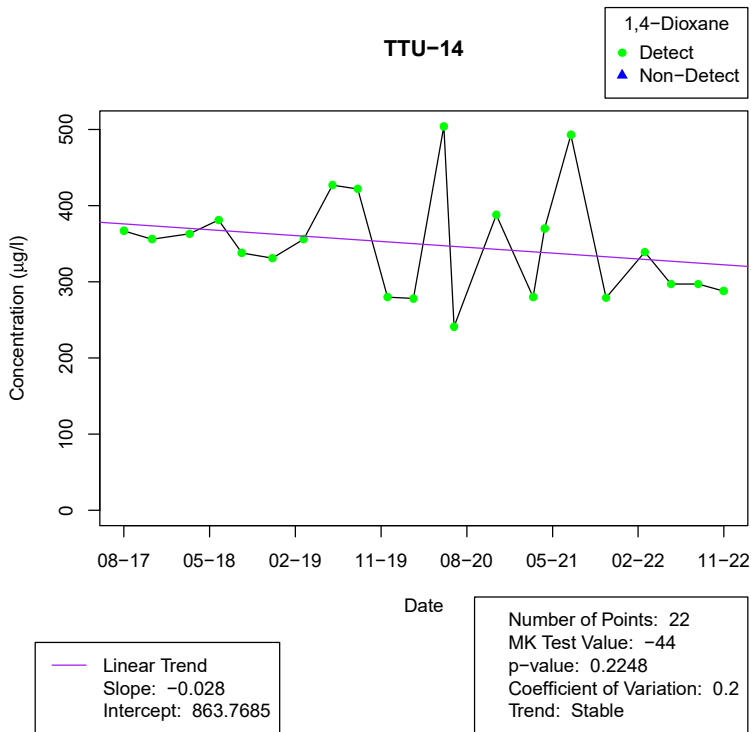
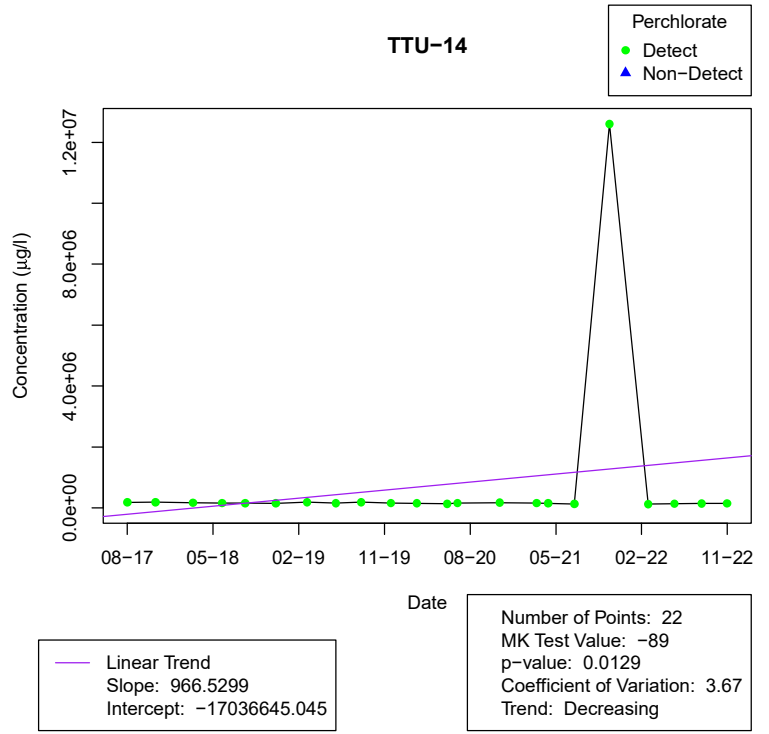
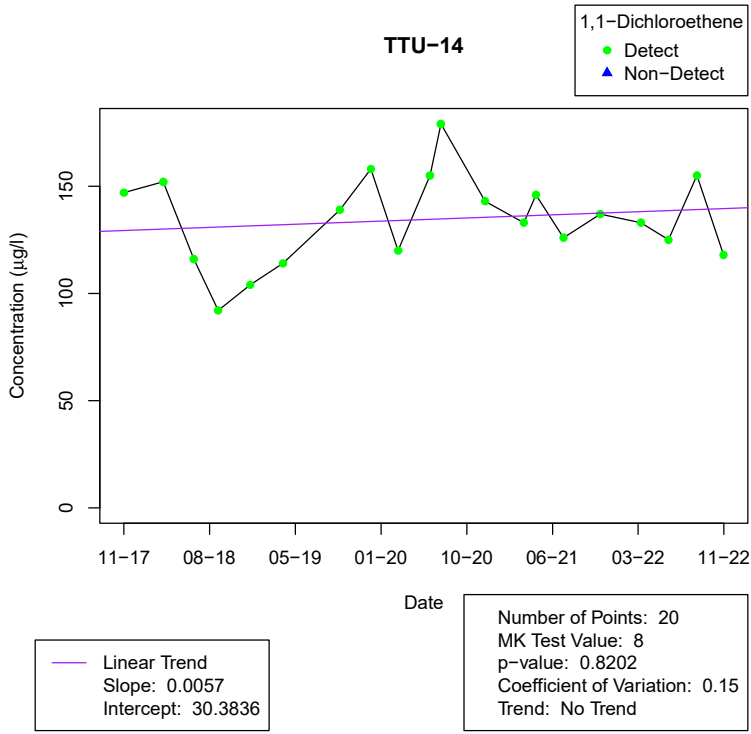


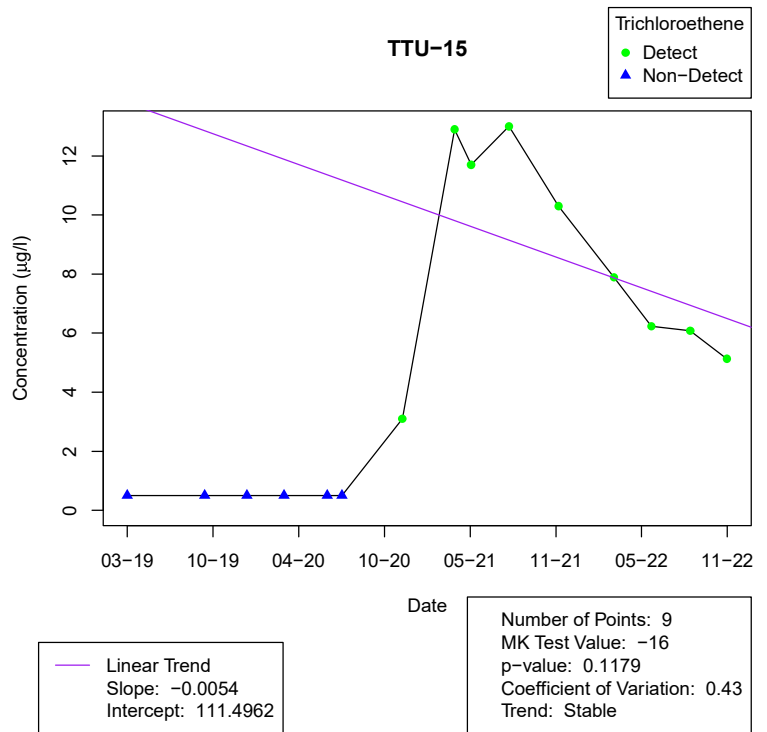
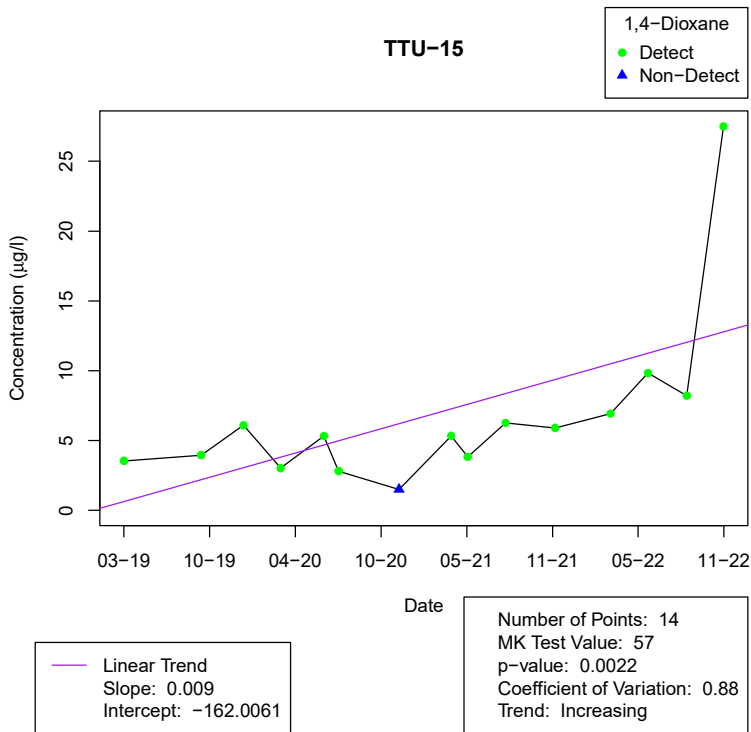
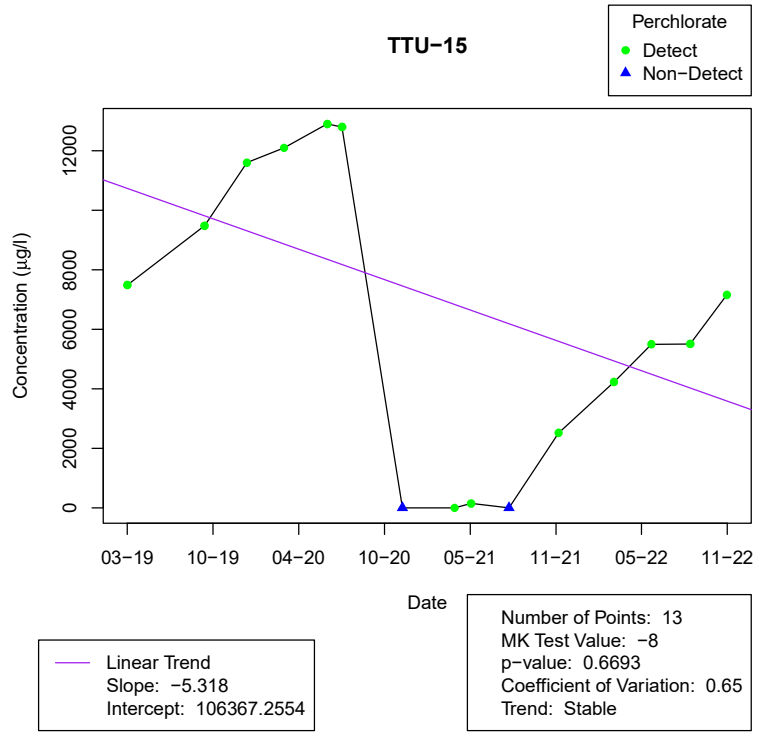
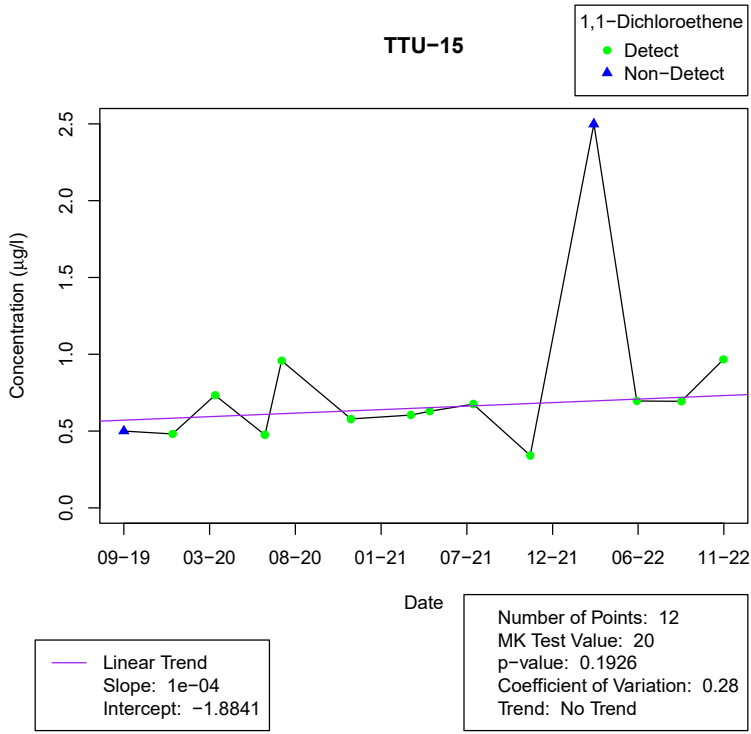


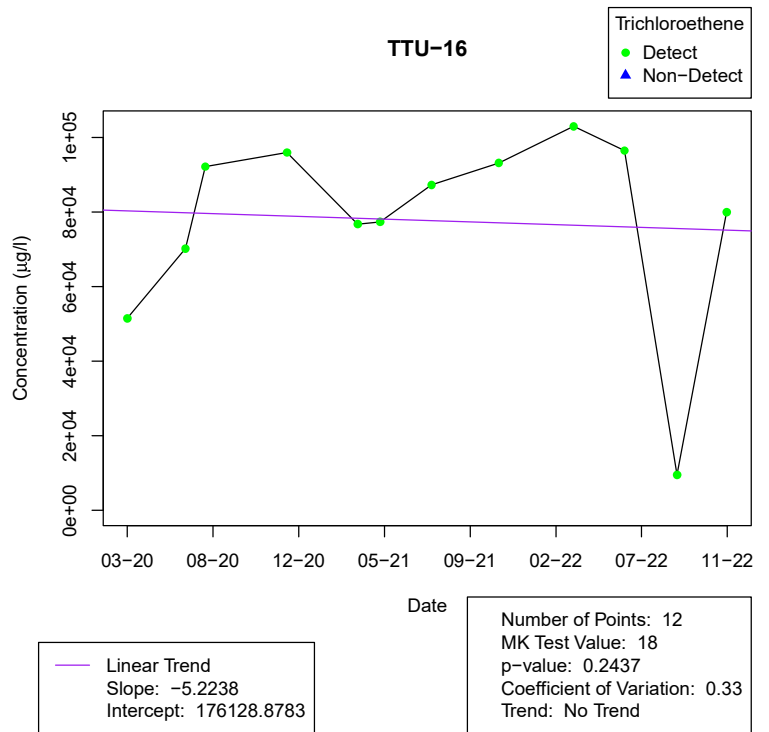
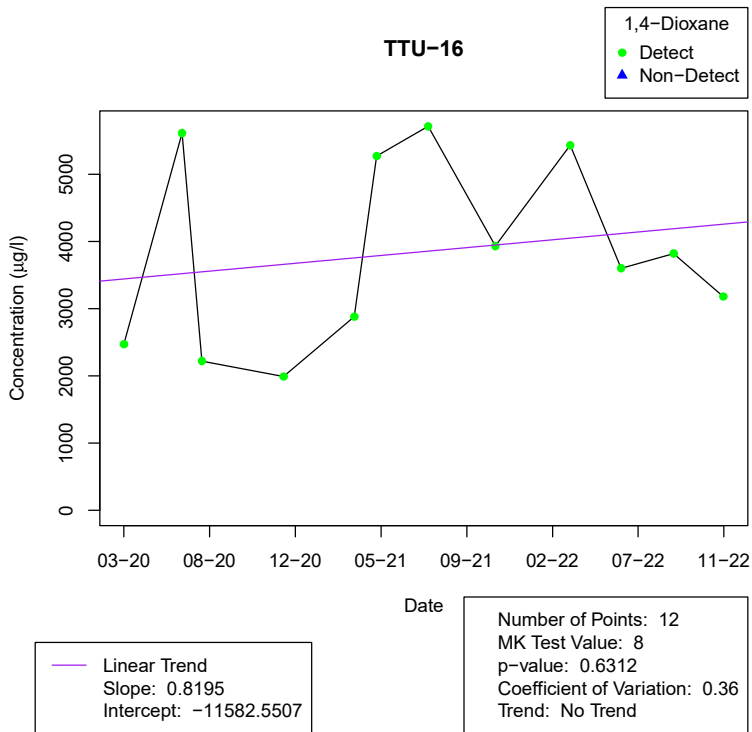
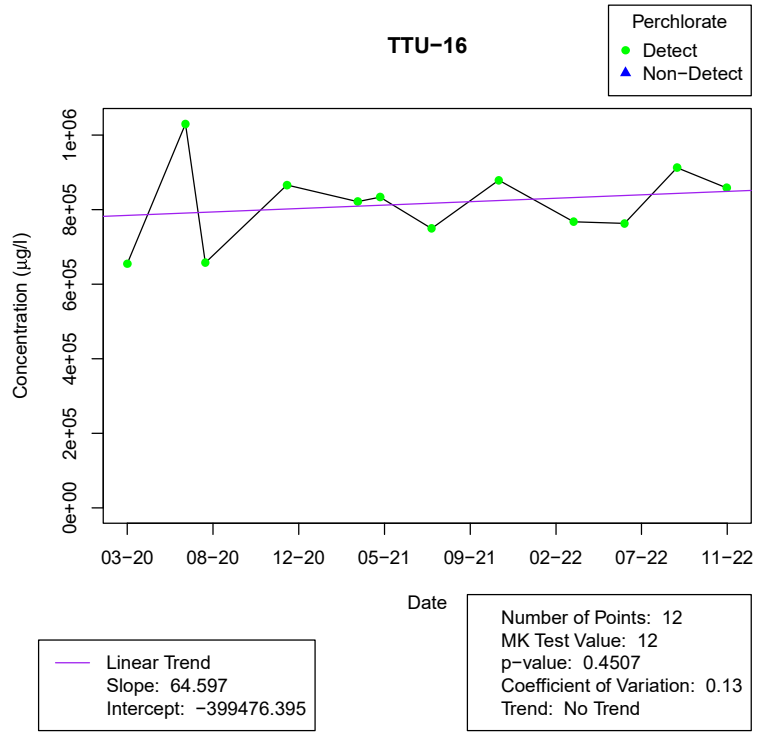
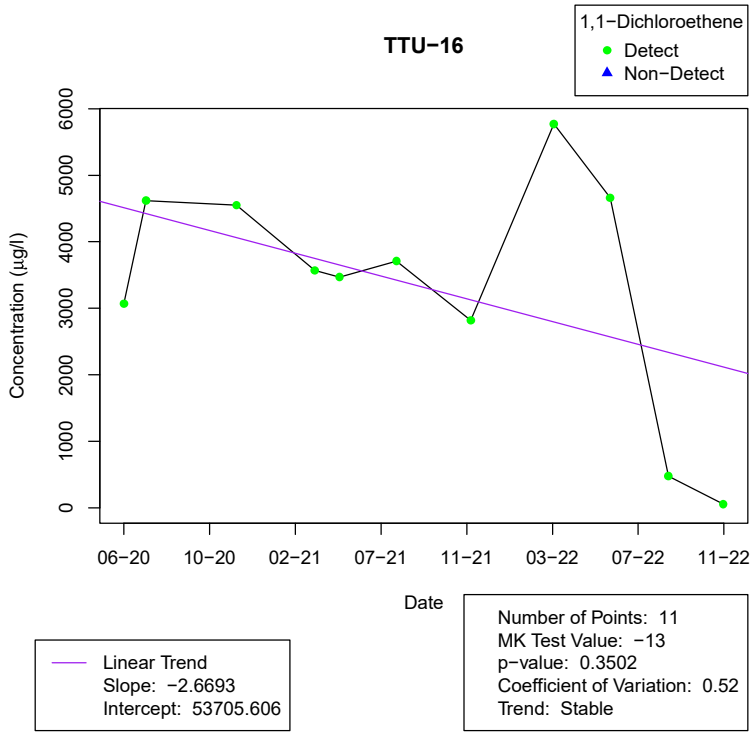


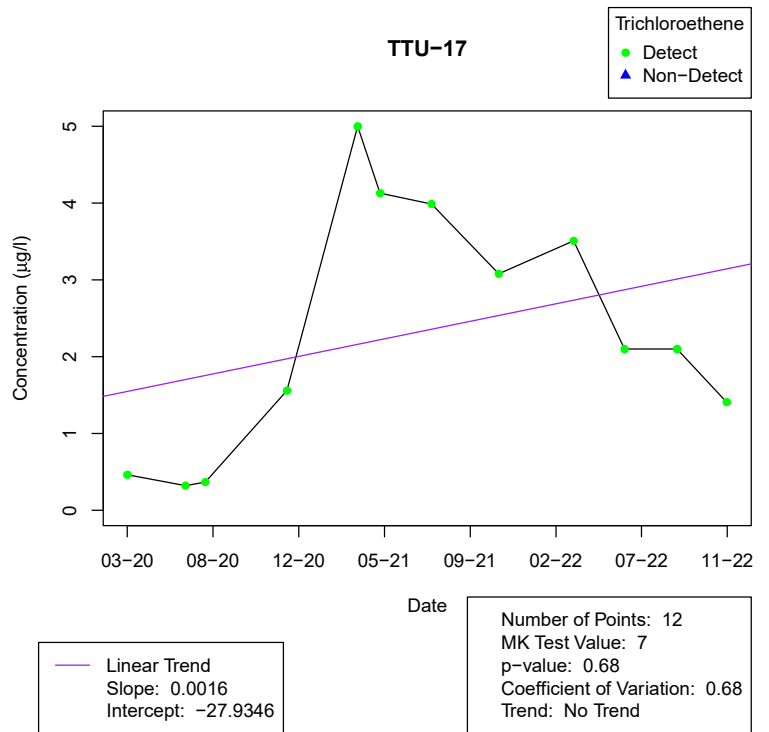
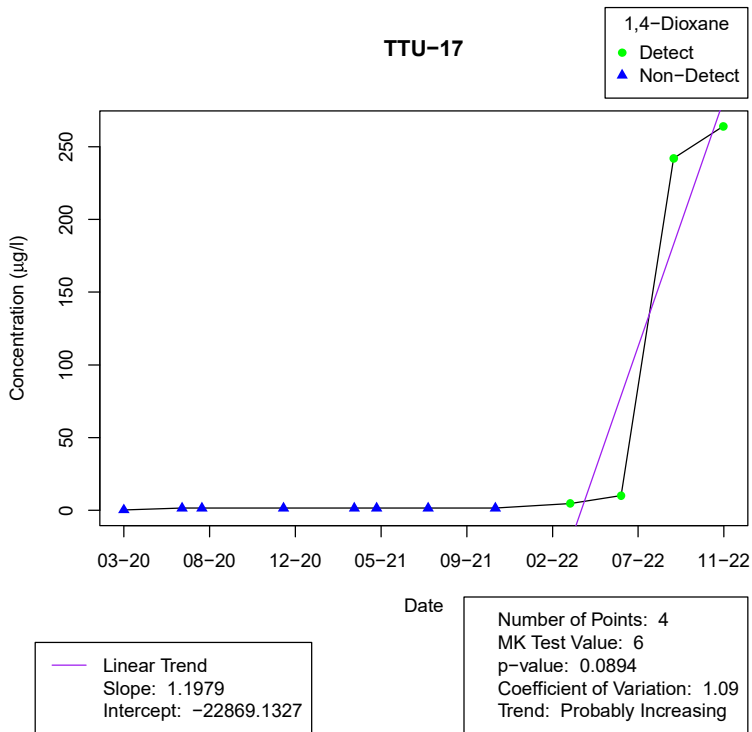
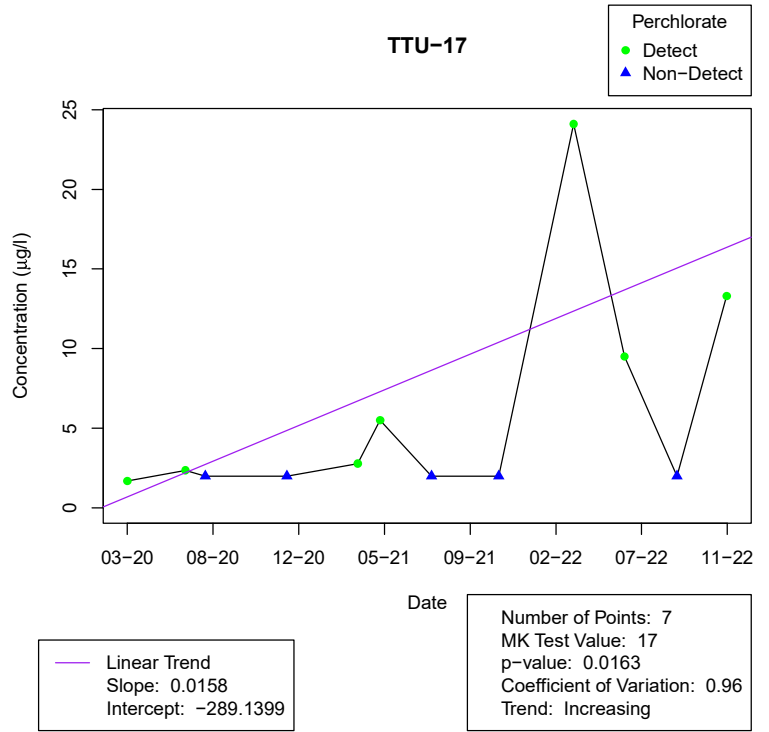
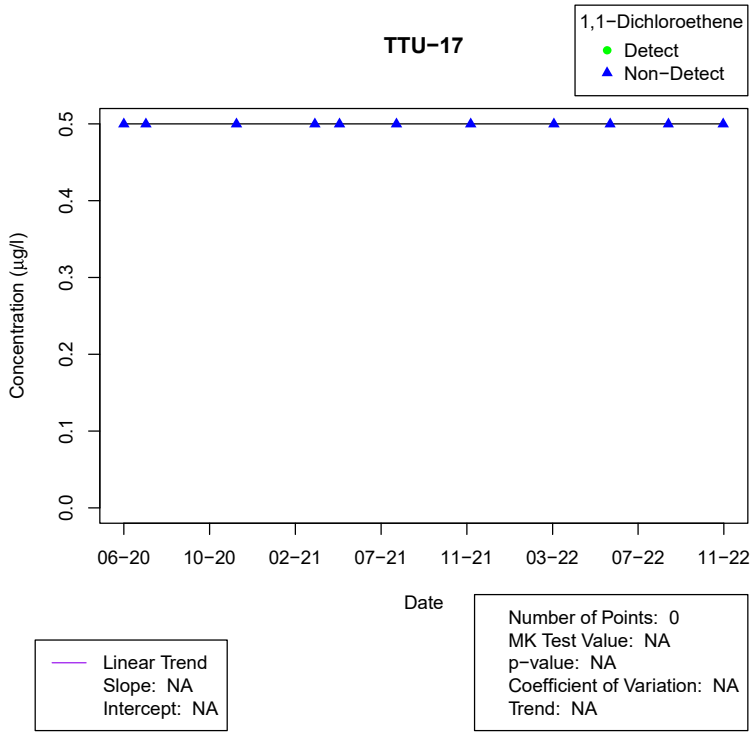






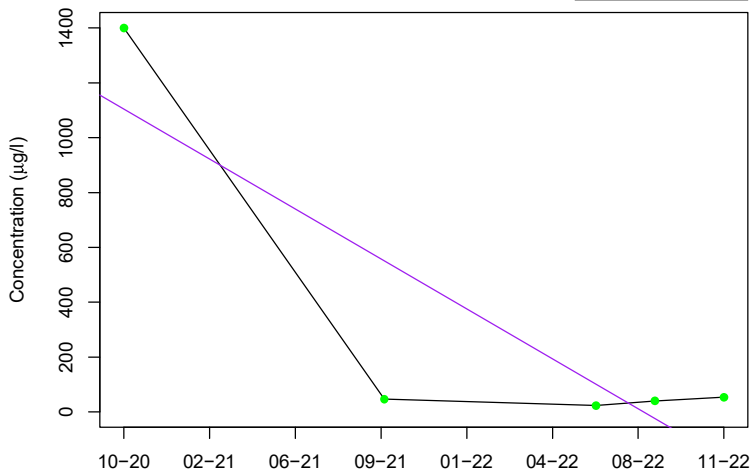






TTU-19

1,1-Dichloroethene
● Detect
▲ Non-Detect

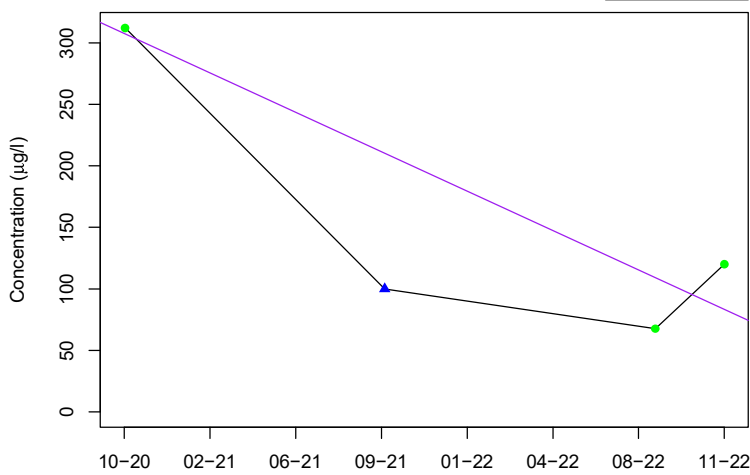


Linear Trend
Slope: -1.6673
Intercept: 32050.7186

Number of Points: 5
MK Test Value: -2
p-value: 0.8065
Coefficient of Variation: 1.94
Trend: No Trend

TTU-19

Perchlorate
● Detect
▲ Non-Detect

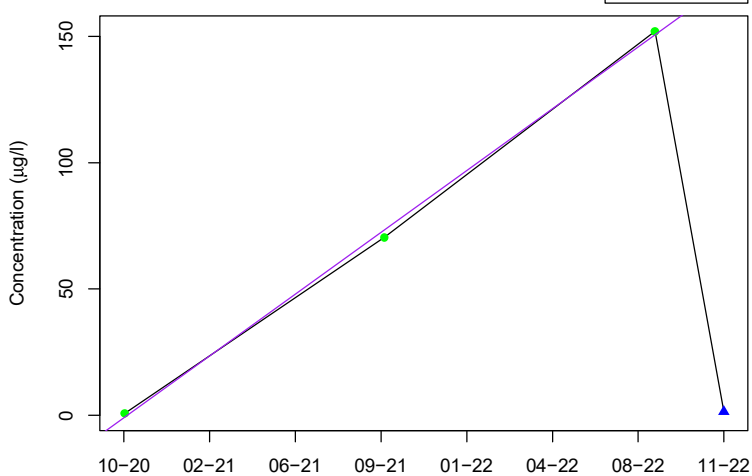


Linear Trend
Slope: -0.2931
Intercept: 5747.7521

Number of Points: 3
MK Test Value: NA
p-value: NA
Coefficient of Variation: NA
Trend: NA

TTU-19

1,4-Dioxane
● Detect
▲ Non-Detect

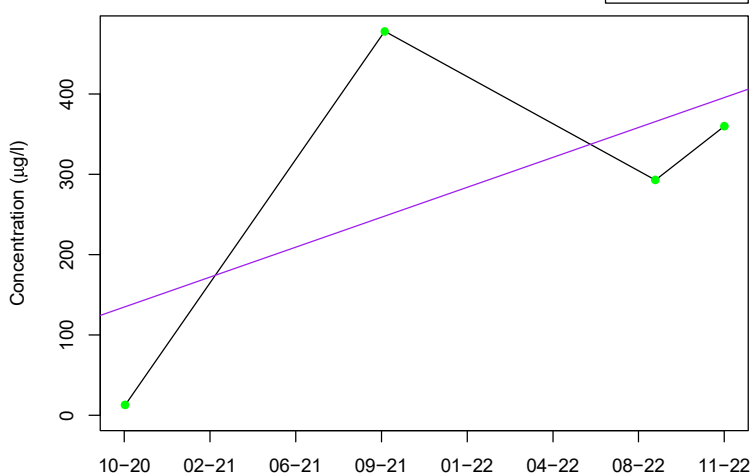


Linear Trend
Slope: 0.2238
Intercept: -4154.6604

Number of Points: 3
MK Test Value: NA
p-value: NA
Coefficient of Variation: NA
Trend: NA

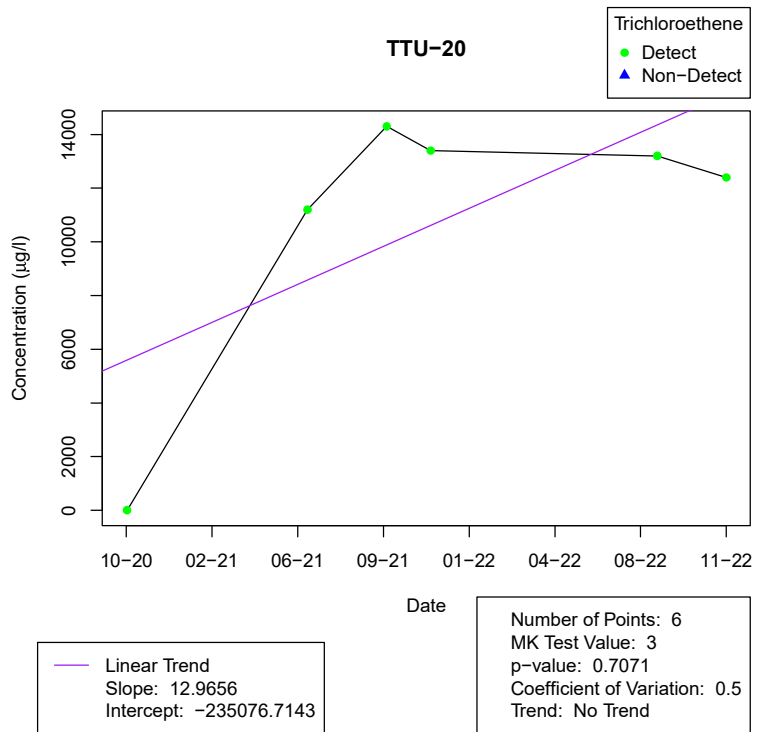
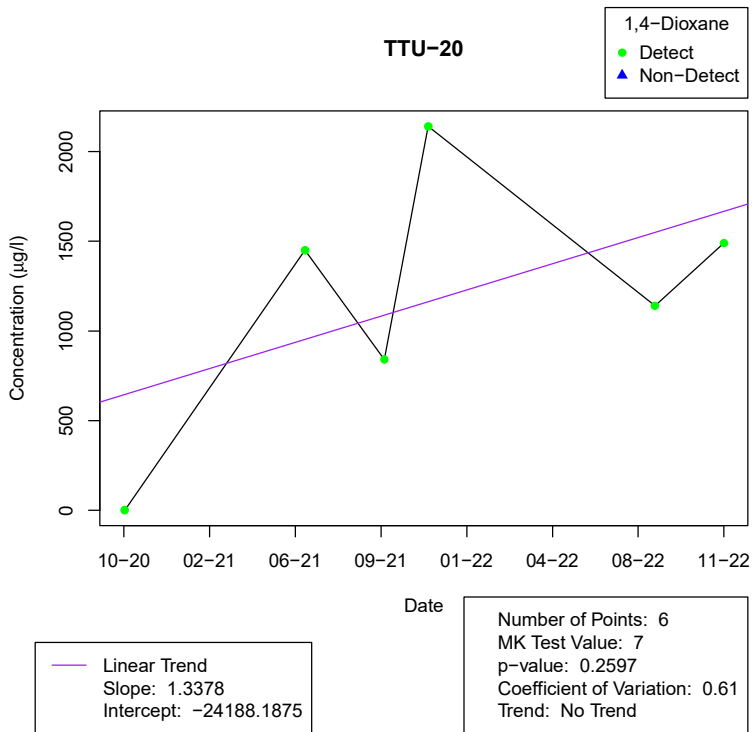
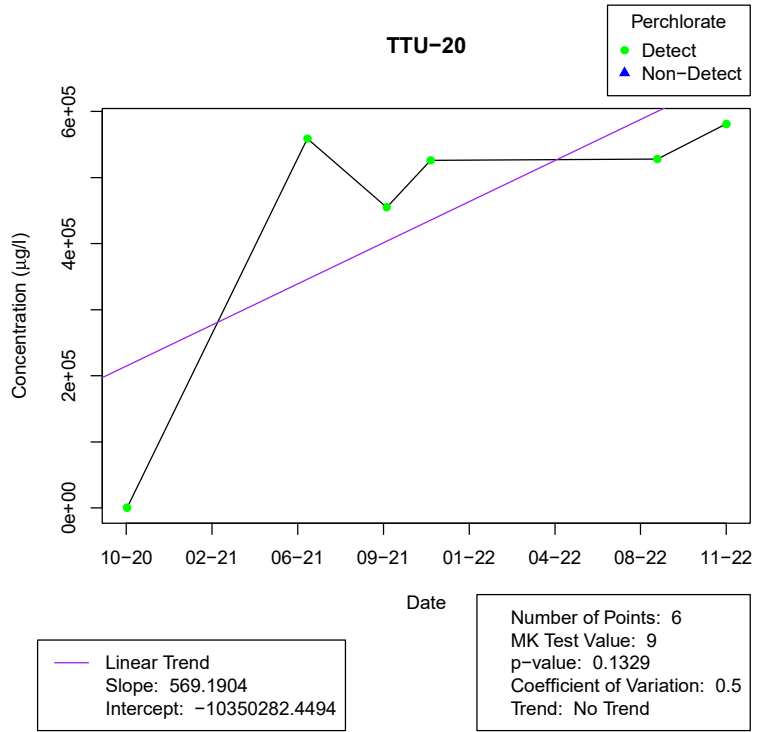
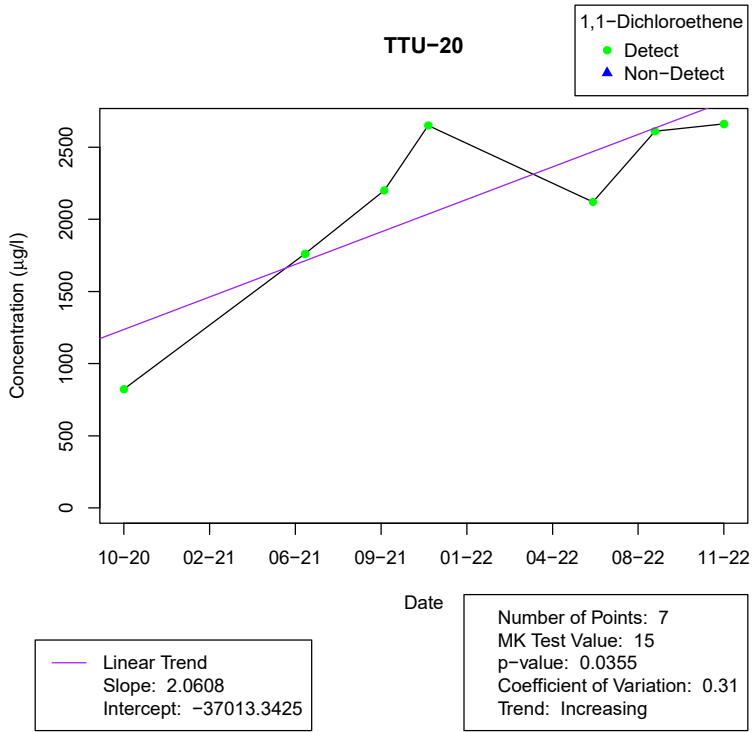
TTU-19

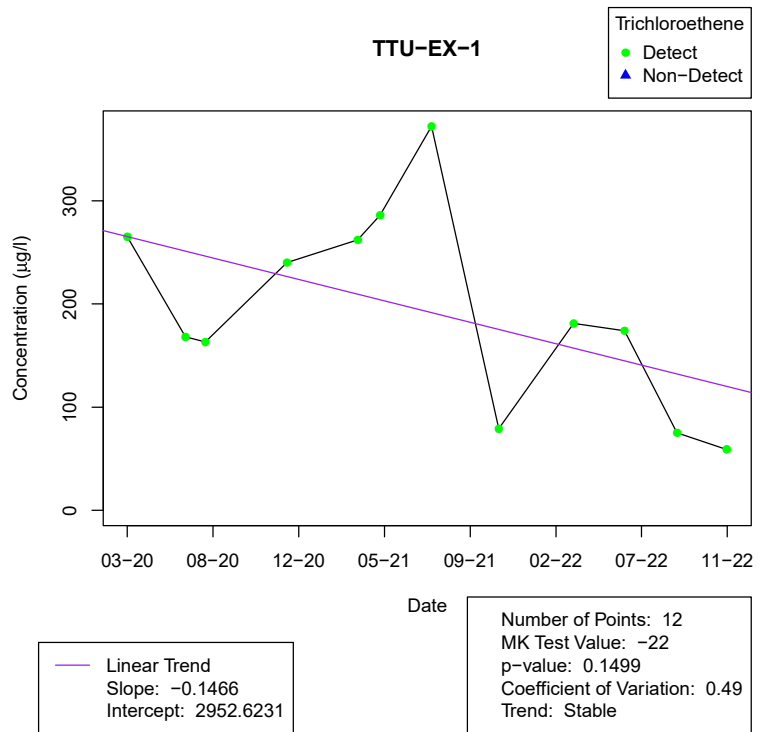
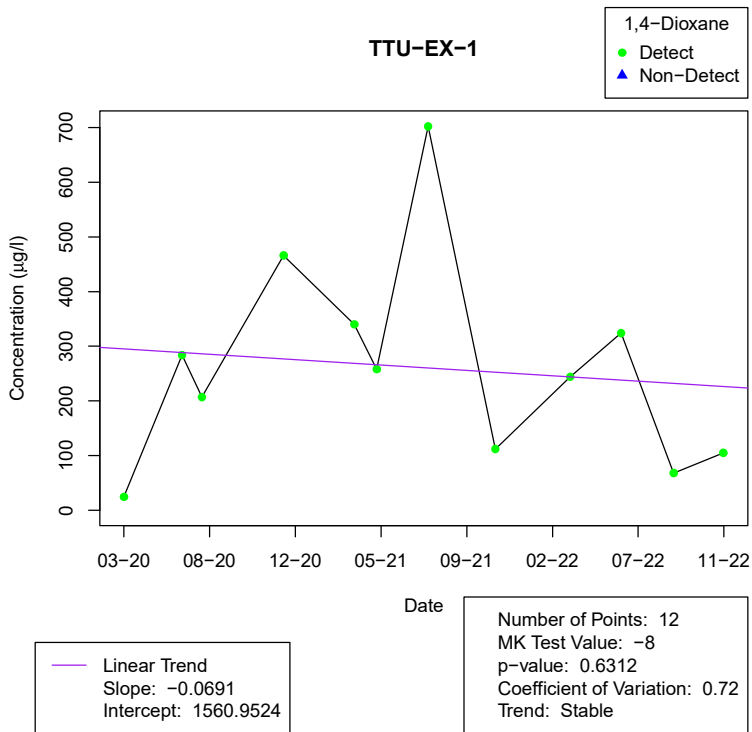
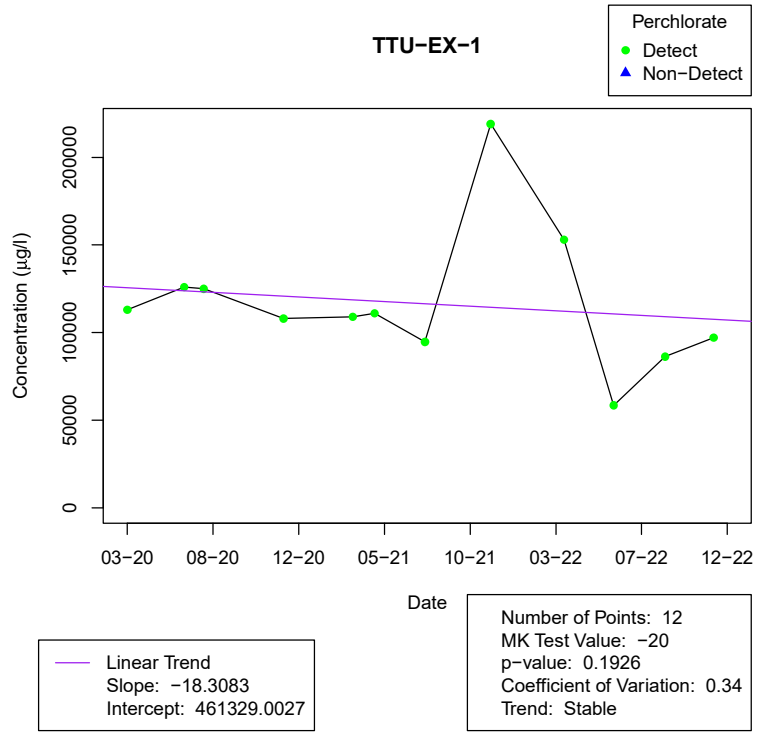
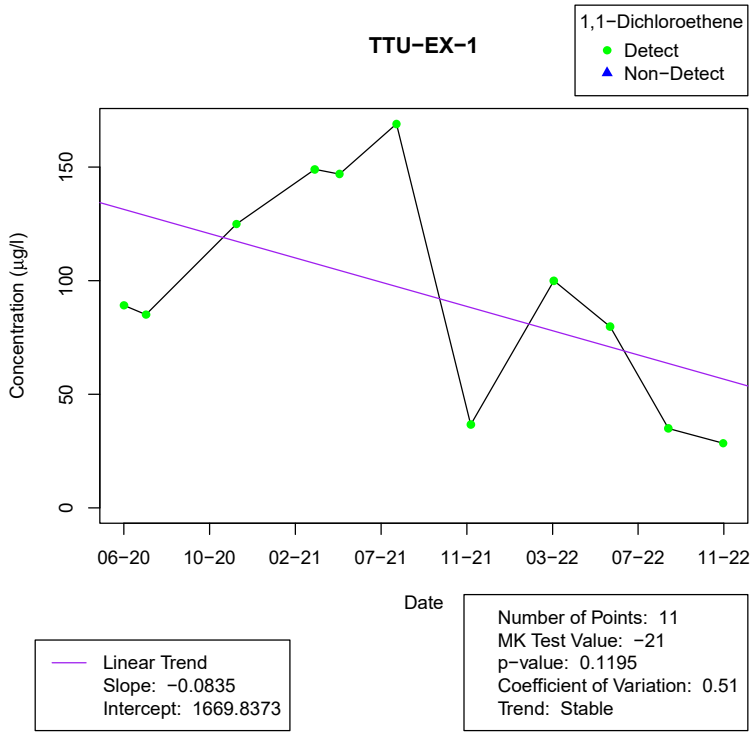
Trichloroethene
● Detect
▲ Non-Detect

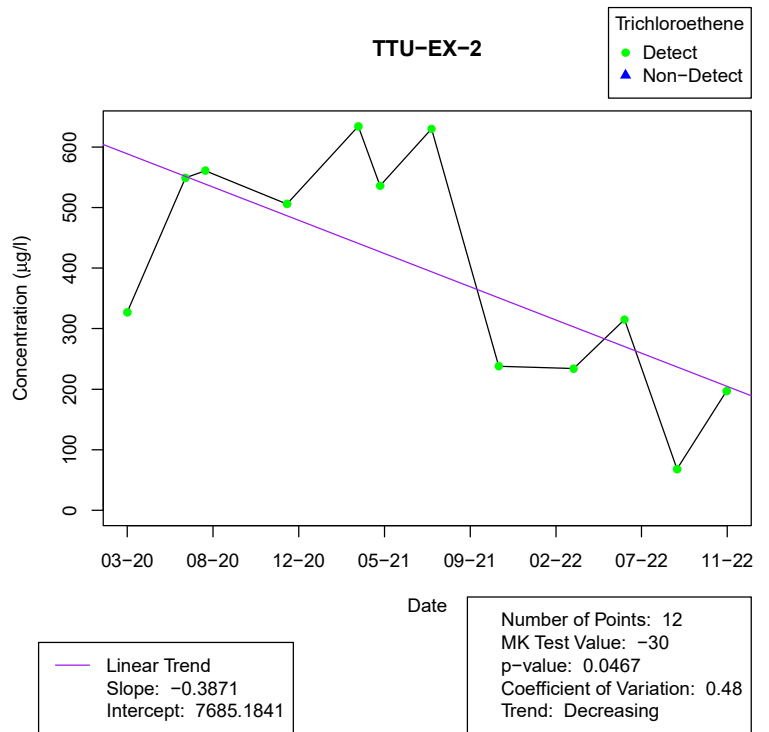
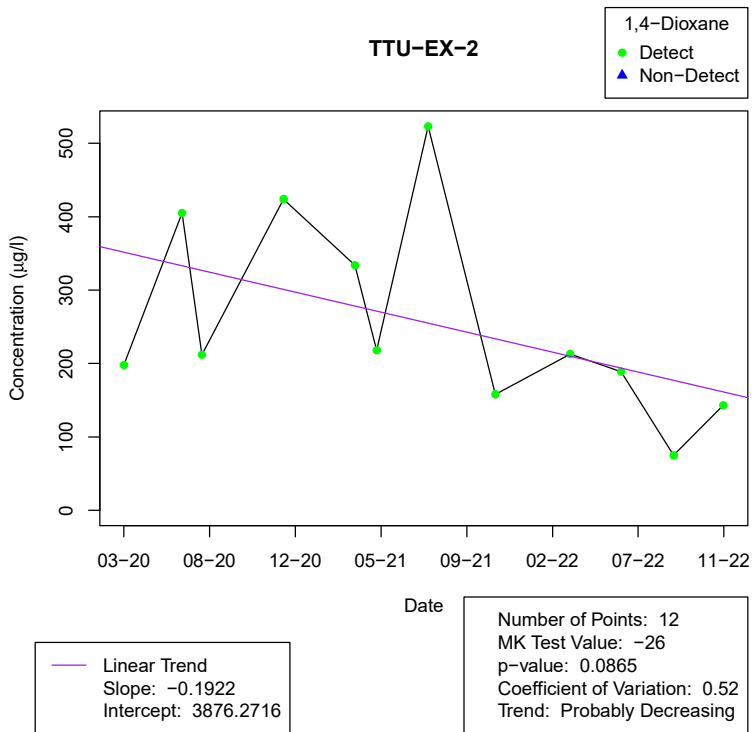
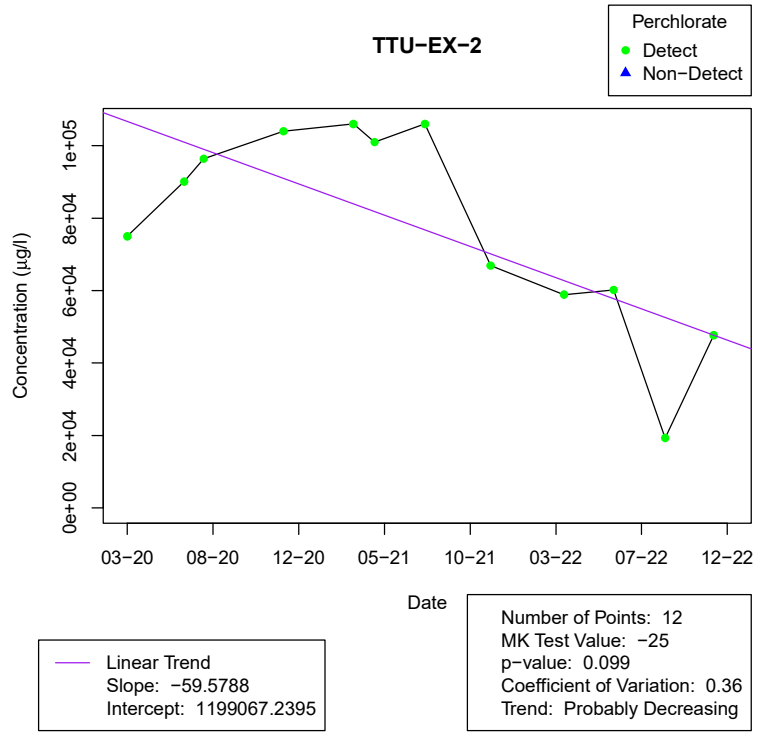
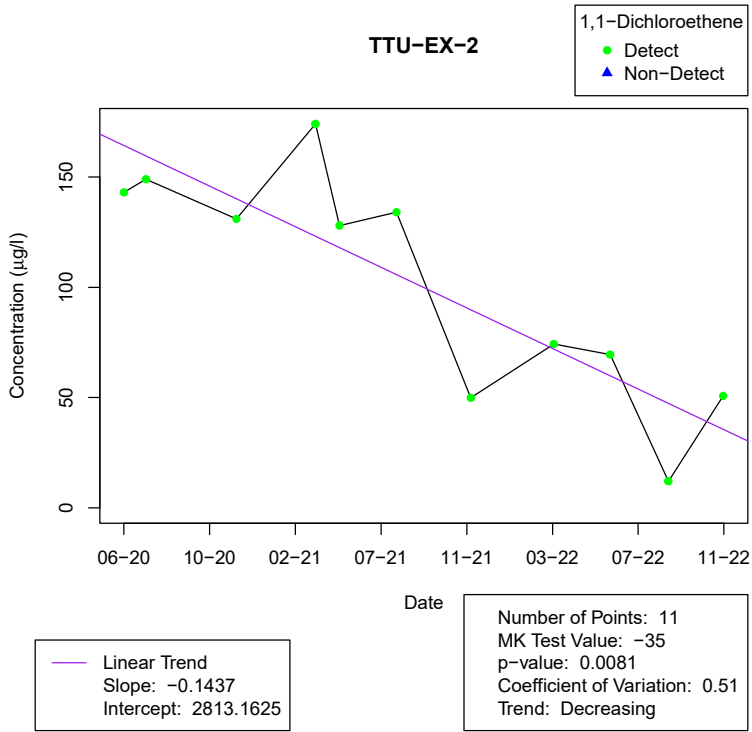


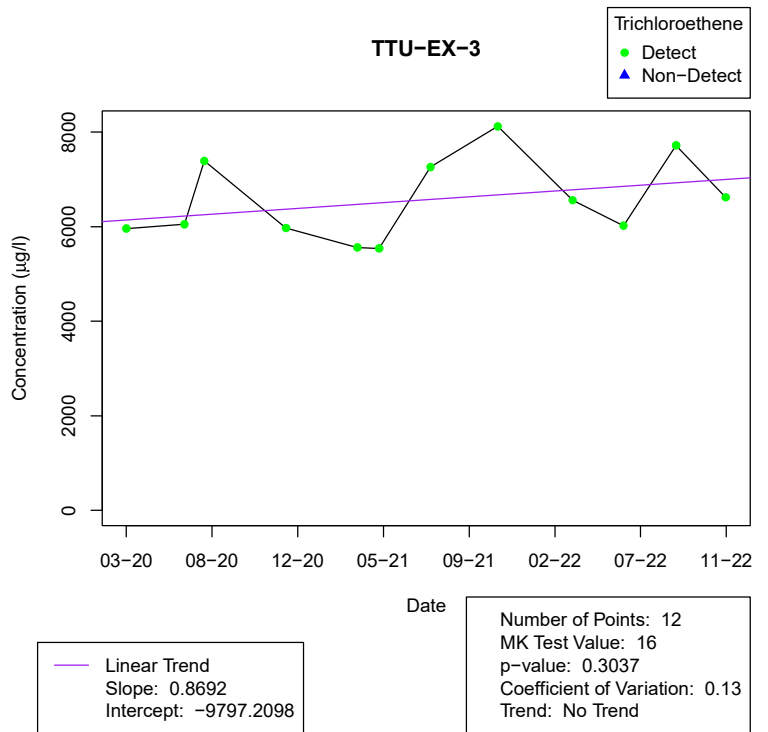
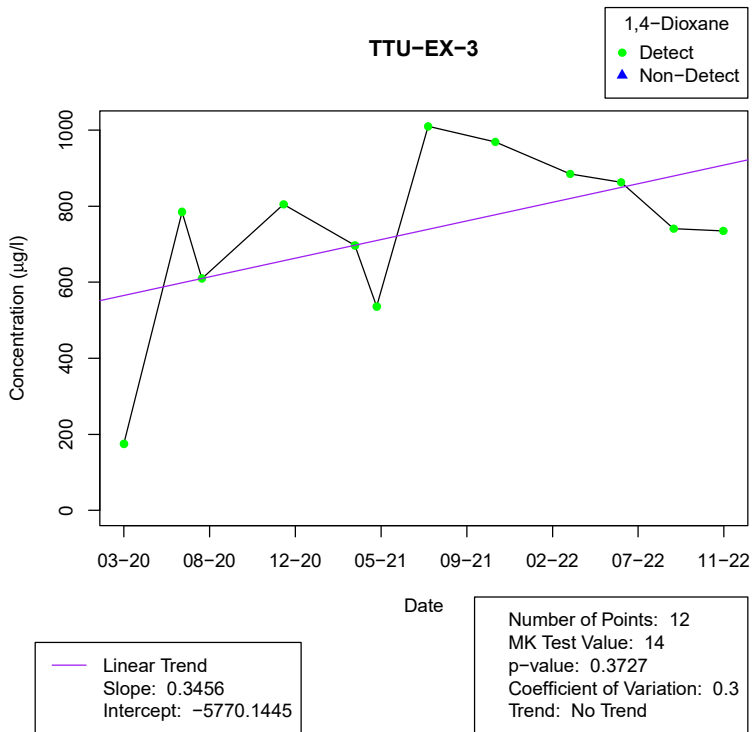
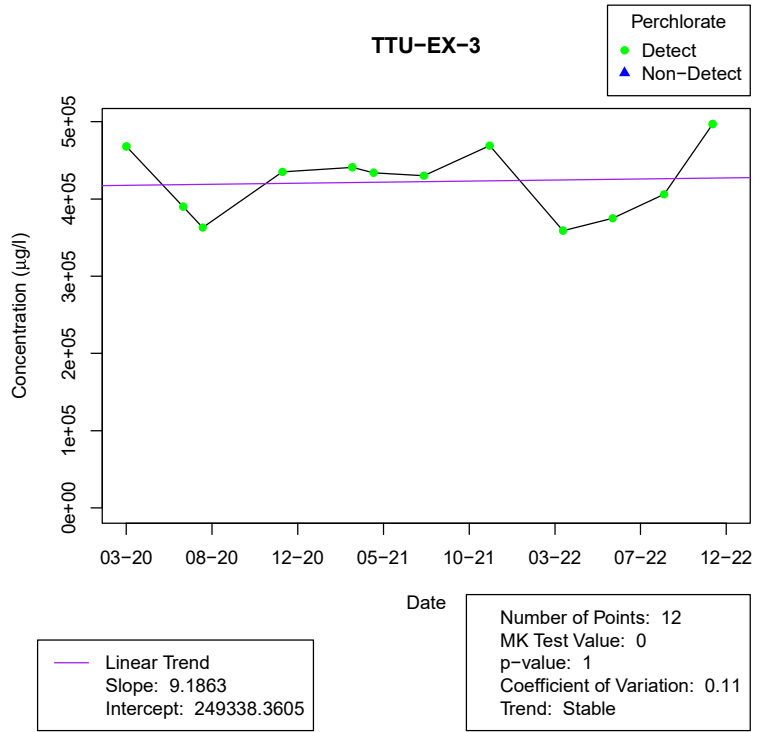
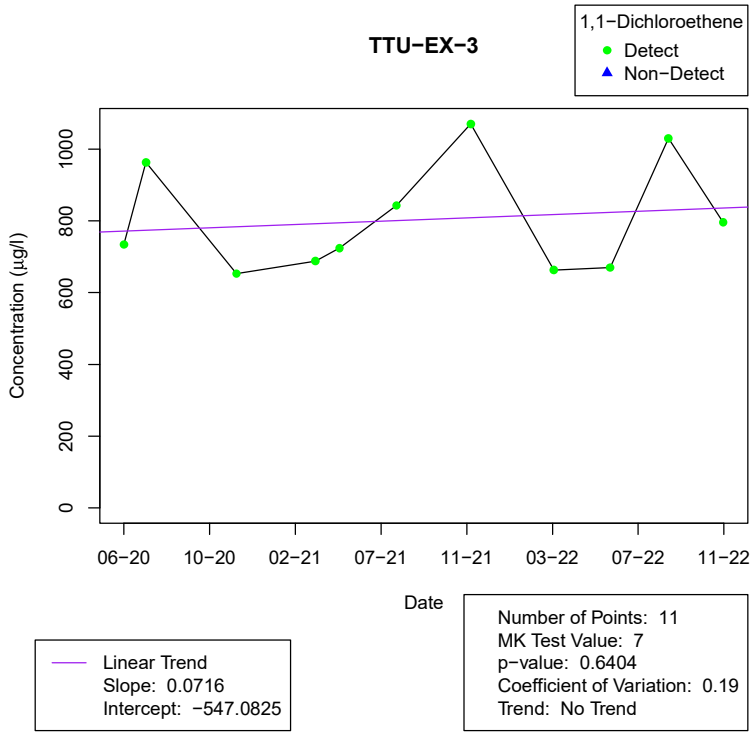
Linear Trend
Slope: 0.341
Intercept: -6195.4969

Number of Points: 4
MK Test Value: 2
p-value: 0.7341
Coefficient of Variation: 0.69
Trend: No Trend



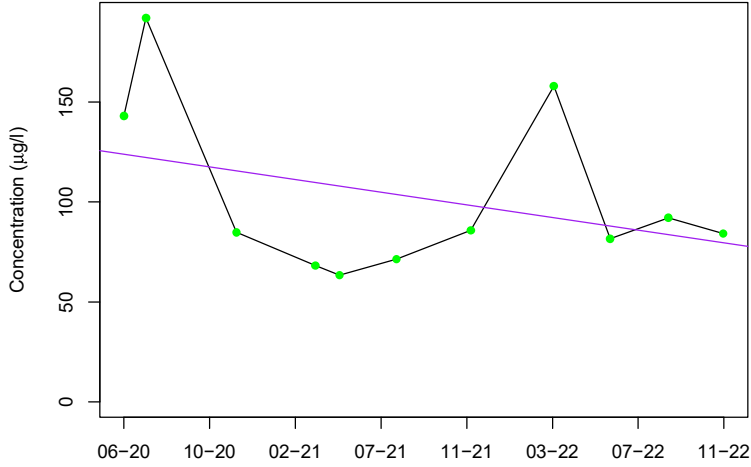






TTU-EX-4

1,1-Dichloroethene
● Detect
▲ Non-Detect



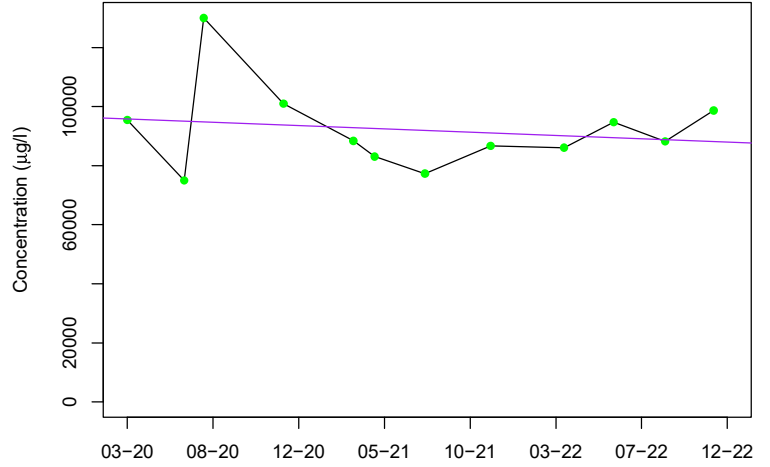
Date

Number of Points: 11
MK Test Value: -3
p-value: 0.8763
Coefficient of Variation: 0.41
Trend: Stable

Linear Trend
Slope: -0.0494
Intercept: 1034.7649

TTU-EX-4

Perchlorate
● Detect
▲ Non-Detect



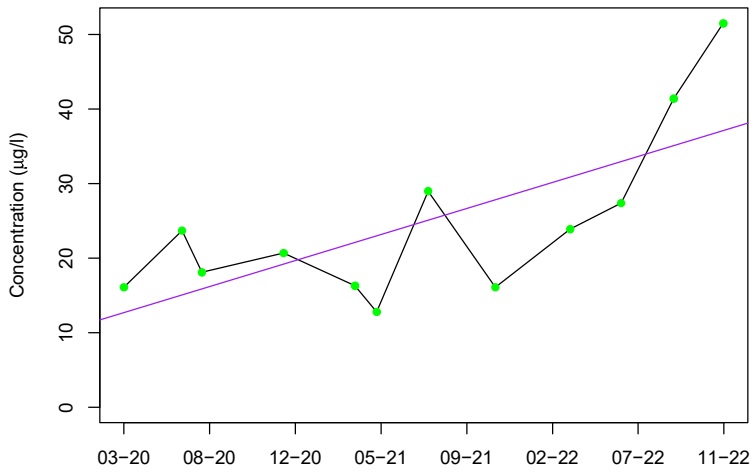
Date

Number of Points: 12
MK Test Value: 0
p-value: 1
Coefficient of Variation: 0.16
Trend: Stable

Linear Trend
Slope: -7.7764
Intercept: 238431.5997

TTU-EX-4

1,4-Dioxane
● Detect
▲ Non-Detect



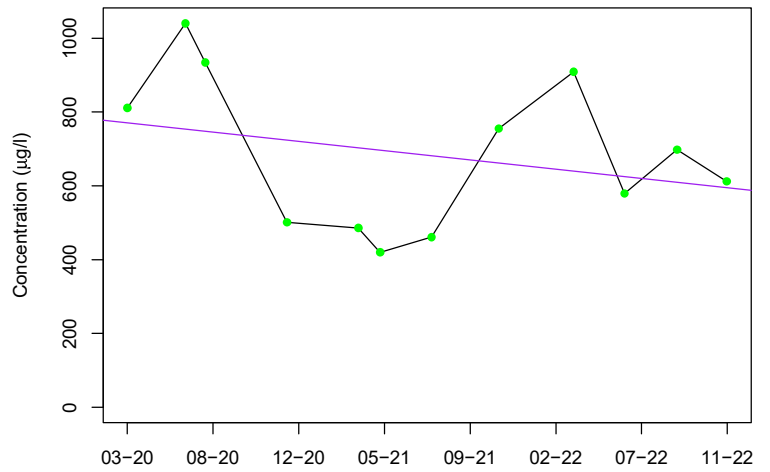
Date

Number of Points: 12
MK Test Value: 31
p-value: 0.0392
Coefficient of Variation: 0.46
Trend: Increasing

Linear Trend
Slope: 0.0247
Intercept: -439.3653

TTU-EX-4

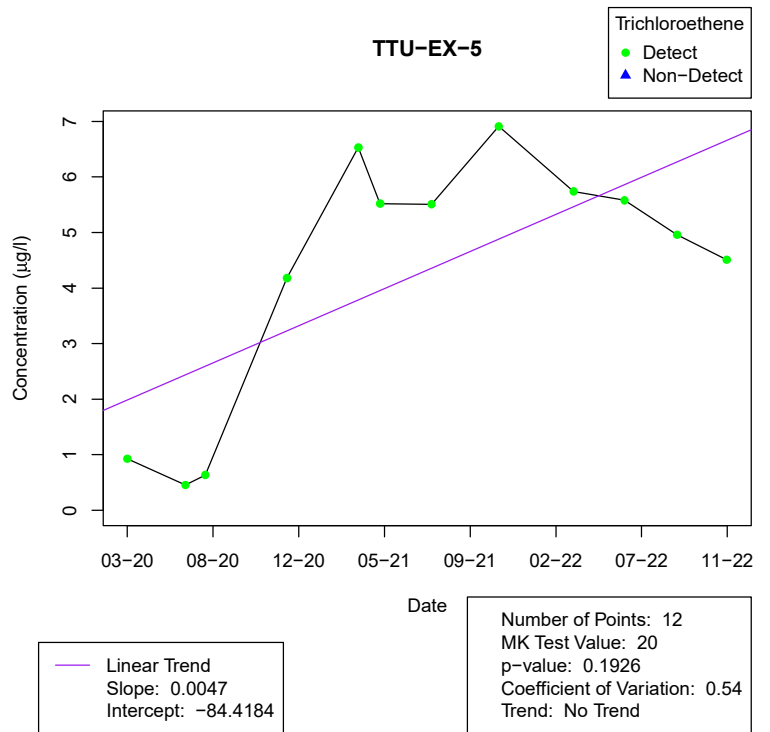
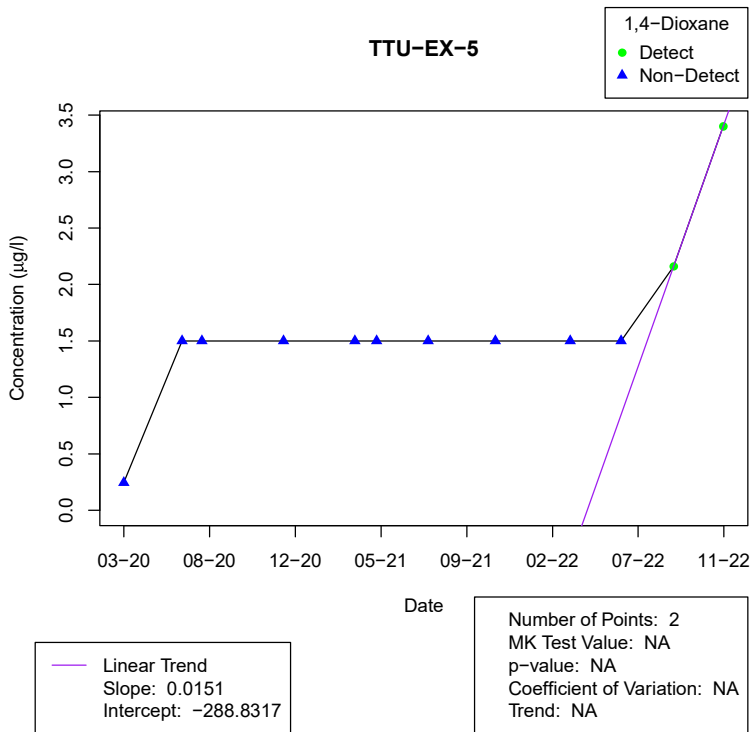
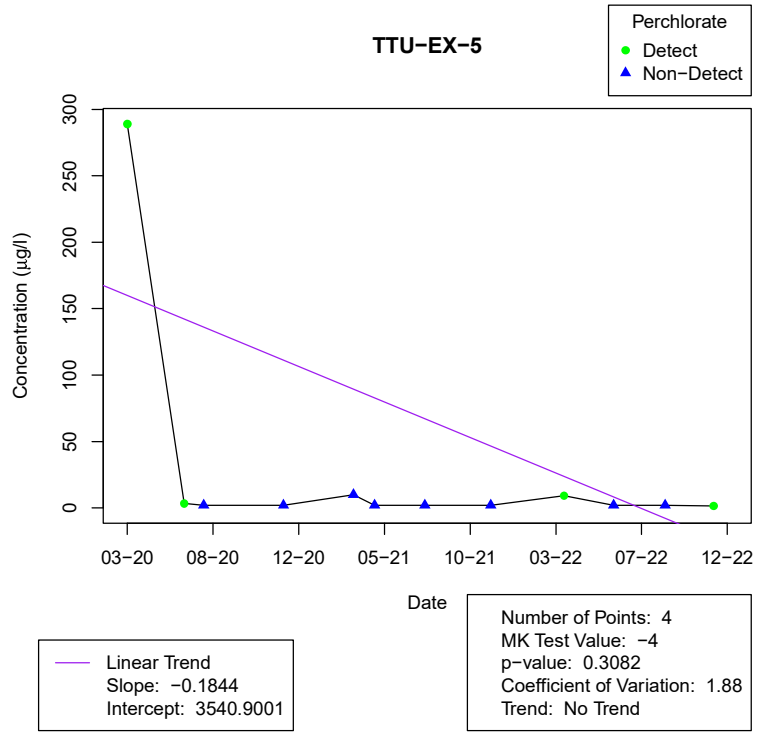
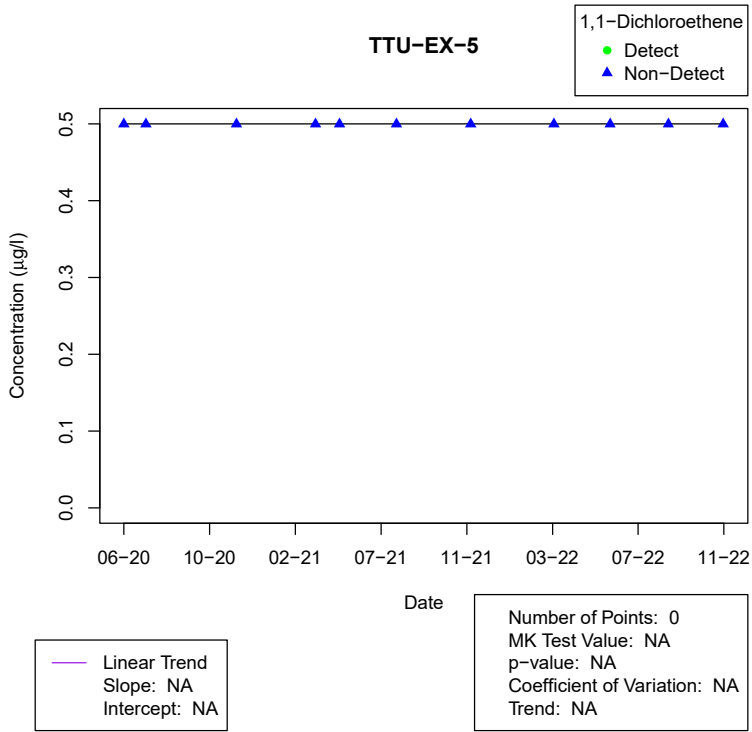
Trichloroethene
● Detect
▲ Non-Detect

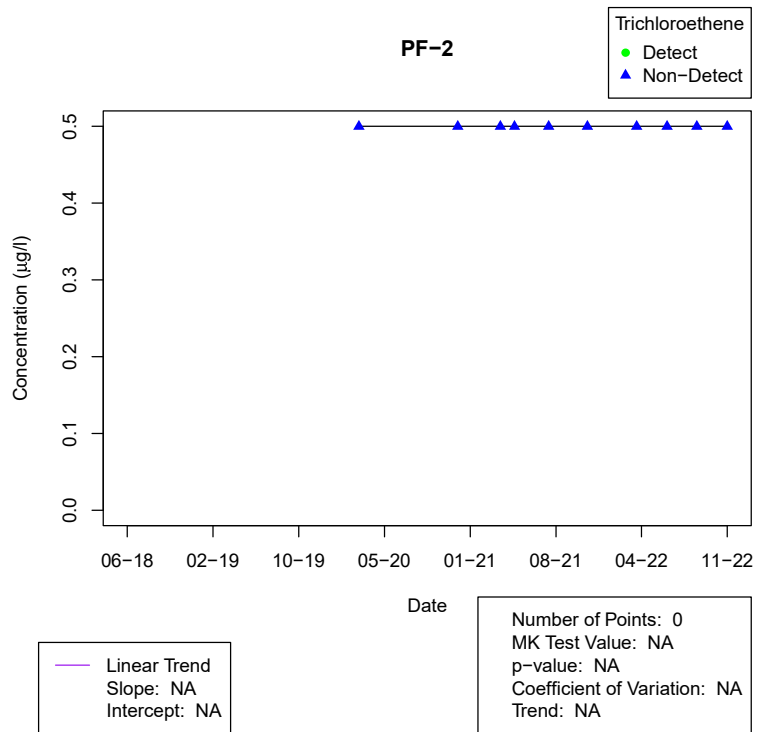
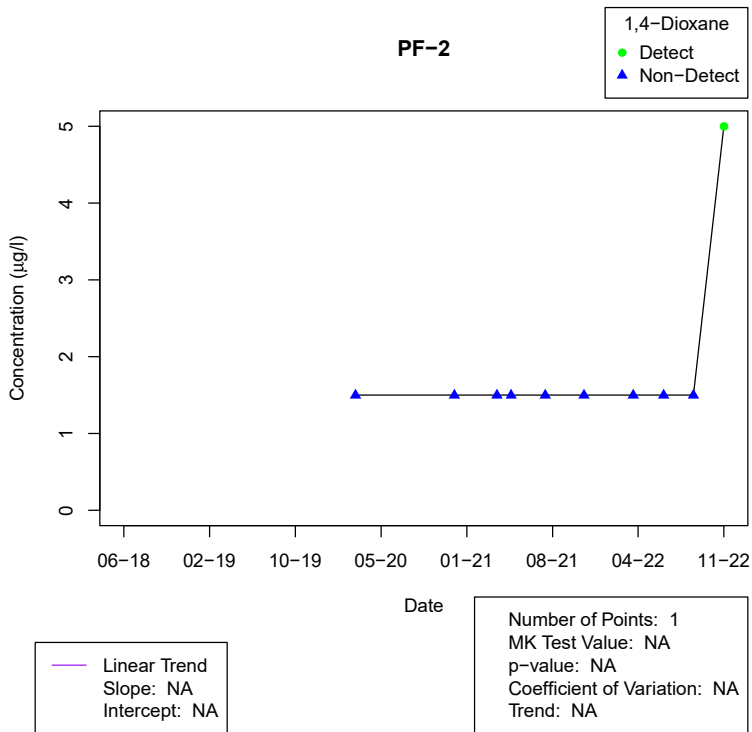
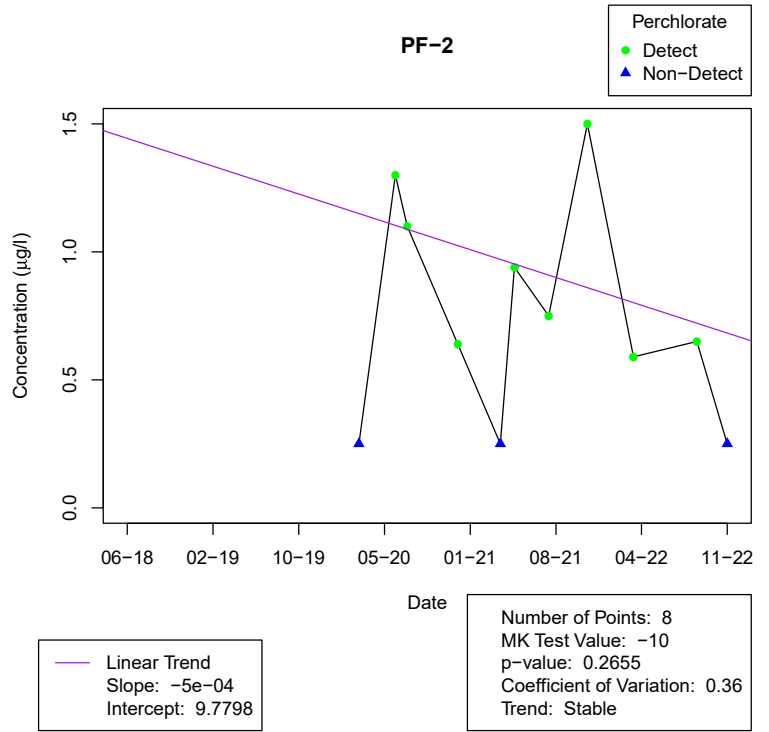
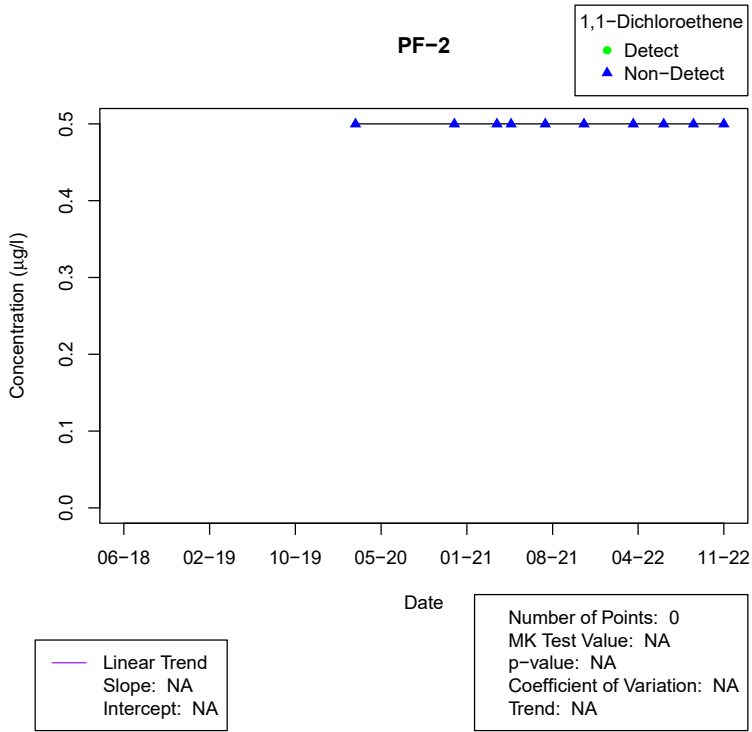


Date

Number of Points: 12
MK Test Value: -12
p-value: 0.4507
Coefficient of Variation: 0.3
Trend: Stable

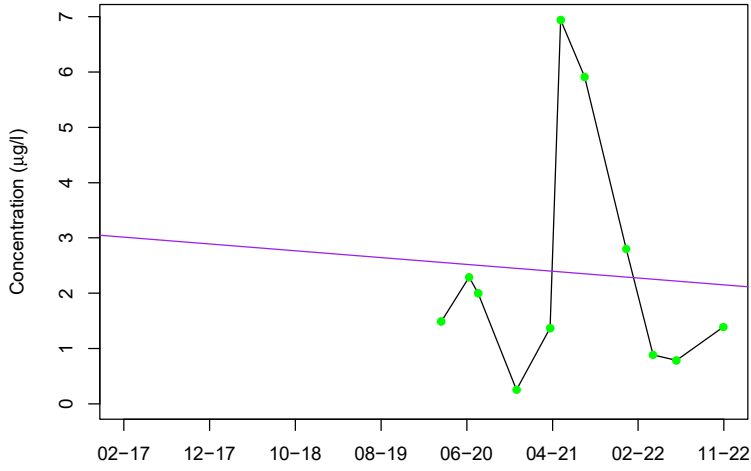
Linear Trend
Slope: -0.1775
Intercept: 4025.5705





TTU-1

1,1-Dichloroethene
 ● Detect
 ▲ Non-Detect



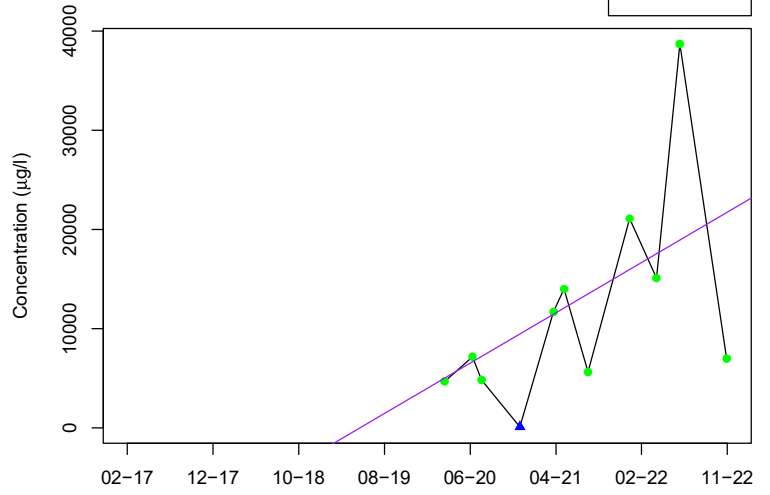
Date

Number of Points: 11
 MK Test Value: -7
 p-value: 0.6404
 Coefficient of Variation: 0.9
 Trend: Stable

— Linear Trend
 Slope: -4e-04
 Intercept: 10.047

TTU-1

Perchlorate
 ● Detect
 ▲ Non-Detect



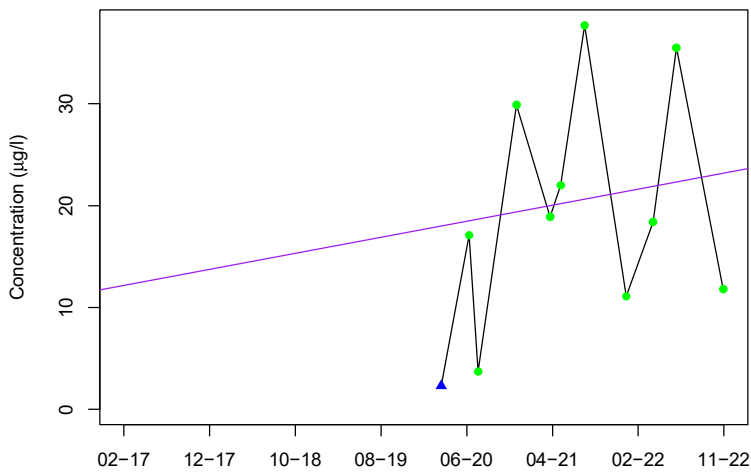
Date

Number of Points: 10
 MK Test Value: 23
 p-value: 0.0491
 Coefficient of Variation: 0.81
 Trend: Increasing

— Linear Trend
 Slope: 16.8555
 Intercept: -304019.1511

TTU-1

1,4-Dioxane
 ● Detect
 ▲ Non-Detect



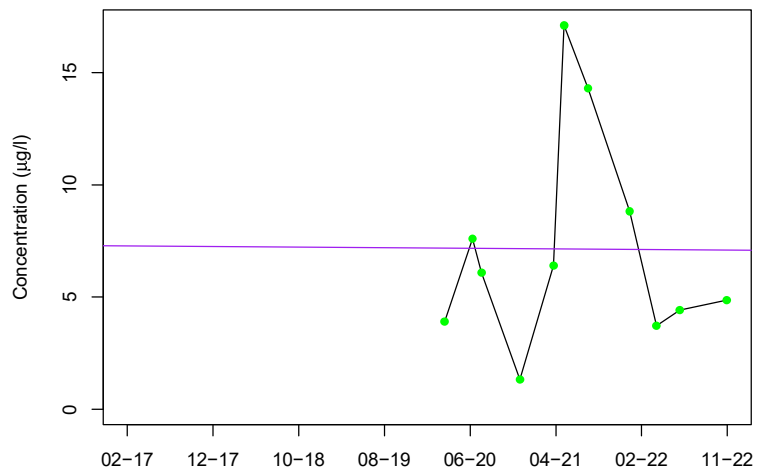
Date

Number of Points: 10
 MK Test Value: 5
 p-value: 0.7205
 Coefficient of Variation: 0.53
 Trend: No Trend

— Linear Trend
 Slope: 0.0052
 Intercept: -77.8905

TTU-1

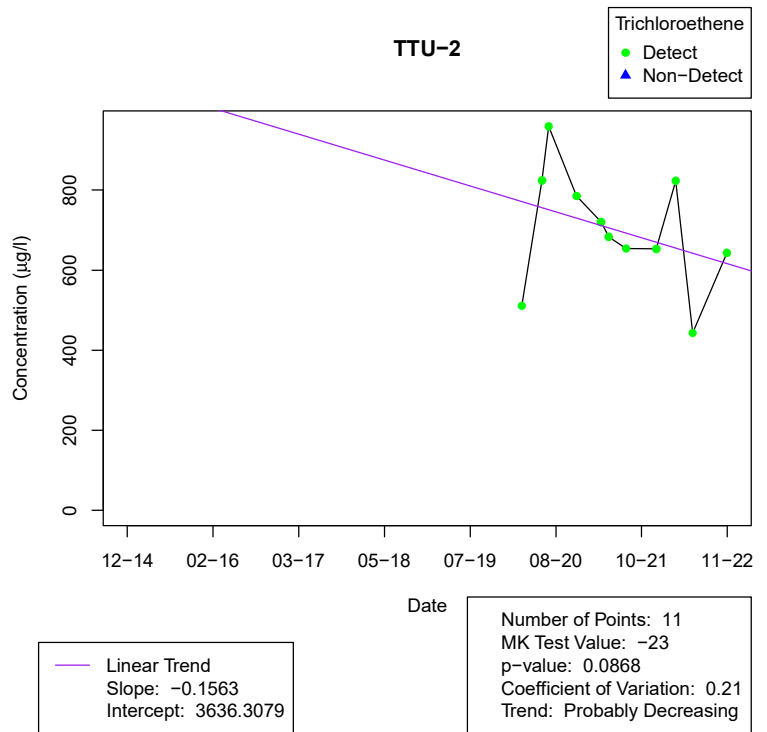
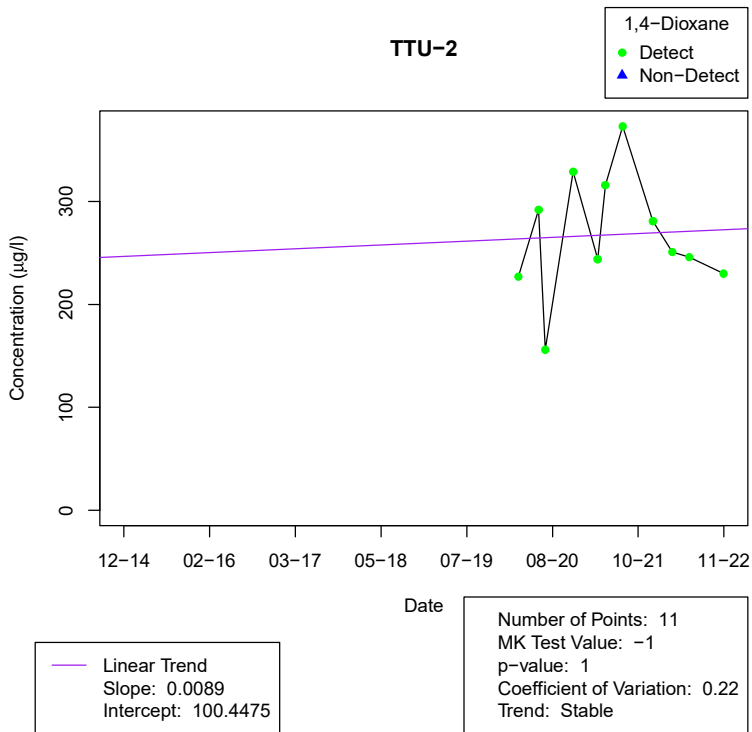
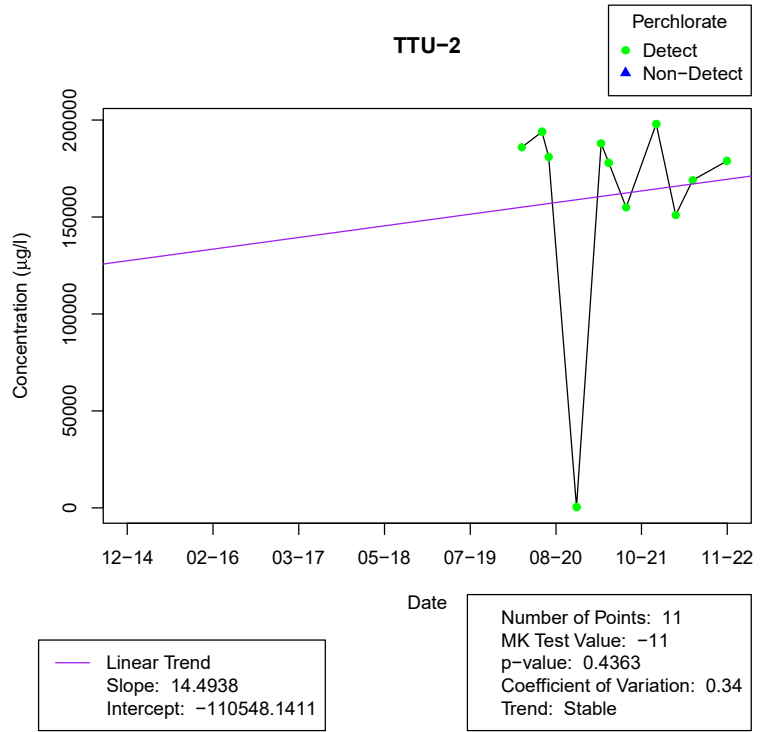
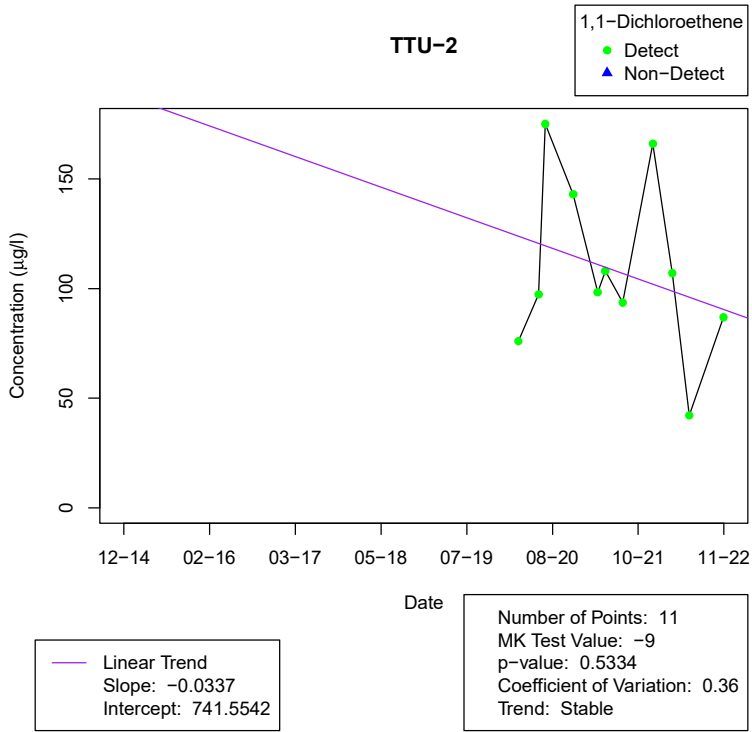
Trichloroethene
 ● Detect
 ▲ Non-Detect

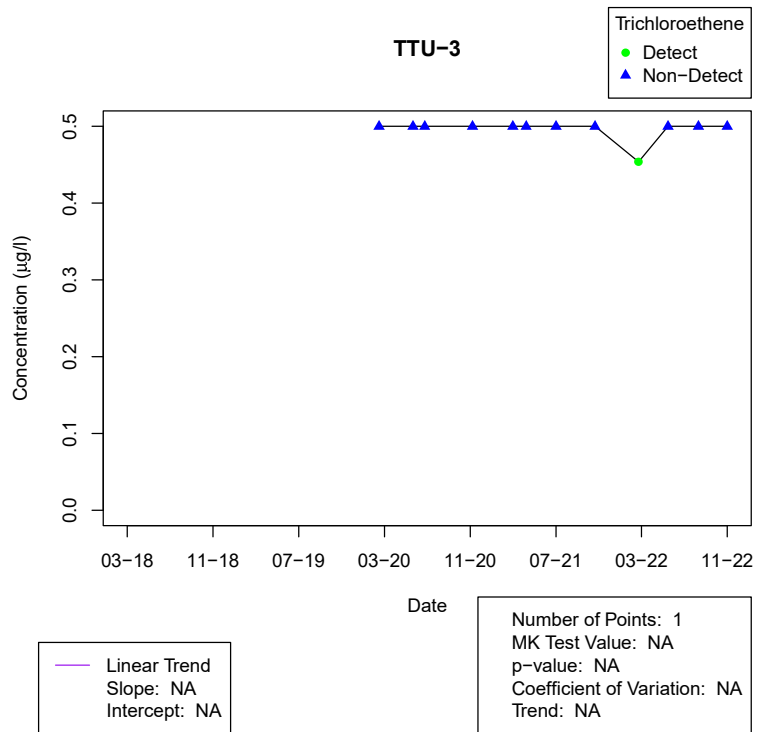
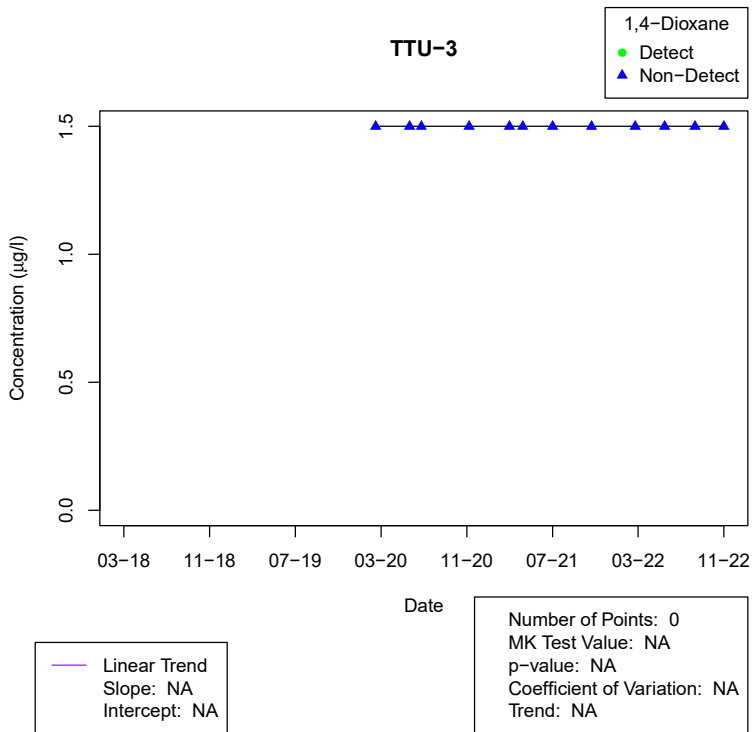
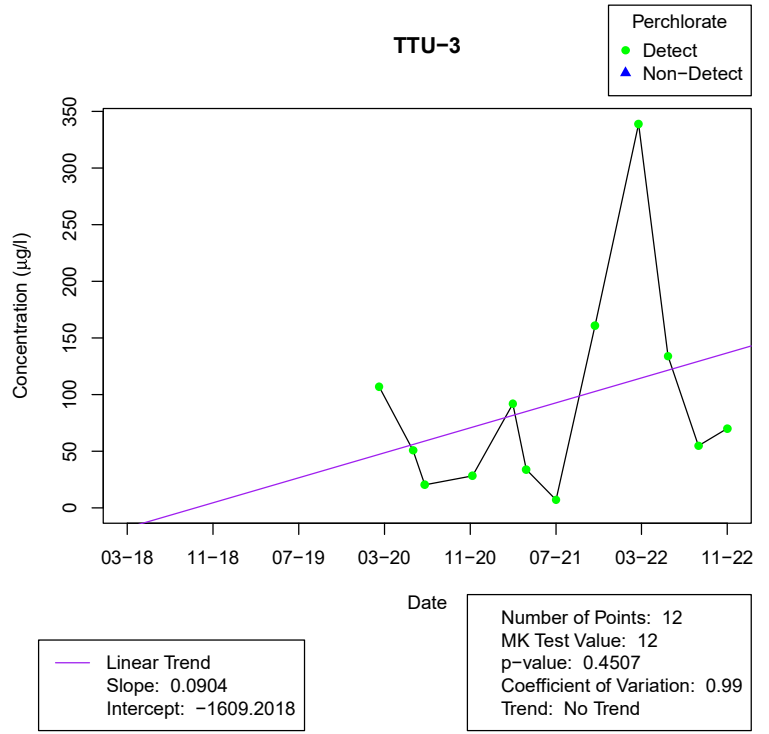
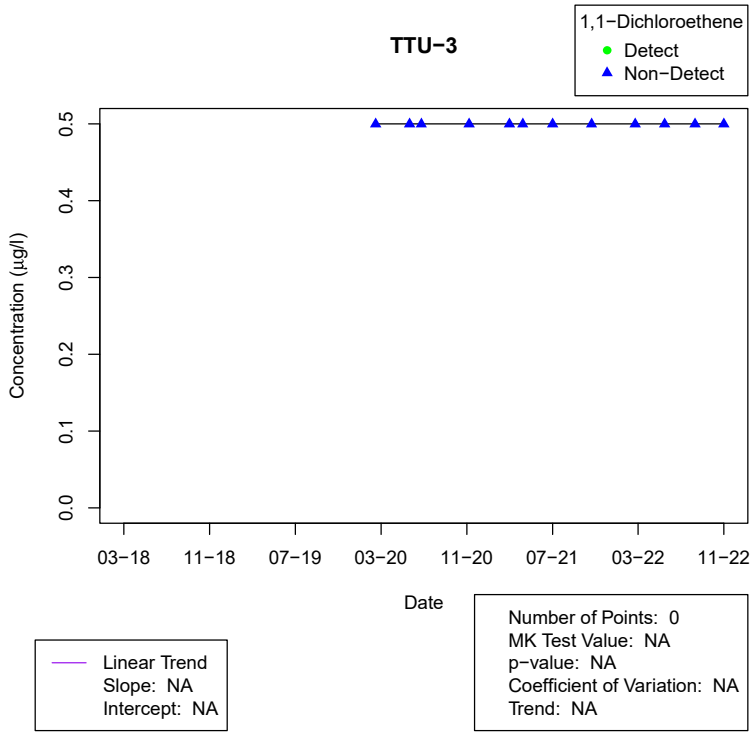


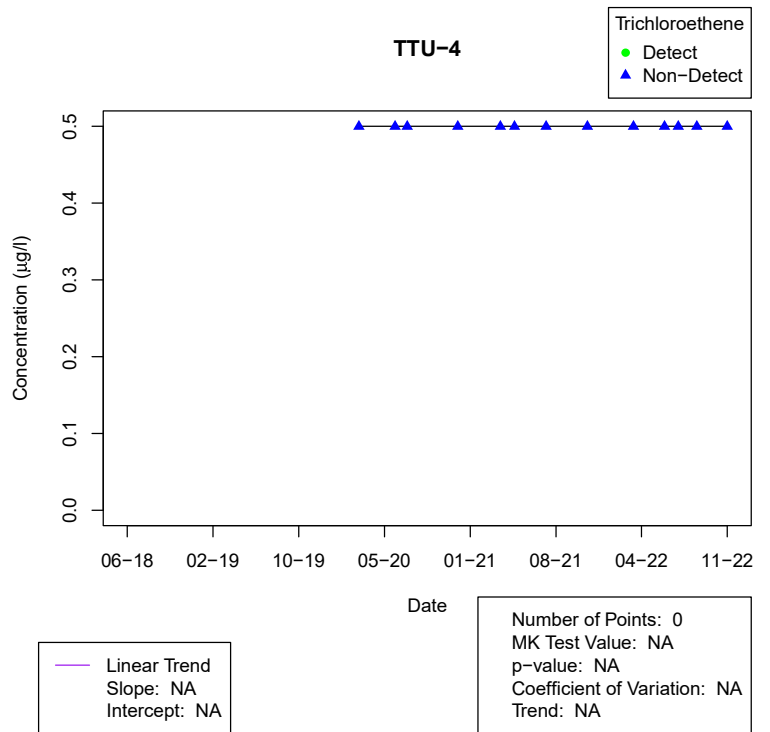
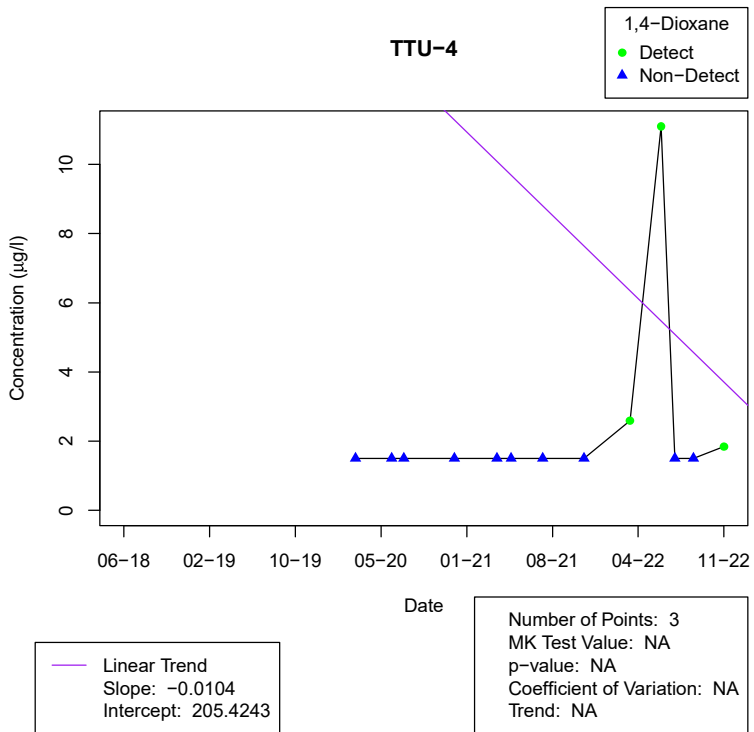
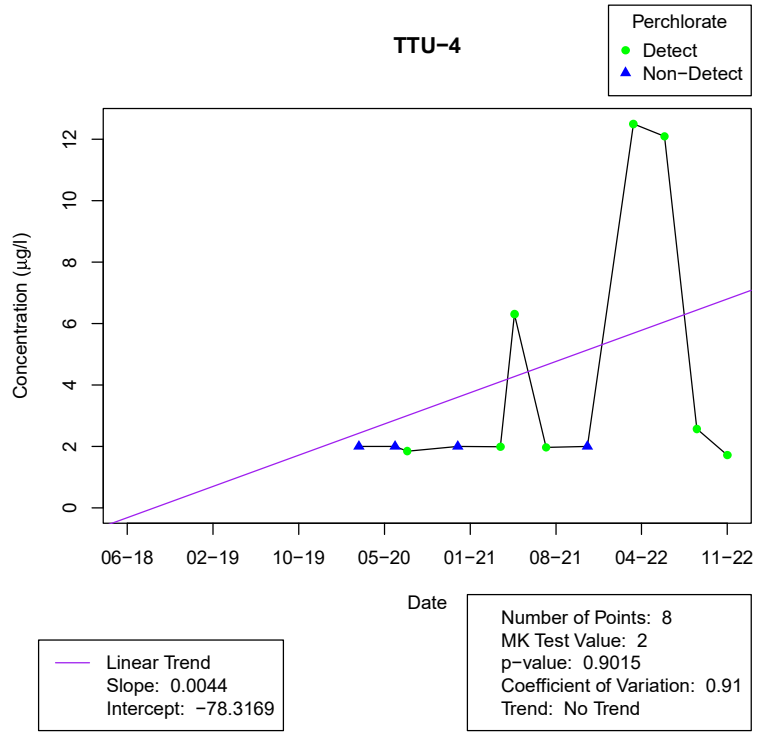
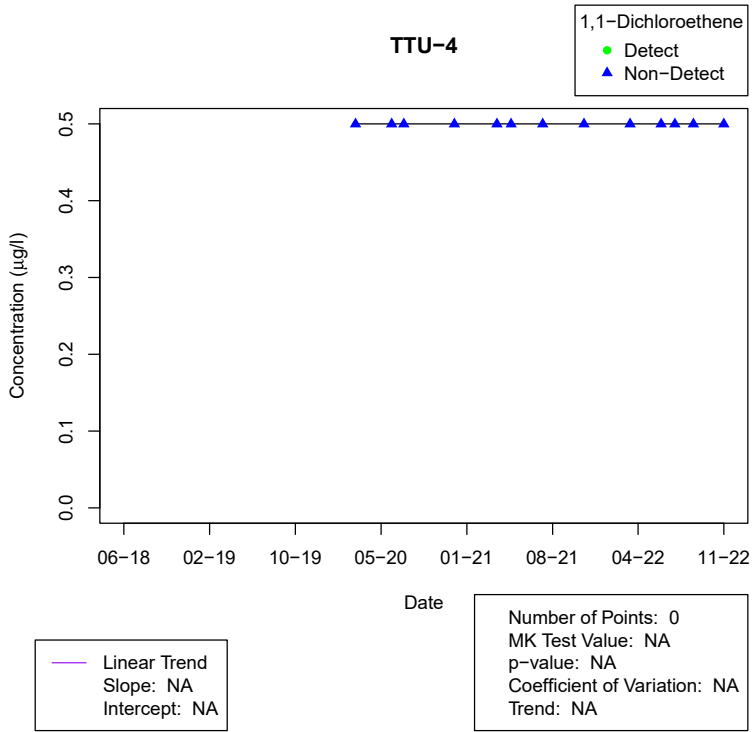
Date

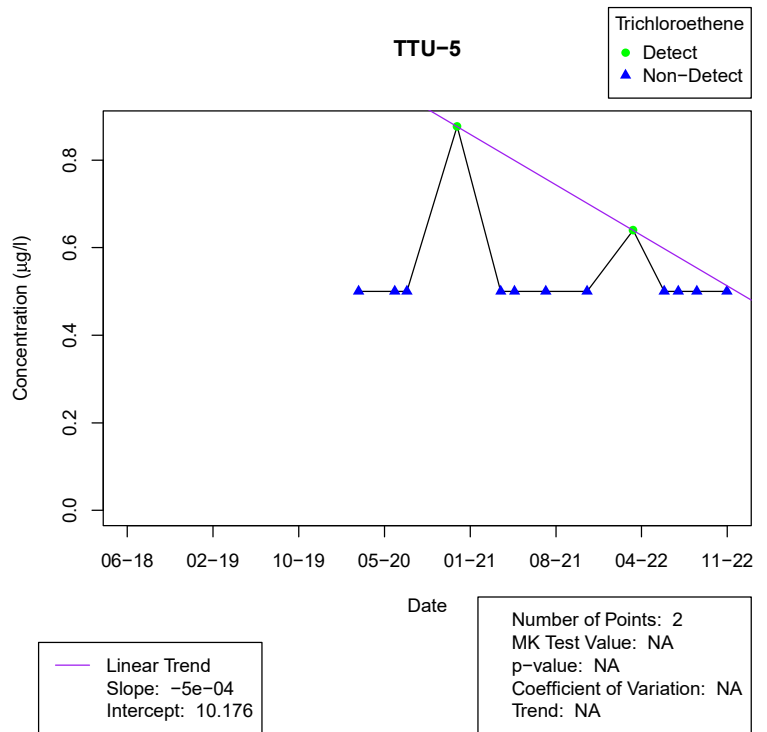
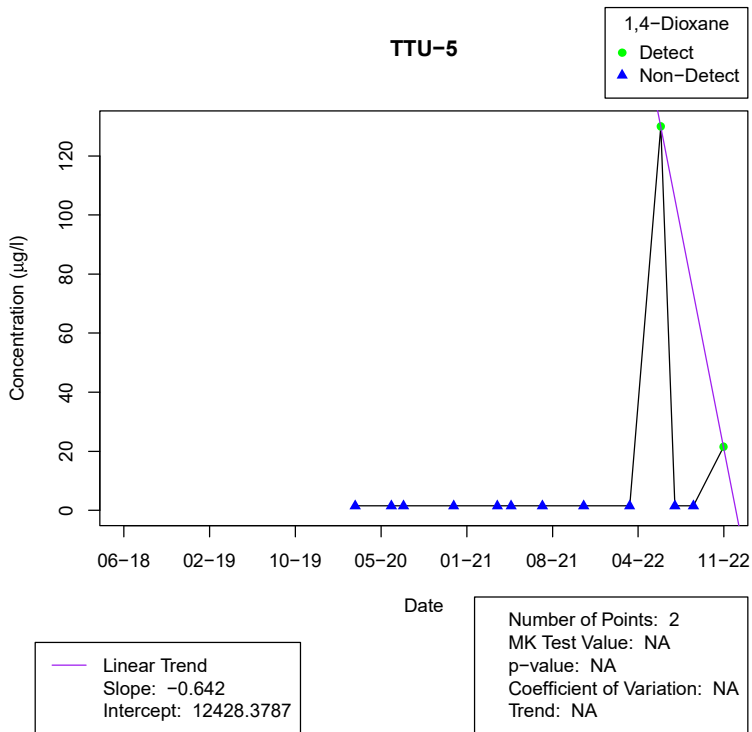
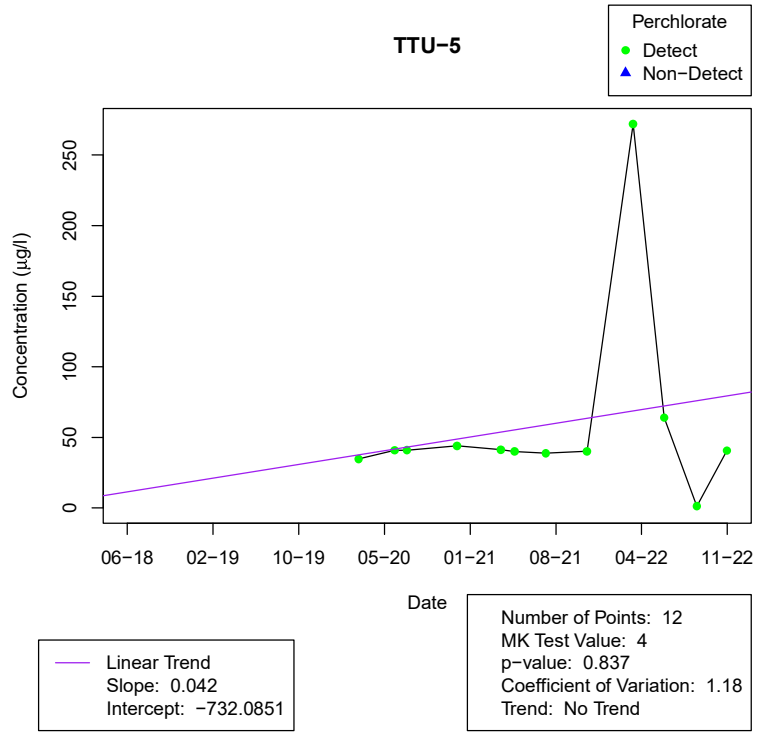
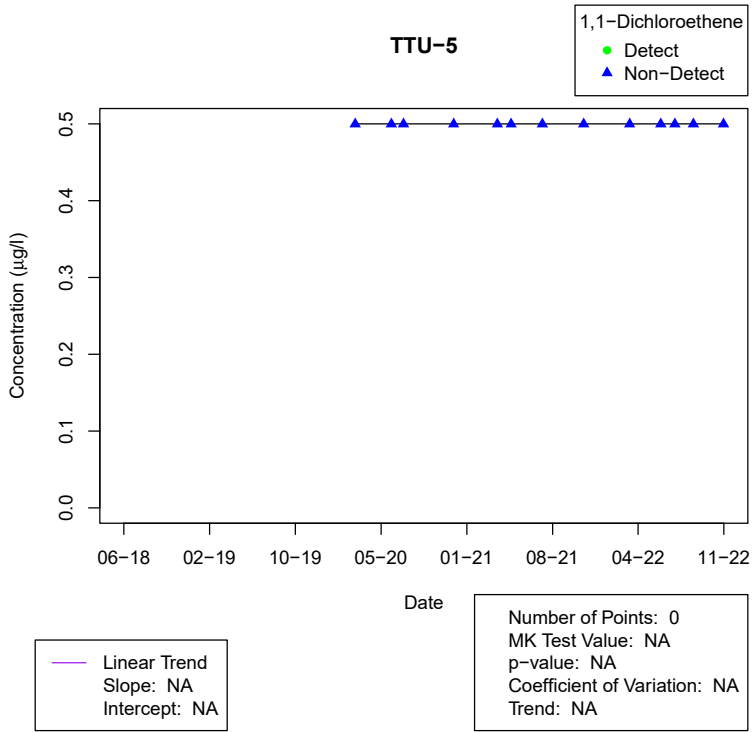
Number of Points: 11
 MK Test Value: 1
 p-value: 1
 Coefficient of Variation: 0.66
 Trend: No Trend

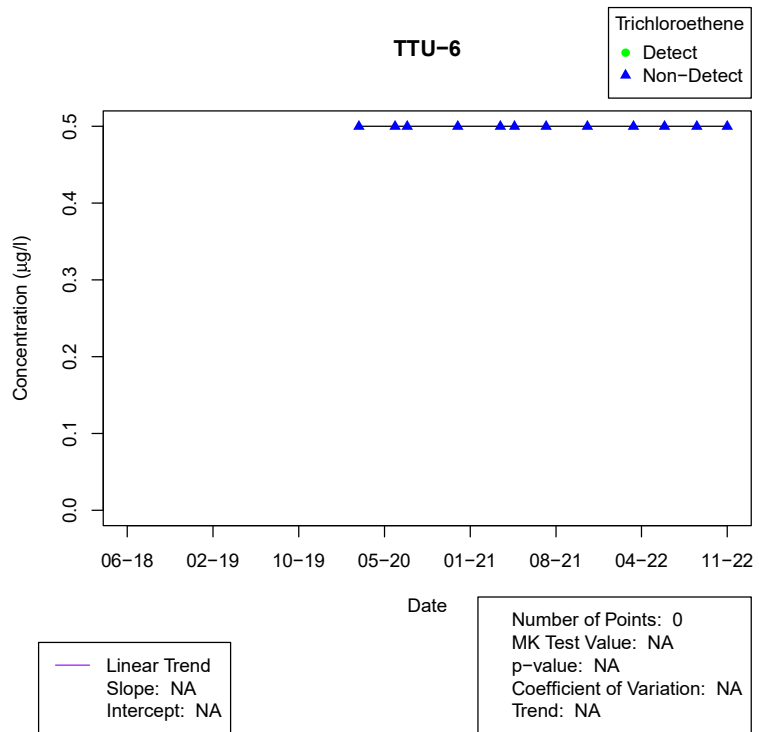
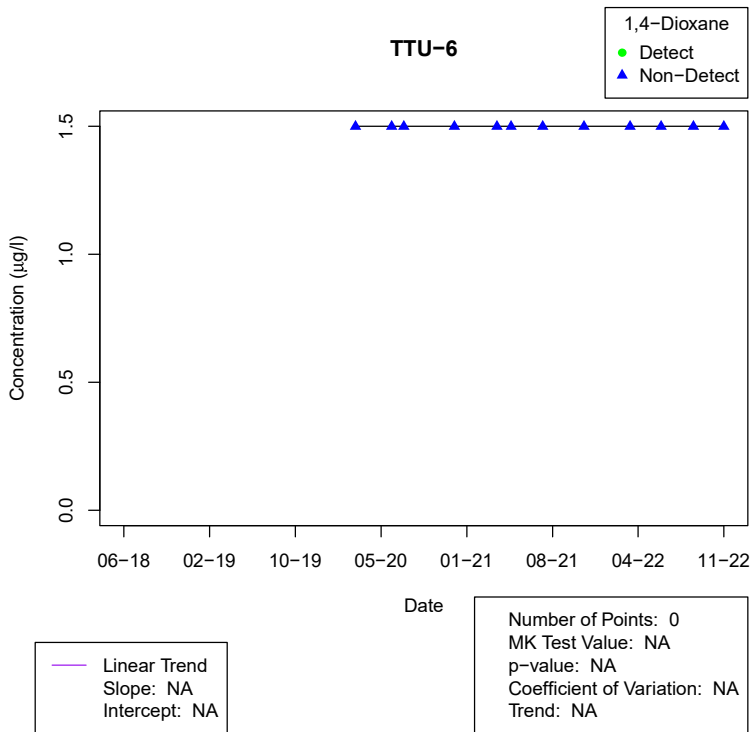
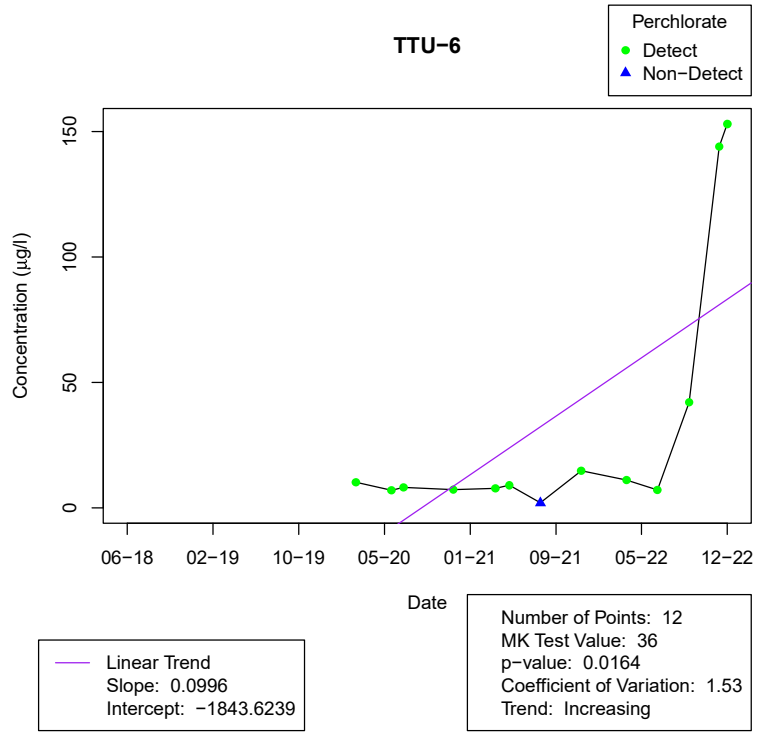
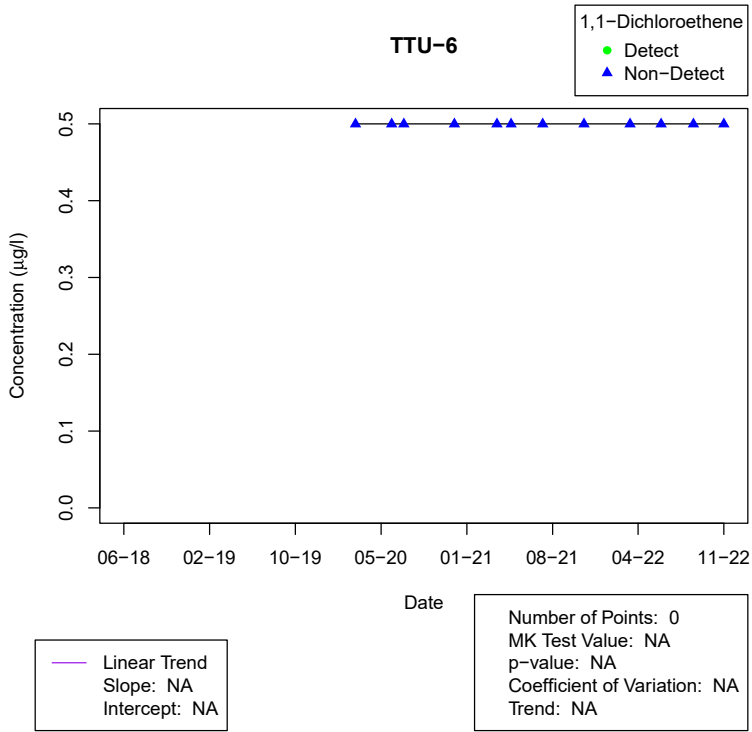
— Linear Trend
 Slope: -1e-04
 Intercept: 8.7053

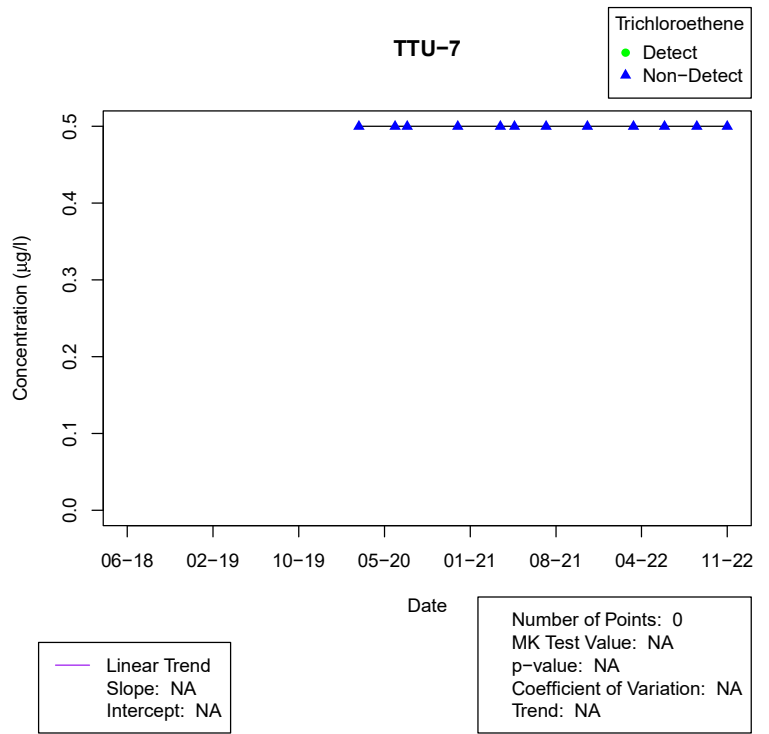
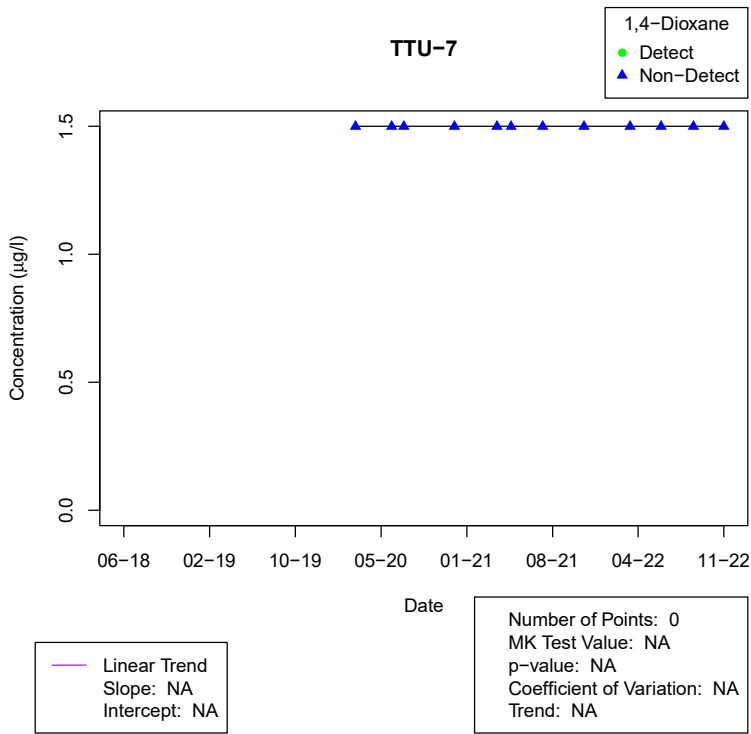
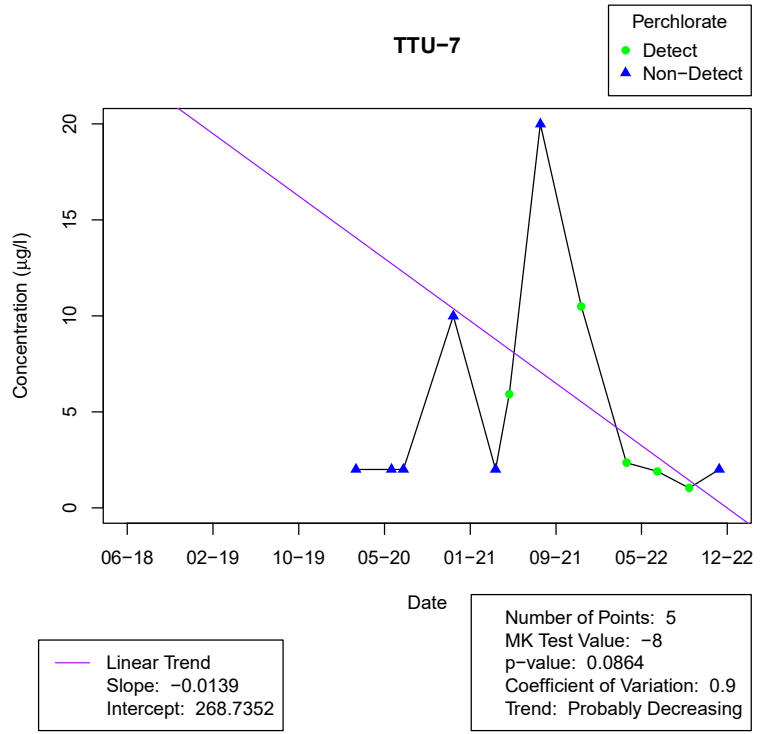
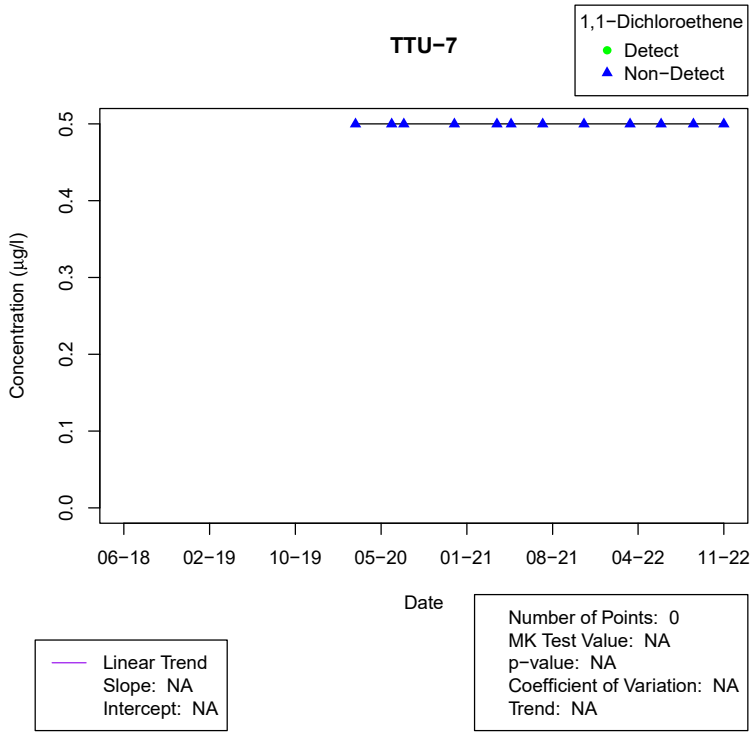


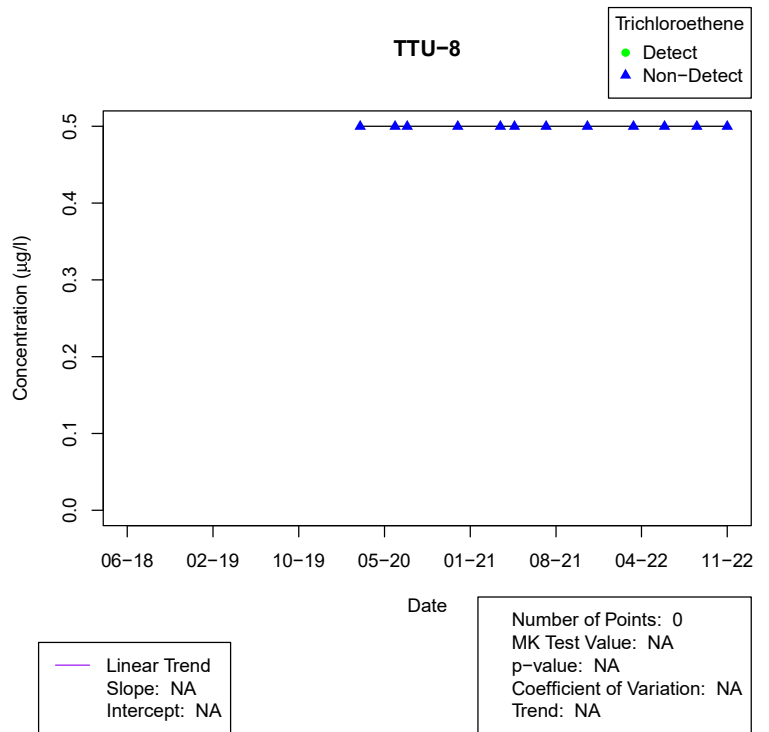
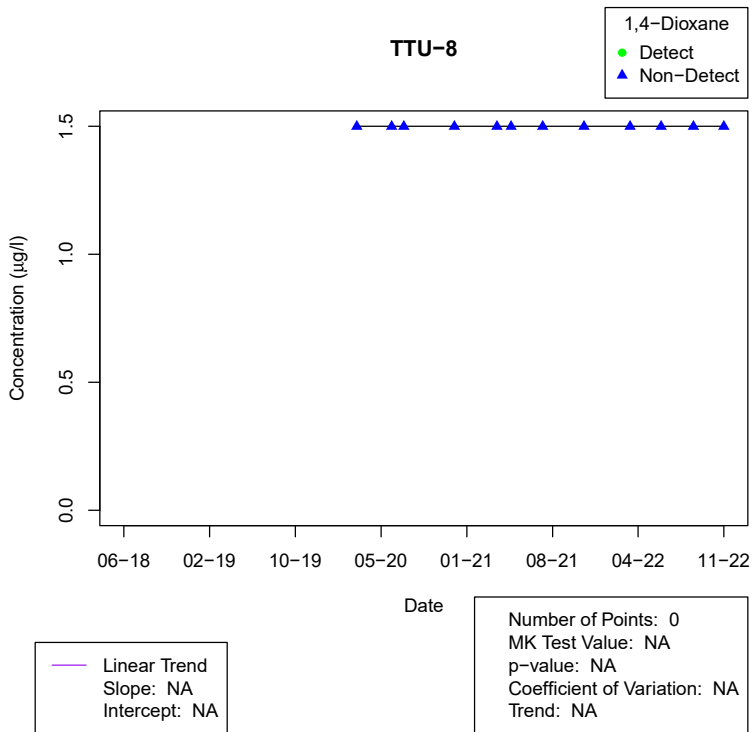
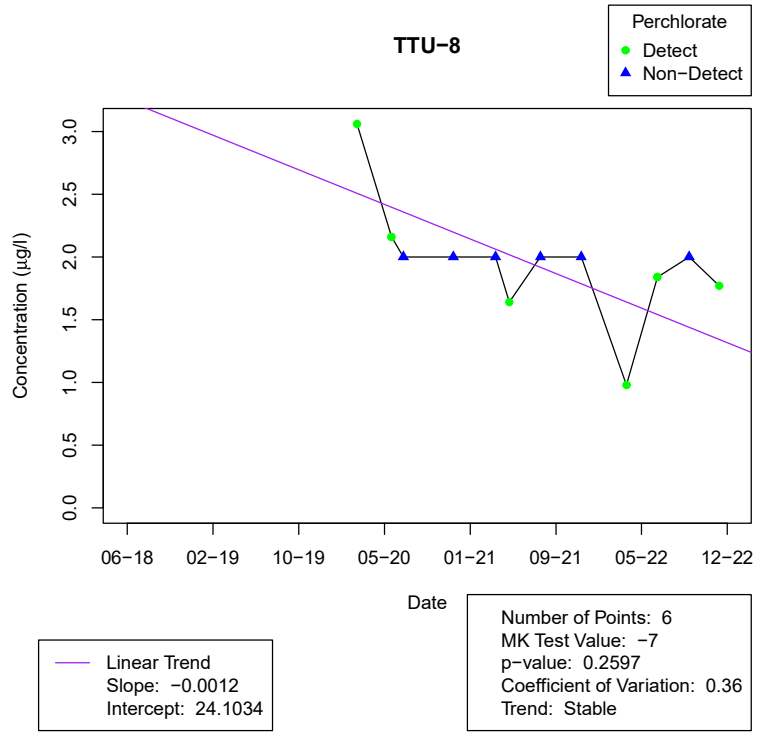
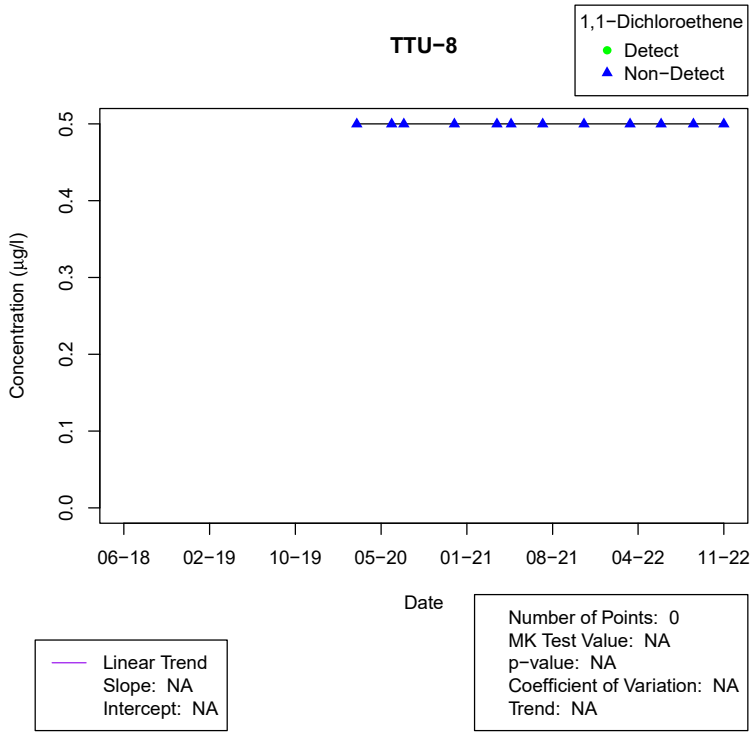


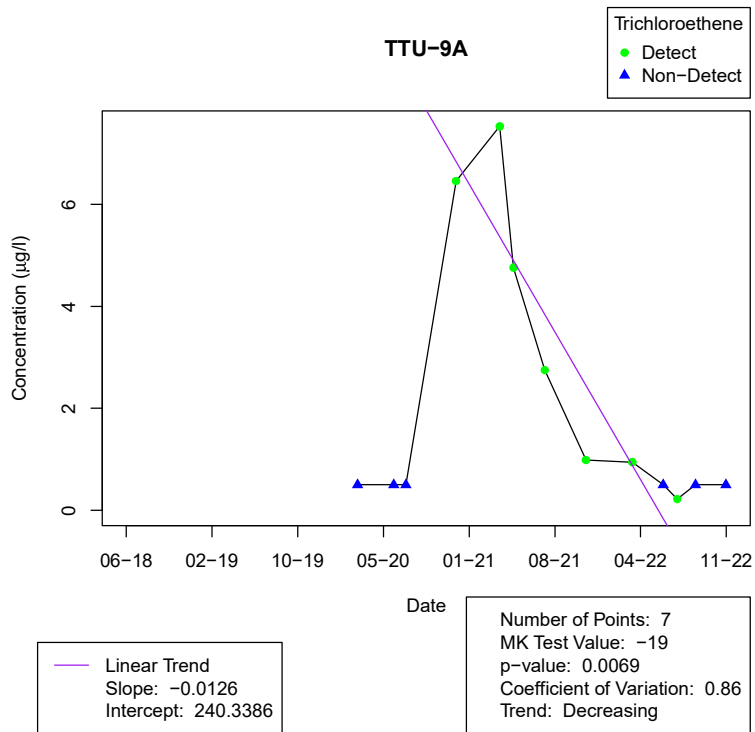
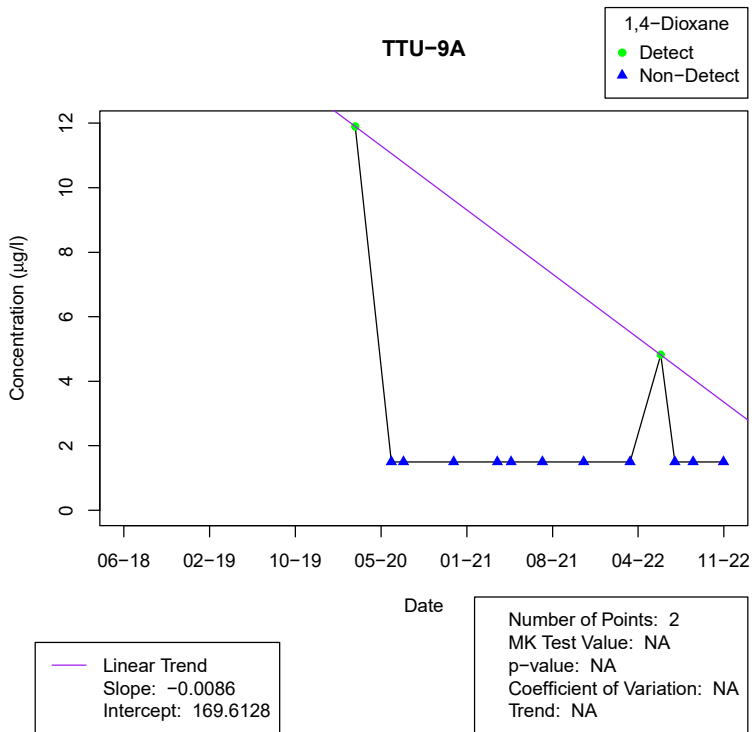
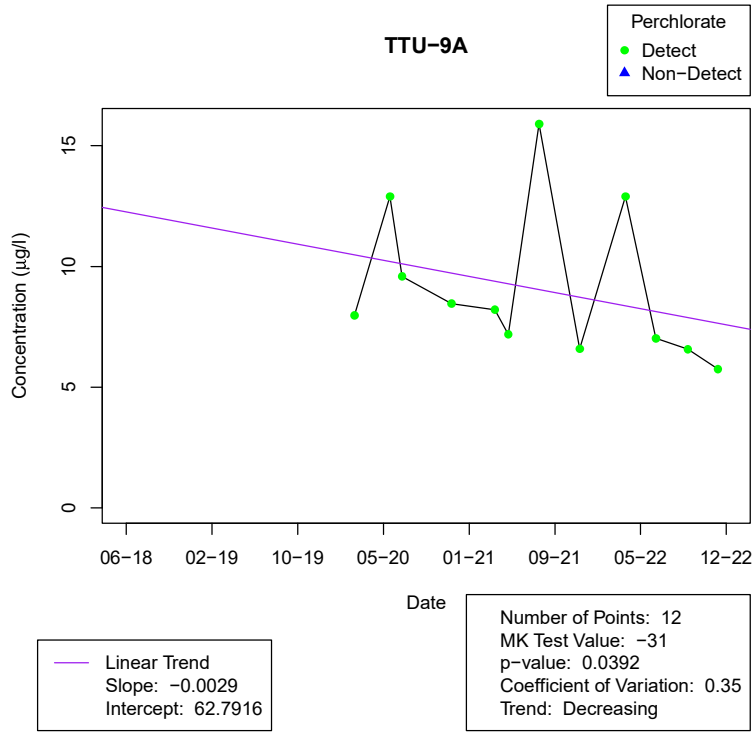
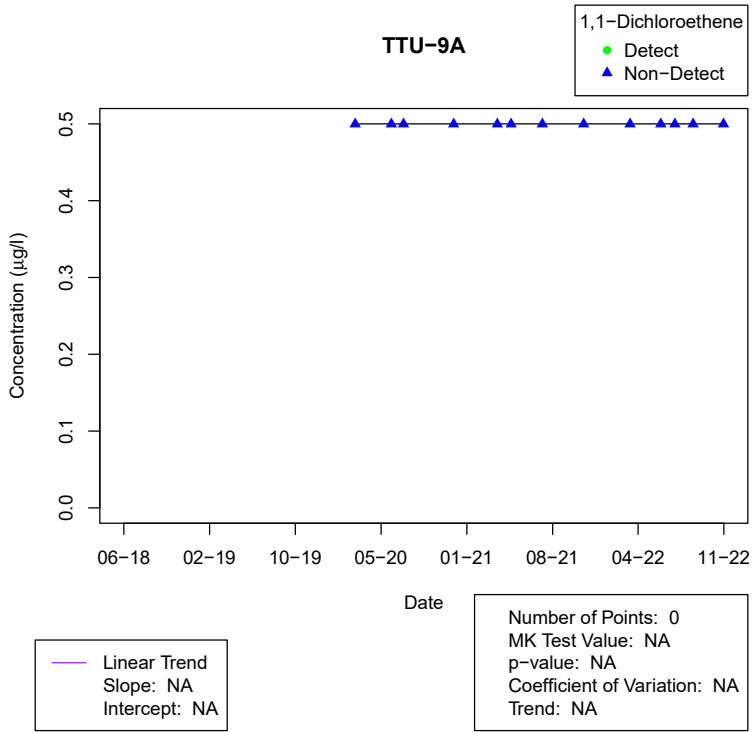


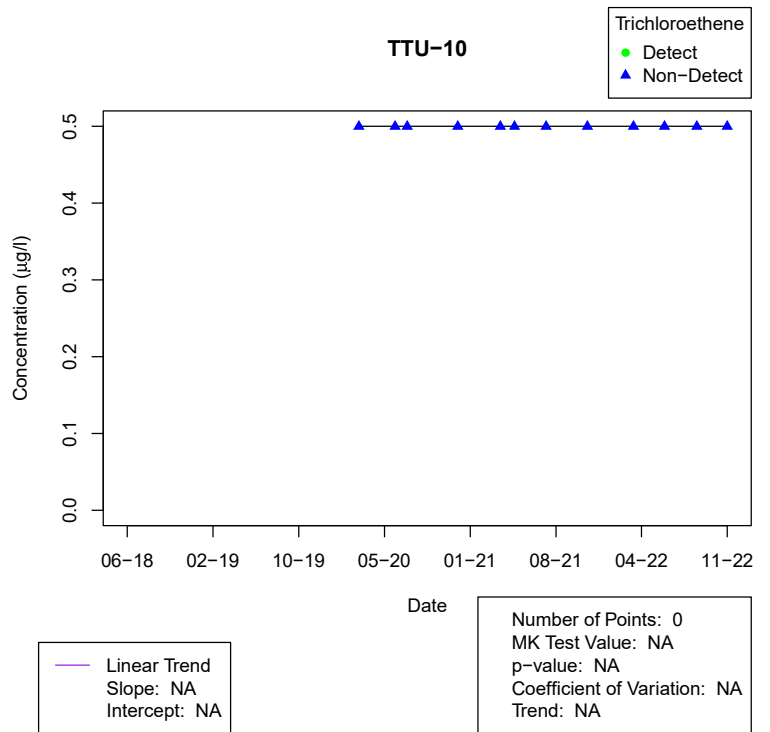
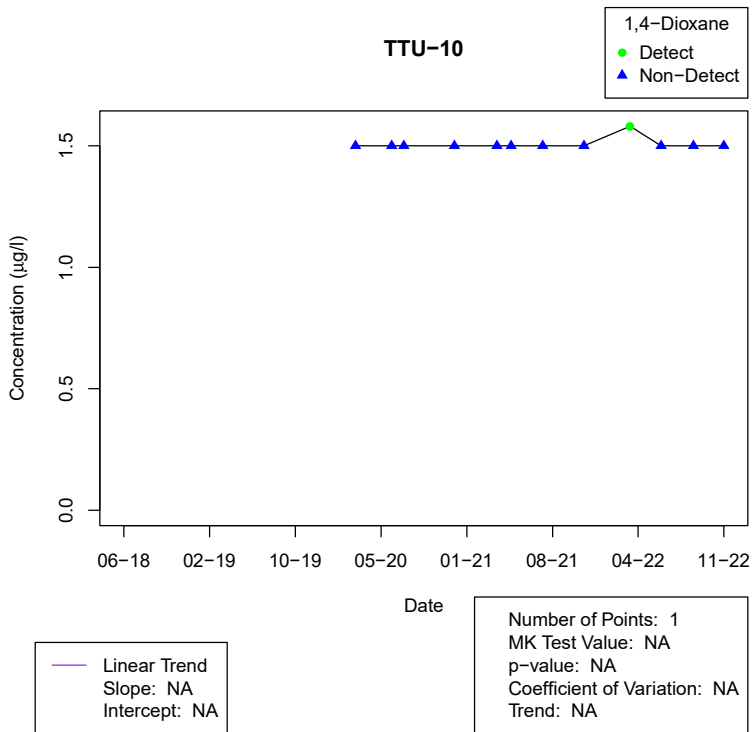
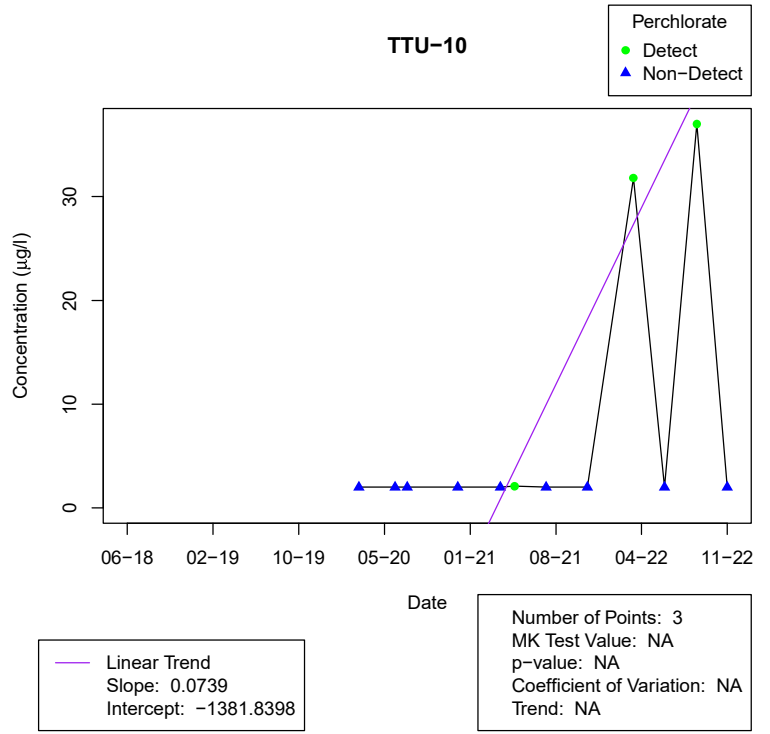
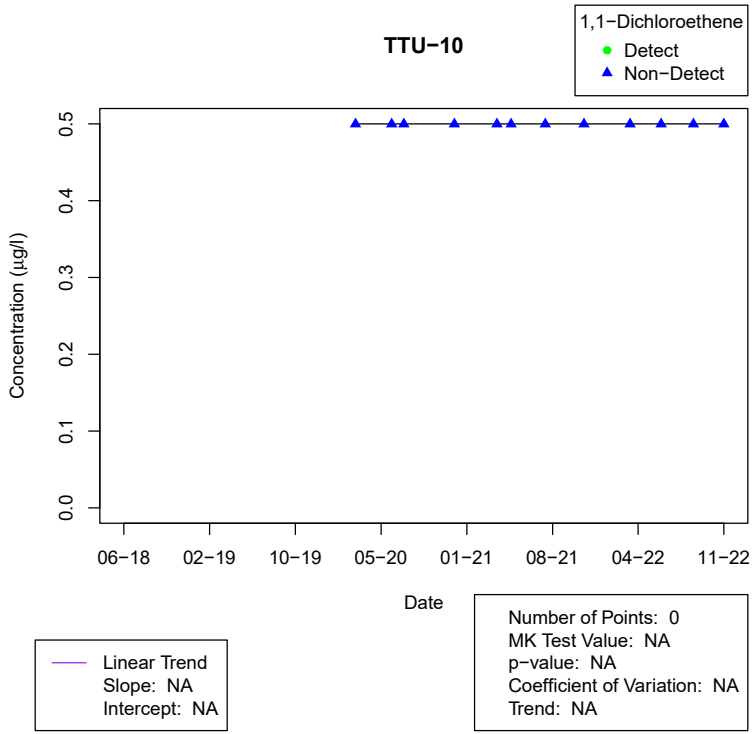


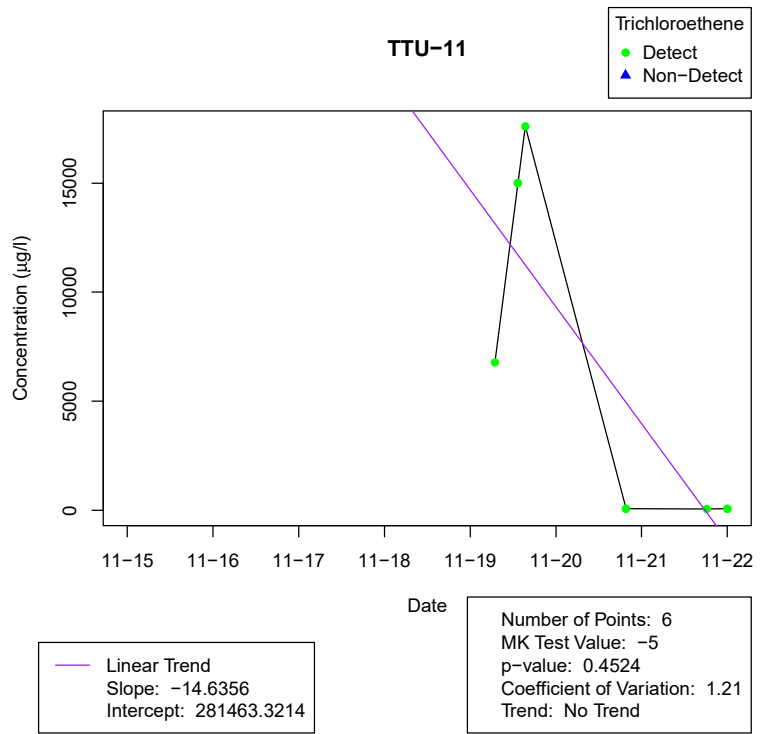
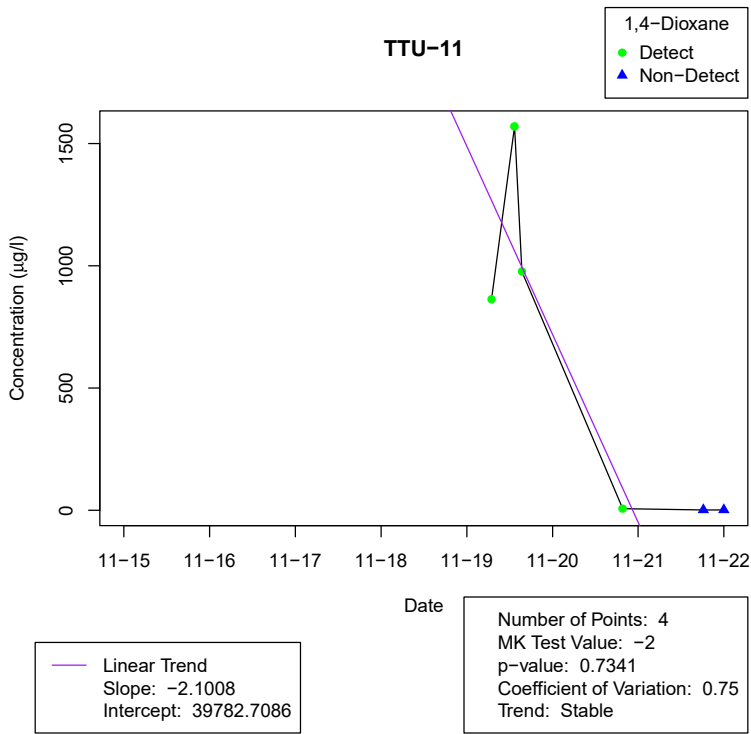
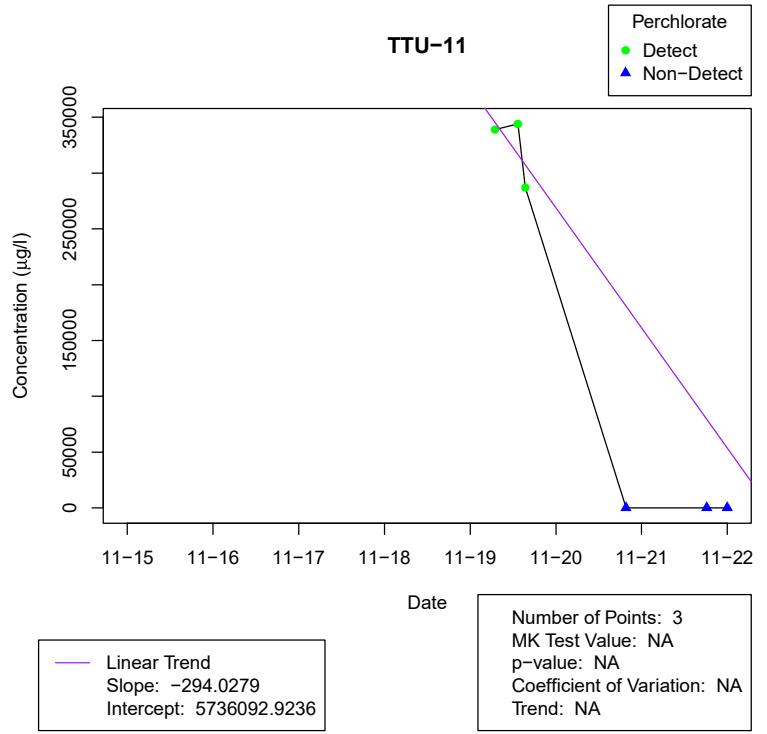
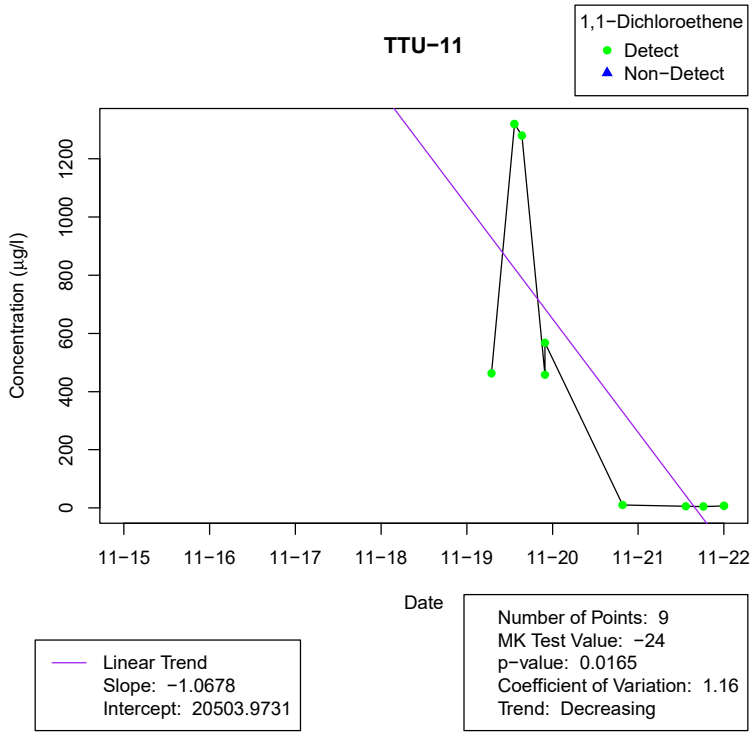


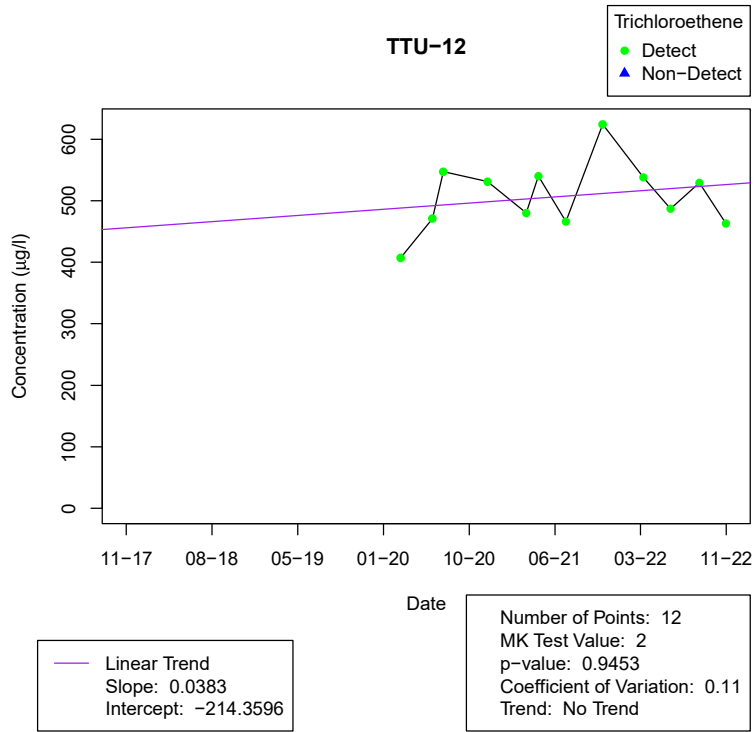
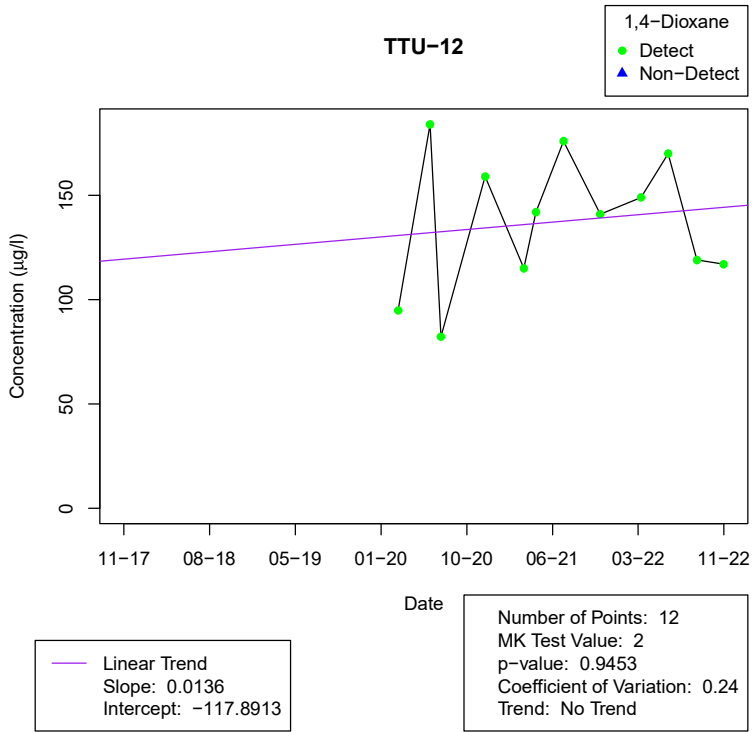
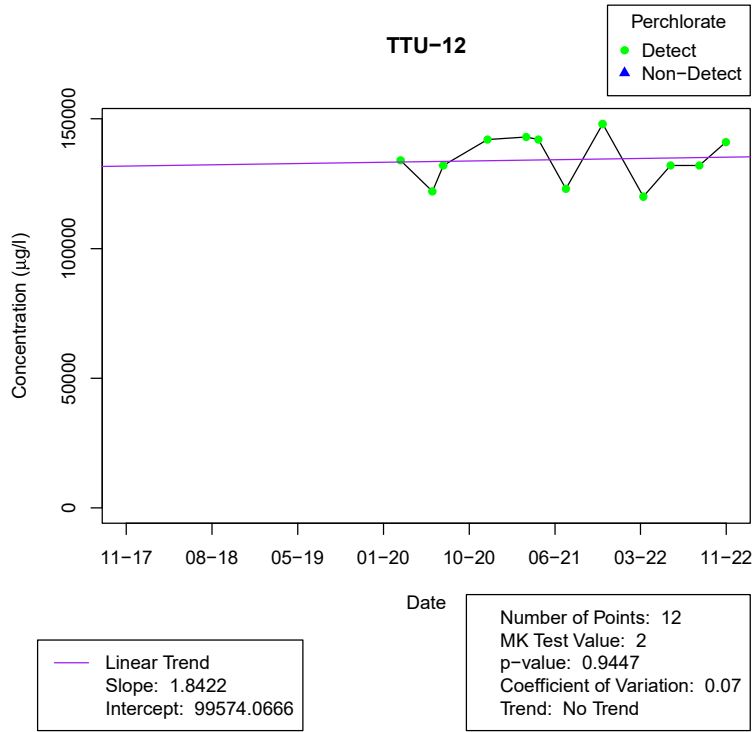
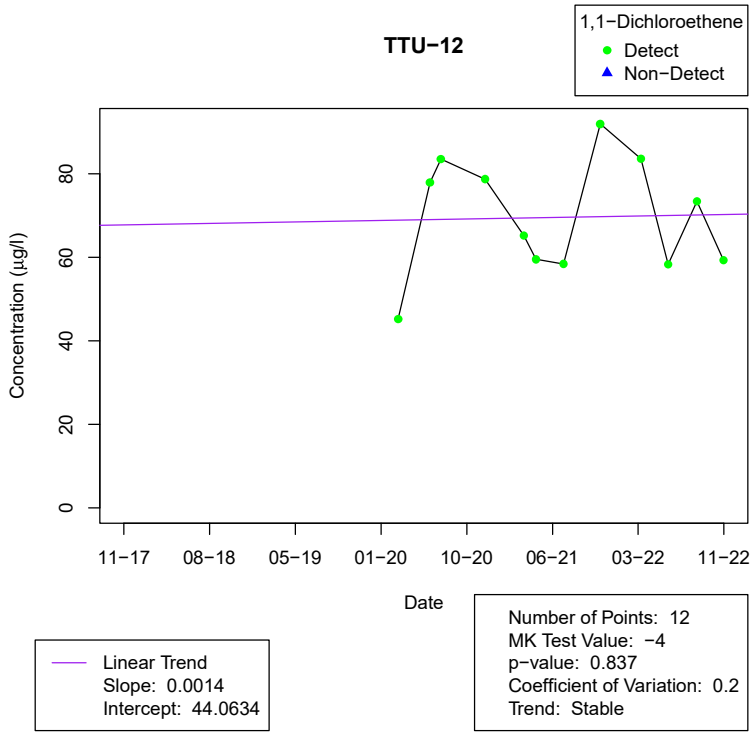


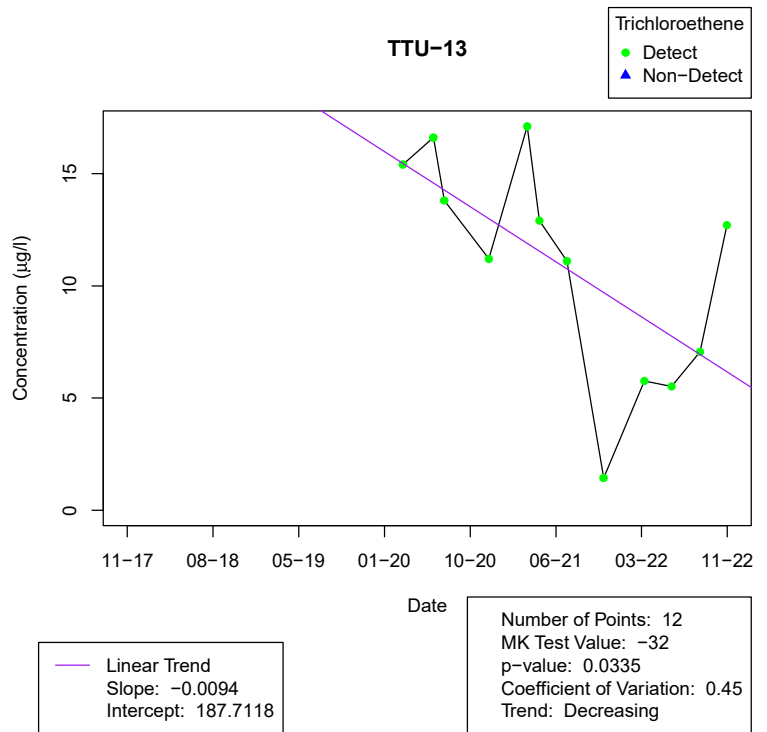
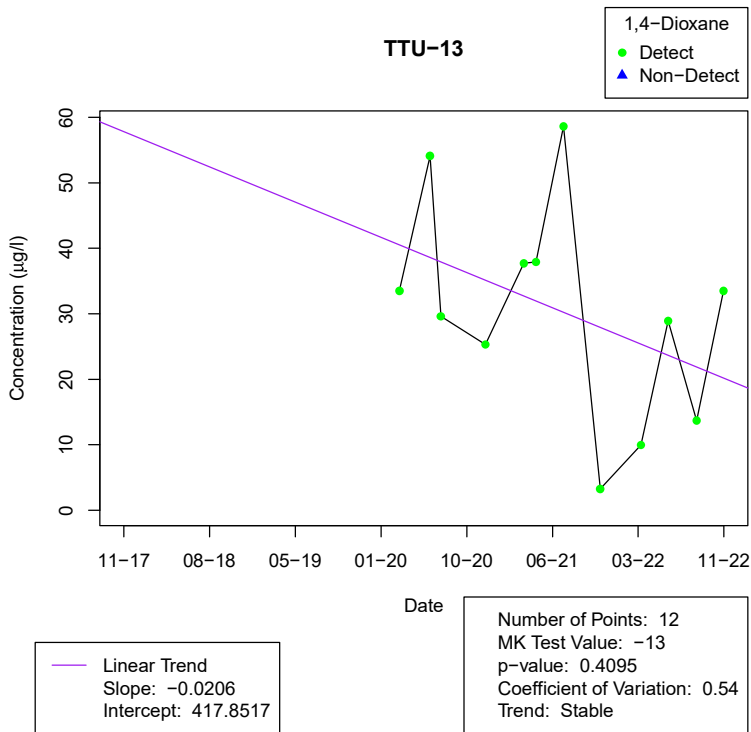
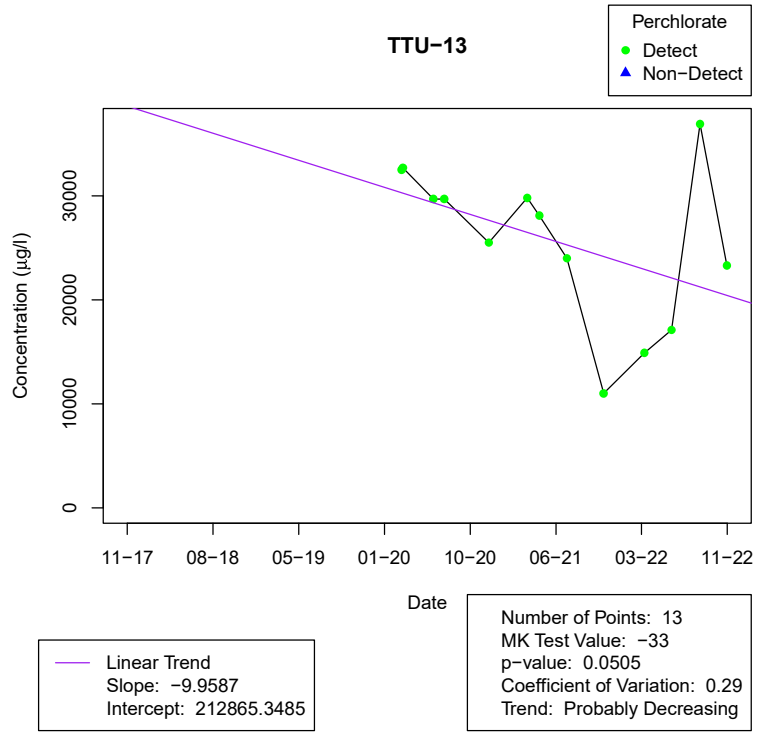
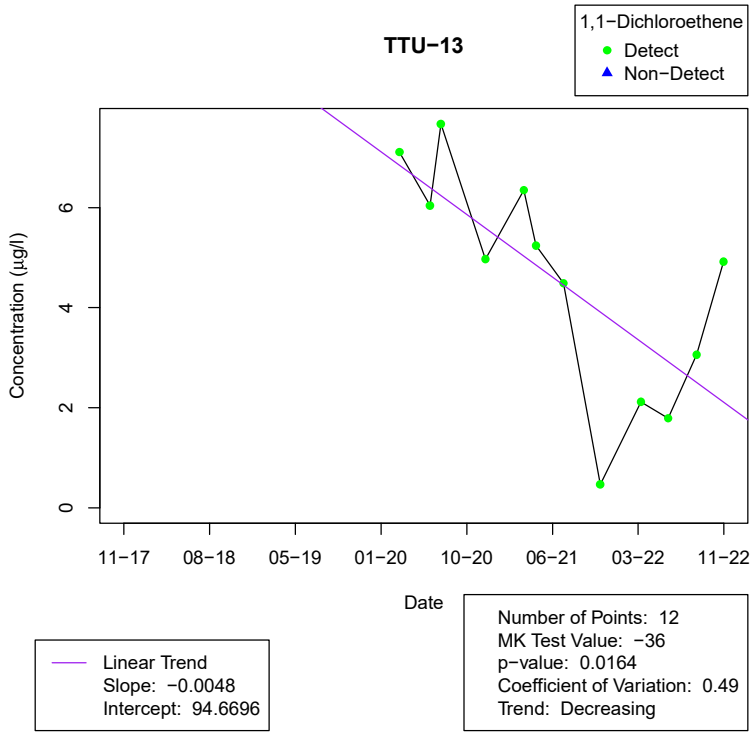


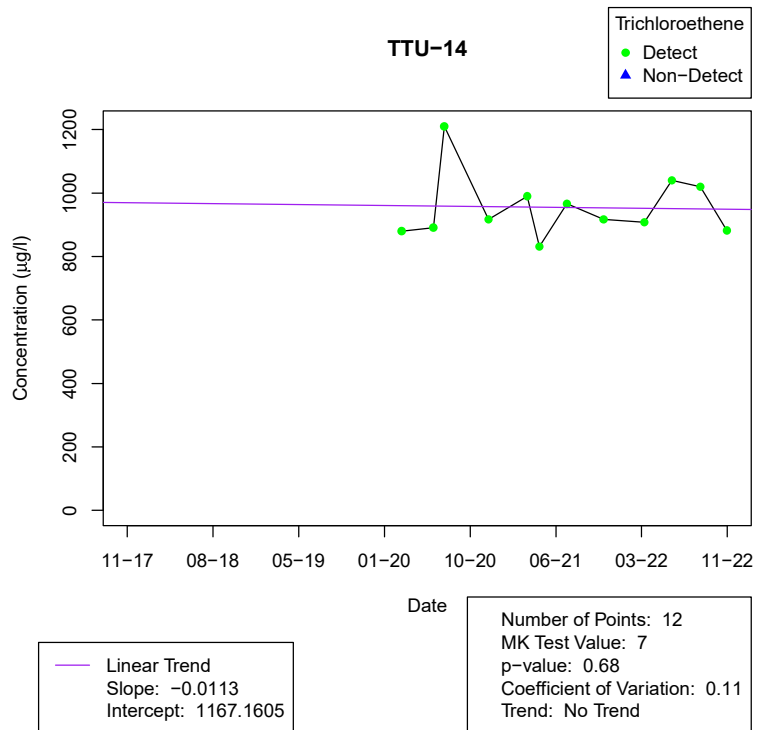
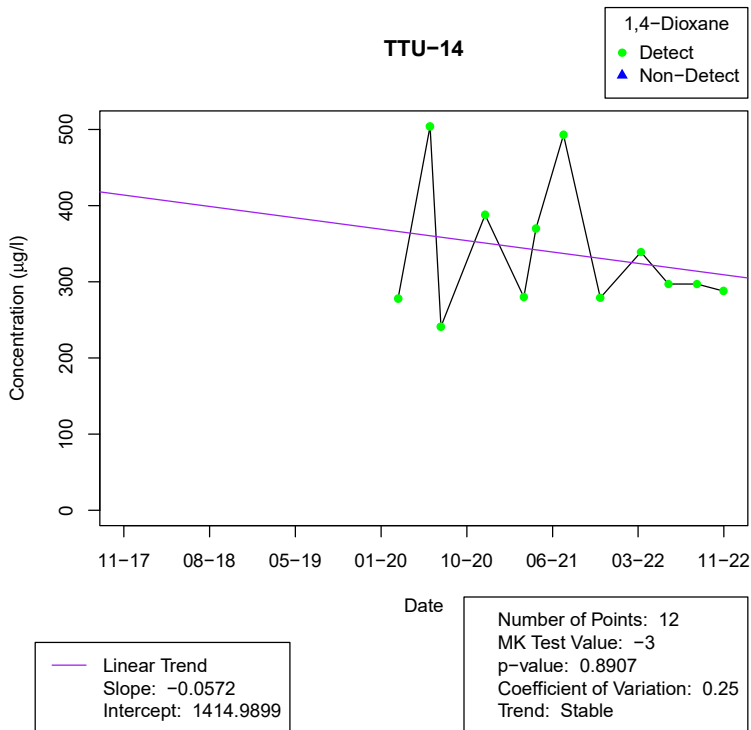
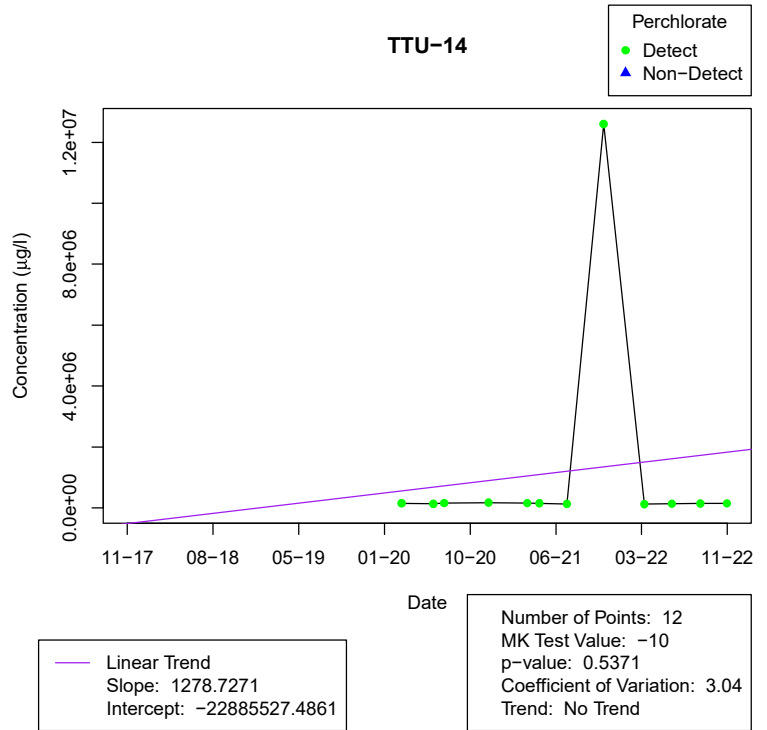
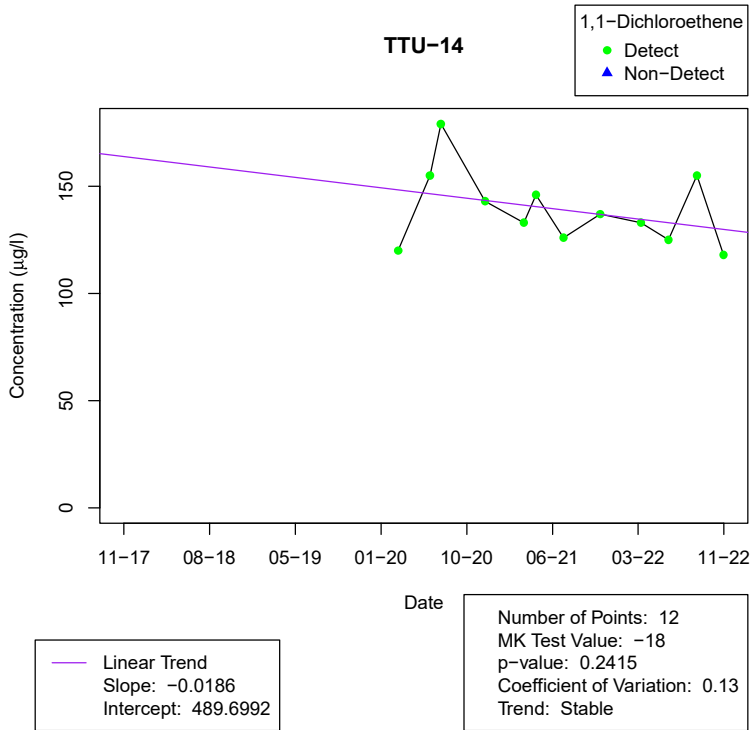


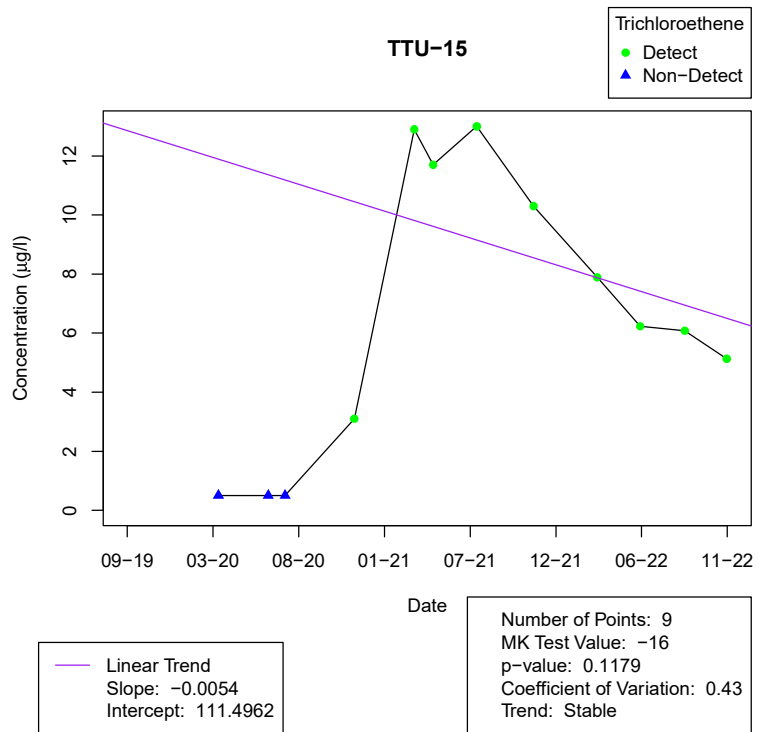
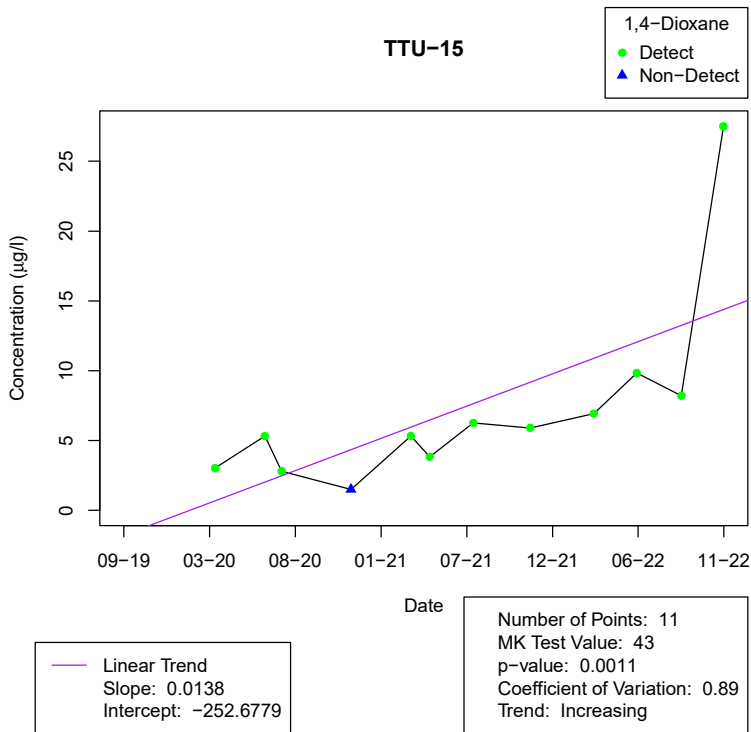
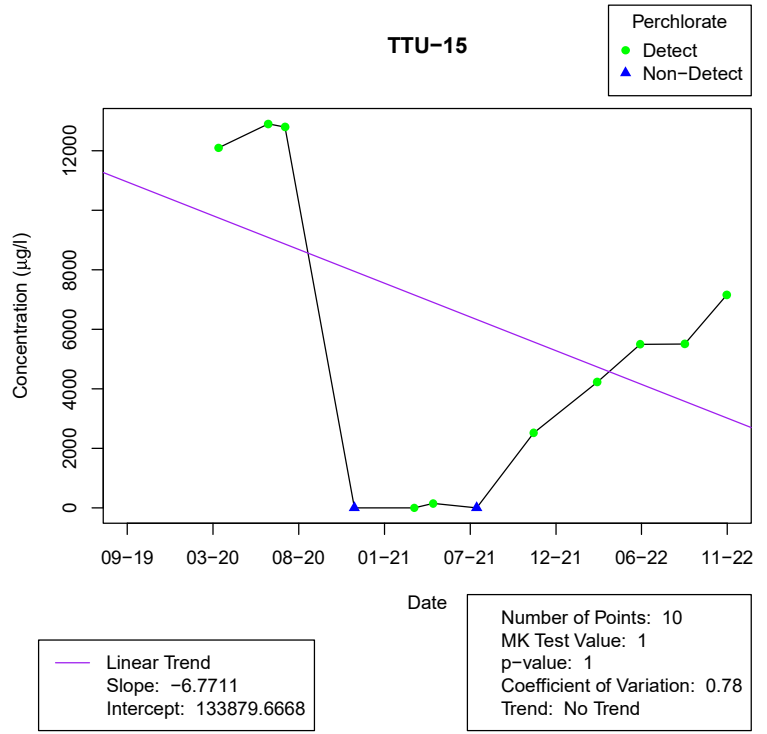
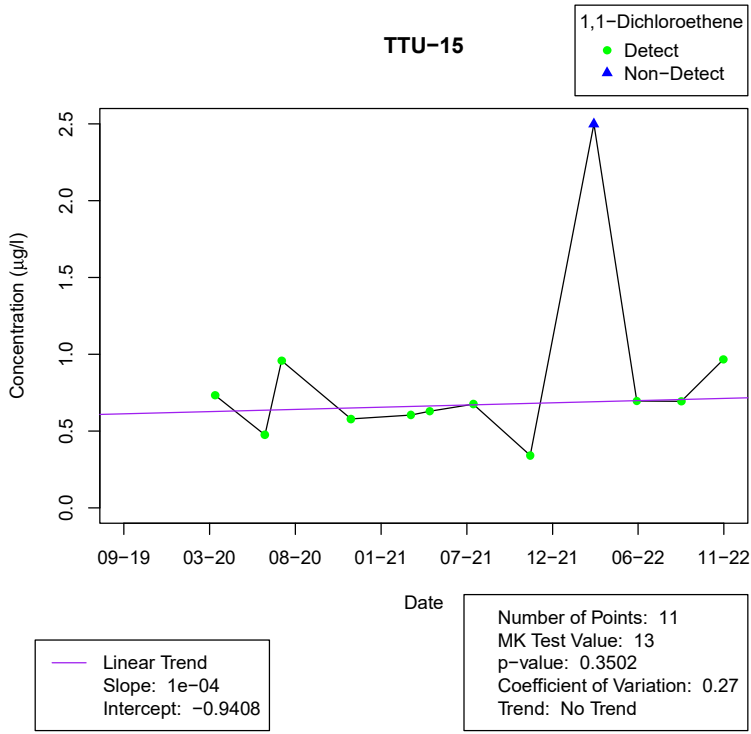


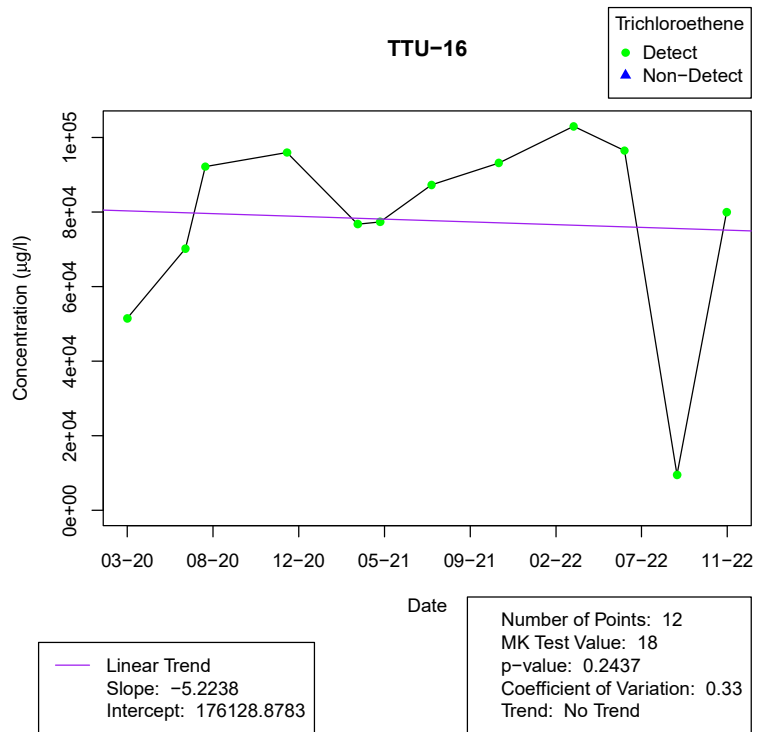
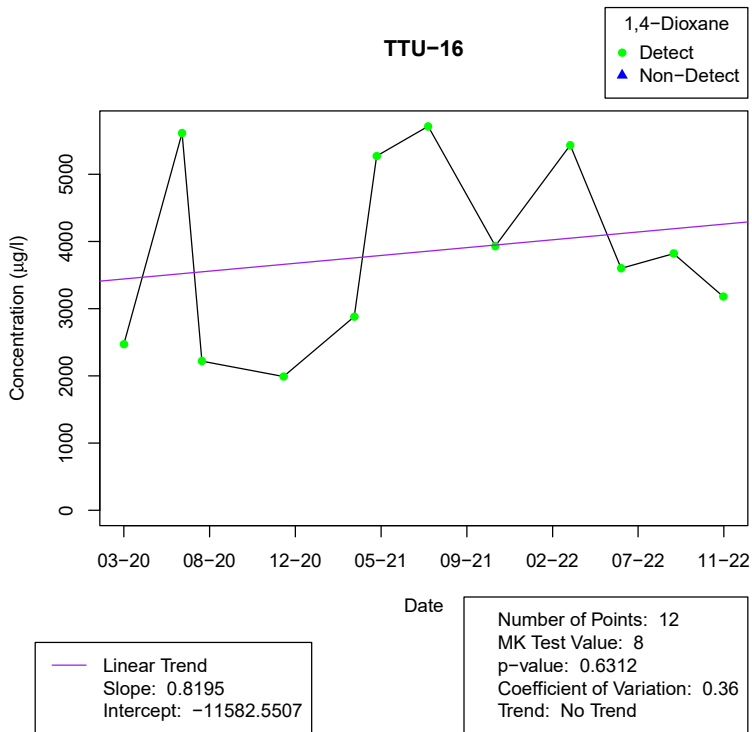
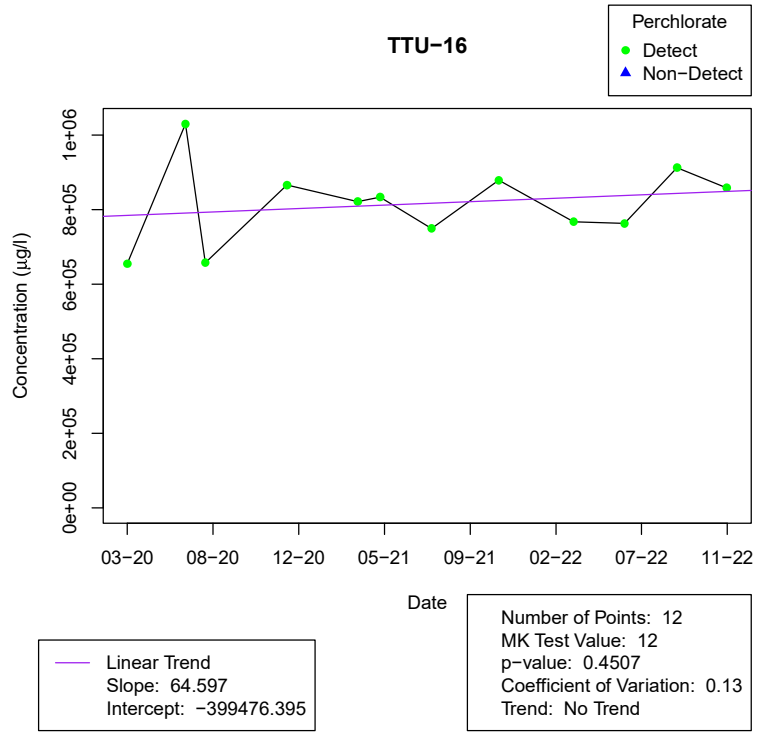
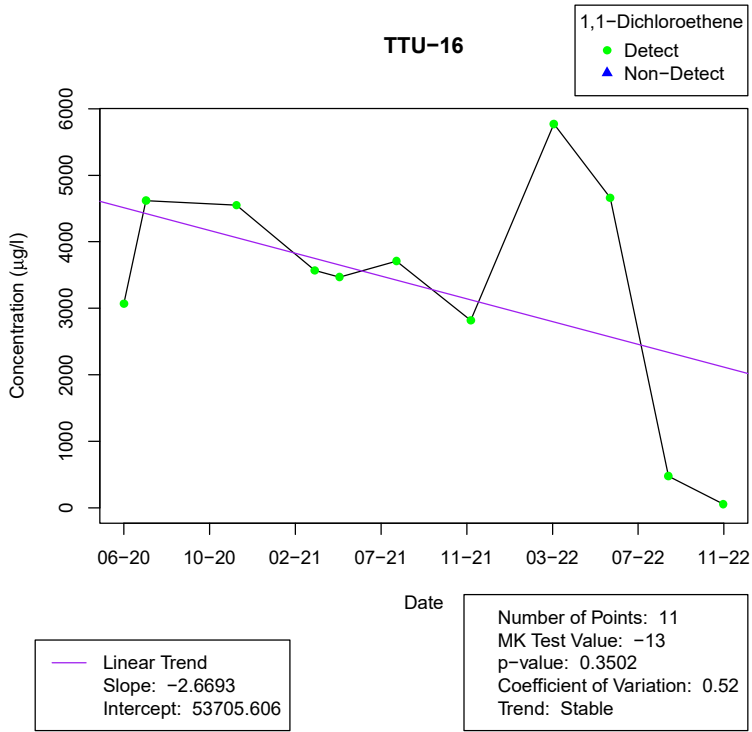


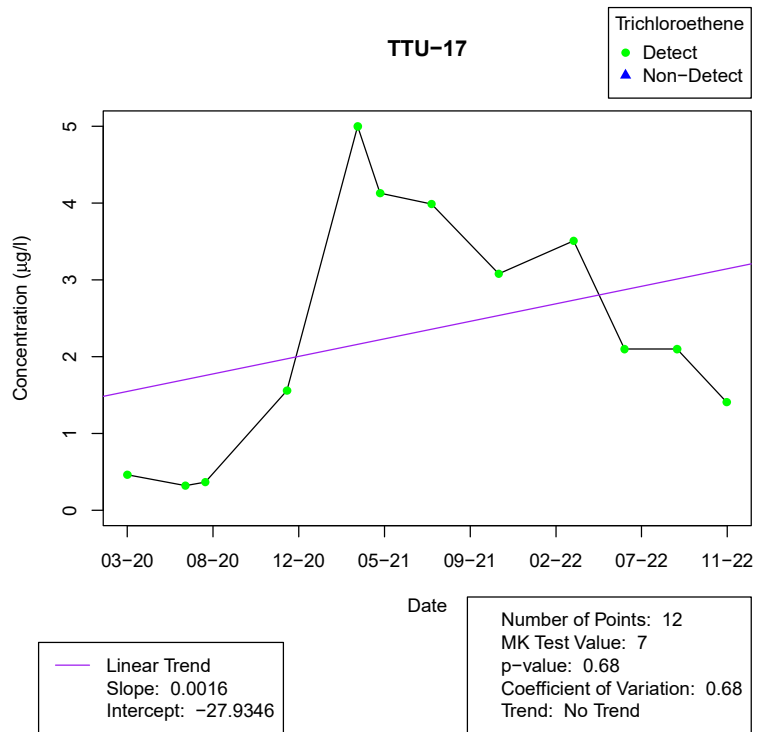
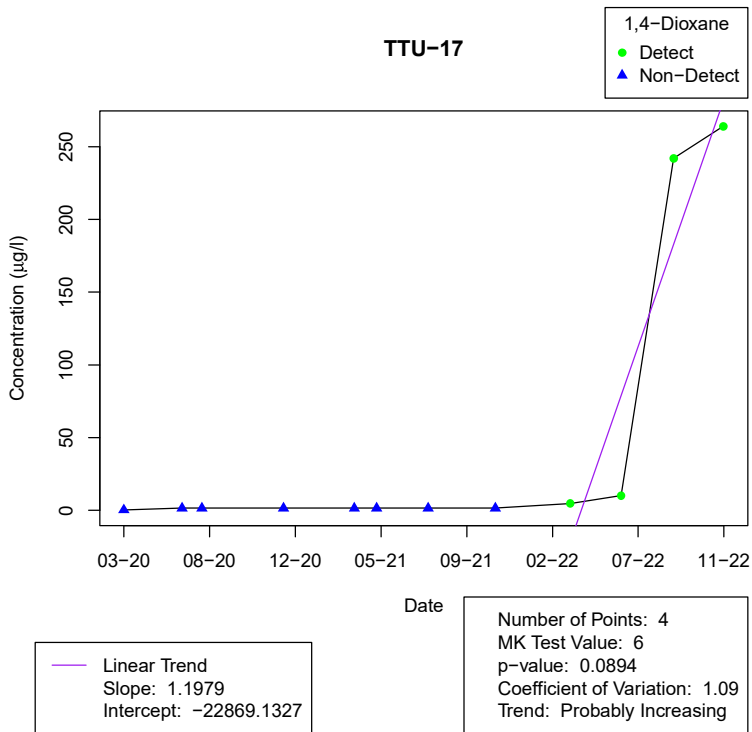
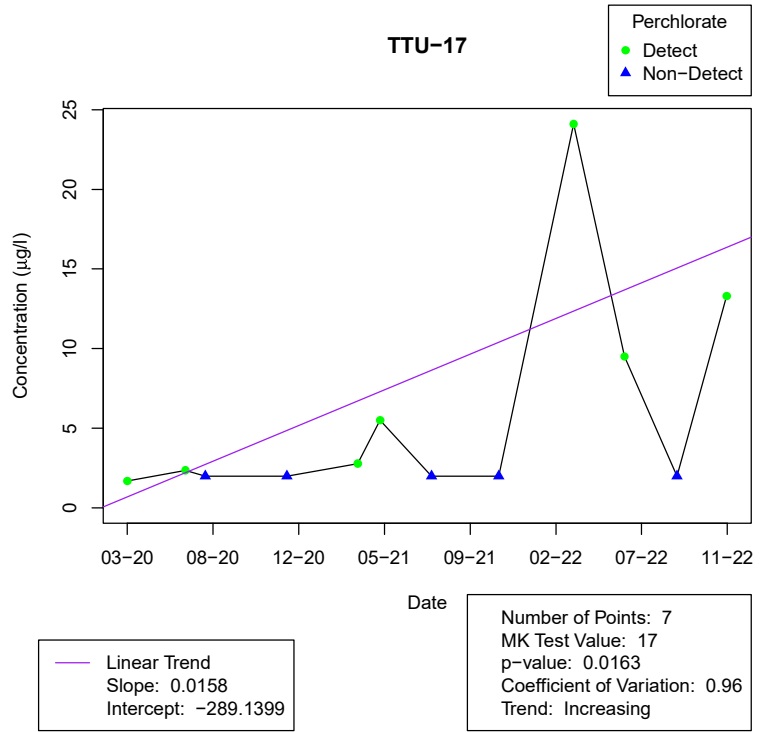
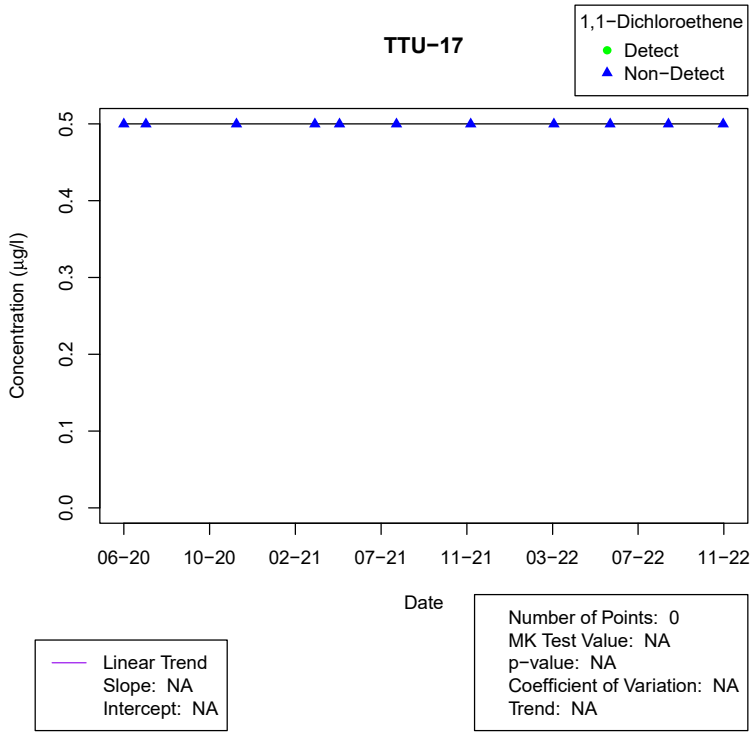






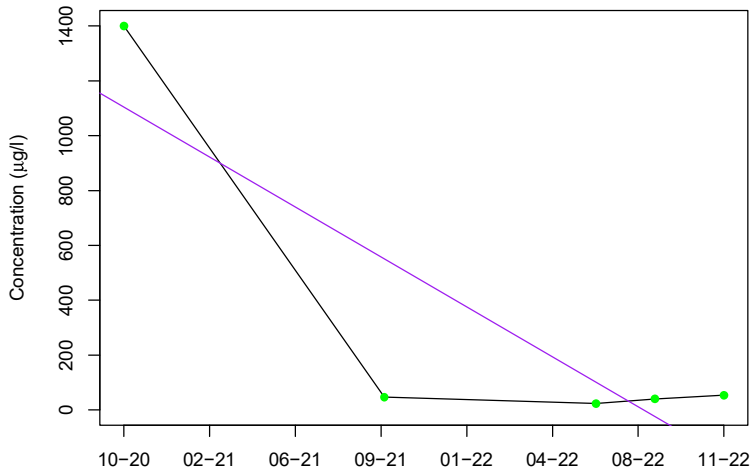






TTU-19

1,1-Dichloroethene
● Detect
▲ Non-Detect

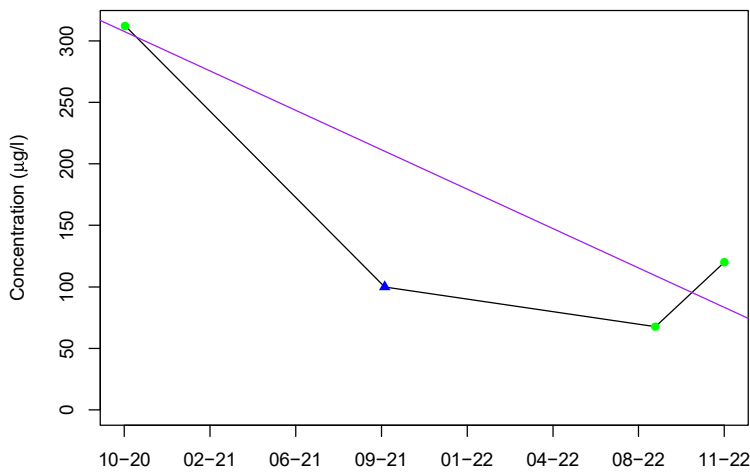


Linear Trend
Slope: -1.6673
Intercept: 32050.7186

Number of Points: 5
MK Test Value: -2
p-value: 0.8065
Coefficient of Variation: 1.94
Trend: No Trend

TTU-19

Perchlorate
● Detect
▲ Non-Detect

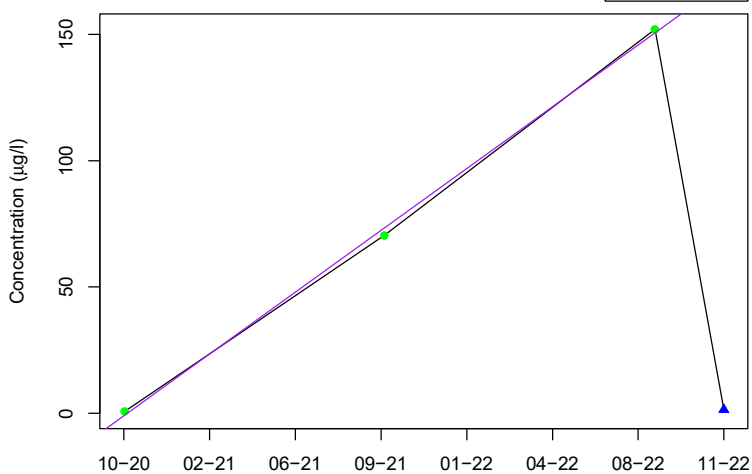


Linear Trend
Slope: -0.2931
Intercept: 5747.7521

Number of Points: 3
MK Test Value: NA
p-value: NA
Coefficient of Variation: NA
Trend: NA

TTU-19

1,4-Dioxane
● Detect
▲ Non-Detect

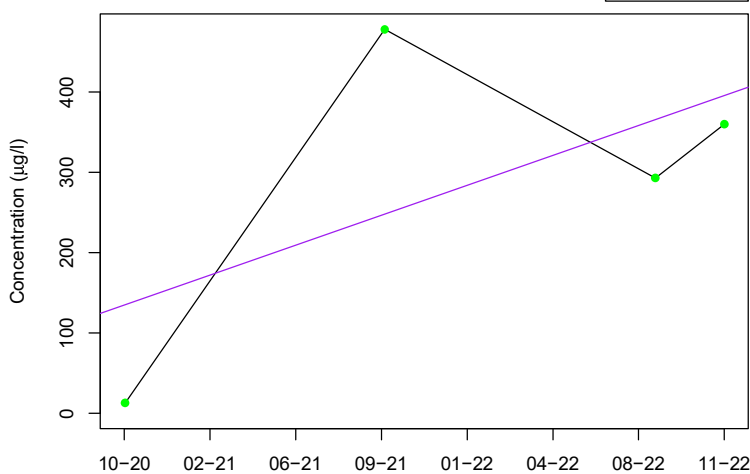


Linear Trend
Slope: 0.2238
Intercept: -4154.6604

Number of Points: 3
MK Test Value: NA
p-value: NA
Coefficient of Variation: NA
Trend: NA

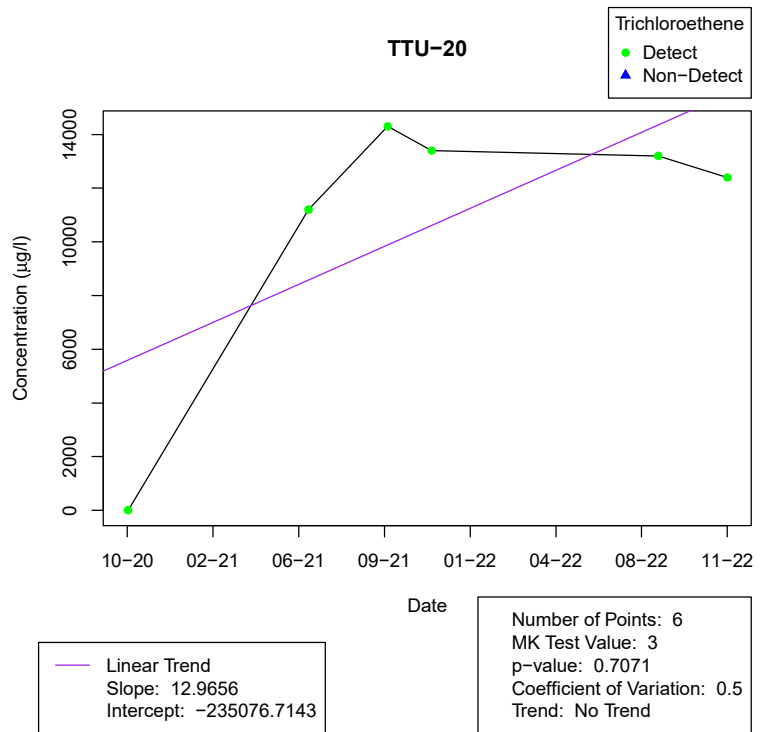
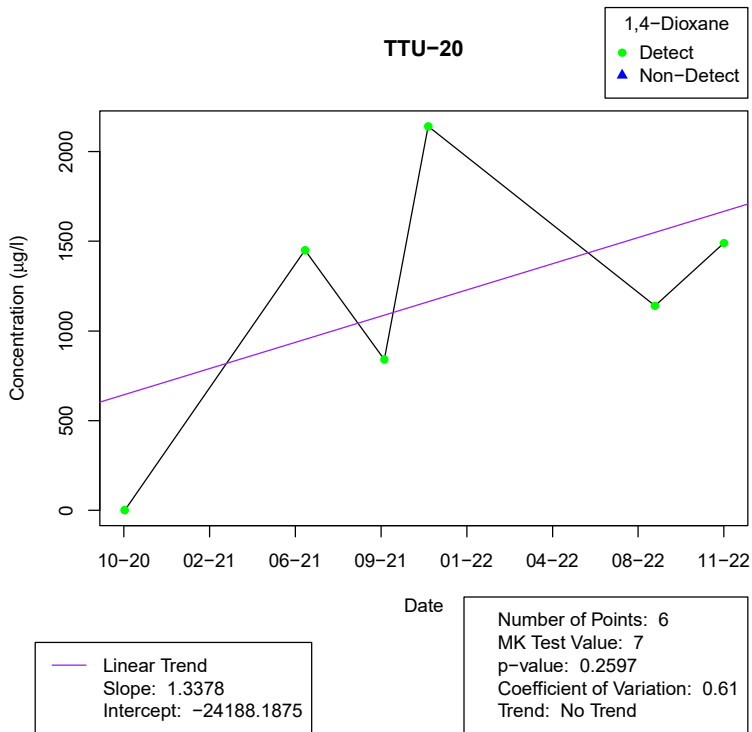
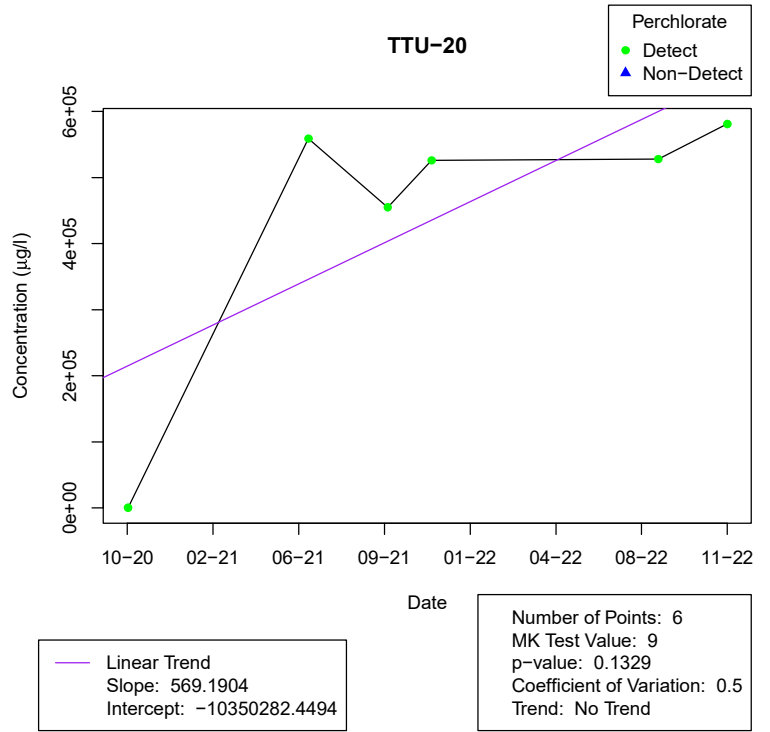
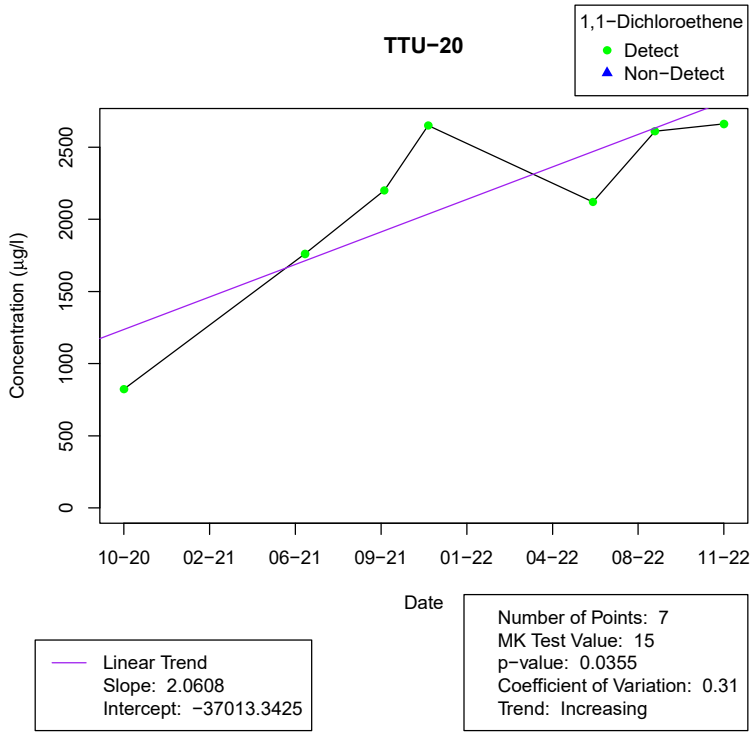
TTU-19

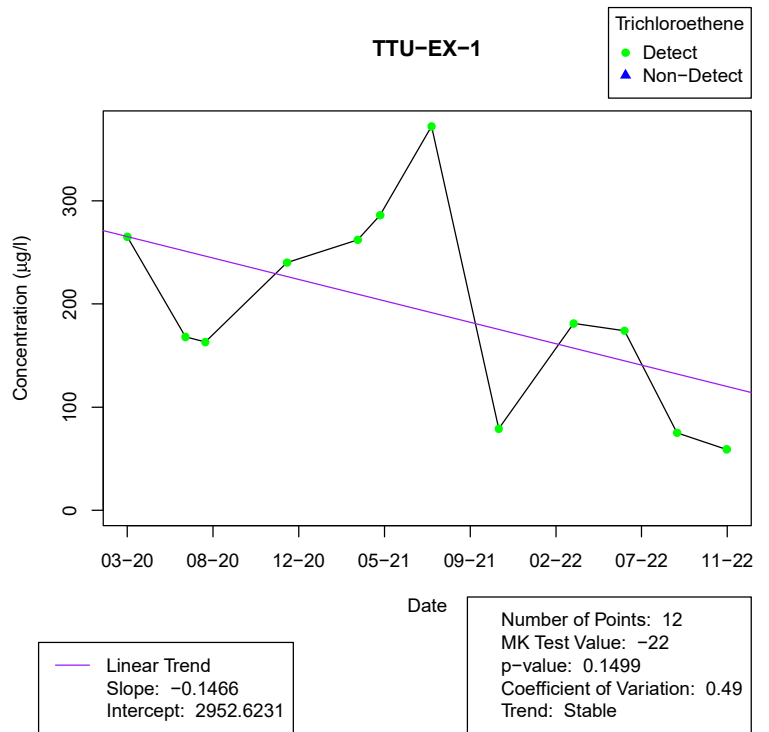
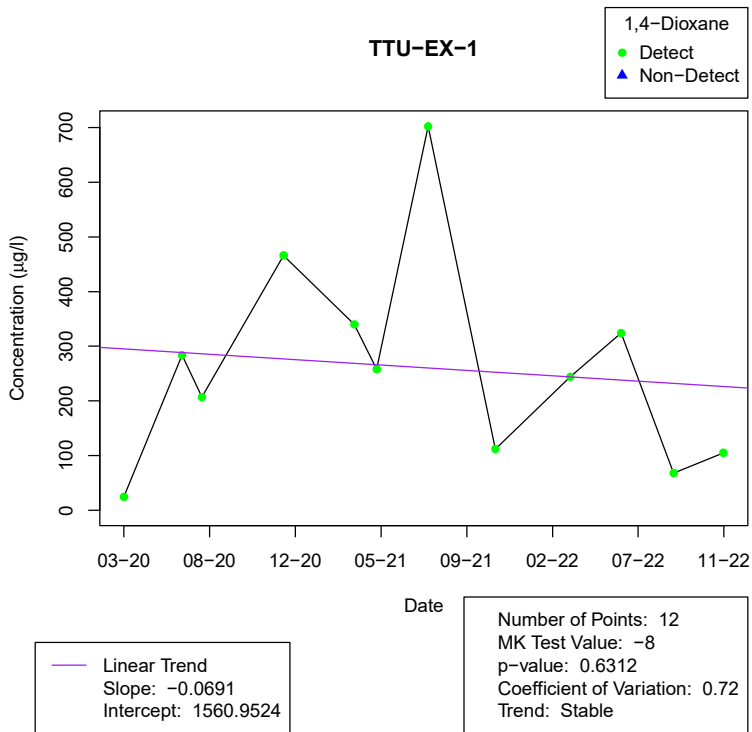
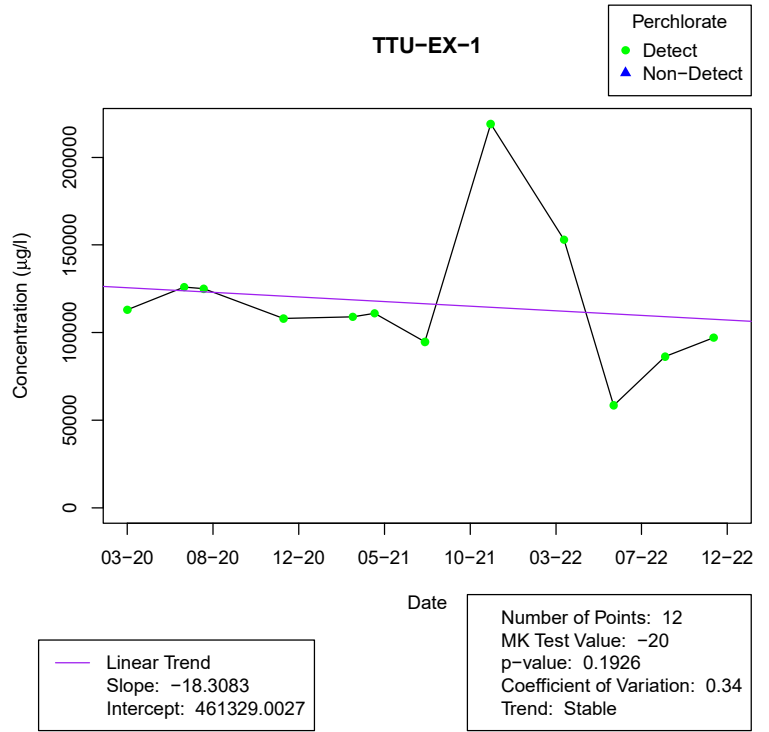
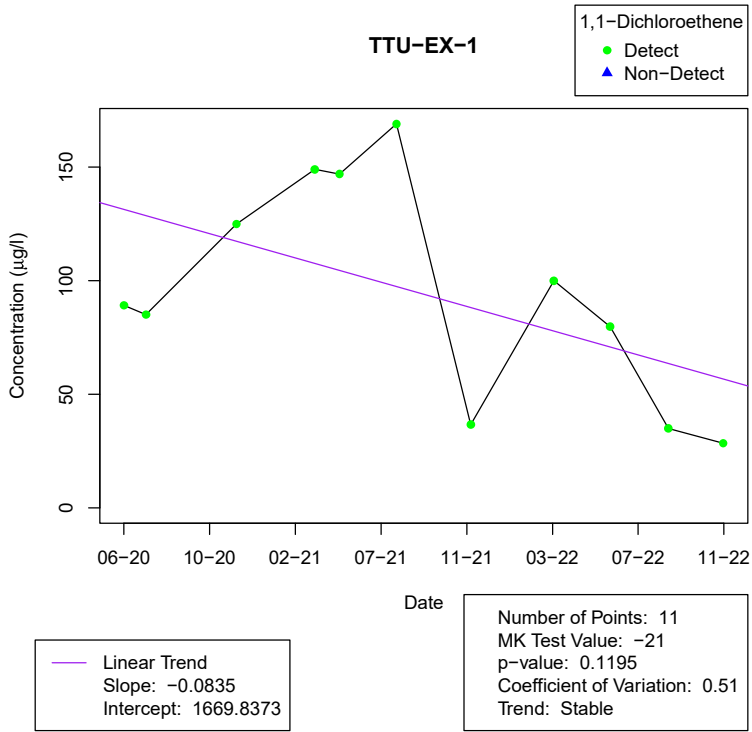
Trichloroethene
● Detect
▲ Non-Detect

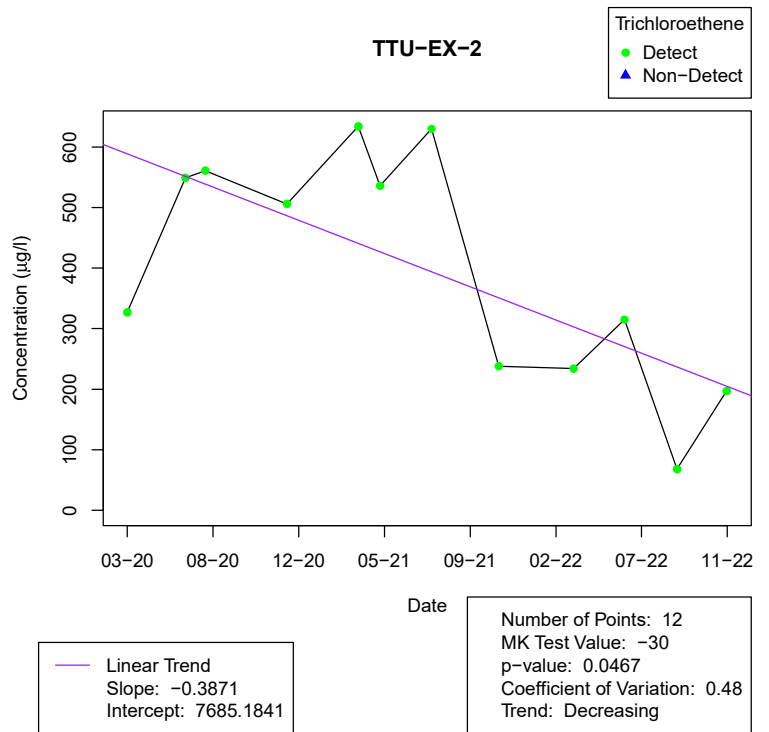
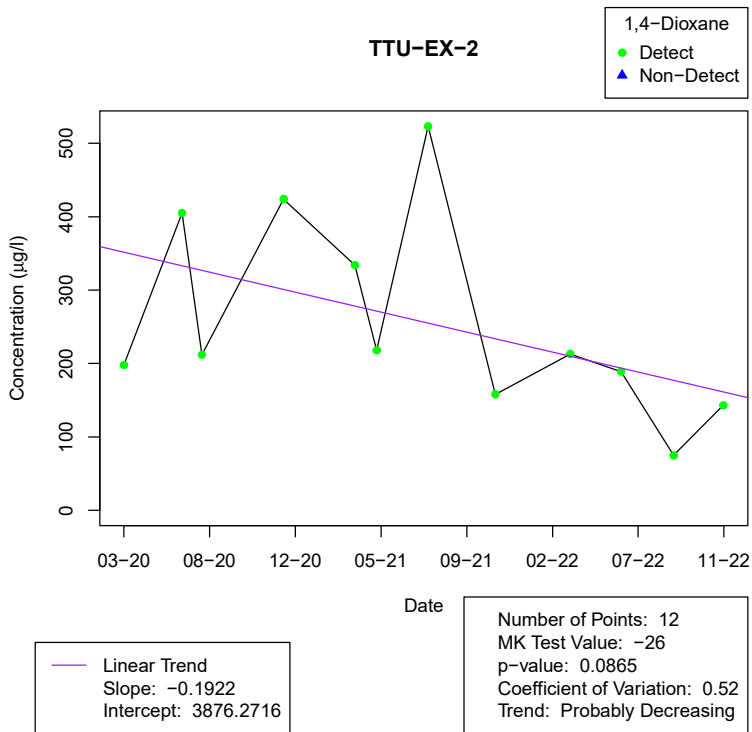
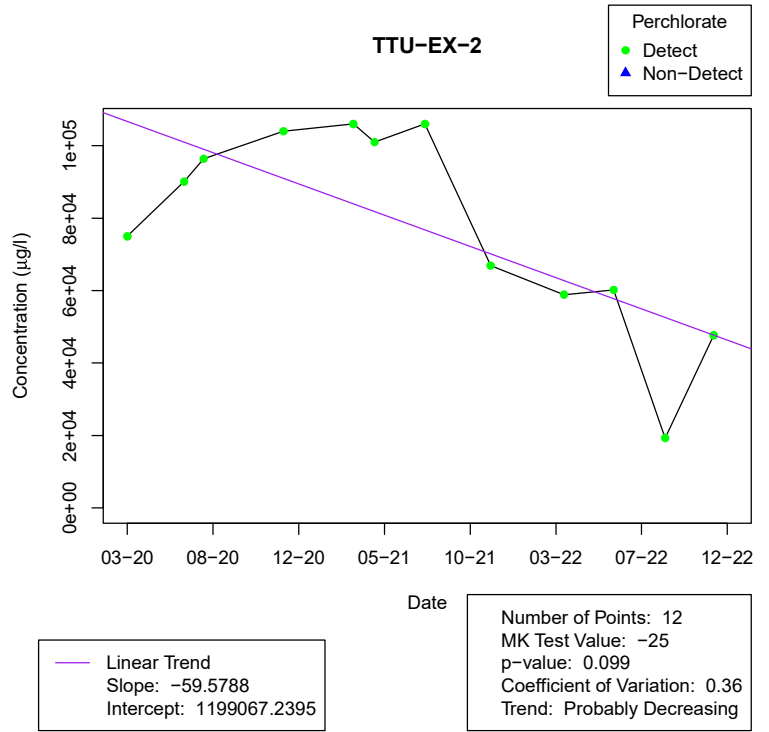
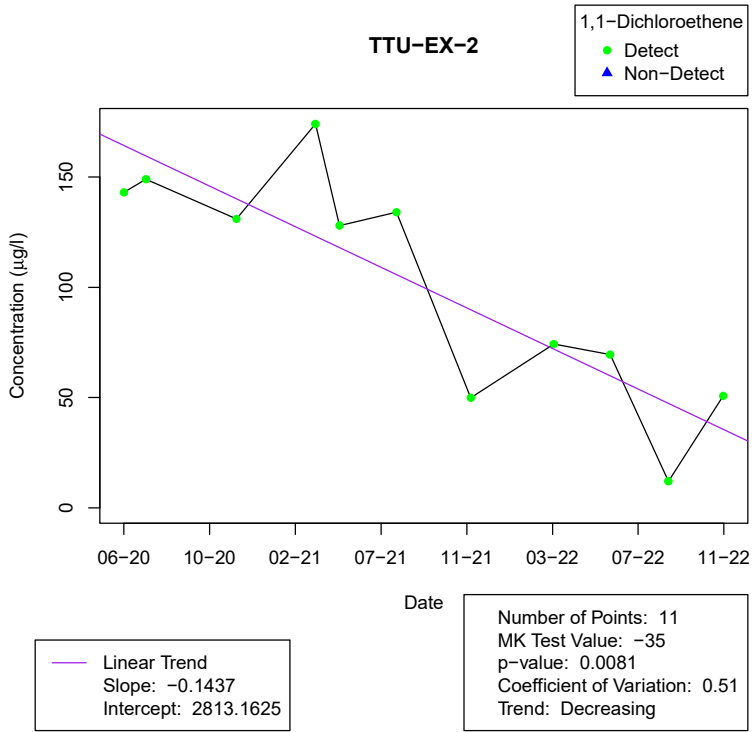


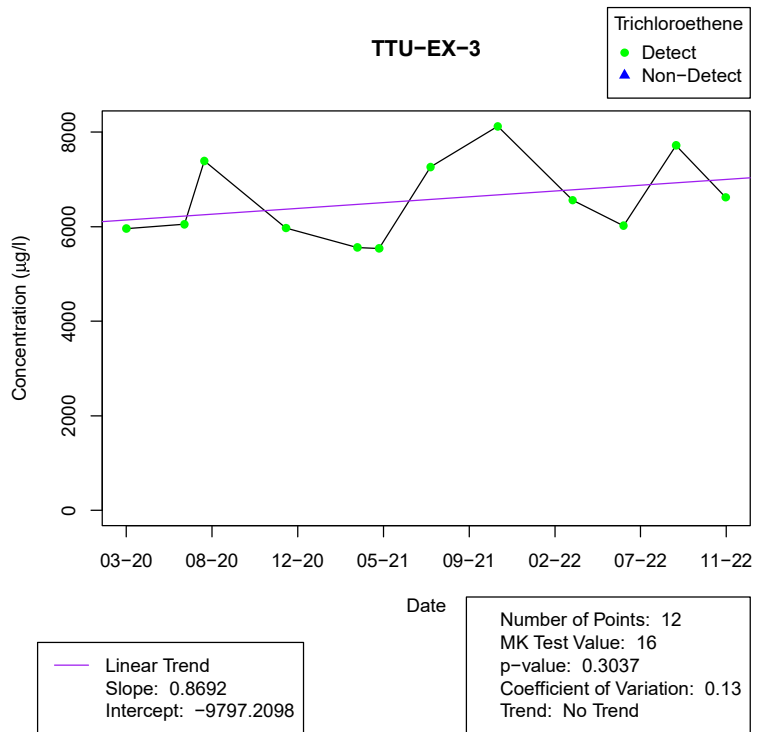
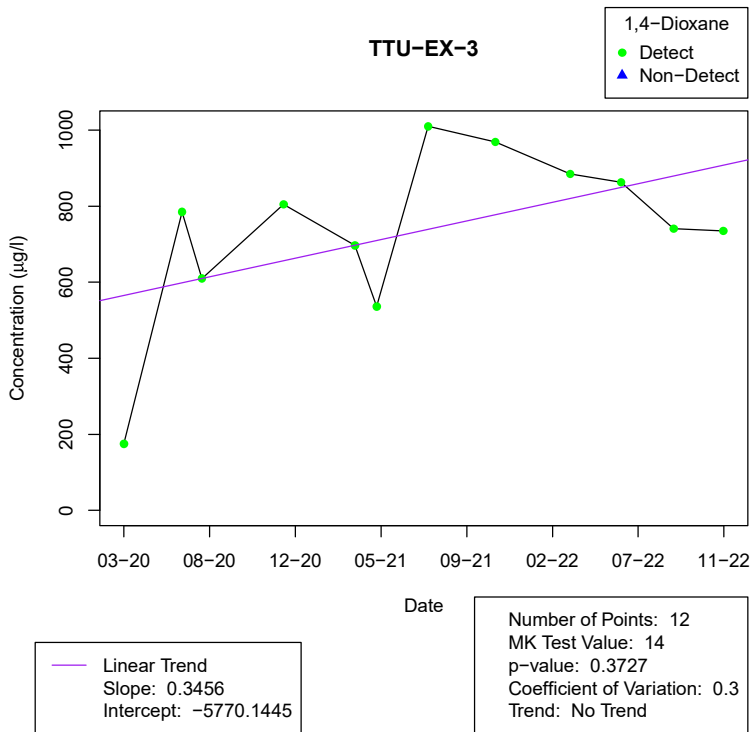
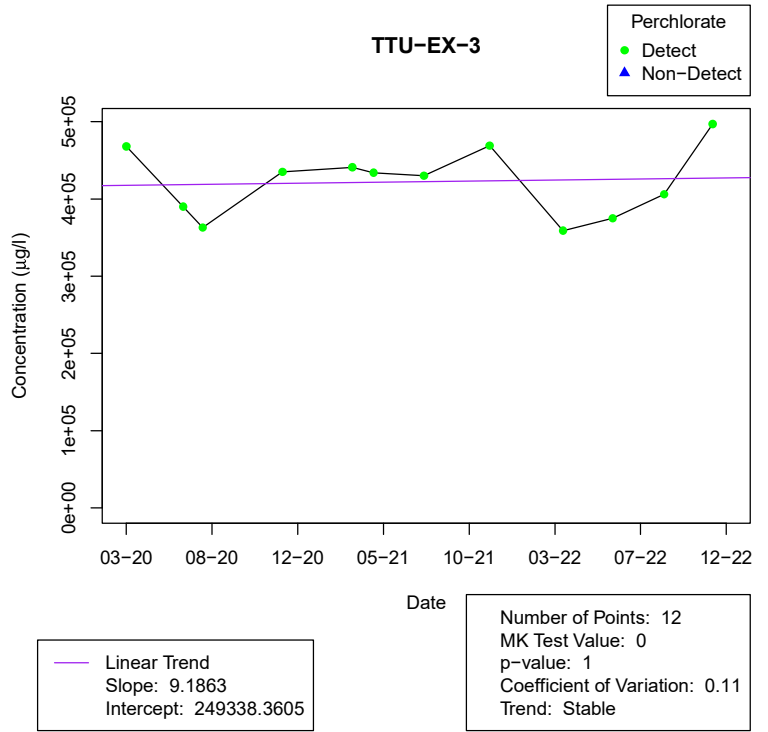
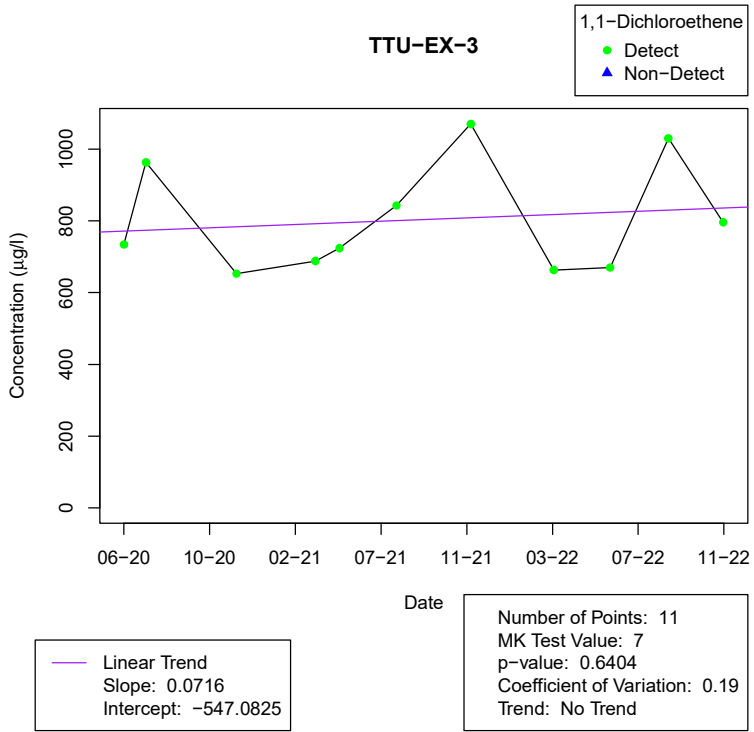
Linear Trend
Slope: 0.341
Intercept: -6195.4969

Number of Points: 4
MK Test Value: 2
p-value: 0.7341
Coefficient of Variation: 0.69
Trend: No Trend



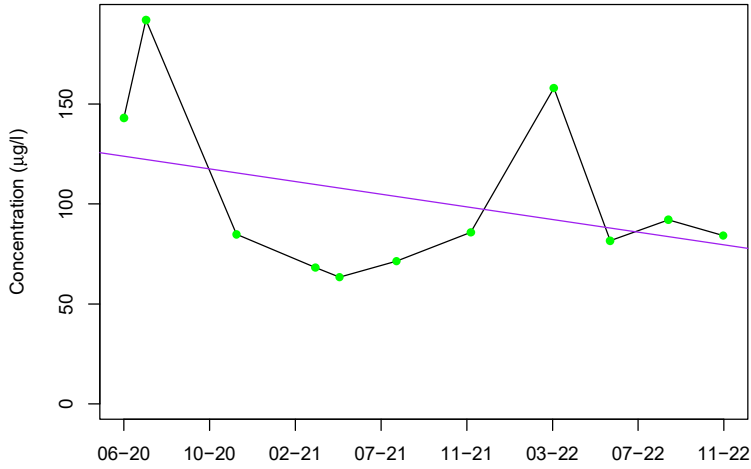






TTU-EX-4

1,1-Dichloroethene
● Detect
▲ Non-Detect



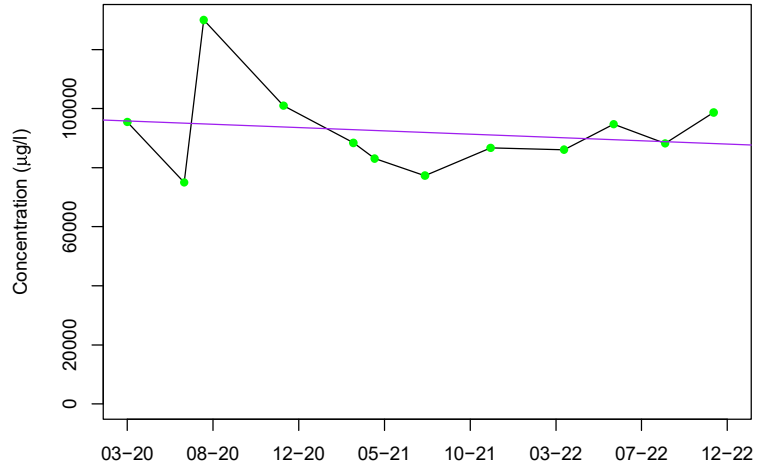
Date

Number of Points: 11
MK Test Value: -3
p-value: 0.8763
Coefficient of Variation: 0.41
Trend: Stable

Linear Trend
Slope: -0.0494
Intercept: 1034.7649

TTU-EX-4

Perchlorate
● Detect
▲ Non-Detect



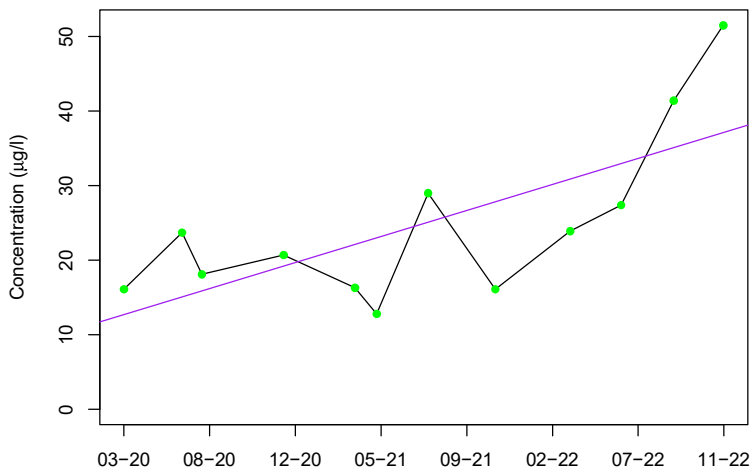
Date

Number of Points: 12
MK Test Value: 0
p-value: 1
Coefficient of Variation: 0.16
Trend: Stable

Linear Trend
Slope: -7.7764
Intercept: 238431.5997

TTU-EX-4

1,4-Dioxane
● Detect
▲ Non-Detect



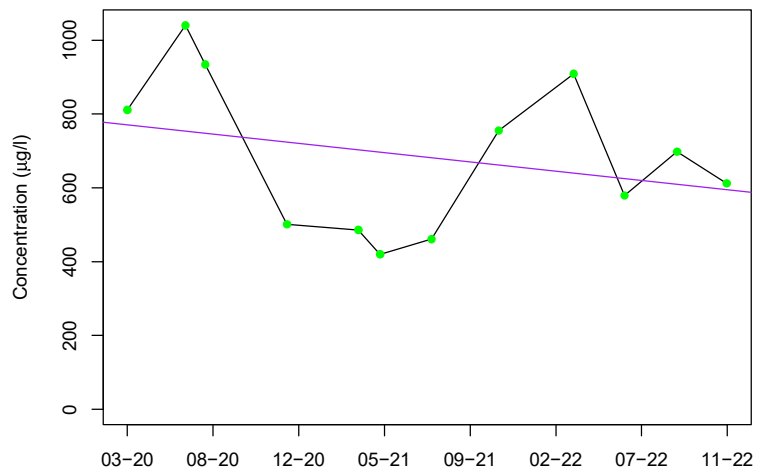
Date

Number of Points: 12
MK Test Value: 31
p-value: 0.0392
Coefficient of Variation: 0.46
Trend: Increasing

Linear Trend
Slope: 0.0247
Intercept: -439.3653

TTU-EX-4

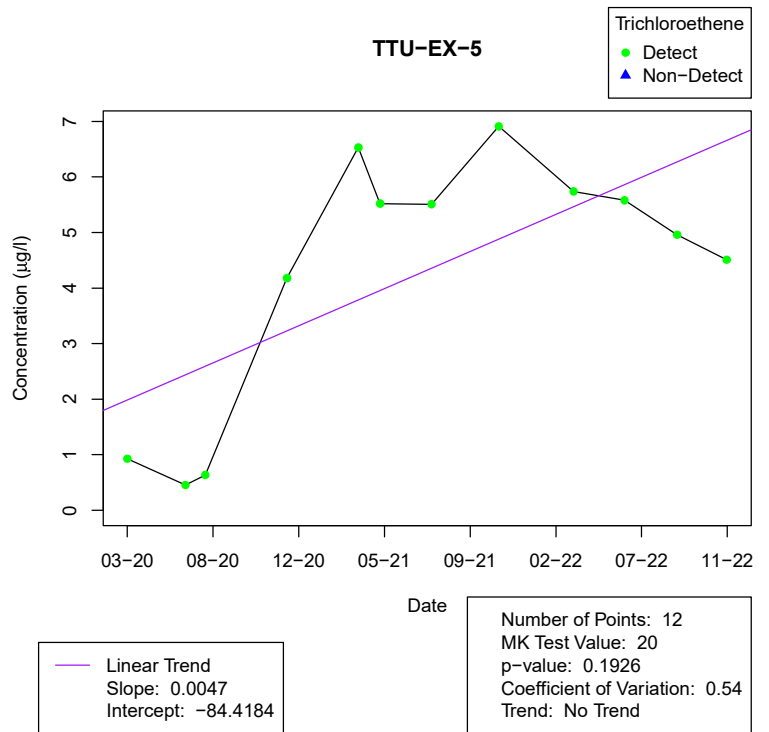
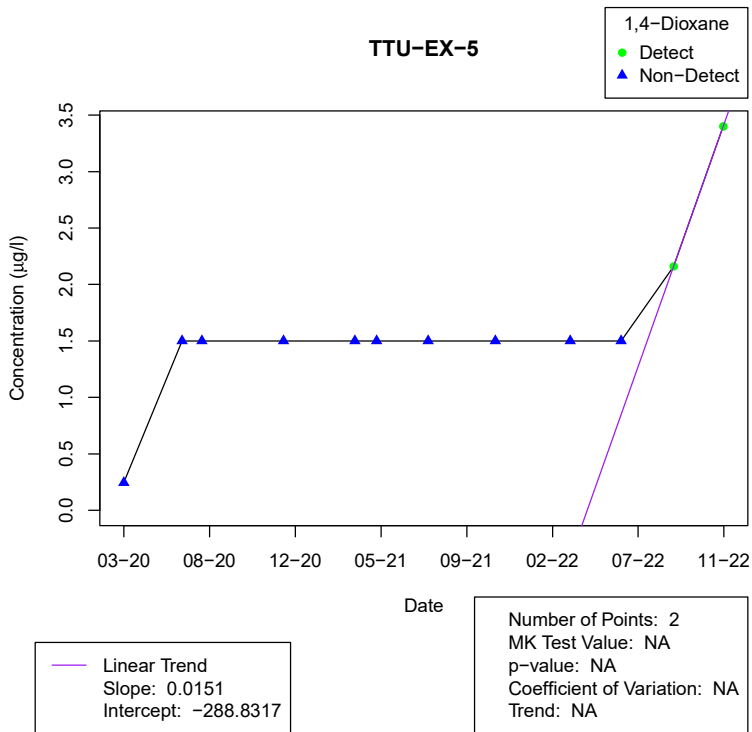
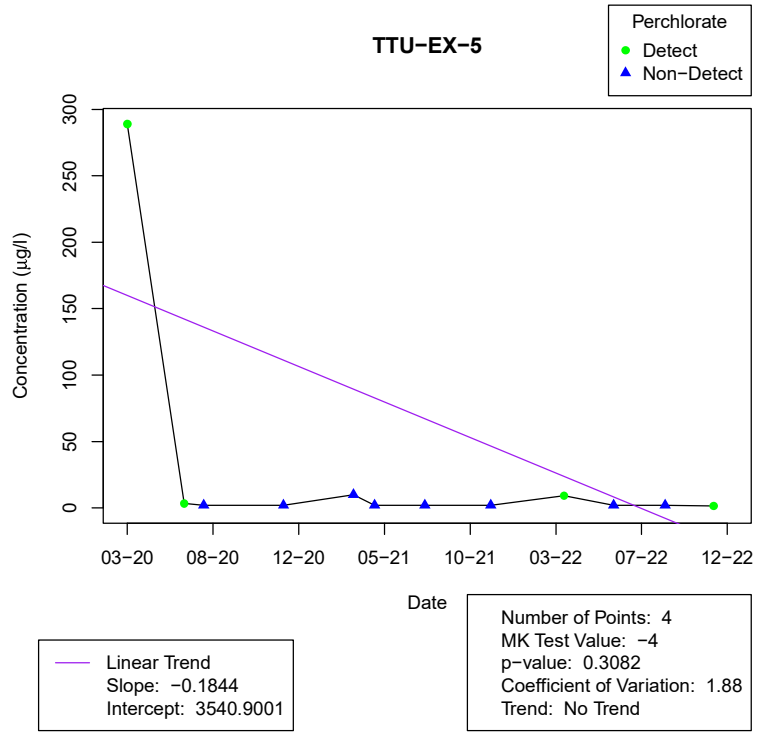
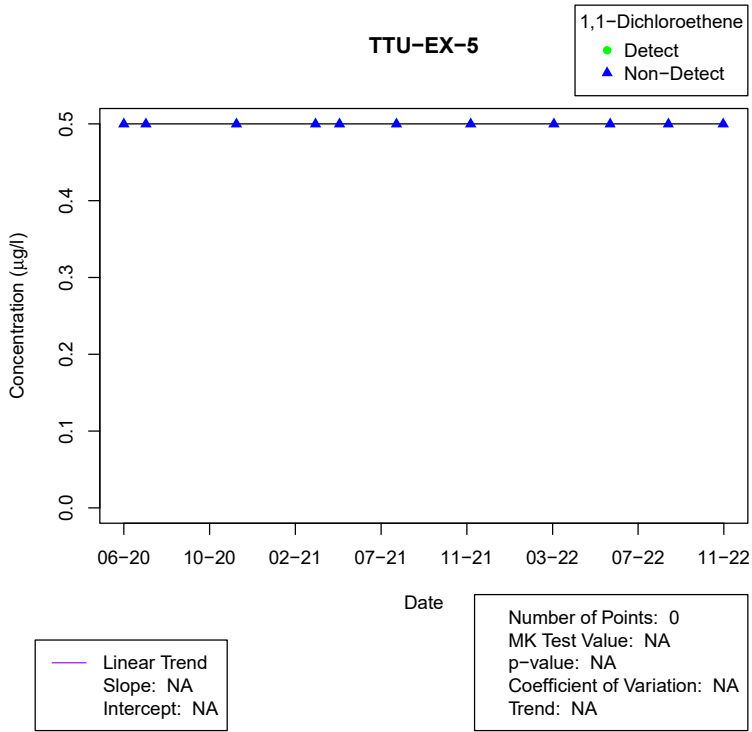
Trichloroethene
● Detect
▲ Non-Detect



Date

Number of Points: 12
MK Test Value: -12
p-value: 0.4507
Coefficient of Variation: 0.3
Trend: Stable

Linear Trend
Slope: -0.1775
Intercept: 4025.5705



Attachment 5 – Data Validation Memo

Memorandum

Date: February 9, 2023
To: Angel Soto, Nammo Defense Systems Inc.
From: Mary G. Weiss
Subject: Nammo Defense Systems (NDS) Inc. – Former Thermal Treatment Unit (TTU) Fourth Quarter 2022 Groundwater Sampling
Tier IA Data Validation – Level II Data Deliverables, Pace Analytical Sample Delivery Groups (SDGs) J194245, L1562277, L1563057, L1570550

Introduction

Pinyon Environmental, Inc. (Pinyon), completed groundwater sampling activities for the Nammo Defense Systems (NDS) Inc. Former Thermal Treatment Unit (TTU) Site in November and December of 2022. Subsequently, Pinyon performed a Tier IA data validation of the groundwater samples collected during the sampling event as part of the NDS TTU fourth quarter 2022 reporting.

Analytical data was reviewed by Pinyon based on the following documents:

Quality Assurance Project Plan, Nammo Defense Systems Inc. Facility, Mesa Arizona, April 28, 2022

United States Environmental Protection Agency (EPA) National Functional Guidelines for Organic Superfund Methods Data Review, January 2017 (EPA-540-R-2017-002)

Draft Region 9 Superfund Data Evaluation/Validation Guidance, December 2001 (R9QA/006.1)

Arizona Department of Environmental Quality (ADEQ) Remedial Projects Section Quality Assurance Program Plan (QAPP), February 2017

Groundwater Sampling and Analysis Plan (SAP), Former Thermal Treatment Unit, Nammo Defense Systems Inc. , Mesa, Arizona, September 2022

To reduce the occurrence of transcription errors, Pinyon has retained the laboratory qualifiers for use in the completed data validation rather than adhering to the data qualifiers defined in the *Quality Assurance Project Plan: Nammo Defense Systems Inc. Facility, (NDS Facility QAPP)*.

Preliminary Review

Groundwater samples were submitted to Pace Analytical Laboratory (Pace), Mount Juliet, Tennessee and Eurofins Scientific (Eurofins), Phoenix, Arizona under Pinyon chain-of-custody (COC) for the following analyses:

- Perchlorate by EPA Modified Method 314.0
- Perchlorate by EPA Method 6850 (PF-2 only)

Data Validation Technical Memorandum

Nammo Defense Systems (NDS) Inc. – Water Bore-out (WBO)
Fourth Quarter 2022 Groundwater Sampling

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- 1,4-Dioxane by EPA Method 8260B using selective ion monitoring (SIM) mode

Quarter 4 2022 – November and December 2022

A total of 27 primary samples, 2 duplicate samples, 2 trip blank samples, and 2 matrix spike (MS) and matrix spike duplicate (MSD) samples were collected between November 28 and December 22, 2022 (Table I). The samples were relinquished to a representative at the laboratory on November 29, November 30, and December 22.

Samples arrived at the laboratory for analysis on November 30, December 1, and December 24. Upon arrival at the laboratory for analysis, the temperatures of the coolers were recorded. Sample temperatures ranged between 0.8°C and 5.1°C. The laboratory noted that one trip blank was received with samples received on November 30 and December 1 and preserved with hydrochloric acid (HCl). A trip blank was not submitted with the samples received on December 24.

The collection times for the trip blanks were not recorded on the COC. The laboratory assigned the following dates and times to the trip blanks samples:

- TRIP BLANK 2 (LI562277-17) – 11/29/22 00:00
- TRIP BLANK (LI563057-11) – 11/30/22 00:00

The laboratory made note of “No extra volume received to perform Matrix Spike samples” for analysis of VOCs by 8260B or 1,4-dioxane by 8260B-SIM for the following samples:

- LI562277-04 (TTU-9A-61-20221129)
- LI562277-09 (TTU-16-80-20221129)
- LI562277-13 (TTU-EXT-3-76-20221129)
- LI562277-15 (TTU-EXT-5-80-20221129)
- LI563057-01 (TTU-3-143-20221130)
- LI563057-12 (DUP-02)

Based on conversations with the laboratory, there was no extra sample volume to rerun MS samples for original samples that required dilution; however, there was sufficient volume to run the original sample. As one MS/MSD was reported for the sample delivery groups (SDGs) associated with the above samples, laboratory quality control requirements were met.

Equipment Blanks

Groundwater sampling activities were completed using Hydrasleeves in accordance with the SAP. As such, equipment blanks were not collected.

Perchlorate

Overall Assessment

The samples were analyzed for perchlorate by EPA Methods 314.0 and 6850 (Table I). The data reported for perchlorate are considered to be usable with the identified qualifiers. Results for the target analytes for this specific project are usable and valid.

Preservation and Holding Times

Holding times (time between sample collection and analysis) for the samples ranged from 6 to 18 days (Table 2). This is within the acceptable range of 28 days for preserved water samples.

Method Blank

One method blank was analyzed for each batch of analysis completed. This resulted in eight method blanks (batches WG1970993, WG1971849, WG1972222, WG1972265, WG1973166, WG1976790, WG1979702, and 641151). Perchlorate was not detected in the method blank above the laboratory method reporting limit.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample sets were analyzed at the frequency for the number and types of samples analyzed (one MS/MSD set per batch of 10 samples). Four sample MS/MSD sets were reported using samples L1562277-02 (TTU-2-114-20221128), 550-194245-1 (PF-2-400-20221130), and two from batch samples. Twelve sample set specific MSs were reported using samples L1562277-04 (TTU-9A-61-20221129), L1563057-01 (TTU-3-143-20221130), L1563057-02 (TTU-4-57-20221130), L1563057-04 (TTU-7-345-20221130), L1563057-05 (TTU-8-164-20221130), L1563057-06 (TTU-10-172-20221130), L1563057-12 (DUP-02), and five from batch samples.

The percent recovery (%R) and relative percent difference (RPD) results for the MS samples and MS/MSD sample sets were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the MS, MSD, and corresponding sample results as appropriate.

Laboratory Control Sample (LCS)

One laboratory control sample (LCS) was analyzed for each batch of analysis completed, resulting in eight LCSs. The %R and RPD results were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the LCS, and corresponding sample results as appropriate.

Laboratory Duplicate

Four laboratory duplicates were analyzed. The laboratory duplicates were analyzed using original sample from L1562277-04 (TTU-9A-61-20221129), L1562277-15 (TTU-EXT-5-80-20221129), four from batch samples for perchlorate. The RPD results were within the limits stated in the laboratory report or results were appropriately qualified.

Field Duplicate

A total of two field duplicates were collected and analyzed (Table 3). This meets the requirements of 1 per batch of 10 samples. The field duplicates match as follows:

- L1562277-16 (DUP-01) = L1562277-10 (TTU-17-80-20221129)
- L1563057-12 (DUP-02) = L1563057-01 (TTU-3-143-20221130)

The RPD was calculated in accordance with the method discussed in the NDS Facility QAPP. RPD for the duplicate pair from L1562277-110 (TTU-17-80-20221129) was 131%. The results for perchlorate for this duplicate pair was qualified as “J” (the identification of the analyte is acceptable; the reported value is an

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estimate). This qualifier does not impact the validity of the results. The RPD for the duplicate pair from LI563057-01 (TTU-3-143-20221130) was 11%.

Sensitivity

The samples were reported to MDLs. Elevated non-detect results were reported for LI563057-07 (TTU-11-73-20221130) due to required sample dilution. Undiluted MDLs and reporting detection limits (RDLs) for perchlorate met the Arizona Department of Environmental Quality (ADEQ) Health Based Guidance Level (HBGL) for perchlorate of 14 micrograms per liter ($\mu\text{g/L}$) in Table 2 of the NDS Facility QAPP. Concentrations greater than the MDL and less than the RDL were flagged by the laboratory with “J” to indicate the concentrations were estimated.

VOCs

Overall Assessment

The samples were analyzed for VOCs by EPA Method 8260B (Table 1). The data reported for VOCs are considered to be usable with the identified qualifiers. Results for the target analytes for this specific project are usable and valid.

Holding Times

Holding times (time between sample collection and analysis) for the samples ranged from 3 to 8 days (Table 2). This is within the acceptable range of 14 days for preserved water samples.

Method Blank

One method blank was analyzed for each batch of analysis completed. This resulted in five method blanks (batches WG1968321, WG1968806, WG1968832, WG1969128, and WG1971428). VOCs were not detected in the method blanks above the laboratory method reporting limit with the following exception:

- Analyte methyl ethyl ketone (MEK) was detected in method blank R3869347-2 for batch WG1968806. Detected concentrations for this analyte were estimated and flagged by the laboratory with J.

This analyte was not detected above laboratory detection limits in corresponding laboratory results.

MS/MSD

The MS/MSD sample sets were analyzed at the frequency for the number and types of samples analyzed (one MS/MSD set per batch of 20 samples). Three sample MS/MSD sets were reported using samples LI562277-02 (TTU-2-114-20221128), and two from batch samples. The %R and RPD results were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the MS, MSD, and corresponding sample results as appropriate.

LCS

One laboratory control sample/laboratory control sample duplicate (LCS/LCSD) was analyzed for each batch of analysis completed, resulting in five LCS/LCSD. The %R and RPD results were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the LCS, LCSD, and corresponding sample results as appropriate.

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Surrogates

The surrogate recoveries were within the limits stated in the laboratory reports for the SDGs.

Field Duplicate

A total of two field duplicates were collected and analyzed (Table 3). This meets the requirements of 1 per batch of 10 samples. The field duplicates match as follows:

- LI562277-16 (DUP-01) = LI562277-10 (TTU-17-80-2022|129)
- LI563057-12 (DUP-02) = LI563057-01 (TTU-3-143-2022|130)

The RPD was calculated in accordance with the method discussed in the NDS Facility QAPP. RPD for each pair was up to 11%. Results for cis-1,2-dichloroethene and toluene for the duplicate pair collected from LI562277-17 (TTU-17-2022|129) had results reported as estimated concentrations (laboratory qualifier “J”). This does not impact the validity of the results.

Trip Blank

Two trip blanks were collected during the sampling event. Trip blanks are a requirement of the NDS Facility QAPP. Toluene was detected in LI562277-17 (TRIP BLANK 2) above MDLs but below RDLs and is considered to be estimated values. This does not impact the validity of the results.

Sensitivity

The samples were reported to MDLs. Elevated non-detect results were reported for the following samples due to the dilutions during analysis:

- LI562277-02 (TTU-2-114-2022|128)
- LI562277-05 (TTU-12-82-2022|129)
- LI562277-07 (TTU-14-64-2022|129)
- LI562277-09 (TTU-16-80-2022|129)
- LI562277-13 (TTU-EXT-3-76-2022|129)
- LI562277-14 (TTU-EXT-4-77-2022|129)
- LI563057-07 (TTU-11-73-2022|130)
- LI563057-08 (TTU-19-73-2022|130)
- LI563057-09 (TTU-20-73-2022|130)

Undiluted MDLs and RDLs for 1,1-dichloroethene met the AWQS of 7.0 µg/L in Table 2 of the QAPP. Concentrations greater than the MDL and less than the RDL were flagged by the laboratory with “J” to indicate the concentrations were estimated.

1,4-Dioxane

Overall Assessment

The samples were analyzed for 1,4-dioxane by EPA Method 8260B-SIM (Table 1). The data reported for 1,4-dioxane is considered to be usable with the identified qualifiers. Results for the target analytes for this specific project are usable and valid.

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Holding Times

Holding times (time between sample collection and analysis) for the samples ranged from 3 to 9 days (Table 2). This is within the acceptable range of 14 days for preserved water samples.

Method Blank

One method blank was analyzed for each batch of analysis completed. This resulted in five method blanks (batches WG1968403, WG1969109, WG1969477, WG1970099, and WG1970821). Concentrations of 1,4-dioxane were not detected in the method blanks above the laboratory method reporting limit with the following exception:

- Concentration of 1,4-dioxane was detected in method blank R3867978-2 for batch WG1968403. Detected concentrations for this analyte were estimated and flagged by the laboratory with J.

Corresponding laboratory results were qualified as appropriate with “B” (the same analyte is found in the associated blank). This does not impact the validity of the results.

MS/MSD

The MS/MSD sample sets were analyzed at the frequency for the number and types of samples analyzed (one MS/MSD set per batch of 20 samples). Three sample MS/MSD sets were reported using samples LI562277-02 (TTU-2-114-20221128), LI563057-05 (TTU-8-164-20221130), and LI563057-07 (TTU-11-73-20221130).

The %R and RPD results were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the MS, MSD, and corresponding sample results as appropriate.

LCS

One LCS/LCSD was analyzed for each batch of analysis completed, resulting in five LCS/LCSD. The %R and RPD results were within the limits stated in the laboratory report or results were appropriately qualified. The qualifiers were applied to the LCS, LCSD, and corresponding sample results as appropriate.

Field Duplicate

A total of two field duplicates were collected and analyzed (Table 3). This meets the requirements of 1 per batch of 10 samples. The field duplicates match as follows:

- LI562277-16 (DUP-01) = LI562277-10 (TTU-17-80-20221129)
- LI563057-12 (DUP-02) = LI563057-01 (TTU-3-143-20221130)

1,4-dioxane was not detected in original sample LI563057-01 (TTU-3-143-20221130) nor duplicate sample LI563057-12 (DUP-02). The RPD was not calculated for these results.

The RPD for the duplicate pair collected from LI562277-10 (TTU-17-80-20221129) was calculated in accordance with the method discussed in the NDS Facility QAPP. RPD for the pair was 197%. The results for perchlorate for these duplicate pairs were qualified as “J” (the identification of the analyte is acceptable; the reported value is an estimate). This qualifier does not impact the validity of the results.

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Sensitivity

The samples were reported to MDLs, and no elevated non-detect results were reported. Site specific technical and regulatory standards for 1,4-dioxane were not included in Table 2 of the NDS Facility QAPP.

Tables:

Table 1. Sample Summary

Table 2. Analysis Summary

Table 3. Field Duplicates – Detections Only

Table I
Sample Summary
Nammo Defense Systems
Former Thermal Treatment Unit
Fourth Quarter 2022 Groundwater Sampling

Sample Location	Client Sample ID	Laboratory Sample ID	Sample Depth (feet)	Sample Type	Matrix	Date Collected	Method of Analysis			
							VOCs	1,4-Dioxane	Perchlorate	Perchlorate
							8260B	8260B SIM	314.0 Mod	6850
PF-2	PF-2-400-2022 130	L1563057-10	400	Normal	Water	11/30/2022	X	X	-	-
	PF-2-400-2022 130	550-194245-1	400	Normal	Water	11/30/2022	-	-	-	X
		550-194245-1 MS	NA	MS	Water	NA	-	-	-	X
		550-194245-1 MSD	NA	MS_D	Water	NA	-	-	-	X
TTU-1	TTU-1-50-2022 128	L1562277-01	50	Normal	Water	11/28/2022	X	X	X	-
TTU-2	TTU-2-114-2022 128	L1562277-02	114.5	Normal	Water	11/28/2022	X	X	X	-
		R3867800-4	NA	MS	Water	NA	X	-	-	-
		R3867800-5	NA	MS_D	Water	NA	X	-	-	-
		R3867978-3	NA	MS	Water	NA	-	X	-	-
		R3867978-4	NA	MS_D	Water	NA	-	X	-	-
		R3870940-3	NA	MS	Water	NA	-	-	X	-
		R3870940-4	NA	MS_D	Water	NA	-	-	X	-
TTU-3	TTU-3-143-2022 130	L1563057-01	143	Normal	Water	11/30/2022	X	X	X	-
		R3870901-6	NA	MS	Water	NA	-	-	X	-
	DUP-02	L1563057-12	NA	Normal	Water	11/30/2022	X	X	X	-
TTU-4	TTU-4-57-2022 130	R3873520-3	NA	MS	Water	NA	-	-	X	-
		L1563057-02	57	Normal	Water	11/30/2022	X	X	X	-
TTU-5	TTU-5-80-2022 129	R3870901-7	NA	MS	Water	NA	-	-	X	-
		L1562277-03	80	Normal	Water	11/29/2022	X	X	X	-
TTU-6	TTU-6-143-2022 130	L1563057-03	143	Normal	Water	11/30/2022	X	X	X	-
	TTU-6-143-2022 222	L1570550-01	143	Normal	Water	12/22/2022	X	-	-	-
TTU-7	TTU-7-345-2022 130	L1563057-04	345	Normal	Water	11/30/2022	X	X	X	-
		R3870901-8	NA	MS	Water	NA	-	-	X	-
TTU-8	TTU-8-164-2022 130	L1563057-05	164	Normal	Water	11/30/2022	X	X	X	-
		R3869325-4	NA	MS	Water	NA	-	X	-	-
		R3870901-9	NA	MS	Water	NA	-	-	X	-
		R3869325-5	NA	MS_D	Water	NA	-	X	-	-
TTU-9A	TTU-9A-61-2022 129	L1562277-04	61	Normal	Water	11/29/2022	X	X	X	-
		R3870941-3	NA	LAB_D	Water	NA	-	-	-	X
		R3870941-4	NA	MS	Water	NA	-	-	-	X
TTU-10	TTU-10-172-2022 130	L1563057-06	172	Normal	Water	11/30/2022	X	X	X	-
		R3870901-10	NA	MS	Water	NA	-	-	X	-
TTU-11	TTU-11-73-2022 130	L1563057-07	73	Normal	Water	11/30/2022	X	X	X	-
		R3869325-6	NA	MS	Water	NA	-	X	-	-
		R3869325-7	NA	MS_D	Water	NA	-	X	-	-
TTU-12	TTU-12-82-2022 129	L1562277-05	82	Normal	Water	11/29/2022	X	X	X	-
TTU-13	TTU-13-51-2022 129	L1562277-06	51	Normal	Water	11/29/2022	X	X	X	-
TTU-14	TTU-14-64-2022 129	L1562277-07	64	Normal	Water	11/29/2022	X	X	X	-
TTU-15	TTU-15-75-2022 129	L1562277-08	75	Normal	Water	11/29/2022	X	X	X	-
TTU-16	TTU-16-80-2022 129	L1562277-09	80	Normal	Water	11/29/2022	X	X	X	-
TTU-17	TTU-17-80-2022 129	L1562277-10	80	Normal	Water	11/29/2022	X	X	X	-
	DUP-01	L1562277-16	NA	Normal	Water	11/29/2022	X	X	X	-
TTU-19	TTU-19-73-2022 130	L1563057-08	73	Normal	Water	11/30/2022	X	X	X	-
TTU-20	TTU-20-73-2022 130	L1563057-09	73	Normal	Water	11/30/2022	X	X	X	-
TTU-EXT-1	TTU-EXT-1-69-2022 129	L1562277-11	69	Normal	Water	11/29/2022	X	X	X	-
TTU-EXT-2	TTU-EXT-2-74-2022 129	L1562277-12	74	Normal	Water	11/29/2022	X	X	X	-
TTU-EXT-3	TTU-EXT-3-76-2022 129	L1562277-13	76	Normal	Water	11/29/2022	X	X	X	-
TTU-EXT-4	TTU-EXT-4-77-2022 129	L1562277-14	77	Normal	Water	11/29/2022	X	X	X	-
TTU-EXT-5	TTU-EXT-5-80-2022 129	L1562277-15	80	Normal	Water	11/29/2022	X	X	X	-
		R3870940-5	NA	LAB_D	Water	NA	-	-	-	X
TRIP BLANK	TRIP BLANK	L1563057-11	NA	Normal	Water	11/30/2022	X	-	-	-
TRIP BLANK 2	TRIP BLANK 2	L1562277-17	NA	Normal	Water	11/29/2022	X	-	-	-

Notes:

MS = Matrix Spike

MS_D = Matrix Spike Duplicate

LAB_D = Laboratory Duplicate

NR = Not Recorded

NA = Not Applicable

VOCs = Volatile Organic Compounds

SIM = Selected Ion Monitoring

Mod = Modified

- = Analysis not requested

X = Analysis requested

Table 2
Analysis Summary
Nammo Defense Systems
Former Thermal Treatment Unit
Fourth Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Date Collected	Preparation Date	Date Analyzed	Analysis Batch	Hold Time (days)	Notes
Perchlorate by 314.0 Mod							
L1562277-01	TTU-1-50-20221128	11/28/2022	12/9/2022	12/9/2022	WG1970993	11	Sample required dilution.
L1562277-02	TTU-2-114-20221128	11/28/2022	12/9/2022	12/9/2022	WG1970993	11	Sample required dilution.
L1562277-03	TTU-5-80-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	
L1562277-04	TTU-9A-61-20221129	11/29/2022	12/9/2022	12/9/2022	WG1972265	10	
L1562277-05	TTU-12-82-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-06	TTU-13-51-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-07	TTU-14-64-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-08	TTU-15-75-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-09	TTU-16-80-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-10	TTU-17-80-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	
L1562277-11	TTU-EXT-1-69-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-12	TTU-EXT-2-74-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-13	TTU-EXT-3-76-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-14	TTU-EXT-4-77-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	Sample required dilution.
L1562277-15	TTU-EXT-5-80-20221129	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	
L1562277-16	DUP-01	11/29/2022	12/9/2022	12/9/2022	WG1970993	10	
L1563057-01	TTU-3-143-20221130	11/30/2022	12/10/2022	12/10/2022	WG1973166	10	
L1563057-02	TTU-4-57-20221130	11/30/2022	12/10/2022	12/10/2022	WG1973166	10	
L1563057-03	TTU-6-143-20221130	11/30/2022	12/10/2022	12/10/2022	WG1971849	10	Sample required dilution.
L1563057-04	TTU-7-345-20221130	11/30/2022	12/10/2022	12/10/2022	WG1973166	10	
L1563057-05	TTU-8-164-20221130	11/30/2022	12/10/2022	12/10/2022	WG1973166	10	
L1563057-06	TTU-10-172-20221130	11/30/2022	12/10/2022	12/10/2022	WG1973166	10	
L1563057-07	TTU-11-73-20221130	11/30/2022	12/10/2022	12/10/2022	WG1971849	10	Sample required dilution.
L1563057-08	TTU-19-73-20221130	11/30/2022	12/10/2022	12/10/2022	WG1971849	10	Sample required dilution.
L1563057-09	TTU-20-73-20221130	11/30/2022	12/13/2022	12/13/2022	WG1972222	13	Sample required dilution.
L1563057-12	DUP-02	11/30/2022	12/16/2022	12/16/2022	WG1976790	16	
L1570550-01	TTU-6-143-20221222	12/22/2022	12/28/2022	12/28/2022	WG1979702	6	Sample required dilution.
Perchlorate by 6850							
550-194245-1	PF-2-400-20221130	11/30/2022	12/14/2022	12/18/2022	641151	18	
Volatile Organic Compounds by 8260B							
L1562277-01	TTU-1-50-20221128	11/28/2022	12/2/2022	12/2/2022	WG1968321	4	
L1562277-02	TTU-2-114-20221128	11/28/2022	12/2/2022	12/2/2022	WG1968321	4	Sample required dilution.
L1562277-03	TTU-5-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-04	TTU-9A-61-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-05	TTU-12-82-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	Sample required dilution.
L1562277-06	TTU-13-51-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-07	TTU-14-64-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	Sample required dilution.
L1562277-08	TTU-15-75-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-09	TTU-16-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	Sample required dilution.
			12/3/2022	12/3/2022	WG1968832	4	Sample required dilution.
L1562277-10	TTU-17-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-11	TTU-EXT-1-69-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-12	TTU-EXT-2-74-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-13	TTU-EXT-3-76-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	Sample required dilution.
			12/3/2022	12/3/2022	WG1968832	4	Sample required dilution.
L1562277-14	TTU-EXT-4-77-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	Sample required dilution.
L1562277-15	TTU-EXT-5-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
			12/3/2022	12/3/2022	WG1968832	4	
L1562277-16	DUP-01	11/29/2022	12/2/2022	12/2/2022	WG1968321	3	
L1562277-17	TRIP BLANK 2	11/29/2022	12/3/2022	12/3/2022	WG1968806	4	
L1563057-01	TTU-3-143-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-02	TTU-4-57-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-03	TTU-6-143-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-04	TTU-7-345-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-05	TTU-8-164-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-06	TTU-10-172-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-07	TTU-11-73-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	Sample required dilution.
L1563057-08	TTU-19-73-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	Sample required dilution.
L1563057-09	TTU-20-73-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	Sample required dilution.
L1563057-10	PF-2-400-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-11	TRIP BLANK	11/30/2022	12/5/2022	12/5/2022	WG1969128	5	
L1563057-12	DUP-02	11/30/2022	12/8/2022	12/8/2022	WG1971428	8	

Table 2
Analysis Summary
Nammo Defense Systems
Former Thermal Treatment Unit
Fourth Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Date Collected	Preparation Date	Date Analyzed	Analysis Batch	Hold Time (days)	Notes
I,4-Dioxane by 8260B-SIM							
LI562277-01	TTU-1-50-20221128	11/28/2022	12/2/2022	12/2/2022	WG1968403	4	
LI562277-02	TTU-2-114-20221128	11/28/2022	12/2/2022	12/2/2022	WG1968403	4	
LI562277-03	TTU-5-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-04	TTU-9A-61-20221129	11/29/2022	12/6/2022	12/6/2022	WG1969109	7	
LI562277-05	TTU-12-82-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-06	TTU-13-51-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-07	TTU-14-64-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-08	TTU-15-75-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-09	TTU-16-80-20221129	11/29/2022	12/6/2022	12/6/2022	WG1969109	7	Sample required dilution.
LI562277-10	TTU-17-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-11	TTU-EXT-1-69-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-12	TTU-EXT-2-74-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-13	TTU-EXT-3-76-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-14	TTU-EXT-4-77-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-15	TTU-EXT-5-80-20221129	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI562277-16	DUP-01	11/29/2022	12/2/2022	12/2/2022	WG1968403	3	
LI563057-01	TTU-3-143-20221130	11/30/2022	12/5/2022	12/5/2022	WG1969477	5	
LI563057-02	TTU-4-57-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-03	TTU-6-143-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-04	TTU-7-345-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-05	TTU-8-164-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-06	TTU-10-172-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-07	TTU-11-73-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-08	TTU-19-73-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-09	TTU-20-73-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	Sample required dilution.
LI563057-10	PF-2-400-20221130	11/30/2022	12/6/2022	12/6/2022	WG1970099	6	
LI563057-12	DUP-02	11/30/2022	12/9/2022	12/9/2022	WG1970821	9	

Notes:

SIM = Selected Ion Monitoring

Mod = Modified

Table 3
Field Duplicates - Detections Only
Nammo Defense Systems
Former Thermal Treatment Unit
Fourth Quarter 2022 Groundwater Sampling

Analyte	Original Sample ID	Laboratory Result (µg/L)	Laboratory Flag	Duplicate Sample ID	Duplicate Laboratory Result (µg/L)	Duplicate Laboratory Flag	RPD (%)	Laboratory Result Validation Qualifier	Duplicate Laboratory Result Validation Qualifier	Reason for Validation Qualifier
Perchlorate	LI562277-10 (TTU-17-80-20221129)	13.3	-	LI562277-16 (DUP-01)	2.76	J	131%	J	J	I
cis-1,2-Dichloroethene	LI562277-10 (TTU-17-80-20221129)	0.750	J	LI562277-16 (DUP-01)	0.756	J	0.8%	-	-	-
Toluene	LI562277-10 (TTU-17-80-20221129)	0.465	J	LI562277-16 (DUP-01)	0.497	J	6.7%	-	-	-
Trichloroethene	LI562277-10 (TTU-17-80-20221129)	1.41	-	LI562277-16 (DUP-01)	1.57	-	11%	-	-	-
1,4-Dioxane	LI562277-10 (TTU-17-80-20221129)	264	-	LI562277-16 (DUP-01)	2.11	BJ	197%	J	J	I
Perchlorate	LI563057-01 (TTU-3-143-20221130)	70.0	-	LI563057-12 (DUP-02)	78.2	V	11%	-	-	-

Notes:

RPD = Relative Percent Difference

µg/L = micrograms per liter

B - The same analyte is found in the associated blank.

J - The identification of the analyte is acceptable; the reported value is an estimate.

V - The sample concentration is too high to evaluate accurate spike recoveries.

I - Field duplicate RPD exceeded 30%.

< = Less than

% = Percent