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Physical Scientist
Land, Chemicals, and Redevelopment Division – RCRA Branch
U.S. Environmental Protection Agency – Region 9
775 Hawthorne Street, LND-4-2
San Francisco, California 94105

Subject: First 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 First Quarter (1Q) 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 outlined in the Fourth Quarter (4Q) 2021 Groundwater Monitoring Report prepared by Geosyntec Consultants (Geosyntec), as well as the April 2021 Sampling and Analysis Plan (SAP) and the April 2021 Quality Assurance Project Plan (QAPP), both prepared by Geosyntec. Any changes or deviations from these documents are provided in subsequent sections of this report.

The TTU facility location is presented on Figure 1. Well locations are provided on Figure 2. Pinyon is currently preparing a SAP for the TTU (Site). The SAP will be submitted for review and approval prior to completing the 2Q 2022 TTU groundwater sampling event.

SCOPE OF ACTIVITIES

Groundwater monitoring and pumping/extraction wells were sampled on March 21, 2022, through March 26, 2022. Well construction details are summarized in Table 1. Standard Operating Procedures for groundwater sampling are presented in Attachment 1.

Groundwater Elevation Measurement

Table 2 provides a summary of groundwater elevation gauging for the 1Q 2022 groundwater 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.

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 Multiprobe 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 until they stabilized. For non-

pumping wells, one round of measurements was collected. These data are documented on the individual well sampling records presented in Attachment 2.

Monitoring wells were sampled using HydraSleeve samplers. The samplers were deployed in the wells by Geosyntec during 4Q 2021. The samplers were suspended inside the wells within the screened intervals at the depths summarized in Table 3. Two perchlorate samples were retrieved from TTU-10 – one from a depth of 153 feet below ground surface (ft bgs) on March 22, 2022; and a second from a depth of 157 feet on April 29, 2022, to confirm results from the March 22, 2022, sample. See discussion regarding Deviations from Work Plan below for additional information on TTU-10 sampling depths.

Groundwater samples were collected into laboratory provided and preserved sample containers based on analytical method requirements. This information is summarized in Table 3. Each water 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 U.S. Environmental Protection Agency (EPA) Method 8260B, 1,4-Dioxane using EPA Method 8260B-SIM, and Perchlorate using EPA Method 314.0 Mod, or EPA Method 6850 (PF-2 only).

Samples were collected from the PF-2 extraction/pumping well on March 22 and March 31, 2022. The March 22, 2022, sample was analyzed for perchlorate, while the March 31, 2022, sample was analyzed for total VOCs and 1,4-dioxane.

Sampling Equipment Decontamination

Disposable sampling equipment such as protective gloves and paper towels were containerized and disposed of a typical commercial or household garbage. Reusable equipment such as the YSI meter and the water level indicator were decontaminated prior to use 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.

Deviations from Work Plan

The groundwater monitoring was conducted in accordance with the quality assurance and quality control procedures and requirements outlined in the Geosyntec 2022 QAPP. Deviations and descriptions of atypical conditions encountered are listed below:

- During the March 2022 sampling event, TTU-11, TTU-19, and TTU-20 were not sampled as these wells were not include in the initial scope of work provided to Pinyon. Upon review of the data for the sampling event, NDS provided clarification that these three wells should be included in future quarterly events and will be included in the TTU SAP.

- During the March 2022 sampling event, the depth to water in TTU-10 at 153.34 ft below top of casing (ft btoc) or approximately 150 ft bgs, which was approximately three feet below the intended sampling and HydraSleeve set depth. Therefore, the sampler was lowered six feet to 153 ft bgs to secure the sample. The depth of 147 ft bgs was used during the last round and remained consistent on the labels, this was an oversight.

- Pinyon returned to TTU-10 on April 29, 2022, to collect a confirmation sample due to an elevated perchlorate concentration observed in the March 22, 2022, sample from that well. Depth to water in TTU-10 had dropped approximately 1.5 additional feet to 154.82 ft btoc (approximately 152 ft bgs). Therefore, to obtain an adequate groundwater sample, the HydraSleeve was lowered to 157 ft bgs to secure the sample.

- Groundwater samples were collected from well PF-2 on March 22 and March 31, 2022. As noted above, the March 22 sample was submitted for analysis of perchlorate and perchlorate salts, while the March 31 sample was submitted for analysis of VOCs and 1,4-dioxane. The latter analysis has historically not been completed during each sampling event and was therefore left out of the analysis plan for the 1Q 2022 sampling event. This oversight was recognized prior to completing the TTU sampling event and Pinyon returned to the well to collect a sample for the additional analysis. To reduce future confusion regarding the PF-2 analyte list, VOCs and 1,4-dioxane will be added to the quarterly sampling and analysis plan.

GROUNDWATER MONITORING RESULTS

Laboratory reports and chain-of-custody forms are presented in Attachment 3. The following data summary tables are provided:

- Table 1 – 2022 Groundwater Well Network
- Table 2 – Groundwater Elevations First Quarter 2022
- Table 3 – Summary of Perchlorate Concentrations First Quarter 2022
- Table 4 – Summary of VOC Concentrations First Quarter 2022
- Table 5 – Historical 1,4-Dioxane and TCE Concentrations

The following figures are also provided for reference and data presentation

- Figure 1 – Site Location Map
- Figure 2 – Quarterly Groundwater Contour Map – First Quarter 2022
- Figure 3 – Perchlorate Detections in Groundwater – First Quarter 2022
- Figure 4 – VOC Detections in Groundwater – First Quarter 2022

Estimated Groundwater Flow Direction

The groundwater gradient was measured between wells TTU-15 (1,322.13 feet above mean sea level (ft-msl)) and TTU-10 (1,149.08 ft-msl) at approximately 0.10 ft/ft (feet per foot). This gradient is less than the 0.15 ft/ft reported by Geosyntec during the 4Q 2021 groundwater sampling event. The groundwater gradient suggests a westerly flow direction.

Groundwater Laboratory Results

The perchlorate data indicates 22 of 23 groundwater samples contained concentrations in excess of the laboratory detection limit. Of the 22 detectable perchlorate concentrations, seven were below the ADEQ Health Based Guidance Level (HBGL) of 14 micro grams per liter (µg/L). Fifteen sample concentrations exceeded the HBGL with the highest concentration of 768,000 µg/L measured in TTU-16.

The trichloroethene (TCE) data indicates that 16 of the 22 collected groundwater samples contained concentrations in excess of the laboratory detection limit. Of the 16 detectable TCE concentrations, 11 exceeded the 5 µg/L Arizona Aquifer Water Quality Standard (AWQS). The highest TCE concentration (103,000 µg/L) was measured in TTU-16.

The 1,4 dioxane data indicates 14 of 22 groundwater samples contained detectable concentrations in excess of the laboratory detection limit. The highest concentration was measured in TTU-16 at 5,430 µg/L.

Groundwater Concentration Trends

Concentration versus Time Plots for TCE, perchlorate, and 1,4-dioxane are presented in Attachment 4. The plots include results of the Mann-Kendall trend analysis which approximates increasing or decreasing concentration trends over time. The trends suggested below are based on all available data points for each well.

The perchlorate concentration versus time plots and Mann-Kendall trends suggests 4 wells have increasing trends, 4 wells have decreasing trends, and 17 wells have no defined trends as follows:

- Increasing perchlorate concentration trends were indicated in wells:
  - TTU-5
  - TTU-9a
  - TTU-10
  - TTU-17
- Decreasing perchlorate concentration trends were indicated in wells:
  - TTU-3
  - TTU-6
  - TTU-13
  - TTU-14
- There was insufficient evidence of a perchlorate concentration trend in wells:
  - PF-1
  - PF-2
  - TTU-1
  - TTU-2
  - TTU-4
  - TTU-7
  - TTU-8
  - TTU-11
  - TTU-12
  - TTU-15
  - TTU-16
  - TTU-20
  - TTU-EX-1
  - TTU-EX-2
  - TTU-EX-3
  - TTU-EX-4
  - TTU-EX-5

The TCE concentration versus time plots and Mann-Kendall trends suggest 13 wells have an increasing trend and 12 wells have no defined trends, as follows:

- Increasing TCE concentrations trends were indicated in wells:
  - PF-2
  - TTU-2
  - TTU-4
  - TTU-6
  - TTU-7
  - TTU-8
  - TTU-9a
  - TTU-10
  - TTU-12
  - TTU-14
  - TTU-15
  - TTU-16
  - TTU-EX-5
- There was insufficient evidence of a TCE concentration trend in wells:
  - PF-1
  - TTU-1
  - TTU-3
  - TTU-5
  - TTU-11
  - TTU-13
  - TTU-17
  - TTU-20
  - TTU-EX-1
  - TTU-EX-2
  - TTU-EX-3
  - TTU-EX-4

The 1,4 dioxane concentration versus time plots and Mann-Kendall trends indicate that 2 wells have increasing tends and 23 wells have no defined trends, as follows:

- Increasing 1,4-dioxane concentrations trends were indicated in wells:
  - TTU-2
  - TTU-12

- There was insufficient evidence of a 1,4-dioxane concentration trend in wells:
  - PF-1
  - PF-2
  - TTU-1
  - TTU-3
  - TTU-4
  - TTU-5
  - TTU-6
  - TTU-7
  - TTU-8
  - TTU-9
  - TTU-10
  - TTU-11
  - TTU-13
  - TTU-14
  - TTU-15
  - TTU-16
  - TTU-17
  - TTU-20
  - TTU-EX-1
  - TTU-EX-2
  - TTU-EX-3
  - TTU-EX-4
  - TTU-EX-5

Discussion

- Based on the 1Q 2022 groundwater monitoring results and concentration trend evaluation, fifteen wells have increasing concentration trends for either perchlorate, TCE, or 1,4 dioxane.

- TTU-16 contained the highest concentrations of perchlorate, TCE, and 1,4 dioxane.

- As noted in the 4Q 2021 groundwater monitoring report, the concentration of perchlorate increased by more than two orders of magnitude between the Q3 2021 and Q4 2021 sampling events. During the Q1 2022 the perchlorate concentrations (and groundwater levels) had returned to typical levels. Further discussion regarding the observations based on sampling data and activities prior to and after the 4Q 2021 sampling event, as well as path forward recommendations for as-needed confirmation sampling, communication, and mitigation due to significant increases in the concentrations of the COCs is provided in a letter from Geosyntec to the EPA dated April 22, 2022.

- Conditions may be changing in the source area and further evaluation and discussion is required to establish the most appropriate near-term actions.

Data Validation

A Tier 1A 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.

Closing

The perchlorate, TCE, and 1,4-dioxane concentration trends, both long and short term, will be tracked closely over the next few quarters. Discussions will be held in the short term about pumping well operation to increase capture and containment of the impacted groundwater. Region 9 EPA will be notified via email of anticipated groundwater extraction system operational and/or other changes by June 17, 2022.

Sincerely,
Pinyon Environmental, Inc.

Jeremy Musson
Principal

Lauren Evans, AZ P.E. 54985
President

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 – First Quarter 2022
Table 3 – Summary of Detected VOC Concentrations – First Quarter 2022
Table 4 – Summary of Perchlorate Concentrations – First Quarter 2022

Figures

Figure 1 – Site Location – Former Thermal Treatment Unit
Figure 2 – Groundwater Elevations and Contours – First Quarter 2022
Figure 3 – Perchlorate Detections in Groundwater – First Quarter 2022
Figure 4 – VOC Detections in Groundwater – First Quarter 2022

Attachments

Attachment 1 – Pinyon SOPs
Attachment 2 – Field Notes
Attachment 3 – Laboratory Analytical Reports
Attachment 4 – Mann-Kendall Trend Analysis
Attachment 5 – Data Validation Memo

Tables

TABLE 1:
FORMER THERMAL TREATMENT UNIT
2022 GROUNDWATER WELL NETWORK
NAMMO DEFENSE SYSTEMS INC.
MESA, ARIZONA

Well Identification	Latitude	Longitude	Measuring Point Elevation (ft asml)	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	33 29 57.98	-111 43 00.91	1308.03	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	33 30 01.65	-111 42 59.09	1305.12	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	33 29 52.48	-111 42 58.40	1314.93	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	33 29 57.57	-111 43 04.79	1300.84	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	110-175	180	185
TTU-7	33 29 57.85	-111 43 05.18	1301.84	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	33 30 01.91	-111 43 05.31	1310.23	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	135-185	190	204
TTU-9A	33 30 04.61	-111 42 51.19	1318.04	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	24-99	104	105
TTU-10	33 29 54.60	-111 43 07.90	1302.42	N/A	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85282	PVC	4	115-180	185	204
TTU-12	33 29 56.03	-111 42 58.38	1312.21	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	33 29 58.99	-111 42 56.85	1310.79	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	33 29 57.20	-111 42 57.46	1316.80	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	33 29 56.78	-111 42 47.03	1350.85	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	33 29 56.18	-111 42 49.59	1338.55	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	33 29 58.61	-111 42 45.69	1347.49	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	33 29 47.20	-111 42 58.10	1320.25	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	33 29 55.17	-111 42 51.58	1336.90	55-232968	Monitoring	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85288	PVC	4	25-95	95	100

TABLE 1:
FORMER THERMAL TREATMENT UNIT
2022 GROUNDWATER WELL NETWORK
NAMMO DEFENSE SYSTEMS INC.
MESA, ARIZONA

Well Identification	Latitude	Longitude	Measuring Point Elevation (ft asml)	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)
Extraction and Injection Wells												
TTU-1	33 29 59.14	-111 42 56.27	1312.73	55-914440	Extraction	Nammo Defense Systems Inc.	P.O. Box 34299 Mesa, AZ 85277	PVC	4	30-70	75	200
TTU-2	33 29 55.85	-111 42 57.85	1314.44	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	33 29 55.28	-111 42 51.47	1339.20	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	33 29 55.25	-111 42 51.50	1336.81	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	33 29 58.42	-111 42 52.55	1321.69	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	33 29 57.61	-111 42 53.79	1316.40	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	33 29 56.29	-111 42 54.12	1316.85	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	33 29 55.46	-111 42 54.39	1319.96	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	33 29 54.68	-111 42 54.62	1319.50	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	33 29 56.60	-111 43 09.75	1295.99	N/A	Production	University of Washington	4202 N Higley Rd Mesa, AZ 85215	Unknown	Unknown	Unknown	Unknown	Unknown
PF-2	33 29 56.65	-111 43 09.96	1296.35	N/A	Production	University of Washington	4202 N Higley Rd Mesa, AZ 85215	Steel	6 5/8	300-400	400	400

Notes:

ft amsl = 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

(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
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 - FIRST 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	3/22/2022	40.06	1272.67
				3/26/2022	40.61	1272.12
TTU-2	909087.852	761148.265	1314.44	3/26/2022	62.21	1252.23
TTU-3	909303.363	760888.204	1308.03	3/22/2022	92.00	1216.03
TTU-4	909673.680	761041.975	1305.12	3/22/2022	52.44	1252.68
TTU-5	908747.636	761102.227	1314.93	3/21/2022	78.19	1236.74
TTU-6	909260.820	760560.096	1300.84	3/22/2022	131.00	1169.84
TTU-7	909287.611	760527.269	1301.84	3/22/2022	129.62	1172.22
TTU-8	909699.266	760514.908	1310.23	3/22/2022	148.66	1161.57
TTU-9A	909974.490	761710.151	1318.04	3/22/2022	29.00	1289.04
TTU-10	908960.114	760297.013	1302.42	3/22/2022	153.34	1149.08
				4/29/2022	154.82	1147.60
TTU-11	909029.758	761706.470	1339.20	NM	NM	NM
TTU-12	909105.990	761103.280	1312.21	3/22/2022	72.73	1239.48
TTU-13	909405.920	761232.180	1310.79	3/22/2022	42.45	1268.34
TTU-14	909224.260	761181.230	1316.80	3/22/2022	59.37	1257.43
TTU-15	909185.100	762065.910	1350.85	3/21/2022	28.72	1322.13
TTU-16	909124.980	761848.851	1338.55	3/21/2022	17.29	1321.26
TTU-17	909370.903	762179.168	1347.49	3/21/2022	31.00	1316.49
TTU-18	908215.829	761130.011	1320.25	3/22/2022	DRY	
TTU-19	909030.750	761687.700	1336.81	NM	NM	NM
TTU-20	909022.530	761681.990	1336.90	NM	NM	NM
TTU-EX-1	909350.574	761597.823	1321.69	3/21/2022	21.33	1300.36
TTU-EX-2	909268.187	761493.214	1316.40	3/21/2022	29.65	1286.75
TTU-EX-3	909134.941	761465.507	1316.85	3/21/2022	33.46	1283.39
TTU-EX-4	909051.298	761442.876	1319.96	3/21/2022	40.75	1279.21
TTU-EX-5	908971.770	761423.325	1319.50	3/21/2022	40.86	1278.64
PF-1	909161.578	760140.434	1295.99	3/31/2022	NM	NM
PF-2	909166.890	760122.250	1296.35	3/22/2022	NM	NM

Notes:

intl ft - international foot

ft amsl - feet above mean sea level

ft btoc - feet below top of casing

NM - Not Measured

TABLE 3: SUMMARY OF PERCHLORATE CONCENTRATIONS - FIRST QUARTER 2022

FORMER THERMAL TREATMENT UNIT

NAMMO DEFENSE SYSTEMS INC.

			Analyte	Perchlorate	
			EPA Method	314	6,850
			Units	µg/l	
			HBGL	14	
Location	Sample Depth (ft btoc)	Sample Date	Sample Type	Concentration	
TTU-1	50	3/26/2022	Primary	**15,100**	--
			Duplicate	**14,500**	--
TTU-2	114	3/26/2022	Primary	**151,000** M3	--
TTU-3	108	3/22/2022	Primary	**339**	--
TTU-4	57	3/22/2022	Primary	4.14 M2	--
			Duplicate	12.5 M2	--
TTU-5	110	3/21/2022	Primary	**272**	--
TTU-6	143	3/22/2022	Primary	11.1	--
TTU-7	345	3/22/2022	Primary	2.36 E4	--
TTU-8	164	3/22/2022	Primary	0.981 E4	--
TTU-9A	61	3/22/2022	Primary	12.9 M2	--
TTU-10	153*	3/22/2022	Primary	**31.8** M1	--
	157	4/29/2022	Primary	<4.00	
		4/29/2022	Duplicate	<4.00	--
TTU-12	82	3/22/2022	Primary	**120,000** M3	--
TTU-13	51	3/22/2022	Primary	**14,900**	--
TTU-14	64	3/22/2022	Primary	**124,000**	--
			Duplicate	**178,000**	--
TTU-15	75	3/21/2022	Primary	**4,230**	--
TTU-16	80	3/21/2022	Primary	**768,000**	--
TTU-17	80	3/21/2022	Primary	**24.1**	--
TTU-EX-1	69	3/21/2022	Primary	**153,000**	--
TTU-EX-2	74	3/21/2022	Primary	**58,900**	--
TTU-EX-3	76	3/21/2022	Primary	**359,000**	--
TTU-EX-4	77	3/21/2022	Primary	**86,100**	--
TTU-EX-5	80	3/21/2022	Primary	9.17	--
			Duplicate	< 4.00	--
PF-2	400	3/22/2022	Primary	--	**0.59** R4
			Duplicate	--	--

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 HGBL*

E4 - Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above method detection limit (MDL).

M1 - Matrix spike recovery was high, the method control sample recovery was acceptable.

M2 - Matrix spike recovery was low, the method control sample recovery was acceptable.

M3 - The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.

R4 - MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.

** = listed as 147 on lab report*

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

Sample ID	Sample Depth (ft btoc)	Chemical Name	1,4-Dioxane	1,1,2-trichloroethane	1,1-dichloroethane	1,1-dichloroethene	1,2-dichlorobenzene	1,2-dichloroethane	Benzene	Bromoform	Chloroform	cis-1,2-dichloroethene	Dichloromethane	Diisopropyl ether	Isopropylbenzene	Methylcyclohexane	Propene	Tetrachloroethene	Toluene	trans-1,2-dichloroethene	Trichloroethene	Xylene Total
		EPA Method	8260B SIM	8260B																		
		Unit	µg/l																			
		AWQS	NE	200	7	NE	NE	5	5	100[(1)]	70	NE	5	NE	NE	NE	NE	5	1,000	100	5	10,000
		Sample Date																				
PF-2	400	3/31/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00 R7	<3.00
DUP-05	400	3/31/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00 R7	<3.00
TTU-1	50	3/26/2022	**18.4**	<1.00	<1.00	0.886 E4	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	3.72	<3.00
DUP-04	50	3/26/2022	**19.9**	<1.00	<1.00	0.694 E4	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	4.46	<3.00
TTU-2	114	3/26/2022	**251**	2.20	1.40	107 M3	<1.00	<1.00	1.56	0.392 E4	2.17 E4	2.13	<5.00	<1.00	<1.00	<1.00 M1	<2.50	1.53	<1.00	0.314 E4	**823**	<3.00
TTU-3	108	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	0.454 E4	<3.00
TTU-4	57	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
DUP-03	57	3/22/2022	2.59	<1.00 L2	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TTU-5	110	3/21/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	0.640 E4	<3.00
TTU-6	143	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TTU-7	345	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.120 E4	<1.00	<5.00	<1.00	<5.00	<1.00	0.160 E4	<1.00	2.76	<1.00	1.10	<1.00	<1.00	0.246 E4
TTU-8	164	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TTU-9A	61	3/22/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	0.944 E4	<3.00
TTU-10	153*	3/22/2022	1.58	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TTU-12	82	3/22/2022	**149**	1.64	0.840 E4	83.6 M3	<1.00	<1.00	0.862 E4	<1.00	1.69	1.11	<5.00	<1.00	<1.00	<1.00 M1	<2.50	1.10	<1.00	<1.00	**538**	<3.00
TTU-13	51	3/22/2022	**9.96**	<1.00	<1.00	2.12	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	**5.76**	<3.00
TTU-14	69	3/22/2022	**339**	2.19	1.34	133	<1.00	<1.00	1.86	<1.00	1.96 E4	2.10	<5.00	<1.00	<1.00	<1.00	<2.50	1.69	<1.00	0.275 E4	**908**	<3.00
DUP-02	69	3/22/2022	**321**	1.97 L2	1.00	95.8	<1.00	0.189 E4	1.63	<1.00	1.79 E4	1.99	<5.00	<1.00	<1.00	0.741 E4	<2.50	1.49	<1.00	0.194 E4	**879**	<3.00
TTU-15	75	3/21/2022	**6.93**	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<25.0	1.63 E4	<25.0	<5.00	<5.00	<5.00	<12.5	<5.00	<5.00	<5.00	**7.89**	<15.0
TTU-16	80	3/21/2022	**5,430**	73.7	**74.7**	5,770	<50.0	<50.0	**403**	<50.0	**117 E4**	14.1 E4	**139,000**	<50.0	<50.0	<50.0	<125	**87.6**	155	10.1 E4	**103,000**	101 E4
TTU-17	80	3/21/2022	4.75	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	1.22	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	3.51	<3.00
TTU-EX-1	69	3/21/2022	**244**	0.715 E4	0.566 E4	100	<1.00	<1.00	0.170 E4	<1.00	0.905 E4	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	0.810 E4	<1.00	<1.00	**181**	<3.00
TTU-EX-2	75	3/21/2022	**213**	0.849 E4	0.428 E4	74.3	<1.00	<1.00	0.569 E4	<1.00	0.820 E4	0.330 E4	<5.00	<1.00	<1.00	<1.00	<2.50	0.961 E4	<1.00	<1.00	**234**	<3.00
TTU-EX-3	75	3/21/2022	**885**	10.7	**9.39**	663	0.348 E4	1.93	**13.1**	<1.00	11.3	5.23	0.770 E4	0.155 E4	<1.00	<1.00	<2.50	**10.1**	<1.00	1.70	**6,560**	<3.00
TTU-EX-4	77	3/21/2022	**23.9**	0.831 E4	1.85	158	<1.00	<1.00	**1.34**	<1.00	1.77 E4	4.23	<5.00	<1.00	<1.00	<1.00	<2.50	1.73	<1.00	0.528 E4	**909**	<3.00
TTU-EX-5	80	3/21/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	0.143 E4	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	**5.74**	<3.00
DUP-01	80	3/21/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	**5.98**	<3.00
TRIP BLANK	---	3/21/2022	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TRIP BLANK	---	3/26/2022	NA	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00
TRIP BLANK	---	3/31/2022	<3.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<5.00	<1.00	<1.00	<1.00	<2.50	<1.00	<1.00	<1.00	<1.00	<3.00

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

NA - Not Analyzed

SIM - Selected Ion Monitoring

<Gray - Concentration is below laboratory reporting limits

- - - - Not reported

***BOLD** - Concentration exceeds its respective AWQS*

E4 -Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above method detection limit.

L2 - The associated blank spike recovery was below laboratory acceptance limits.

M1 - Matrix spike recovery was high, the method control sample recovery was acceptable.

M3 - The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level.The associated blank spike recovery was acceptable.

R7 - Laboratory field blank/laboratory field blank duplicate (LFB/LFBD) relative precent difference (RPD) exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

** = listed as 147 on lab report*

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	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	9/16/2019	<3	<1
	Primary	12/23/2019	<3	<1
	Primary	3/13/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Duplicate	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	3/31/2022	<3	<1 R7
	Duplicate	3/31/2022	<3	<1 R7
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	11/27/2017	**18.1**	**7.20**
	Primary	3/27/2018	**17.1**	4.60
	Primary	9/12/2018	**31.8**	**11.20**
	Duplicate	9/12/2018	**29.1**	**12.40**
	Primary	12/4/2018	**7.30**	4.40
	Primary	9/16/2019	**13.9**	**5.72**
	Duplicate	9/16/2019	**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	3/26/2022	**19.9**	4.46

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	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	8/29/2017	**227**	**89.7**
	Primary	11/27/2017	**235**	**353**
	Primary	3/27/2018	**219**	**236**
	Duplicate	3/27/2018	**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	12/20/2019	**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	3/30/2021	**244** [J]	**720**
	Primary	5/6/2021	**316**	**683**
	Primary	7/29/2021	**373**	**654**
	Primary	12/22/2021	**280**	**627**
	Duplicate	12/22/2021	**281**	**653**
	Primary	3/26/2022	**251**	**823**
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	5/6/2021	<3	<1
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	0.454 [E4]

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	5
		Sample Date		
TTU-4	Primary	5/23/2017	--	0.310
	Primary	3/27/2018	<3	< 0.40
	Duplicate	3/27/2018	<3	< 0.40
	Primary	6/28/2018	<3	< 0.40
	Duplicate	6/28/2018	<3	< 0.40
	Primary	9/10/2018	<3	< 0.40
	Duplicate	9/10/2018	<3	< 0.40
	Primary	12/10/2018	<3	< 0.40
	Duplicate	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
	Duplicate	7/21/2020	<3	<1
	Primary	12/4/2020	<3	<1
	Primary	3/29/2021	<3	<1
	Primary	5/6/2021	<3	<1
	Duplicate	5/6/2021	<3	<1
	Primary	7/30/2021	<3	<1
	Duplicate	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
	Duplicate	3/22/2022	2.59	<1
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 E4
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	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

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	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	3/26/2019	<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
	Primary	7/30/2021	<3	<1
	Primary	11/18/2021	<3	<1
	Primary	3/22/2022	<3	<1
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	3/16/2020	<3	<1
	Primary	6/18/2020	<3	<1
	Duplicate	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
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	11/17/2021	<3	0.985 J
	Primary	3/22/2022	<3	0.944 E4

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	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
TTU-11	Primary	9/23/2015	**380**	**3,100**
	Duplicate	9/23/2015	**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	11/22/2016	**340**	**2,400**
	Primary	2/22/2017	**222**	**2,010**
	Duplicate	2/22/2017	**224**	**2,080**
	Primary	5/23/2017	**201**	**1,560**
	Duplicate	5/23/2017	**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	12/4/2018	**1,840**	**14,800**
	Primary	9/16/2019	**1,510**	**11,200**
	Primary	12/20/2019	**855** J-	**11,500**
	Duplicate	12/20/2019	**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**
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	11/18/2021	**141**	**617**
	Primary	3/22/2022	**149**	**538**

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	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	3/16/2020	**33.5** J	**14.9**
	Primary	6/17/2020	**48.5**	**14.6**
	Duplicate	6/17/2020	**54.1**	**16.6**
	Primary	7/20/2020	**29.6**	**13.3**
	Duplicate	7/20/2020	**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**
TTU-14	Primary	8/29/2017	**367**	**657**
	Primary	11/27/2017	**356**	**828**
	Primary	3/27/2018	**363**	**1030**
	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**	**1060**
	Primary	3/12/2020	**278** J	**880**
	Primary	6/17/2020	**504**	**891**
	Primary	7/20/2020	**241**	**1210**
	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	3/22/2022	**321**	**879**
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**

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	5
		Sample Date		
TTU-16	Primary	3/13/2020	**2,470** J	**51,500**
	Primary	6/17/2020	**4,310**	**68,400**
	Duplicate	6/17/2020	**5,610**	**70,200**
	Primary	7/20/2020	**2,220** J-	**92,200**
	Primary	12/2/2020	**1,730**	**80,000**
	Duplicate	12/2/2020	**1,990**	**96,000**
	Primary	3/29/2021	**2,880**	**76,800**
	Duplicate	3/29/2021	**2,550**	**71,800**
	Primary	5/5/2021	**4,920**	**77,400** J
	Duplicate	5/5/2021	**5,270**	**38,500** J
	Primary	7/29/2021	**5,140**	**86,000**
	Duplicate	7/29/2021	**5,710**	**87,300**
	Primary	11/17/2021	**3,930**	**93,200**
	Primary	3/21/2022	**5,430**	**103,000**
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
TTU-19	Primary	9/23/2021	**70.4** J-	**478**
TTU-20	Primary	11/18/2021	**2,140**	**13,400**
	Primary	9/23/2021	**841** J	**14,300**
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**
TTU-EX-2	Primary	3/13/2020	**198** J	**327**
	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**
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	11/17/2021	**969**	**8,010**
	Primary	3/21/2022	**885**	**6,560**

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

		Chemical Name	1,4-Dioxane	Trichloroethene
		EPA Method	8260B SIM	8260B
		Unit	µg/l	
Sample ID	Sample Type	AWQS	5	5
		Sample Date		
TTU-EX-4	Primary	3/13/2020	**16.1**	**811**
	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**
TTU-EX-5	Primary	3/13/2020	< 0.476	0.929 J
	Duplicate	3/13/2020	< 0.492	0.775 J
	Primary	6/17/2020	<3	0.456 J
	Primary	7/20/2020	<3	0.562 J
	Duplicate	7/20/2020	<3	0.637 J
	Primary	12/2/2020	<3	4.18 J
	Duplicate	12/2/2020	<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	3/21/2022	<3	**5.98**

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

<Gray - Concentration is below laboratory reporting limits

- - - - Not reported

***BOLD** - Concentration exceeds its respective AWQS*

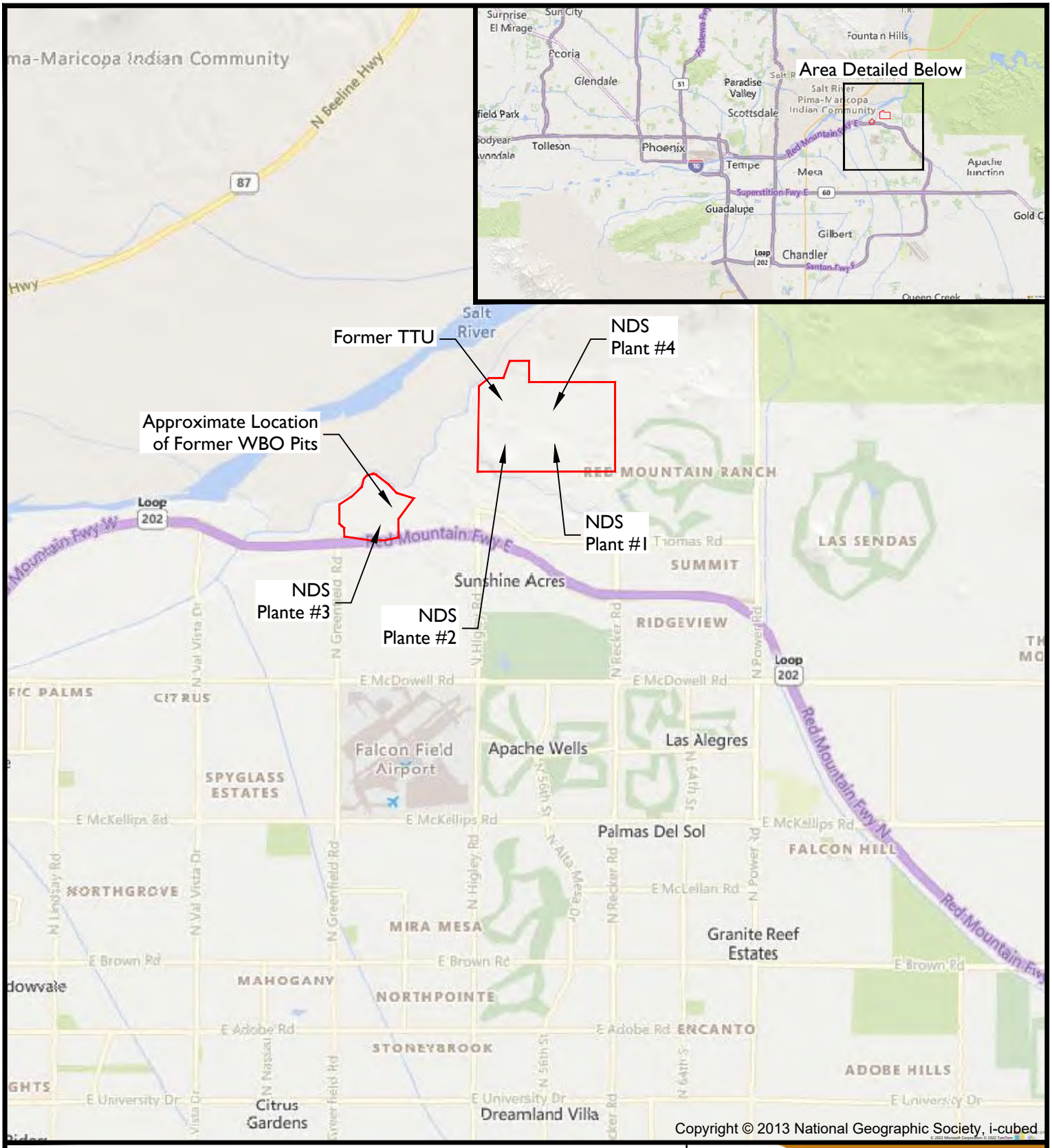
E4 -Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above method detection limit.

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

J- = Estimated concentration; actual concentration is likely lower than the detected value.

R7 - Laboratory field blank/laboratory field blank duplicate (LFB/LFBD) relative precent difference (RPD) exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

Figures



LEGEND

Approximate Property Boundary

N

Notes:
-NDS: Nammo Defense Systems Inc.
-WBO: Water Bore-Out
-TTU: Thermal Treatment Unit

0 5000' 10000'

SCALE: 1" = 5000'

Pinyon Environmental, Inc.

SITE VICINITY MAP

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

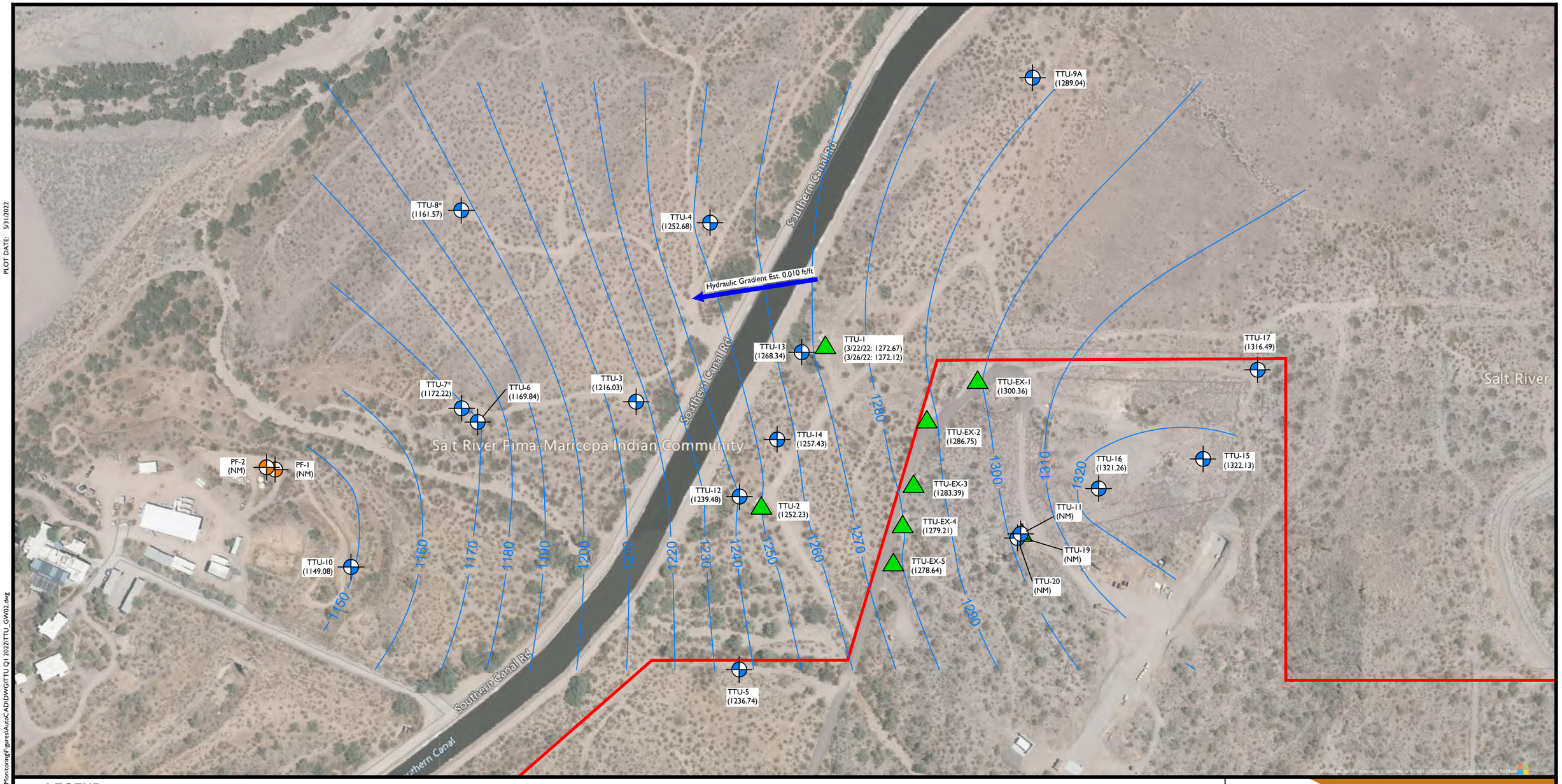
Site Location: Section 3, 15 and 27 Township 1N, Range 6E, Gila-Salt River Meridian	Drawn By: SJA	Figure: 1
Pinyon Project Number: 7/22-1522-01.REM001.4	Reviewed By: CRF	Date: 5/19/2022

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

PLOT DATE: 5/19/2022

\\192.168.2.10\Company\PROJECTS\2022\7221522\01.002 NDS WBOTTU Groundwater Monitoring\Figures\AutoCAD\DWG\TTU Q1 2022\TTU_GW01.dwg

PLOT DATE: 5/31/2022



LEGEND

- Extraction Well
- Monitoring Well
- Primate Well
- Groundwater Elevation Contour (ft amsl) (Contour Interval: 10ft)
- Estimated Regional Groundwater Flow Direction
- NDS Leased Property Boundary with SRP-MIC
- TTU-1 = Monitoring Well Location
- 14,000 = Groundwater Elevation (ft. amsl)

N

Notes:
All locations are approximate.
NM: Not Measured
ft. amsl: feet above mean sea level.
*: Not used to generate contours.
TTU-7 is a deep well and therefore it is not used for contouring.
TTU-18 is dry and not shown on the map.
Since the 1st quarter of 2021, TTU-11, TTU-19 and TTU-20 were used for the Enhanced In Situ Bioremediation Pilot Test with TTU-11 and TTU-19 as injection points.

0 200' 400'
SCALE: 1" = 200'

Pinyon Environmental, Inc.

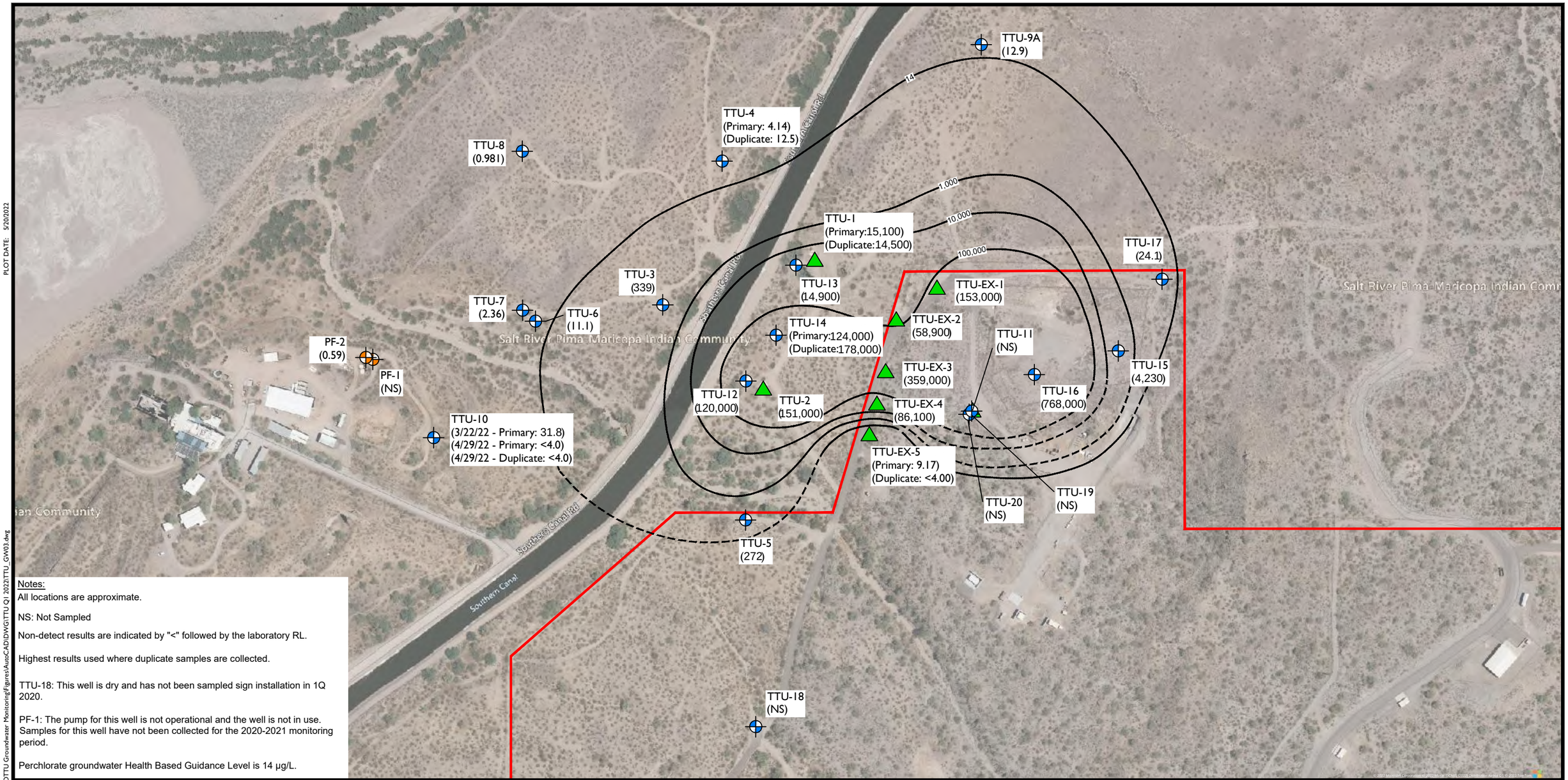
QUARTERLY GROUNDWATER CONTOUR MAP - FIRST QUARTER 2022

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

Site Location: Section 23, Township 12N, Range 6E, Gila-Salt River Meridian	Drawn By: SJA	Figure: 2
Pinyon Project Number: 7/22-1522-01.REM001.4	Reviewed By: CRF	Date: 5/31/2022

Z:\PROJECTS\2022\7221522001.002 NDS WBOTTU Groundwater Monitoring\Figures\AutoCAD\DWG\TTU Q1 2022\TTU_GW02.dwg

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



Notes:
All locations are approximate.

NS: Not Sampled

Non-detect results are indicated by "<" followed by the laboratory RL.

Highest results used where duplicate samples are collected.

TTU-18: This well is dry and has not been sampled sign installation in 1Q 2020.

PF-1: The pump for this well is not operational and the well is not in use. Samples for this well have not been collected for the 2020-2021 monitoring period.

Perchlorate groundwater Health Based Guidance Level is 14 µg/L.

LEGEND

- Extraction Well
- Monitoring Well
- Primate Well
- Perchlorate Concentration Contour (µg/l)
- NDS Leased Property Boundary with SRP-MIC

TTU-1 = Monitoring Well Location
14,000 = Perchlorate Concentration in micrograms per liter (µg/L)
339 = Exceeds Health-Based Guidance Level

0 250' 500'
SCALE: 1" = 250'

Pinyon Environmental, Inc.

PERCHLORATE DETECTIONS IN GROUNDWATER - FIRST 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: CRF | Date: 5/20/2022

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

PLOT DATE: 5/20/2022

\\192.168.2.10\Company2\PROJECTS\2022\7221522\01.002 NDS WBOTTU Groundwater Monitoring\Figures\AutoCAD\DWG\TTU Q1 2022\TTU_GW03.dwg

PLOT DATE: 5/20/2022

TTU-14 | DUP-02	3/22/2022	3/22/2022
1,4-Dioxane	**339**	**321**
1,1,2-trichloroethane	2.19	1.97 L2
1,1-dichloroethane	1.34	1.00
1,1-dichloroethene	133	95.8
1,2-dichloroethane	<1	0.189 E4
Benzene	1.86	1.63
Chloroform	1.96 E4	1.79 E4
cis-1,2-dichloroethene	2.10	1.99
Methylcyclohexane	<1	0.741 E4
Tetrachloroethene	1.69	1.49
trans-1,2-dichloroethene	0.275 E4	0.194 E4
Trichloroethene	**908**	**879**

TTU-1 | DUP-04	3/26/2022	3/26/2022
1,4-Dioxane	**18.4**	**19.9**
1,1-dichloroethene	0.886 E4	0.694 E4
Trichloroethene	3.72	4.46

TTU-9A	3/22/2022
Trichloroethene	0.944 E4

TTU-EX-1	3/21/2022
1,4-Dioxane	**244**
1,1,2-trichloroethane	0.715 E4
1,1-dichloroethane	0.566 E4
1,1-dichloroethene	100
Benzene	0.170 E4
Chloroform	0.905 E4
Tetrachloroethene	0.810 E4
Trichloroethene	**181**

TTU-17	3/21/2022
1,4-Dioxane	4.75
cis-1,2-dichloroethene	1.22
Trichloroethene	3.51

TTU-15	3/21/2022
1,4-Dioxane	**6.93**
cis-1,2-dichloroethene	1.63 E4
Trichloroethene	**7.89**

TTU-8
ND

TTU-13	3/22/2022
1,4-Dioxane	**9.96**
1,1-dichloroethene	2.12
Trichloroethene	**5.76**

TTU-4 | DUP-03	3/22/2022	3/22/2022
1,4-Dioxane	<3	2.59

TTU-EX-2	3/21/2022
1,4-Dioxane	**213**
1,1,2-trichloroethane	0.849 E4
1,1-dichloroethane	0.428 E4
1,1-dichloroethene	74.3
Benzene	0.569 E4
Chloroform	0.820 E4
cis-1,2-dichloroethene	0.330 E4
Tetrachloroethene	0.961 E4
Trichloroethene	**234**

TTU-EX-3	3/21/2022
1,4-Dioxane	**885**
1,1,2-trichloroethane	10.7
1,1-dichloroethane	**9.39**
1,1-dichloroethene	663
1,2-dichlorobenzene	0.348 E4
1,2-dichloroethane	1.93
Benzene	**13.1**
Chloroform	11.3
cis-1,2-dichloroethene	5.23
Dichloromethane	0.770 E4
Diisopropyl ether	0.155 E4
Tetrachloroethene	**10.1**
trans-1,2-dichloroethene	1.70
Trichloroethene	**6,560**

TTU-7	3/22/2022
Benzene	0.120 E4
Isopropylbenzene	0.160 E4
Propene	2.76
Toluene	1.10
Xylene Total	0.246 E4

TTU-3	3/22/2022
Trichloroethene	0.454 E4

PF-2
ND

TTU-6
ND

PF-1
NS

TTU-10	3/22/2022
1,4-Dioxane	1.58

TTU-11
NS

TTU-19
NS

TTU-20
NS

TTU-EX-4	3/21/2022
1,4-Dioxane	**23.9**
1,1,2-trichloroethane	0.831 E4
1,1-dichloroethane	1.85
1,1-dichloroethene	158
Benzene	**1.34**
Chloroform	1.77 E4
cis-1,2-dichloroethene	4.23
Tetrachloroethene	1.73
trans-1,2-dichloroethene	0.528 E4
Trichloroethene	**909**

TTU-EX-5 | DUP-01	3/21/2022	3/21/2022
cis-1,2-dichloroethene	0.143 E4	<1
Trichloroethene	**5.74**	**5.98**

TTU-16	3/21/2022
1,4-Dioxane	**5,430**
1,1,2-trichloroethane	73.7
1,1-dichloroethane	**74.7**
1,1-dichloroethene	5,770
Benzene	**403**
Chloroform	**117** E4
cis-1,2-dichloroethene	14.1 E4
Dichloromethane	**139,000**
Tetrachloroethene	**87.6**
Toluene	155
trans-1,2-dichloroethene	10.1 E4
Trichloroethene	**103,000**
Xylene Total	101 E4

TTU-12	3/22/2022
1,4-Dioxane	**149**
1,1,2-trichloroethane	1.64
1,1-dichloroethane	0.840 E4
1,1-dichloroethene	83.6 M3
Benzene	0.862 E4
Chloroform	1.69
cis-1,2-dichloroethene	1.11
Tetrachloroethene	1.10
Trichloroethene	**538**

TTU-2	3/26/2022
1,4-Dioxane	**251**
1,1,2-trichloroethane	2.20
1,1-dichloroethane	1.40
1,1-dichloroethene	107 M3
Benzene	1.56
Bromoform	0.392 E4
Chloroform	2.17 E4
cis-1,2-dichloroethene	2.13
Propene	<2.5
Tetrachloroethene	1.53
trans-1,2-dichloroethene	0.314 E4
Trichloroethene	**823**

TTU-5	3/21/2022
Trichloroethene	0.640 E4

TTU-18
NS

Notes:

All locations are approximate.

Concentrations are in micrograms per liter (µg/L). Only detected results are shown.

Primary/duplicated samples results.

ND: Not Detected

NS: Not Sampled

TTU-18: This well is dry and has not been sampled sign installation in 1Q 2020.

PF-1: The pump for this well is not operational and the well is not in use.

Samples for this well have not been collected for the 2019-2020 monitoring period.

Contours represent the approximate extent of the TCE plume (green) and 1,1 DCE plume (purple) with concentrations above the Arizona Water Quality Standards (AWQS) for TCE and 1,1 DCE. Concentrations exceeding the AWQS indicated in **BOLD.**

E4: Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.

M3: The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.

L2: The associated blank spike recovery was below laboratory acceptance limits.

AWQS Screening Levels (µg/L):

1,1-DCE - 7	Total Trihalomethanes (including Chloroform) - 100
1,1,1-TCA - 200	Dichloromethane - 5
1,1,2-TCA 5	Trans-1,2-Dicloroethene - 100
Benzene - 5	PCE - 5
Cis-1,2-DCE - 70	TCE - 5

LEGEND

- Extraction Well
- Monitoring Well
- Primate Well
- Extent of Estimated 1,1-Dichloroethene (1,1-DCE) Concentration in Groundwater First Quarter 2022 (Dashed Where Inferred)
- Extent of Estimated Trichloroethene (TCE) Concentration in Groundwater First Quarter 2022 (Dashed Where Inferred)
- NDS Leased Property Boundary with SRP-MIC
- TTU-1 = Monitoring Well Location
- XXX = Screening Levels
- **5.76** Exceeds Aquifer Water Quality Standards

N

0 250' 500'

SCALE: 1" = 250'

Pinyon Environmental, Inc.

VOC DETECTIONS IN GROUNDWATER - FIRST 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

Drawn By: SJA | Figure: 4

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

Reviewed By: CRF | Date: 5/20/2022

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

\\192.168.2.10\Company2\PROJECTS\2022\7221522\01.002 NDS WBOTTU Groundwater Monitoring\Figures\AutoCAD\DWG\TTU Q1 2022\TTU_GW04.dwg

Attachments

Attachment 1 – Pinyon SOPs

Pinyon Environmental, Inc.
Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

STANDARD OPERATING PROCEDURE GEN00

Title: Field Notebook
Revision Number: 1.0
Date Issued: July 14, 2021
Author: Rachel Tometich
Review Date: December 30, 2021
Reviewer: Jeremy Musson
File Name: 1.1 Field Notebook.docx

1.0 Purpose

Field notes are the basis of all reports and a permanent record of the field work performed. A field notebook is admissible in court as a legal document. Remember that people outside of Pinyon may one day see this book. It is important that notes be concise, readable, unambiguous, complete, and objective. Pinyon has developed specific field books for the completion of Phase I Environmental Site Assessments (Phase Is), and some procedures are different for those projects, because of the pre-printed nature of the field book.

2.0 Procedure

The following considerations and procedures should be used when recording information:

The field book can be either physical or electronic. A central location will be chosen by the project manager and made known to all parties working on the project. Electronic versions should be kept in the electronic project file on the server. Physical field books should be kept with the project manager when not in use. Individual field books can be used but the entries that pertain to the project must be hand-copied or scanned and included with the main physical or electronic field book. If a physical book is kept, preferably the pages will be pre-numbered in order to prevent loss or removal of pages, which will preserve the legal credibility of the field notebook.

1. Note the project name, project number, and dates of activity on the front outside cover with waterproof marker. The project number should also be written on the spine of hard-bound books. This same information must be recorded in the electronic version if an electronic version is kept.

2. Once field work or a project is completed, physical field books should be scanned and permanently filed electronically in the project file on the server. Electronic field books should be moved to the project file on the server.

3. For physical books, write with waterproof ink only.

4. Consider using the first few pages of the notebook as an index for the rest of the book on larger and more complex jobs (Note: index pre-printed in the Phase I field book). Consider an index of data that will be referenced often in other tasks or in reports, and which needs to be retrieved efficiently.

5. Note the address and phone number of Pinyon so that the book can be returned if lost (the stapling of a business card to the inside front cover can also utilized). Any special project requirements can also be written on one or more of these pages to remind field personnel of unique tasks, equipment or protocols.

6. Field notes are a stand-alone document of field work. A complete description of all activities should be made. If other forms are used in the field to record data, such as a boring log or well sampling record, reference its use in the field book. Additionally, for all SOPs used in the field, a proper reference of each SOP should be recorded in the field book, noting the SOP #. (For example, if you are logging soil samples, note that the samples descriptions were recorded on Pinyon's standard boring logging, following SOP #4.)

7. Record events that pertain to the field work. Each day note the following observations (as appropriate):

    a. Date, time of arrival and departure.

    b. Weather (approx. temp., clouds, rain, snow, wind, etc.)

    c. Site conditions (abandoned, urban, rural, muddy, etc.)

    d. Time of day that specific events occurred.

    e. Other personnel on site (whether Pinyon, subcontractors, utility locators, clients or regulators) and their time of arrival and departure.

    f. Serial numbers of equipment used, calibration settings.

    g. Materials and equipment used at the site.

    h. Tasks which need to be completed during the next site visit.

8. Record everything that you observe or do as it occur; write down facts. Do not write opinions or unflattering remarks which may be embarrassing if made public and be professional. Do not use the field book as scrap paper to record voice mail messages, or other unrelated information.

9. Record every visit to the field, regardless of purpose.

10. Complete sentences are usually not necessary. Abbreviations should be defined somewhere in the notebook. Units of measured parameters should appear in the field notes. Any field calibration of equipment should be described, and note the SOP followed.

11. When a mistake is made, draw a single line through the mistake, initial the mistake, and write in the correct number or word. Do not cross out anything so completely that it cannot be read.

12. At the end of the field visit, sign, and date the bottom of the entry, and draw a line through any remaining blank space on the page.

13. Upon returning from the field, the field book should be given to the project manager for review; or field notes should be scanned and provided to the project manager electronically. It is the project manager's responsibility to properly file old or current field books.

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Standard Operating Procedure

Title:	HydraSleeve™ Sampling of Monitoring Wells
Number:	*SC02*
Revision:	0
Category:	See SOP "Development and Implementation of SOPs"
Author:	Scott Fanello
Reviewer:	Jeremy Musson
Acceptance Date:	January 29, 2020
Anticipated Update:	January 29, 2021
File Location:	Z:\PEER\SOPs\Project Delivery SOPs\FINAL SOPs\SOP-SC02 Hydrasleves Sampling of Monitoring Wells.docx

1.0 Purpose

Well sampling using HydraSleevesTM is a passive sampling technique that allows field personnel to quickly extract a representative groundwater sample while minimally disturbing the water column. This type of sampling reduces sample turbidity, reduces time in the field, and does not generate investigation-derived waste.

The project work plan will detail the parameters required for each sampling event. Groundwater parameters including pH, temperature and conductivity MUST be measured using handheld meter or a similar instrument unless the project-specific work plan indicates otherwise.

2.0 Related SOPs and Documents

- Field Notebooks
- Decontamination Procedures for Sampling Equipment
- Chain of Custody Forms/Sample Labeling
- Calibration and Use Instructions for the Water Quality Meter (WQM)

3.0 Safety

Site-specific and/or project specific Health and Safety Plans (HASP) should be followed, if available. Otherwise, the Pinyon HASP should be followed. Field personnel should be aware of other Site activities which may be occurring within the area of sampling. Appropriate personal protective equipment (PPE), including safety glasses and gloves, should be worn during sample collection.

4.0 Equipment

- A calibrated WQM meter capable of measuring pH, temperature, conductivity and any other parameters outlined in the project-specific work plan.
- HydraSleeves™ with sampling tubes (i.e. straw), top or bottom weights, and cables/string for each well
- Water-level meter
- Decontamination supplies
- Field logbook
- Sample containers and labels
- Well construction data

5.0 Procedure

HydraSleeve™ sampling requires two mobilization events. During the first mobilization the HydraSleeves™ are set in place. Sampling depth should be discussed with the Pinyon Project Manager prior to mobilization. HydraSleeves™ must remain in the well for at least 24 hours to allow the plastic to equilibrate with the water column. Volatile organic compounds (VOCs) are collected in glass vials to prevent interaction of VOCs with the sample bottle prior to analysis (EPA, 1996)

The second mobilization involves collecting field data and the sample and setting HydraSleeves™ for a future sampling event, if applicable. There is no time limit as to how long HydraSleeves™ can remain in the well prior to the next sampling event. However, rope or tether resilience should be considered especially during long breaks between sampling events.

5.1 Mobilization 1

1. Navigate to the well, park your vehicle, and set-up any safety equipment needed (e.g. orange cones) according to the HASP.
2. Get depth to water using a water-level meter and record in the field book using the field notebooks SOP (Field Notebooks SOP).
3. For tall water columns (> 10 feet high) place HydraSleeve™ in the middle of the wetted screened interval. The HydraSleeves™ should be lowered slowly as to not tangle the rope or tether. Use a calibrated tether and decontaminated washers, nuts, or HydraSleeve™ provided equipment for weight.
4. For short water columns (<10 feet high) or when contaminants are heavier than water use a top weight on the HydraSleeve™ to lower it to the bottom of the well. The top weight will compact the HydraSleeve™ underneath it at the bottom of the well.
5. Leave Hydrasleeves in place for 24 hours prior to sampling.

5.2 Mobilization 2

1. Navigate to the well, park your vehicle, and set-up any safety equipment needed (e.g. orange cones) according to the HASP.
2. Get depth to water using a water-level meter and record in the field book using the field notebooks SOP (Field Notebooks SOP).

3. Fill out sample bottle labels and apply to sample bottles. Follow the site-specific naming convention outlined in the work plan, if applicable. If there is no naming convention outlined follow the Pinyon sample naming convention (Chain of Custody Forms/Sample Labeling SOP).
4. Pull up the HydraSleeve™ using a moderately fast pull (1 foot per second for the length of the sleeve) to fill the HydraSleeve™.
5. Insert the HydraSleeve's™ included sampling tube (i.e. straw) in the top or bottom of the HydraSleeve™ (depending on the contaminant of concern) and fill all sample bottles. Place sample bottles in a cooler with ice.
6. Add 100 milliliters (mL) or remaining water to the WQM flow through chamber.
7. Wait for WQM parameters to stabilize or for 10 minutes, whichever is shorter with 10 minutes being the maximum wait time.
8. Record WQM parameters in field book.
9. If future monitoring will occur, decontaminate the weights and cable, add a new HydraSleeve™ then set in the well using instructions above.
10. Repeat Steps 1 through 9 for each well site then deliver or ship sample cooler to the lab identified in the work plan.

6.0 References

EPA, 1996. EPA Environmental Assessment Sourcebook. Ann Arbor Press, Inc., page 304.

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Standard Operating Procedure

Title:	Decontamination Procedures for Field Equipment
Number:	REM02
Revision:	2.0
Category:	Project
Author:	Staff, Arianne Godwin
Reviewer:	Russ Cirillo, Brian Partington
Acceptance Date:	July 5, 2018
Anticipated Update:	July 5, 2019
File Location:	Z:\PEER\SOPs\Project Delivery SOPs\FINAL SOPs\SOP-REM02 Sampling Equipment Decontamination.docx

1.0 Purpose

Equipment decontamination is important to prevent potential cross-contamination between sampling locations and/ or events and to protect the health of personnel who may come in contact with potentially contaminated equipment. Reusable sampling equipment must be decontaminated prior to sampling, in between sampling locations, and before leaving the site. Sampling equipment that should be field decontaminated includes, but is not limited to, split-spoon samplers, compositing bowls, spoons/trowels, water level indicators, oil-water interface probes, pumps, and other non-disposable equipment. Sampling supplies such as jars, gloves, bailers, etc., must also be clean to avoid cross-contamination. Disposable equipment such as disposable bailers and nitrile gloves should be properly disposed in accordance with federal, state, and local regulations and may require decontamination if necessary to meet regulatory requirements.

On a site-specific basis, decontamination of larger equipment (i.e., drill rig, augers, trucks) may be required. The decontamination procedure for larger equipment must be established prior to the initiation of field activities by the project manager or client. Large equipment decontamination is briefly described in this SOP; more extensive decontamination procedures, if required, should be outlined in a project-specific Materials Management Plan or Work Plan.

Field personnel should also be aware of potential contamination on their boots or clothing. Special care should be noted to ensure contamination is not transferred to the inside or left on the outside of vehicles. The outside of field equipment and the carrying cases should be wiped down and decontaminated as necessary prior to leaving a site.

2.0 Safety

Site-specific and/or project-specific Health and Safety Plans (HASPs) should be followed, if available. Otherwise, the Pinyon HASP should be followed. The following are specific safety requirements to be aware of during decontamination of sampling equipment:

- Field personnel are required to wear appropriate personal protective equipment (PPE). Appropriate PPE may include safety glasses, gloves, and protective clothing such as long pants and long sleeves.
- When using detergents or other chemicals, safety glasses and nitrile gloves (or equivalent) should be worn.
- No eating, smoking, drinking, chewing, or other hand to mouth contact should be permitted during decontamination activities.
- Use of high-pressure decontamination equipment can lead to serious injury; manufacture's guidelines should be followed.

3.0 Decontamination Equipment

Each field person responsible for decontamination of sampling equipment is responsible to compile their individual decontamination kit prior to arriving at the field site. Generally, glass and metal equipment can be decontaminated. Plastic equipment should be disposed rather than decontaminated unless project-specific circumstances allow plastic to be decontaminated. Specific equipment typically required for decontamination of field equipment includes:

- Phosphate-free detergent, or similar
- Distilled/deionized water
- Tap water
- Wash bottles or spray bottles, as needed
- Brushes
- Paper Towels
- Tubs or buckets
- Trash container or trash bags
- Containers for storage and disposal of decontamination solutions, if required

4.0 Planning

Best practice for sampling procedures is to review historical data (if available) and collect samples from the least impacted location to most impacted location to minimize the potential for cross-contamination.

During the premobilization phase, the disposal method required for the decontamination rinsate and waste water must be established based on the anticipated constituents in the water and the regulatory status of the water. Certain types of decontamination water may be considered a Resource Conservation and Recovery Act (RCRA) hazardous waste and will require special handling. You must check with the work plan, project manager, or client to understand the disposal options. Note: If decontamination is not possible, or field conditions are not suitable for decontamination, the project manager must be notified so that alternate procedures can be implemented.

5.0 General Decontamination Procedures

Project-specific variations from this SOP must be documented in the field log for the project.

The following general procedures are appropriate for decontamination of glass or metal equipment at most project sites:

- Dry-brush as necessary to remove large particles.
- Gross wash with water and a scrub brush.
- Wash with distilled water and phosphate-free detergent.
- Rinse with tap water.
- Rinse with deionized/distilled water.
- Repeat steps as need if additional decontamination is required
- Allow equipment to air dry or use wipes/paper towels as appropriate to dry external surfaces.

If it is necessary to use a solvent cleaner for decontamination, procedures for use should be included in project-specific documents.

6.0 Water Level and Interface Probe Decontamination Procedures

Porous ground surface areas next to wells may be impacted from historical sampling activities, and those areas should be considered potentially impacted. The entire length of tape exposed to the ground surface and/or inside of the well casing needs to be decontaminated prior to sampling and between monitoring locations. The length of the tape should be decontaminated using the following:

- Wash with distilled water and phosphate-free detergent.
- Rinse with deionized/distilled water.

7.0 Pump Decontamination Procedures

Downhole pumps used for sampling should be decontaminated before first use, between monitoring locations, and prior to leaving the site. Internal pump surfaces are often not accessible for direct decontamination. In these situations, it may be necessary to disassemble the pump and/or submerge the pump in decontamination fluids (appropriate for the project) to minimize the potential for cross contamination. As internal surfaces may

not be visible, decontamination must include repeatedly submerging the equipment in deionized/distilled water to remove residual detergents and/or contamination prior to reuse.

8.0 Drilling and Other Large Equipment Decontamination Procedures

Large equipment may require decontamination for potential chemical impacts or for removal of noxious weed seeds or similar transferrable media. A steam cleaner utilizing domestic cold water is typically used for decontamination of large equipment. High-pressure steam cleaners remove potentially impacted materials at high pressures and high temperatures. Unless other means of disposal are acceptable, steam cleaning decontamination water should be captured on plastic sheeting or other containment, and then containerized and disposed in accordance with federal, state, and local regulations. Use of detergent is not typically required when high pressure steam cleaning applications are utilized. If large equipment requires decontamination with detergent, procedures for these activities should be included in project-specific documents.

9.0 Documentation

Methods of decontamination must be thoroughly recorded in the field logs including methods used, chemicals or detergents used (if applicable), time of decontamination activities, and observable condition of equipment after decontamination is complete. Field logs should also include documentation of the disposal method used for the decontamination rinsate and waste water.

Attachment 2 – Field Notes

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	TTU-01
Date Completed	3/22/22
Casing Material	PVC
Casing Diameter (in)	4"
Screen (ft btoc)	30-70'
Well Total Depth (ft btoc)	75'
Survey Information	AH: 1312.73 / Lat: 32°21'59.1382 / lon: -111°42'56.2704
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	no hydrasleeve set, sample taken from pump
Retrieval and/or Sampling	
Date / Time	3/22/22
DTW (ft btoc)	DTW: 40.06
Sampler Integrity	Na
Personnel	CRE
Notes	3well volumes = 68.43gallons

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity

Sample ID		
QAQC Samples		
Containers		
Preservatives		
Analysis		
Sampler Reset	Yes	No

Notes tanks were full cant sample today

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	~~TTU-1~~ Navajo TTU
Project Number	72215220.1
Well ID / ADWR #	TTU-1
Date Completed	6/6/12
Casing Material	PVC
Casing Diameter (in)	4"
Screen (ft btoc)	30-70
Well Total Depth (ft btoc)	75
Survey Information	GH 1312.73 / Lat: 35°29'59.1382" / lon: -111°42'56.2704"
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Pump no hydrasleeve
Retrieval and/or Sampling	
Date / Time	3/26/21 0950
DTW (ft btoc)	40.61
Sampler Integrity	NA
Personnel	CFF
Notes	smelled like rotten eggs, pump off after sampling

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/26/22 1002	26.19	7.69	243.8	1275	3.01	2.58

Sample ID	~~TTU-70-20220326~~ TTU-1-50-20220326
QAQC Samples	Dup-04
Containers	125ml HDPE no press (2), 40mL amb-HCL (12)
Preservatives	yes HCL for VOCs
Analysis	perchlorate, V8260AZ, V8260LLHP
Sampler Reset	Yes / (No)
Notes	NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	72L152201
Well ID / ADWR #	TTU-02
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	AH: 1514.44, Lat: 33°29' 35.8472, Lon: -111°42'57.8480
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Pump no hydrasleeve set
Retrieval and/or Sampling	
Date / Time	3/26/21 1018
DTW (ft btoc)	62.21
Sampler Integrity	Na
Personnel	CRP
Notes	pump off after sampling

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/26/21 1025	25.87	7.07	254.6	3458	2.81	3.18

Sample ID	TTU-2-114-20220326	
QAQC Samples	MS/MSD	
Containers	125mL HDPE no press (2), 40mL amb-HCL (12)	
Preservatives	yes - HCL for VOCs	
Analysis	perchlorate, V8260A2, V8260LL14D	
Sampler Reset	Yes	(No)

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	
Well ID / ADWR #	TTU-3
Date Completed	
Casing Material	PVC
Casing Diameter (in)	4 in
Screen (ft btoc)	78.1-138.1
Well Total Depth (ft btoc)	143.6
Survey Information	AH: 1308.03 / lat: 33° 29' 57.9845 / lon: -111° 43' 00.9143
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Set by Geosytech in Q4 event
Retrieval and/or Sampling	
Date / Time	3/22/22 1528
DTW (ft btoc)	92.00
Sampler Integrity	
Personnel	CRF
Notes	

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1533	25.31	6.99	103.1	1403	5.96	11.4

Sample ID	TTU-3-(08-2022-37	
QAQC Samples	none	
Containers	125mL HDPE no preserv (1), 40mL amb HCL (6)	
Preservatives	yes - HCL for VOCs	
Analysis	perchlorate US26OA2, US26OLL14D	
Sampler Reset	(Yes)	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Namno TTU
Project Number	72215220 1
Well ID / ADWR #	TTU-4
Date Completed	3/22/22
Casing Material	PVC
Casing Diameter (in)	4 in
Screen (ft btoc)	39.5 - 99.5
Well Total Depth (ft btoc)	104.9
Survey Information	AH: 1305.12, Lat:
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	set by Geosyntec in Q1 sampling event
Retrieval and/or Sampling	
Date / Time	3/22/22 1327
DTW (ft btoc)	52.44
Sampler Integrity	good
Personnel	CF
Notes	clear

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1334	27.66	7.54	257.1	2211	2.06	3.77

Sample ID	TTU-4-S7-2022-322	
QAQC Samples	DUP-03	
Containers	125mL HDPE non press (2), 40mL amb. HCL (12)	
Preservatives	Yes, HCL for VOC	
Analysis	Perchlorate V8260AZ, U8260 LL14D	
Sampler Reset	(Yes)	No
Notes	NA	

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Navajo TTU
Project Number	722152201
Well ID / ADWR #	TTU-5
Date Completed	9/20/2014
Casing Material	4" PVC
Casing Diameter (in)	4"
Screen (ft btoc)	59.5' - 164.5'
Well Total Depth (ft btoc)	169.5
Survey Information	alt. -1314.95 ft msl // lat. -35°29'52.4820" // long. -111°42'58.3994"
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during Q4 round 2021
Retrieval and/or Sampling	
Date / Time	3/21/22 - 1750
DTW (ft btoc)	78.19
Sampler Integrity	good
Personnel	MJG
Notes	clear water

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22	22.52	7.45	149.4	890	3.53	17

Sample ID	TTU-5-110-2022-321
QAQC Samples	none
Containers	125 mL HDPE-NoPres (1), 40mL Amb. -HCl (6)
Preservatives	Yes; HCl for VOC
Analysis	perchlorate, V8260AZ, V8260LL14D
Sampler Reset	Yes / No
Notes	NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	TTU-6
Date Completed	
Casing Material	
Casing Diameter (in)	PVC
Screen (ft btoc)	110-175
Well Total Depth (ft btoc)	180
Survey Information	ΔH: 1300.84 / Lat: 33°29'57.5698 / Lon: -111°43'04.792
Deployment	
Date / Time	~~3/22~~
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	set by Geosyntec in Q4
Retrieval and/or Sampling	
Date / Time	3/22/22 1500
DTW (ft btoc)	131
Sampler Integrity	good
Personnel	CRF
Notes	

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1505	25.67	7.16	40.2	3026	1.71	8.59

Sample ID	TTU-6-143-2022-322	
QAQC Samples	none	
Containers	125mL HDPE Express (1), 40mL amb-HCL (6)	
Preservatives	Yes HCL for VOCs	
Analysis	perchlorate V8260A2, V8260LL19D	
Sampler Reset	Yes	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTH
Project Number	722152201
Well ID / ADWR #	TTH -7
Date Completed	
Casing Material	Steel
Casing Diameter (in)	8 in
Screen (ft btoc)	open
Well Total Depth (ft btoc)	410
Survey Information	ΔH: 1301.84 / lat: 33°29'57.8351 / lon: -111°43'05.1771
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Set by Geosmtec in Q4 event
Retrieval and/or Sampling	
Date / Time	3/22/22 1435
DTW (ft btoc)	129.67
Sampler Integrity	
Personnel	CRF
Notes	Smells like rotten eggs, 1 in of sed

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1440	26.18	7.18	-108.6	3916	0.98	17.8

Sample ID	TTH-7-345-2022-322	
QAQC Samples	None	
Containers	125mL HDPE non acess(1), 40mL amb-HCL(6)	
Preservatives	yes HCL for VOCs	
Analysis	perchlorate V8260A2, U8260LL19D	
Sampler Reset	(Yes)	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record			
Project Name	Nammo TTU		
Project Number	722152201		
Well ID / ADWR #	TTU-8		
Date Completed			
Casing Material	PVC		
Casing Diameter (in)	4 in		
Screen (ft btoc)	135-185	MTC	
Well Total Depth (ft btoc)	190	01.9056	3138
Survey Information	AH: 1310.23 / lat: 33°30'~~57.5355~~ / lon: -111°43'05.~~1771~~		
Deployment			
Date / Time			
Type of Sampler			
Size of Sampler			
DTW (ft btoc)			
Deployment Depth (ft btoc)			
Personnel			
Notes	set by Geosyntec in Q4 event		
Retrieval and/or Sampling			
Date / Time	3/22/22 1404		
DTW (ft btoc)	148.66		
Sampler Integrity	good		
Personnel	CRF		
Notes	Smelled like rotten eggs		

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1410	26.39	7.02	47.0	3168	2.4	22.2

Sample ID	TTU-8-164-2022-322	
QAQC Samples	MS/MSD	
Containers	125 mL HDPE non press 2, 40mL amb- HCL (12)	
Preservatives	Yes, HCL for VOC	
Analysis	perchlorate V8260 A2, U8260LL 141D	
Sampler Reset	Yes	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTn
Project Number	72215220i
Well ID / ADWR #	TTn-9a
Date Completed	3/22/22
Casing Material	PVC
Casing Diameter (in)	4 in
Screen (ft btoc)	24-99'
Well Total Depth (ft btoc)	104'
Survey Information	AH: 1318.04 / Lat: 33°30'04.6089 / Lon: -111°42'51.1919
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec in Q4 round
Retrieval and/or Sampling	
Date / Time	3/22/22 0857
DTW (ft btoc)	29.0
Sampler Integrity	good
Personnel	CRF
Notes	water was clear

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 0857	24.54	7.50	250.0	1554	5.96	18.3

Sample ID	TTn-9a-01-2022-322
QAQC Samples	none
Containers	125mL HDPE - No Pres(1), 40mL Amb - HCL(6)
Preservatives	Yes: HCL for VOC
Analysis	Perchlorate V8260 12, V8260 LL 14
Sampler Reset	(Yes) / No
Notes	NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTH
Project Number	722152201
Well ID / ADWR #	TTH-10
Date Completed	3/22/22
Casing Material	PVC
Casing Diameter (in)	4"
Screen (ft btoc)	~~24-94~~ 115-180
Well Total Depth (ft btoc)	185
Survey Information	

Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Set by Geosyntec during Q4 sampling

Retrieval and/or Sampling	
Date / Time	3/22/22 1249
DTW (ft btoc)	153.34
Sampler Integrity	
Personnel	CRF
Notes	DTW was below depth of Hydrasleeve lowered sampling point by GFI

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1253	26.31	7.27	266.8	1471	4.85	9.14

Sample ID	TTH-10-147-2022-322	
QAQC Samples	None	
Containers	125mL HDPE-nopres (1), 40mL amb-HCL (6)	
Preservatives	Yes HCL for VOA	
Analysis	perchlorate V 8260 AZ, U 8260LL 141)	
Sampler Reset	(Yes)	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	TTU-12
Date Completed	3/22/22
Casing Material	steel
Casing Diameter (in)	4in
Screen (ft btoc)	open
Well Total Depth (ft btoc)	180
Survey Information	ΔH

Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	set by geosyntech during Q4 event

Retrieval and/or Sampling	
Date / Time	3/22/22 1055
DTW (ft btoc)	72.73'
Sampler Integrity	good
Personnel	CRF
Notes	1in of sed

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1104	25.50	6.89	271.1	3287	4.27	096

Sample ID	TTU-12-82-2022-322
QAQC Samples	MS/MD
Containers	125mL HDPE-no pres (2), 40mL amb. HCL (12)
Preservatives	yes HCL for VOC
Analysis	perchlorate V8260 AZ, U8260LL(4D
Sampler Reset	Yes / No
Notes	NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Numaa TTU
Project Number	722152201
Well ID / ADWR #	TTU-13
Date Completed	3/22/22
Casing Material	steel
Casing Diameter (in)	4in
Screen (ft btoc)	open
Well Total Depth (ft btoc)	80
Survey Information	AH: 1310.79 / Lat: 33°29'58.9126 / lon:
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec in Q4 round
Retrieval and/or Sampling	
Date / Time	3/22/22 0907
DTW (ft btoc)	42.45
Sampler Integrity	good
Personnel	CRE
Notes	slightly cloudy, .25in sed @ bottom

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 913	23.12	6.97	269.5	1094	2.14	68.7

Sample ID	TTU-13-Si-2022-322	
QAQC Samples	No	
Containers	125mL HDPE - no press(1), 40mL amb-HCL(6)	
Preservatives	yes: HCL for VOC	
Analysis	perchlorate VB260A2, 4 8260LL40	
Sampler Reset	Yes	No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	nammo TTU
Project Number	72215220)
Well ID / ADWR #	TTU-14
Date Completed	3/22/22
Casing Material	steel
Casing Diameter (in)	4 in
Screen (ft btoc)	open
Well Total Depth (ft btoc)	~~80~~ WTG 100
Survey Information	AH ~~1310.79~~ 1316.8 / Lat: ~~33°27'58.7926~~ 32°29'57.1962 / Lon: ~~-111°42'56.7926~~ -110°42'57.1962

Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	set by geosyntec in Q4 event

Retrieval and/or Sampling	
Date / Time	3/22/22 1015
DTW (ft btoc)	59.37
Sampler Integrity	good
Personnel	CRF
Notes	1 inch of sed @ bottom

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/22/22 1021	24.68	6.97	265.6	2823	3.47	26.3

Sample ID	TTU-14-~~G4~~-2022-322
QAQC Samples	~~MS/MD~~ DUP-02
Containers	125mL HDPE - no pres (2), 40mL amb: HCL (12)
Preservatives	yes HCL for VOC
Analysis	perchlorate V8260A2, U8260LL14D
Sampler Reset	(Yes) circled / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Navajo TTU
Project Number	722152201
Well ID / ADWR #	~~TTU-EX-15~~ TTU-15
Date Completed	1/25/2018
Casing Material	Steel
Casing Diameter (in)	
Screen (ft btoc)	
Well Total Depth (ft btoc)	100'
Survey Information	
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Deployed by Geosyntec during ~~Q1 period~~ 2021 Q4
Retrieval and/or Sampling	
Date / Time	3/21/22 - 1635
DTW (ft btoc)	28.72
Sampler Integrity	good
Personnel	MJG
Notes	small amount of sediments at bottom of HydraSleeve.

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22/ 1640	25.26	7.17	165.4	2267	1.24	16.8

Sample ID	TTU-~~EX~~-15-75-2022-321
QAQC Samples	none
Containers	~~75ml~~ 125ml HDPE-NoPres (1), 40ml Amb-HCl (6)
Preservatives	yes; HCl for VOC
Analysis	perchlorate, V8260AZ, V8260LLRD
Sampler Reset	(Yes) / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record

Project Name	Navajo TTU
Project Number	702152201
Well ID / ADWR #	~~TTU-EX-16~~ TTU-16
Date Completed	1/23/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	100'
Survey Information	elev.-1338.554 ft msl // lat.-35°29'56.18415" // long.-111°42'41.59235"

Deployment

Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosynthec during ~~Q1 period~~ 2021 Q4

Retrieval and/or Sampling

Date / Time	3/21/22 - 1710
DTW (ft btoc)	17.29
Sampler Integrity	good
Personnel	MJG
Notes	reddish-brown color of water, noticeable chemical smell

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22 1713	25.67	6.84	33.9	9630	1.34	986

Sample ID	TTU-~~MW~~-16-20-2022-321
QAQC Samples	none
Containers	125 mL HDPE-NoPres (1), 40mL Amb-HCl (6)
Preservatives	yes; HCL for VOC
Analysis	perchlorate, V8260AZ, V8260LL140
Sampler Reset	Yes / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record

Project Name	Ammo TTU
Project Number	7221522.01
Well ID / ADWR #	~~TTU-EX-17~~ TTU-17
Date Completed	1/22/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	102'
Survey Information	elev.-1317.451 ft msl // lat.-35°21'58.6092" // long.-111°42'45.6857"

Deployment

Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during ~~Q1 round~~ CBF 2021 Q4

Retrieval and/or Sampling

Date / Time	3/21/22 — 1605
DTW (ft btoc)	~~31'~~ 31'
Sampler Integrity	Good
Personnel	MSG
Notes	dark sediment ~.5in at bottom of Hydrasleeve

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22 1605	26.18	7.33	1.70	1102	1.61	4.18

Sample ID	TTU-[redacted]-17-80-2022-321
QAQC Samples	none
Containers	125mL HDPE-NoPres (1), 40mL Amb-HCl (6)
Preservatives	Yes; HCl-for VOC
Analysis	perchlorate, V8260AZ, V8260LL1410
Sampler Reset	Yes / No
Notes	NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	TTU-18
Date Completed	
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	open
Well Total Depth (ft btoc)	104.5
Survey Information	4H: 1347.489 / lat: 33°29'58.66092 / lon: -111° 42' 45.58575
Deployment	
Date / Time	~~3/22/22 0805~~ MJG
Type of Sampler	NI
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	not deployed b/c geosynlec in Q4
Retrieval and/or Sampling	
Date / Time	3/22/22 0805
DTW (ft btoc)	NA
Sampler Integrity	NA
Personnel	MJG
Notes	no sample to retrieve well was dry

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity

Sample ID		
QAQC Samples		
Containers		
Preservatives		
Analysis		
Sampler Reset	Yes	No
Notes		

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	72215220
Well ID / ADWR #	TTU-EX-1
Date Completed	1/29/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	109'
Survey Information	elev.-1321.694 ft msl // lat.-33°29'58.42103" // long.-111°42'52.55168"
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during ~~Q1 round~~ CRF 2021 Q4
Retrieval and/or Sampling	
Date / Time	3/21/22 - 1533
DTW (ft btoc)	21.33
Sampler Integrity	good
Personnel	MJG
Notes	murky water w/ black flakes

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22/ 1533	24.46	6.87	221.1	3764	5.07	39.2

Sample ID	TTU-EX-1-69-2022-321
QAQC Samples	none
Containers	125ml HDPE-NoPres(1), 40ml Amb-HCl(6)
Preservatives	yes; HCl for VOC
Analysis	perchlorate, V8260AZ, V8260LLi4D
Sampler Reset	(Yes) / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record

Project Name	Nammo TTU
Project Number	7221522201
Well ID / ADWR #	TTU-EX-2
Date Completed	~~1/29/2020~~ 1/28/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	~~104~~ 110'
Survey Information	elev. -1316.401 ft msl // lat. -35°29'57.6571" // long. -111°42'53.7646"

Deployment

Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during ~~Q1 report~~ CRF 2021 Q4

Retrieval and/or Sampling

Date / Time	3/21/22 - 1500
DTW (ft btoc)	29.65
Sampler Integrity	good
Personnel	MJG
Notes	~.5 in. of sediment - HydraSleeve ~90% full of water

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22/1505	26.96	7.31	256.2	1697	1.37	87.2

Sample ID	TTU-EX-2-74-2022-321
QAQC Samples	none
Containers	125ml HDPE-NoPres(1), 40ml Amb-HCl(6)
Preservatives	Yes; HCl for VOC
Analysis	perchlorate, VOA60AZ, VOA60LL1410
Sampler Reset	(Yes) / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record

Project Name	Nammo TTU
Project Number	7221522701
Well ID / ADWR #	TTU-EX-3
Date Completed	1/24/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	111'
Survey Information	elev.-1316.65 ftmsl // lat.-33° 29' 56.27009" // long.-111° 42' 54.11932"

Deployment

Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during ~~Q1~~ CRF record 2021 Q4

Retrieval and/or Sampling

Date / Time	3/21/22 - 1430
DTW (ft btoc)	83.46
Sampler Integrity	good
Personnel	MJG
Notes	~1in. of sediment in bottom of HydraSleeve

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22/1433	25.23	6.57	266.6	5083	3.12	27.9

Sample ID	TTU-EX-3-76-2022-321
QAQC Samples	none
Containers	125 mL HDPE-NoPres (1), 40 mL Amb-HCl (6)
Preservatives	yes; HCl for VOC
Analysis	perchlorate, ~~8330~~ VOA60AZ, VOA60LL14()
Sampler Reset	(Yes) / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	BB ~~TTU-EX-5~~ TTU-EX-4
Date Completed	BB ~~1/24/2020~~ 1/25/2020
Casing Material	Steel, ~~8"~~ BB
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	112'
Survey Information	elev.-1319.958 ft msl // lat.-35°29'55.46297" // long.--111°42'54.3 [illegible]"
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	deployed by Geosyntec during ~~Q1 event~~ CRF 2021Q4
Retrieval and/or Sampling	
Date / Time	3/21/22 - 1357
DTW (ft btoc)	40.75
Sampler Integrity	good
Personnel	JMJG
Notes	~1 in. of sediment at bottom of HydraSleeve

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22/1359	25.63	6.76	292.6	2102	2.07	127

Sample ID	TTU-EX-4-77-2022-321
QAQC Samples	none
Containers	125ml HDPE-NoPres (1), 40ml Amb-HCl (6)
Preservatives	yes; HCl for VOC
Analysis	perchlorate, V8260AZ, V8260LL141D
Sampler Reset	(Yes) / No

Notes NA

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo - TTU
Project Number	722152201
Well ID / ADWR #	TTU-EX-5
Date Completed	1/24/2020
Casing Material	Steel
Casing Diameter (in)	8"
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	~~112.4~~ 112.4"
Survey Information	elev. - 1359.499 ft bgs // lat - 35°29'54.67649" // long - 111°42'54.62111"
Deployment	
Date / Time	~~3/21/22~~ MJG
Type of Sampler	~~HS~~
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	~~MJG~~
Notes	deployed by Geosyntec during ~~Q1 2022~~ CRF 2021 Q4
Retrieval and/or Sampling	
Date / Time	3/21/22 - 1305
DTW (ft btoc)	40.86
Sampler Integrity	good
Personnel	MJG
Notes	1 in. of sediment at bottom of HydroSleeve.

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
3/21/22 1325	26.98	6.12	353.0	1087	3.6	1079

Sample ID	TTU-EX-5-80-2022-321	
QAQC Samples	DUP-01	
Containers	125mL HDPE-NoPres (4), 40mL Amb-HCl (6) ~~2~~ 12	
Preservatives	yes; HCl for VOC/Dioxin	
Analysis	perchlorate, V8260AZ, V8260LLKHO	
Sampler Reset	Yes	No
Notes	NA	

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo TTU
Project Number	722152201
Well ID / ADWR #	PF-2
Date Completed	
Casing Material	Steel
Casing Diameter (in)	8
Screen (ft btoc)	Open
Well Total Depth (ft btoc)	Na
Survey Information	
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Dedicated pump; no deployment
Retrieval and/or Sampling	
Date / Time	03/22/22 1211
DTW (ft btoc)	NA
Sampler Integrity	NA
Personnel	CRF
Notes	NA

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
1150	25.61	7.23	244.2	1235	4.25	0
1155	25.32	7.24	243.3	1223	4.29	0
1200	24.97	7.25	244.8	1216	4.33	0

Sample ID	PF-2-400-20220322	
QAQC Samples	—	
Containers	1 125mL HDPE	
Preservatives	None	
Analysis	Perchlorate - 6850	
Sampler Reset	Yes	No

Notes: Filtered Sample
★Only perchlorate sample requiring 6850 analysis★

Pinyon Environmental, Inc.

Well Sampling Record	
Project Name	Nammo ~~UBO~~ TTU
Project Number	722157201.002
Well ID / ADWR #	Primate Facility (~~PF~~ PF-2)
Date Completed	NA
Casing Material	Steel
Casing Diameter (in)	8
Screen (ft btoc)	open
Well Total Depth (ft btoc)	NA
Survey Information	NA
Deployment	
Date / Time	
Type of Sampler	
Size of Sampler	
DTW (ft btoc)	
Deployment Depth (ft btoc)	
Personnel	
Notes	Dedicated pumping deployment
Retrieval and/or Sampling	
Date / Time	3/31/22
DTW (ft btoc)	—
Sampler Integrity	—
Personnel	C. Funk and I. Foster
Notes	

Field Parameters

Date / Time	Water Temp (°C)	pH (SU)	ORP (mV)	Sp Cond (µS/cm)	DO (mg/L)	Turbidity
1243	25.46	7.27	238.3	1267	2.28	3.20
1248	24.51	7.28	236.2	1244	2.19	2.13
1253	24.51	7.24	236.8	1244	2.12	1.50
3/31/22 for all times above						

Sample ID	PF-2-400-20220331	
QAQC Samples	Dup-05 / MS/MSD	
Containers	18 40mL vials	
Preservatives	HCL	
Analysis	VOC, 1,4-Dioxane	
Sampler Reset	Yes	(No)

Notes NA

Attachment 3 – Laboratory Analytical Reports

ANALYTICAL REPORT

March 30, 2022

Pinyon Environmental

Sample Delivery Group:	L1474173
Samples Received:	03/23/2022
Project Number:	722152201
Description:	Nammo TTU Groundwater Monitoring

Report To: Christopher Funk
4815 E. Carefree Highway
#108-274
Cave Creek, AZ 85331

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

PF-2-400-20220322 L1474173-01 GW

			Collected by	Collected date/time	Received date/time
				03/22/22 12:11	03/23/22 12:29

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1837037	1	03/30/22 00:00	03/30/22 00:00	-	Subcontract

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

Project Narrative

L1474173 -01 contains subout data that is included after the chain of custody.

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

SDG	Sample Delivery Group.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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.

Chain of Custody Page 1 of 3

Company Name/Address:
Pinyon Environmental

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

Report to:
Christopher Funk

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

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: (PT) MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Site/Facility ID #

P.O.#

Quote # 00105689

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	Pres Chk	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl
TTU-EX-5-80-20220321	G	GW	80	03/21/22	1305	7		X		X	X
TTU-EX-4-77-20220321	G	GW	77	03/21/22	1357	7		X		X	X
TTU-EX-3-76-20220321	G	GW	76	03/21/22	1430	7		X		X	X
TTU-EX-2-74-20220321	G	GW	74	03/21/22	1500	7		X		X	X
TTU-EX-1-69-20220321	G	GW	69	03/21/22	1533	7		X		X	X
TTU-17-80-20220321	G	GW	80	03/21/22	1605	7		X		X	X
TTU-15-75-20220321	G	GW	75	03/21/22	1635	7		X		X	X
TTU-16-80-20220321	G	GW	80	03/21/22	1710	7		X		X	X
TTU-5-110-20220321	G	GW	110	03/21/22	1750	7		X		X	X
TTU-9a-61-20220322	G	GW	61	03/22/22	0837	7		X		X	X

Analysis / Container / Preservative

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/hubfs/pas-standard-terms.pdf

SDG # L1474173

Table #

Acctnum: PINYONMAZ
Template: T205653
Prelogin: P912520
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: SUBPER6850 to be subbed to Eurofins - Sacramento, CA

pH ___ Temp ___
Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier ___

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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)	Date:	Time:	Received by: (Signature)
	03/22/22	0615	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Date: Time:

Hold: Condition: NCF / OK

Company Name/Address:
Pinyon Environmental

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

Report to:
Christopher Funk

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

Pres Chk

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: PT MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Site/Facility ID #

P.O. #

Quote #
00105689

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

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
TTU-13-51-20220322	G	GW	51	03/22/22	0907	7	X		X	X		
TTU-14-64-20220322	G	GW	64	03/22/22	1015	7	X		X	X		
TTU-12-82-20220322	G	GW	82	03/22/22	1055	14	X		X	X	MS/MSD	
TTU-10-147-20220322	G	GW	147	03/22/22	1249	7	X		X	X		
TTU-4-57-20220322	G	GW	57	03/22/22	1327	7	X		X	X		
TTU-8-164-20220322	G	GW	164	03/22/22	1404	14	X		X	X	MS/MSD	
TTU-7-345-20220322	G	GW	345	03/22/22	1435	7	X		X	X		
TTU-6-143-20220322	G	GW	143	03/22/22	1500	7	X		X	X		
TTU-3-108-20220322	G	GW	108	03/22/22	1528	7	X		X	X		
PF-2-400-20220322	G	GW	400	03/22/22	1211	1		X				

Chain of Custody Page 2 of 3

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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

SDG # L1474173

Table #

Acctnum: PINYONMAZ
Template: T205653
Prelogin: P912520
PM: 288 - Daphne Richards
PB:

Shipped Via:

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

Remarks: SUBPER6850 to be subbed to Eurofins - Sacramento, CA

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	03/23/22	0615			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK

Company Name/Address:
Pinyon Environmental

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

Report to:
Christopher Funk

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

Pres Chk

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: (PT) MT CT ET

Phone: 602-290-4774

Client Project # 722152201

Lab Project # PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed: Std TAT

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

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/hubfs/pas-standard-terms.pdf

SDG # L1474173

Table #

Acctnum: PINYONMAZ

Template: T205653

Prelogin: P912520

PM: 288 - Daphne Richards

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
Dup-01	G	GW	—	—	—	7	X		X	X		
Dup-02	G	GW	—	—	—	7	X		X	X		
Dup-03	G	GW	—	—	—	7	X		X	X		
Trip Blank	—	GW	—	—	—	1			X			
Temp Blank	—	GW	—	—	—	1						
		GW										
		GW										
		GW										
		GW										
		GW										

03/23/22

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

Remarks: SUBPER6850 to be subbed to Eurofins - Sacramento, CA

pH ____ Temp ____

Flow ____ Other ____

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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)	Date:	Time:	Received by: (Signature)
	03/23/22	0615	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: °C Bottles Received:

Date: Time:

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Phoenix
4625 East Cotton Center Boulevard
Suite #189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-181268-1
Client Project/Site: L1474173-01

For:
Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, Minnesota 55414

Attn: Linley Byrnes

Authorized for release by:
3/29/2022 3:08:49 PM

Emily Petrunia, Project Manager I
(602)659-7629
emily.petrunia@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Qualifiers

LCMS

Qualifier	Qualifier Description
R4	MS/MSD RPD exceeded the method control limit. Recovery met acceptance criteria.

Glossary

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

Job ID: 550-181268-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative
550-181268-1

Comments
No additional comments.

Receipt
The sample was received on 3/23/2022 11:00 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.6º C.

LCMS
Method 6850: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 320-575928 and 320-575928 and analytical batch 320-576168 was outside control limits. Sample non-homogeneity is suspected.

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

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

Sample Summary

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-181268-1	PF-2-400-20220322	Ground Water	03/22/22 12:11	03/23/22 11:00

Detection Summary

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Client Sample ID: PF-2-400-20220322

Lab Sample ID: 550-181268-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perchlorate	0.59	R4	0.50		ug/L	1		6850	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Client Sample ID: PF-2-400-20220322
Date Collected: 03/22/22 12:11
Date Received: 03/23/22 11:00

Lab Sample ID: 550-181268-1
Matrix: Ground Water

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	0.59	R4	0.50		ug/L		03/26/22 07:29	03/28/22 14:56	1

Method: 6850 - Perchlorate by LC/MS or LC/MS/MS

Lab Sample ID: MB 320-575928/1-A
Matrix: Water
Analysis Batch: 576168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 575928

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.50		ug/L		03/26/22 07:29	03/28/22 13:30	1

Lab Sample ID: LCS 320-575928/2-A
Matrix: Water
Analysis Batch: 576168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 575928

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			5.00	5.03		ug/L		101	80 - 120		

Lab Sample ID: 550-181268-1 MS
Matrix: Ground Water
Analysis Batch: 576168

Client Sample ID: PF-2-400-20220322
Prep Type: Total/NA
Prep Batch: 575928

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	0.59	R4	5.00	6.11		ug/L		110	80 - 120		

Lab Sample ID: 550-181268-1 MSD
Matrix: Ground Water
Analysis Batch: 576168

Client Sample ID: PF-2-400-20220322
Prep Type: Total/NA
Prep Batch: 575928

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	0.59	R4	5.00	5.12	R4	ug/L		91	80 - 120	18	15

QC Association Summary

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

LCMS

Prep Batch: 575928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-181268-1	PF-2-400-20220322	Total/NA	Ground Water	Filtration	
MB 320-575928/1-A	Method Blank	Total/NA	Water	Filtration	
LCS 320-575928/2-A	Lab Control Sample	Total/NA	Water	Filtration	
550-181268-1 MS	PF-2-400-20220322	Total/NA	Ground Water	Filtration	
550-181268-1 MSD	PF-2-400-20220322	Total/NA	Ground Water	Filtration	

Analysis Batch: 576168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-181268-1	PF-2-400-20220322	Total/NA	Ground Water	6850	575928
MB 320-575928/1-A	Method Blank	Total/NA	Water	6850	575928
LCS 320-575928/2-A	Lab Control Sample	Total/NA	Water	6850	575928
550-181268-1 MS	PF-2-400-20220322	Total/NA	Ground Water	6850	575928
550-181268-1 MSD	PF-2-400-20220322	Total/NA	Ground Water	6850	575928

Lab Chronicle

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Client Sample ID: PF-2-400-20220322

Date Collected: 03/22/22 12:11
Date Received: 03/23/22 11:00

Lab Sample ID: 550-181268-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	Filtration			575928	03/26/22 07:29	EFG	TAL SAC
Total/NA	Analysis	6850		1	576168	03/28/22 14:56	D1R	TAL SAC

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Pace Analytical Services, LLC
Job ID: 550-181268-1
Project/Site: L1474173-01

Laboratory: Eurofins Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-22
Arkansas DEQ	State	88-0691	06-17-22
California	State	2897	01-31-23
Colorado	State	CA0004	08-31-22
Florida	NELAP	E87570	06-30-22
Georgia	State	4040	01-30-23
Hawaii	State	<cert No.>	01-29-23
Illinois	NELAP	200060	03-18-22 *
Louisiana	NELAP	01944	06-30-22
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22 *
Nevada	State	CA00044	08-31-22
New Hampshire	NELAP	2997	04-18-22
New Jersey	NELAP	CA005	06-30-22
New York	NELAP	11666	04-01-22
Ohio	State	41252	01-29-23
Oregon	NELAP	4040	01-29-23
Texas	NELAP	T104704399-19-13	05-31-22
US Fish & Wildlife	US Federal Programs	58448	07-31-22
USDA	US Federal Programs	P330-18-00239	01-23-23
Utah	NELAP	CA000442021-12	03-01-22 *
Virginia	NELAP	460278	03-14-23
Washington	State	C581	05-05-22
West Virginia (DW)	State	9930C	12-31-22
Wisconsin	State	998204680	08-31-22
Wyoming	State Program	8TMS-L	01-28-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Pace Analytical Services, LLC
Project/Site: L1474173-01

Job ID: 550-181268-1

Method	Method Description	Protocol	Laboratory
6850	Perchlorate by LC/MS or LC/MS/MS	EPA	TAL SAC
Filtration	Sample Filtration	None	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

None = None

Laboratory References:

TAL SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

AG
~~181626~~

181268

Sub-Contract Chain of Custody

Batch Date/Time: 03/23/22 12:38
Sub-Contract Lab: TAWSCA
Address: 880 Riverside Parkway
City/State: West Sacramento, CA 95605
Contact: Cesar.Cortes@Eurofinset.com
Owner Lab: PACEMTJL
Address: 12065 Lebanon Rd.
City/State: Mt. Juliet, TN 37122
Phone: (615) 773-9756
Fax: (615) 758-5859

WO: WG1837037
Email: MTJLSuboutTeam@pacelabs.com
Results Due Date: 03/30/22
ESC Purchase Order #: L1474173
Send Reports to: James C Huckaba

Pace Analytical®

12065 Lebanon Rd.
Mt. Juliet, TN 37122
Phone (615) 773-9756
Fax (615) 758-5859

Sample ID Container ID	Matrix	State	Collect Date	Description	Sample Number Lab Use Only	Sample Comments Lab Use Only
PF-2-400-20220322	GW	AZ	03/22/22 12:11	Perchlorate by 6850	2. L1474173-01	

Relinquished by: _____ Date 3/23/2022

Recieved by: _____ Date 3-23-22

Relinquished by: _____ Date _____

Recieved by: _____ Date _____

550-181268 Chain of Custody

0.6°C
CD6-ice

Eurofins Phoenix
4625 East Cotton Center Boulevard Suite #189
Phoenix, AZ 85040
Phone: 602-437-3340

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Petrunia, Emily A	Carrier Tracking No(s):	COC No: 550-33500.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: emily.petrunia@eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: Eurofins Environment Testing Northern Ca		Accreditations Required (See note): State - Arizona		Job #: 550-181268-1
Address: 880 Riverside Parkway, ,	**Due Date Requested:** 4/5/2022	**Analysis Requested**		**Preservation Codes:**
City: West Sacramento	**TAT Requested (days):**			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Pace Analytical Services	Project #: 55017457			
Site:	SSOW#:			Other:

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6850/Filtration_14D Perchlorate Only	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
PF-2-400-2022032 (550-181268-1)	3/22/22	12:11 Arizona		Water			X	1	

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

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 3-23-22 15:00	Company: EETSW	Received by: Fedex	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [signature]	Date/Time: 3/24/22 910	Company: ETS LSAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes (circled) Δ No	Custody Seal No.: 1360259		Cooler Temperature(s) °C and Other Remarks: 2.2c		

Ver: 06/08/2021

eurofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

550-181268 Field Sheet

Job: ______

Tracking # : 524046224247

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other______

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-09 Corr. Factor: (+ / -) —°C

Ice / Wet / Gel ______ Other ______

Cooler Custody Seal: 1360239

Cooler ID: ______

Temp Observed: 2.2 Corrected: 2.2°C

From: Temp Blank ☒ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
Frozen samples show signs of thaw?	☐	☐	☒

Initials: LB Date: 3/24/22

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☐	☒
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: LB Date: 3/24/22

Notes: ______

Trizma Lot #(s): ______

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☒	☐	☐
Samples received within hold time?	☒	☐	☐
NCM Filed?	☐	☐	☒
Log Release checked in TALS?	☐	☐	☒

Initials: LB Date: 3/24/22

\\TACORP\CORP\QA\QA_FACILITIES\SACRAMENTO-QA\DOCUMENT-MANAGEMENT\FORMS\QA-812 SAMPLE RECEIVING NOTES.DOC QA-812 MBB 11/06/2020

W 17C

Login Sample Receipt Checklist

Client: Pace Analytical Services, LLC

Job Number: 550-181268-1

Login Number: 181268
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

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

Login Sample Receipt Checklist

Client: Pace Analytical Services, LLC

Job Number: 550-181268-1

Login Number: 181268
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 03/24/22 04:01 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1360259
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.2c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ANALYTICAL REPORT

April 04, 2022

Pinyon Environmental

Sample Delivery Group:	L1474972
Samples Received:	03/24/2022
Project Number:	722152201
Description:	Nammo TTU Groundwater Monitoring

Report To: Christopher Funk
4815 E. Carefree Highway
#108-274
Cave Creek, AZ 85331

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

TTU-EX-5-80-20220321 L1474972-01 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 13:05 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	1	03/30/22 21:46	03/30/22 21:46	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 11:43	03/28/22 11:43	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 16:11	03/26/22 16:11	BMB	Mt. Juliet, TN

TTU-EX-4-77-20220321 L1474972-02 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 13:57 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5000	03/31/22 12:55	03/31/22 12:55	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 12:04	03/28/22 12:04	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839557	25	03/28/22 22:56	03/28/22 22:56	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 16:31	03/26/22 16:31	BMB	Mt. Juliet, TN

TTU-EX-3-76-20220321 L1474972-03 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 14:30 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5000	03/31/22 13:23	03/31/22 13:23	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 12:26	03/28/22 12:26	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839557	100	03/28/22 23:16	03/28/22 23:16	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1840384	10	04/02/22 14:44	04/02/22 14:44	BMB	Mt. Juliet, TN

TTU-EX-2-75-20220321 L1474972-04 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 15:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	1000	03/31/22 13:52	03/31/22 13:52	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 12:47	03/28/22 12:47	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839557	10	03/28/22 23:36	03/28/22 23:36	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 17:10	03/26/22 17:10	BMB	Mt. Juliet, TN

TTU-EX-1-69-20220321 L1474972-05 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 15:33 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5000	03/31/22 14:20	03/31/22 14:20	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 13:09	03/28/22 13:09	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 17:30	03/26/22 17:30	BMB	Mt. Juliet, TN

TTU-17-80-20220321 L1474972-06 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 16:05 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	1	03/31/22 01:04	03/31/22 01:04	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 13:30	03/28/22 13:30	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 17:50	03/26/22 17:50	BMB	Mt. Juliet, TN

TTU-15-75-20220321 L1474972-07 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 16:35 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	100	03/31/22 14:48	03/31/22 14:48	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	5	03/28/22 18:09	03/28/22 18:09	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838706	1	03/26/22 18:10	03/26/22 18:10	BMB	Mt. Juliet, TN

TTU-16-80-20220321 L1474972-08 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 17:10 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	50000	03/31/22 15:17	03/31/22 15:17	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	50	03/28/22 18:31	03/28/22 18:31	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	1000	03/30/22 20:07	03/30/22 20:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1840384	200	04/02/22 15:04	04/02/22 15:04	BMB	Mt. Juliet, TN

TTU-5-110-20220321 L1474972-09 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 17:50 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5	03/31/22 15:45	03/31/22 15:45	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 13:52	03/28/22 13:52	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1840384	1	04/02/22 15:24	04/02/22 15:24	BMB	Mt. Juliet, TN

TTU-9A-61-20220322 L1474972-10 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 08:37 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 03:27	03/31/22 03:27	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 14:13	03/28/22 14:13	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1840384	1	04/02/22 15:43	04/02/22 15:43	BMB	Mt. Juliet, TN

TTU-13-51-20220322 L1474972-11 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 09:07 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	500	03/31/22 18:14	03/31/22 18:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 14:35	03/28/22 14:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 17:35	03/27/22 17:35	JHH	Mt. Juliet, TN

TTU-14-64-20220322 L1474972-12 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 10:15 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5000	03/31/22 16:14	03/31/22 16:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 14:56	03/28/22 14:56	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	10	03/30/22 20:26	03/30/22 20:26	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 17:54	03/27/22 17:54	JHH	Mt. Juliet, TN

TTU-12-82-20220322 L1474972-13 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 10:55 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5000	03/31/22 18:43	03/31/22 18:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 15:18	03/28/22 15:18	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	10	03/30/22 20:45	03/30/22 20:45	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 18:14	03/27/22 18:14	JHH	Mt. Juliet, TN

TTU-10-147-20220322 L1474972-14 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 12:49 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 07:14	03/31/22 07:14	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 15:39	03/28/22 15:39	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	1	03/30/22 16:54	03/30/22 16:54	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 18:34	03/27/22 18:34	JHH	Mt. Juliet, TN

TTU-4-57-20220322 L1474972-15 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 13:27 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 07:42	03/31/22 07:42	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 16:01	03/28/22 16:01	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	1	03/30/22 17:13	03/30/22 17:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 18:53	03/27/22 18:53	JHH	Mt. Juliet, TN

TTU-8-164-20220322 L1474972-16 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 14:04 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 08:11	03/31/22 08:11	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 16:22	03/28/22 16:22	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	1	03/30/22 17:33	03/30/22 17:33	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 19:13	03/27/22 19:13	JHH	Mt. Juliet, TN

TTU-7-345-20220322 L1474972-17 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 14:35 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 09:36	03/31/22 09:36	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 16:43	03/28/22 16:43	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840599	1	03/30/22 17:52	03/30/22 17:52	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 19:33	03/27/22 19:33	JHH	Mt. Juliet, TN

TTU-6-143-20220322 L1474972-18 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 15:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1841457	1	03/31/22 10:04	03/31/22 10:04	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 17:05	03/28/22 17:05	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 19:53	03/27/22 19:53	JHH	Mt. Juliet, TN

TTU-3-108-20220322 L1474972-19 GW

Collected by: Christopher Funk | Collected date/time: 03/22/22 15:28 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	5	03/31/22 20:08	03/31/22 20:08	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 17:26	03/28/22 17:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 20:13	03/27/22 20:13	JHH	Mt. Juliet, TN

DUP-01 L1474972-20 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 00:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839233	1	03/31/22 11:01	03/31/22 11:01	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839284	1	03/28/22 17:48	03/28/22 17:48	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 20:33	03/27/22 20:33	JHH	Mt. Juliet, TN

DUP-02 L1474972-21 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 00:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839234	5000	03/29/22 18:00	03/29/22 18:00	KEG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839702	1	03/28/22 23:06	03/28/22 23:06	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840141	50	03/29/22 16:35	03/29/22 16:35	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 20:52	03/27/22 20:52	JHH	Mt. Juliet, TN

DUP-03 L1474972-22 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 00:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839857	1	03/29/22 18:29	03/29/22 18:29	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839702	1	03/28/22 23:25	03/28/22 23:25	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1840141	1	03/29/22 15:37	03/29/22 15:37	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1838707	1	03/27/22 21:12	03/27/22 21:12	JHH	Mt. Juliet, TN

TRIP BLANK L1474972-23 GW

Collected by: Christopher Funk | Collected date/time: 03/21/22 00:00 | Received date/time: 03/24/22 08:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1839702	1	03/28/22 21:31	03/28/22 21:31	JHH	Mt. Juliet, TN

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

Sample Delivery Group (SDG) Narrative

Insufficient sample volume to perform MS/MSD analyses per method QC requirements.

Lab Sample ID	Project Sample ID	Method
L1474972-01	TTU-EX-5-80-20220321	8260B-SIM
L1474972-02	TTU-EX-4-77-20220321	8260B, 8260B-SIM
L1474972-03	TTU-EX-3-76-20220321	8260B, 8260B-SIM
L1474972-04	TTU-EX-2-75-20220321	8260B, 8260B-SIM
L1474972-05	TTU-EX-1-69-20220321	8260B-SIM
L1474972-06	TTU-17-80-20220321	8260B-SIM
L1474972-07	TTU-15-75-20220321	8260B-SIM
L1474972-08	TTU-16-80-20220321	8260B-SIM
L1474972-09	TTU-5-110-20220321	8260B-SIM
L1474972-10	TTU-9A-61-20220322	8260B-SIM
L1474972-21	DUP-02	8260B
L1474972-22	DUP-03	8260B

Wet Chemistry by Method 314.0 Mod

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Perchlorate	9.17		0.300	4.00	1	03/30/2022 21:46	WG1839233

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	03/28/2022 11:43	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 11:43	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 11:43	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 11:43	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 11:43	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 11:43	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 11:43	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 11:43	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 11:43	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 11:43	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 11:43	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 11:43	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 11:43	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 11:43	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 11:43	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 11:43	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 11:43	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 11:43	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 11:43	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 11:43	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 11:43	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 11:43	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 11:43	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 11:43	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 11:43	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 11:43	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 11:43	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 11:43	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 11:43	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 11:43	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 11:43	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 11:43	WG1839284
cis-1,2-Dichloroethene	0.143	E4	0.126	1.00	1	03/28/2022 11:43	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 11:43	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 11:43	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 11:43	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 11:43	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 11:43	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 11:43	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 11:43	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 11:43	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 11:43	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 11:43	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 11:43	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 11:43	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 11:43	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 11:43	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 11:43	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 11:43	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 11:43	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 11:43	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 11:43	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 11:43	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 11:43	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 11:43	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 11:43	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 11:43	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 11:43	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 11:43	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 11:43	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 11:43	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 11:43	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 11:43	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 11:43	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 11:43	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 11:43	WG1839284
Trichloroethene	5.74		0.190	1.00	1	03/28/2022 11:43	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 11:43	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 11:43	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 11:43	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 11:43	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 11:43	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 11:43	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 11:43	WG1839284
(S) Toluene-d8	*98.3*			*80.0-120*		*03/28/2022 11:43*	WG1839284
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*03/28/2022 11:43*	WG1839284
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*03/28/2022 11:43*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/26/2022 16:11	WG1838706
(S) Toluene-d8	*98.5*			*77.0-127*		*03/26/2022 16:11*	WG1838706

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	86100		1500	20000	5000	03/31/2022 12:55	WG1839233

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	03/28/2022 12:04	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 12:04	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 12:04	WG1839284
Benzene	1.34		0.0941	1.00	1	03/28/2022 12:04	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 12:04	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 12:04	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 12:04	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 12:04	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 12:04	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 12:04	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 12:04	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 12:04	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 12:04	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 12:04	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 12:04	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 12:04	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 12:04	WG1839284
Chloroform	1.77	E4	0.111	5.00	1	03/28/2022 12:04	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 12:04	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 12:04	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 12:04	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 12:04	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 12:04	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 12:04	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 12:04	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 12:04	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 12:04	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 12:04	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 12:04	WG1839284
1,1-Dichloroethane	1.85		0.100	1.00	1	03/28/2022 12:04	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 12:04	WG1839284
1,1-Dichloroethene	158		0.188	1.00	1	03/28/2022 12:04	WG1839284
cis-1,2-Dichloroethene	4.23		0.126	1.00	1	03/28/2022 12:04	WG1839284
trans-1,2-Dichloroethene	0.528	E4	0.149	1.00	1	03/28/2022 12:04	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 12:04	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 12:04	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 12:04	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 12:04	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 12:04	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 12:04	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 12:04	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 12:04	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 12:04	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 12:04	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 12:04	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 12:04	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 12:04	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 12:04	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 12:04	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 12:04	WG1839284

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	03/28/2022 12:04	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 12:04	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 12:04	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 12:04	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 12:04	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 12:04	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 12:04	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 12:04	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 12:04	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 12:04	WG1839284
Tetrachloroethene	1.73		0.300	1.00	1	03/28/2022 12:04	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 12:04	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 12:04	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 12:04	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 12:04	WG1839284
1,1,2-Trichloroethane	0.831	E4	0.158	1.00	1	03/28/2022 12:04	WG1839284
Trichloroethene	909		4.75	25.0	25	03/28/2022 22:56	WG1839557
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 12:04	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 12:04	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 12:04	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:04	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:04	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 12:04	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 12:04	WG1839284
(S) Toluene-d8	*100*			*80.0-120*		*03/28/2022 12:04*	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 22:56*	WG1839557
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*03/28/2022 12:04*	WG1839284
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/28/2022 22:56*	WG1839557
(S) 1,2-Dichloroethane-d4	*98.4*			*70.0-130*		*03/28/2022 12:04*	WG1839284
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*03/28/2022 22:56*	WG1839557

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	23.9		0.597	3.00	1	03/26/2022 16:31	WG1838706
(S) Toluene-d8	*100*			*77.0-127*		*03/26/2022 16:31*	WG1838706

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	359000		1500	20000	5000	03/31/2022 13:23	WG1839233

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	03/28/2022 12:26	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 12:26	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 12:26	WG1839284
Benzene	13.1		0.0941	1.00	1	03/28/2022 12:26	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 12:26	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 12:26	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 12:26	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 12:26	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 12:26	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 12:26	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 12:26	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 12:26	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 12:26	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 12:26	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 12:26	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 12:26	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 12:26	WG1839284
Chloroform	11.3		0.111	5.00	1	03/28/2022 12:26	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 12:26	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 12:26	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 12:26	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 12:26	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 12:26	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 12:26	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 12:26	WG1839284
1,2-Dichlorobenzene	0.348	E4	0.107	1.00	1	03/28/2022 12:26	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 12:26	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 12:26	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 12:26	WG1839284
1,1-Dichloroethane	9.39		0.100	1.00	1	03/28/2022 12:26	WG1839284
1,2-Dichloroethane	1.93		0.0819	1.00	1	03/28/2022 12:26	WG1839284
1,1-Dichloroethene	663		18.8	100	100	03/28/2022 23:16	WG1839557
cis-1,2-Dichloroethene	5.23		0.126	1.00	1	03/28/2022 12:26	WG1839284
trans-1,2-Dichloroethene	1.70		0.149	1.00	1	03/28/2022 12:26	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 12:26	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 12:26	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 12:26	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 12:26	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 12:26	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 12:26	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 12:26	WG1839284
Di-isopropyl ether	0.155	E4	0.105	1.00	1	03/28/2022 12:26	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 12:26	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 12:26	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 12:26	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 12:26	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 12:26	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 12:26	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 12:26	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 12:26	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	0.770	E4	0.430	5.00	1	03/28/2022 12:26	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 12:26	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 12:26	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 12:26	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 12:26	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 12:26	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 12:26	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 12:26	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 12:26	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 12:26	WG1839284
Tetrachloroethene	10.1		0.300	1.00	1	03/28/2022 12:26	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 12:26	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 12:26	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 12:26	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 12:26	WG1839284
1,1,2-Trichloroethane	10.7		0.158	1.00	1	03/28/2022 12:26	WG1839284
Trichloroethene	6560		19.0	100	100	03/28/2022 23:16	WG1839557
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 12:26	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 12:26	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 12:26	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:26	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:26	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 12:26	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 12:26	WG1839284
(S) Toluene-d8	*100*			*80.0-120*		*03/28/2022 12:26*	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 23:16*	WG1839557
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*03/28/2022 12:26*	WG1839284
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*03/28/2022 23:16*	WG1839557
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*03/28/2022 12:26*	WG1839284
(S) 1,2-Dichloroethane-d4	*105*			*70.0-130*		*03/28/2022 23:16*	WG1839557

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	885		5.97	30.0	10	04/02/2022 14:44	WG1840384
(S) Toluene-d8	*102*			*77.0-127*		*04/02/2022 14:44*	WG1840384

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	58900		300	4000	1000	03/31/2022 13:52	WG1839233

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	03/28/2022 12:47	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 12:47	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 12:47	WG1839284
Benzene	0.569	E4	0.0941	1.00	1	03/28/2022 12:47	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 12:47	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 12:47	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 12:47	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 12:47	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 12:47	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 12:47	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 12:47	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 12:47	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 12:47	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 12:47	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 12:47	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 12:47	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 12:47	WG1839284
Chloroform	0.820	E4	0.111	5.00	1	03/28/2022 12:47	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 12:47	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 12:47	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 12:47	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 12:47	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 12:47	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 12:47	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 12:47	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 12:47	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 12:47	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 12:47	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 12:47	WG1839284
1,1-Dichloroethane	0.428	E4	0.100	1.00	1	03/28/2022 12:47	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 12:47	WG1839284
1,1-Dichloroethene	74.3		0.188	1.00	1	03/28/2022 12:47	WG1839284
cis-1,2-Dichloroethene	0.330	E4	0.126	1.00	1	03/28/2022 12:47	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 12:47	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 12:47	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 12:47	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 12:47	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 12:47	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 12:47	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 12:47	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 12:47	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 12:47	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 12:47	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 12:47	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 12:47	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 12:47	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 12:47	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 12:47	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 12:47	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 12:47	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 12:47	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 12:47	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 12:47	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 12:47	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 12:47	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 12:47	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 12:47	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 12:47	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 12:47	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 12:47	WG1839284
Tetrachloroethene	0.961	E4	0.300	1.00	1	03/28/2022 12:47	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 12:47	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 12:47	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 12:47	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 12:47	WG1839284
1,1,2-Trichloroethane	0.849	E4	0.158	1.00	1	03/28/2022 12:47	WG1839284
Trichloroethene	234		1.90	10.0	10	03/28/2022 23:36	WG1839557
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 12:47	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 12:47	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 12:47	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:47	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 12:47	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 12:47	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 12:47	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 12:47*	WG1839284
(S) Toluene-d8	*103*			*80.0-120*		*03/28/2022 23:36*	WG1839557
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/28/2022 12:47*	WG1839284
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/28/2022 23:36*	WG1839557
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*03/28/2022 12:47*	WG1839284
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*03/28/2022 23:36*	WG1839557

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	213		0.597	3.00	1	03/26/2022 17:10	WG1838706
(S) Toluene-d8	*99.3*			*77.0-127*		*03/26/2022 17:10*	WG1838706

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	153000		1500	20000	5000	03/31/2022 14:20	WG1839233

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	03/28/2022 13:09	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 13:09	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 13:09	WG1839284
Benzene	0.170	E4	0.0941	1.00	1	03/28/2022 13:09	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 13:09	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 13:09	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 13:09	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 13:09	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 13:09	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 13:09	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 13:09	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 13:09	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 13:09	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 13:09	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 13:09	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 13:09	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 13:09	WG1839284
Chloroform	0.905	E4	0.111	5.00	1	03/28/2022 13:09	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 13:09	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 13:09	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 13:09	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 13:09	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 13:09	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 13:09	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 13:09	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 13:09	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 13:09	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 13:09	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 13:09	WG1839284
1,1-Dichloroethane	0.566	E4	0.100	1.00	1	03/28/2022 13:09	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 13:09	WG1839284
1,1-Dichloroethene	100		0.188	1.00	1	03/28/2022 13:09	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 13:09	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 13:09	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 13:09	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 13:09	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 13:09	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 13:09	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 13:09	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 13:09	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 13:09	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 13:09	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 13:09	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 13:09	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 13:09	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 13:09	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 13:09	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 13:09	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 13:09	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 13:09	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 13:09	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 13:09	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 13:09	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 13:09	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 13:09	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 13:09	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 13:09	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 13:09	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 13:09	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 13:09	WG1839284
Tetrachloroethene	0.810	E4	0.300	1.00	1	03/28/2022 13:09	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 13:09	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 13:09	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 13:09	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 13:09	WG1839284
1,1,2-Trichloroethane	0.715	E4	0.158	1.00	1	03/28/2022 13:09	WG1839284
Trichloroethene	181		0.190	1.00	1	03/28/2022 13:09	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 13:09	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 13:09	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 13:09	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:09	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:09	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 13:09	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 13:09	WG1839284
(S) Toluene-d8	*113*			*80.0-120*		*03/28/2022 13:09*	WG1839284
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*03/28/2022 13:09*	WG1839284
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*03/28/2022 13:09*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	244		0.597	3.00	1	03/26/2022 17:30	WG1838706
(S) Toluene-d8	*98.3*			*77.0-127*		*03/26/2022 17:30*	WG1838706

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	24.1		0.300	4.00	1	03/31/2022 01:04	WG1839233

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	03/28/2022 13:30	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 13:30	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 13:30	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 13:30	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 13:30	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 13:30	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 13:30	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 13:30	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 13:30	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 13:30	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 13:30	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 13:30	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 13:30	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 13:30	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 13:30	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 13:30	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 13:30	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 13:30	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 13:30	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 13:30	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 13:30	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 13:30	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 13:30	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 13:30	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 13:30	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 13:30	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 13:30	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 13:30	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 13:30	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 13:30	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 13:30	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 13:30	WG1839284
cis-1,2-Dichloroethene	1.22		0.126	1.00	1	03/28/2022 13:30	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 13:30	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 13:30	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 13:30	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 13:30	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 13:30	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 13:30	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 13:30	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 13:30	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 13:30	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 13:30	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 13:30	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 13:30	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 13:30	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 13:30	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 13:30	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 13:30	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 13:30	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 13:30	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 13:30	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 13:30	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 13:30	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 13:30	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 13:30	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 13:30	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 13:30	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 13:30	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 13:30	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 13:30	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 13:30	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 13:30	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 13:30	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 13:30	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 13:30	WG1839284
Trichloroethene	3.51		0.190	1.00	1	03/28/2022 13:30	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 13:30	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 13:30	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 13:30	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:30	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:30	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 13:30	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 13:30	WG1839284
(S) Toluene-d8	*109*			*80.0-120*		*03/28/2022 13:30*	WG1839284
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/28/2022 13:30*	WG1839284
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*03/28/2022 13:30*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	4.75		0.597	3.00	1	03/26/2022 17:50	WG1838706
(S) Toluene-d8	*98.6*			*77.0-127*		*03/26/2022 17:50*	WG1838706

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	4230		30.0	400	100	03/31/2022 14:48	WG1839233

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		56.5	250	5	03/28/2022 18:09	WG1839284
Acrolein	U		12.7	250	5	03/28/2022 18:09	WG1839284
Acrylonitrile	U		3.36	50.0	5	03/28/2022 18:09	WG1839284
Benzene	U		0.471	5.00	5	03/28/2022 18:09	WG1839284
Bromobenzene	U		0.590	5.00	5	03/28/2022 18:09	WG1839284
Bromodichloromethane	U		0.680	5.00	5	03/28/2022 18:09	WG1839284
Bromoform	U		0.645	5.00	5	03/28/2022 18:09	WG1839284
Bromomethane	U		3.03	25.0	5	03/28/2022 18:09	WG1839284
1,3-Butadiene	U	R7	1.49	10.0	5	03/28/2022 18:09	WG1839284
n-Butylbenzene	U		0.785	5.00	5	03/28/2022 18:09	WG1839284
sec-Butylbenzene	U		0.625	5.00	5	03/28/2022 18:09	WG1839284
tert-Butylbenzene	U		0.635	5.00	5	03/28/2022 18:09	WG1839284
Carbon tetrachloride	U		0.640	5.00	5	03/28/2022 18:09	WG1839284
Carbon disulfide	U		0.481	5.00	5	03/28/2022 18:09	WG1839284
Chlorobenzene	U		0.580	5.00	5	03/28/2022 18:09	WG1839284
Chlorodibromomethane	U		0.700	5.00	5	03/28/2022 18:09	WG1839284
Chloroethane	U		0.960	25.0	5	03/28/2022 18:09	WG1839284
Chloroform	U		0.555	25.0	5	03/28/2022 18:09	WG1839284
Chloromethane	U		4.80	12.5	5	03/28/2022 18:09	WG1839284
Cyclohexane	U		0.940	5.00	5	03/28/2022 18:09	WG1839284
2-Chlorotoluene	U		0.530	5.00	5	03/28/2022 18:09	WG1839284
4-Chlorotoluene	U		0.570	5.00	5	03/28/2022 18:09	WG1839284
1,2-Dibromo-3-Chloropropane	U		1.38	25.0	5	03/28/2022 18:09	WG1839284
1,2-Dibromoethane	U		0.630	5.00	5	03/28/2022 18:09	WG1839284
Dibromomethane	U		0.610	5.00	5	03/28/2022 18:09	WG1839284
1,2-Dichlorobenzene	U		0.535	5.00	5	03/28/2022 18:09	WG1839284
1,3-Dichlorobenzene	U		0.550	5.00	5	03/28/2022 18:09	WG1839284
1,4-Dichlorobenzene	U		0.600	5.00	5	03/28/2022 18:09	WG1839284
Dichlorodifluoromethane	U		1.87	25.0	5	03/28/2022 18:09	WG1839284
1,1-Dichloroethane	U		0.500	5.00	5	03/28/2022 18:09	WG1839284
1,2-Dichloroethane	U		0.409	5.00	5	03/28/2022 18:09	WG1839284
1,1-Dichloroethene	U		0.940	5.00	5	03/28/2022 18:09	WG1839284
cis-1,2-Dichloroethene	1.63	E4	0.630	5.00	5	03/28/2022 18:09	WG1839284
trans-1,2-Dichloroethene	U		0.745	5.00	5	03/28/2022 18:09	WG1839284
1,2-Dichloropropane	U		0.745	5.00	5	03/28/2022 18:09	WG1839284
1,1-Dichloropropene	U		0.710	5.00	5	03/28/2022 18:09	WG1839284
1,3-Dichloropropane	U		0.550	5.00	5	03/28/2022 18:09	WG1839284
cis-1,3-Dichloropropene	U		0.555	5.00	5	03/28/2022 18:09	WG1839284
trans-1,3-Dichloropropene	U		0.590	5.00	5	03/28/2022 18:09	WG1839284
2,2-Dichloropropane	U		0.805	5.00	5	03/28/2022 18:09	WG1839284
Dicyclopentadiene	U		1.27	5.00	5	03/28/2022 18:09	WG1839284
Di-isopropyl ether	U		0.525	5.00	5	03/28/2022 18:09	WG1839284
Ethylbenzene	U		0.685	5.00	5	03/28/2022 18:09	WG1839284
4-Ethyltoluene	U		1.04	5.00	5	03/28/2022 18:09	WG1839284
Hexachloro-1,3-butadiene	U		1.69	5.00	5	03/28/2022 18:09	WG1839284
n-Hexane	U		3.74	50.0	5	03/28/2022 18:09	WG1839284
Isopropylbenzene	U		0.525	5.00	5	03/28/2022 18:09	WG1839284
p-Isopropyltoluene	U		0.600	5.00	5	03/28/2022 18:09	WG1839284
2-Butanone (MEK)	U		5.95	50.0	5	03/28/2022 18:09	WG1839284
Methyl Cyclohexane	U		3.30	5.00	5	03/28/2022 18:09	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		2.15	25.0	5	03/28/2022 18:09	WG1839284
4-Methyl-2-pentanone (MIBK)	U		2.39	50.0	5	03/28/2022 18:09	WG1839284
Methyl tert-butyl ether	U		0.505	5.00	5	03/28/2022 18:09	WG1839284
Naphthalene	U		5.00	25.0	5	03/28/2022 18:09	WG1839284
Propene	U		4.68	12.5	5	03/28/2022 18:09	WG1839284
n-Propylbenzene	U		0.497	5.00	5	03/28/2022 18:09	WG1839284
Styrene	U		0.590	5.00	5	03/28/2022 18:09	WG1839284
1,1,1,2-Tetrachloroethane	U		0.735	5.00	5	03/28/2022 18:09	WG1839284
1,1,2,2-Tetrachloroethane	U		0.665	5.00	5	03/28/2022 18:09	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.900	5.00	5	03/28/2022 18:09	WG1839284
Tetrachloroethene	U		1.50	5.00	5	03/28/2022 18:09	WG1839284
Toluene	U		1.39	5.00	5	03/28/2022 18:09	WG1839284
1,2,3-Trichlorobenzene	U		1.15	5.00	5	03/28/2022 18:09	WG1839284
1,2,4-Trichlorobenzene	U		2.41	5.00	5	03/28/2022 18:09	WG1839284
1,1,1-Trichloroethane	U		0.745	5.00	5	03/28/2022 18:09	WG1839284
1,1,2-Trichloroethane	U		0.790	5.00	5	03/28/2022 18:09	WG1839284
Trichloroethene	7.89		0.950	5.00	5	03/28/2022 18:09	WG1839284
Trichlorofluoromethane	U		0.800	25.0	5	03/28/2022 18:09	WG1839284
1,2,3-Trichloropropane	U		1.19	12.5	5	03/28/2022 18:09	WG1839284
1,2,4-Trimethylbenzene	U		1.61	5.00	5	03/28/2022 18:09	WG1839284
1,2,3-Trimethylbenzene	U		0.520	5.00	5	03/28/2022 18:09	WG1839284
1,3,5-Trimethylbenzene	U		0.520	5.00	5	03/28/2022 18:09	WG1839284
Vinyl chloride	U		1.17	5.00	5	03/28/2022 18:09	WG1839284
Xylenes, Total	U		0.870	15.0	5	03/28/2022 18:09	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 18:09*	WG1839284
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/28/2022 18:09*	WG1839284
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*03/28/2022 18:09*	WG1839284

Sample Narrative:

L1474972-07 WG1839284: Lowest possible dilution due to sample foaming.

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	6.93		0.597	3.00	1	03/26/2022 18:10	WG1838706
(S) Toluene-d8	*98.4*			*77.0-127*		*03/26/2022 18:10*	WG1838706

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	768000		15000	200000	50000	03/31/2022 15:17	WG1839233

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	03/28/2022 18:31	WG1839284
Acrolein	U		127	2500	50	03/28/2022 18:31	WG1839284
Acrylonitrile	U		33.6	500	50	03/28/2022 18:31	WG1839284
Benzene	403		4.71	50.0	50	03/28/2022 18:31	WG1839284
Bromobenzene	U		5.90	50.0	50	03/28/2022 18:31	WG1839284
Bromodichloromethane	U		6.80	50.0	50	03/28/2022 18:31	WG1839284
Bromoform	U		6.45	50.0	50	03/28/2022 18:31	WG1839284
Bromomethane	U		30.3	250	50	03/28/2022 18:31	WG1839284
1,3-Butadiene	U	R7	14.9	100	50	03/28/2022 18:31	WG1839284
n-Butylbenzene	U		7.85	50.0	50	03/28/2022 18:31	WG1839284
sec-Butylbenzene	U		6.25	50.0	50	03/28/2022 18:31	WG1839284
tert-Butylbenzene	U		6.35	50.0	50	03/28/2022 18:31	WG1839284
Carbon tetrachloride	U		6.40	50.0	50	03/28/2022 18:31	WG1839284
Carbon disulfide	U		4.81	50.0	50	03/28/2022 18:31	WG1839284
Chlorobenzene	U		5.80	50.0	50	03/28/2022 18:31	WG1839284
Chlorodibromomethane	U		7.00	50.0	50	03/28/2022 18:31	WG1839284
Chloroethane	U		9.60	250	50	03/28/2022 18:31	WG1839284
Chloroform	117	E4	5.55	250	50	03/28/2022 18:31	WG1839284
Chloromethane	U		48.0	125	50	03/28/2022 18:31	WG1839284
Cyclohexane	U		9.40	50.0	50	03/28/2022 18:31	WG1839284
2-Chlorotoluene	U		5.30	50.0	50	03/28/2022 18:31	WG1839284
4-Chlorotoluene	U		5.70	50.0	50	03/28/2022 18:31	WG1839284
1,2-Dibromo-3-Chloropropane	U		13.8	250	50	03/28/2022 18:31	WG1839284
1,2-Dibromoethane	U		6.30	50.0	50	03/28/2022 18:31	WG1839284
Dibromomethane	U		6.10	50.0	50	03/28/2022 18:31	WG1839284
1,2-Dichlorobenzene	U		5.35	50.0	50	03/28/2022 18:31	WG1839284
1,3-Dichlorobenzene	U		5.50	50.0	50	03/28/2022 18:31	WG1839284
1,4-Dichlorobenzene	U		6.00	50.0	50	03/28/2022 18:31	WG1839284
Dichlorodifluoromethane	U		18.7	250	50	03/28/2022 18:31	WG1839284
1,1-Dichloroethane	74.7		5.00	50.0	50	03/28/2022 18:31	WG1839284
1,2-Dichloroethane	U		4.09	50.0	50	03/28/2022 18:31	WG1839284
1,1-Dichloroethene	5770		9.40	50.0	50	03/28/2022 18:31	WG1839284
cis-1,2-Dichloroethene	14.1	E4	6.30	50.0	50	03/28/2022 18:31	WG1839284
trans-1,2-Dichloroethene	10.1	E4	7.45	50.0	50	03/28/2022 18:31	WG1839284
1,2-Dichloropropane	U		7.45	50.0	50	03/28/2022 18:31	WG1839284
1,1-Dichloropropene	U		7.10	50.0	50	03/28/2022 18:31	WG1839284
1,3-Dichloropropane	U		5.50	50.0	50	03/28/2022 18:31	WG1839284
cis-1,3-Dichloropropene	U		5.55	50.0	50	03/28/2022 18:31	WG1839284
trans-1,3-Dichloropropene	U		5.90	50.0	50	03/28/2022 18:31	WG1839284
2,2-Dichloropropane	U		8.05	50.0	50	03/28/2022 18:31	WG1839284
Dicyclopentadiene	U		12.7	50.0	50	03/28/2022 18:31	WG1839284
Di-isopropyl ether	U		5.25	50.0	50	03/28/2022 18:31	WG1839284
Ethylbenzene	U		6.85	50.0	50	03/28/2022 18:31	WG1839284
4-Ethyltoluene	U		10.4	50.0	50	03/28/2022 18:31	WG1839284
Hexachloro-1,3-butadiene	U		16.9	50.0	50	03/28/2022 18:31	WG1839284
n-Hexane	U		37.4	500	50	03/28/2022 18:31	WG1839284
Isopropylbenzene	U		5.25	50.0	50	03/28/2022 18:31	WG1839284
p-Isopropyltoluene	U		6.00	50.0	50	03/28/2022 18:31	WG1839284
2-Butanone (MEK)	U		59.5	500	50	03/28/2022 18:31	WG1839284
Methyl Cyclohexane	U		33.0	50.0	50	03/28/2022 18:31	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	139000		430	5000	1000	03/30/2022 20:07	WG1840599
4-Methyl-2-pentanone (MIBK)	U		23.9	500	50	03/28/2022 18:31	WG1839284
Methyl tert-butyl ether	U		5.05	50.0	50	03/28/2022 18:31	WG1839284
Naphthalene	U		50.0	250	50	03/28/2022 18:31	WG1839284
Propene	U		46.8	125	50	03/28/2022 18:31	WG1839284
n-Propylbenzene	U		4.97	50.0	50	03/28/2022 18:31	WG1839284
Styrene	U		5.90	50.0	50	03/28/2022 18:31	WG1839284
1,1,1,2-Tetrachloroethane	U		7.35	50.0	50	03/28/2022 18:31	WG1839284
1,1,2,2-Tetrachloroethane	U		6.65	50.0	50	03/28/2022 18:31	WG1839284
1,1,2-Trichlorotrifluoroethane	U		9.00	50.0	50	03/28/2022 18:31	WG1839284
Tetrachloroethene	87.6		15.0	50.0	50	03/28/2022 18:31	WG1839284
Toluene	155		13.9	50.0	50	03/28/2022 18:31	WG1839284
1,2,3-Trichlorobenzene	U		11.5	50.0	50	03/28/2022 18:31	WG1839284
1,2,4-Trichlorobenzene	U		24.1	50.0	50	03/28/2022 18:31	WG1839284
1,1,1-Trichloroethane	U		7.45	50.0	50	03/28/2022 18:31	WG1839284
1,1,2-Trichloroethane	73.7		7.90	50.0	50	03/28/2022 18:31	WG1839284
Trichloroethene	103000		190	1000	1000	03/30/2022 20:07	WG1840599
Trichlorofluoromethane	U		8.00	250	50	03/28/2022 18:31	WG1839284
1,2,3-Trichloropropane	U		11.9	125	50	03/28/2022 18:31	WG1839284
1,2,4-Trimethylbenzene	U		16.1	50.0	50	03/28/2022 18:31	WG1839284
1,2,3-Trimethylbenzene	U		5.20	50.0	50	03/28/2022 18:31	WG1839284
1,3,5-Trimethylbenzene	U		5.20	50.0	50	03/28/2022 18:31	WG1839284
Vinyl chloride	U		11.7	50.0	50	03/28/2022 18:31	WG1839284
Xylenes, Total	101	E4	8.70	150	50	03/28/2022 18:31	WG1839284
(S) Toluene-d8	*106*			*80.0-120*		*03/28/2022 18:31*	WG1839284
(S) Toluene-d8	*120*			*80.0-120*		*03/30/2022 20:07*	WG1840599
(S) 4-Bromofluorobenzene	*96.1*			*77.0-126*		*03/28/2022 18:31*	WG1839284
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*03/30/2022 20:07*	WG1840599
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*03/28/2022 18:31*	WG1839284
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*03/30/2022 20:07*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	5430		119	600	200	04/02/2022 15:04	WG1840384
(S) Toluene-d8	*102*			*77.0-127*		*04/02/2022 15:04*	WG1840384

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	272		1.50	20.0	5	03/31/2022 15:45	WG1839233

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	03/28/2022 13:52	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 13:52	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 13:52	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 13:52	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 13:52	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 13:52	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 13:52	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 13:52	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 13:52	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 13:52	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 13:52	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 13:52	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 13:52	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 13:52	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 13:52	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 13:52	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 13:52	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 13:52	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 13:52	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 13:52	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 13:52	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 13:52	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 13:52	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 13:52	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 13:52	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 13:52	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 13:52	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 13:52	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 13:52	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 13:52	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 13:52	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 13:52	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 13:52	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 13:52	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 13:52	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 13:52	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 13:52	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 13:52	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 13:52	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 13:52	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 13:52	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 13:52	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 13:52	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 13:52	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 13:52	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 13:52	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 13:52	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 13:52	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 13:52	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 13:52	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 13:52	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 13:52	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 13:52	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 13:52	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 13:52	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 13:52	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 13:52	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 13:52	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 13:52	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 13:52	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 13:52	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 13:52	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 13:52	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 13:52	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 13:52	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 13:52	WG1839284
Trichloroethene	0.640	E4	0.190	1.00	1	03/28/2022 13:52	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 13:52	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 13:52	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 13:52	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:52	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 13:52	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 13:52	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 13:52	WG1839284
(S) Toluene-d8	*107*			*80.0-120*		*03/28/2022 13:52*	WG1839284
(S) 4-Bromofluorobenzene	*93.0*			*77.0-126*		*03/28/2022 13:52*	WG1839284
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*03/28/2022 13:52*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	04/02/2022 15:24	WG1840384
(S) Toluene-d8	*101*			*77.0-127*		*04/02/2022 15:24*	WG1840384

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	12.9	M2	0.300	4.00	1	03/31/2022 03:27	WG1841457

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	03/28/2022 14:13	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 14:13	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 14:13	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 14:13	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 14:13	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 14:13	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 14:13	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 14:13	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 14:13	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 14:13	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 14:13	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 14:13	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 14:13	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 14:13	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 14:13	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 14:13	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 14:13	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 14:13	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 14:13	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 14:13	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 14:13	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 14:13	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 14:13	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 14:13	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 14:13	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 14:13	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 14:13	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 14:13	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 14:13	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 14:13	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 14:13	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 14:13	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 14:13	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 14:13	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 14:13	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 14:13	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 14:13	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 14:13	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 14:13	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 14:13	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 14:13	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 14:13	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 14:13	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 14:13	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 14:13	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 14:13	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 14:13	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 14:13	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 14:13	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 14:13	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 14:13	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 14:13	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 14:13	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 14:13	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 14:13	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 14:13	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 14:13	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 14:13	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 14:13	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 14:13	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 14:13	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 14:13	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 14:13	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 14:13	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 14:13	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 14:13	WG1839284
Trichloroethene	0.944	E4	0.190	1.00	1	03/28/2022 14:13	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 14:13	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 14:13	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 14:13	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:13	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:13	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 14:13	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 14:13	WG1839284
(S) Toluene-d8	*103*			*80.0-120*		*03/28/2022 14:13*	WG1839284
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*03/28/2022 14:13*	WG1839284
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*03/28/2022 14:13*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	04/02/2022 15:43	WG1840384
(S) Toluene-d8	*101*			*77.0-127*		*04/02/2022 15:43*	WG1840384

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	14900		150	2000	500	03/31/2022 18:14	WG1839233

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	03/28/2022 14:35	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 14:35	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 14:35	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 14:35	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 14:35	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 14:35	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 14:35	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 14:35	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 14:35	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 14:35	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 14:35	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 14:35	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 14:35	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 14:35	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 14:35	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 14:35	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 14:35	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 14:35	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 14:35	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 14:35	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 14:35	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 14:35	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 14:35	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 14:35	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 14:35	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 14:35	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 14:35	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 14:35	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 14:35	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 14:35	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 14:35	WG1839284
1,1-Dichloroethene	2.12		0.188	1.00	1	03/28/2022 14:35	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 14:35	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 14:35	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 14:35	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 14:35	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 14:35	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 14:35	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 14:35	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 14:35	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 14:35	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 14:35	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 14:35	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 14:35	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 14:35	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 14:35	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 14:35	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 14:35	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 14:35	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 14:35	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 14:35	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 14:35	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 14:35	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 14:35	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 14:35	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 14:35	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 14:35	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 14:35	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 14:35	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 14:35	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 14:35	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 14:35	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 14:35	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 14:35	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 14:35	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 14:35	WG1839284
Trichloroethene	5.76		0.190	1.00	1	03/28/2022 14:35	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 14:35	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 14:35	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 14:35	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:35	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:35	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 14:35	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 14:35	WG1839284
(S) Toluene-d8	*102*			*80.0-120*		*03/28/2022 14:35*	WG1839284
(S) 4-Bromofluorobenzene	*97.9*			*77.0-126*		*03/28/2022 14:35*	WG1839284
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*03/28/2022 14:35*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	9.96		0.597	3.00	1	03/27/2022 17:35	WG1838707
(S) Toluene-d8	*98.3*			*77.0-127*		*03/27/2022 17:35*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	124000		1500	20000	5000	03/31/2022 16:14	WG1839233

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	03/28/2022 14:56	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 14:56	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 14:56	WG1839284
Benzene	1.86		0.0941	1.00	1	03/28/2022 14:56	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 14:56	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 14:56	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 14:56	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 14:56	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 14:56	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 14:56	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 14:56	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 14:56	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 14:56	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 14:56	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 14:56	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 14:56	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 14:56	WG1839284
Chloroform	1.96	E4	0.111	5.00	1	03/28/2022 14:56	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 14:56	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 14:56	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 14:56	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 14:56	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 14:56	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 14:56	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 14:56	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 14:56	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 14:56	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 14:56	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 14:56	WG1839284
1,1-Dichloroethane	1.34		0.100	1.00	1	03/28/2022 14:56	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 14:56	WG1839284
1,1-Dichloroethene	133		0.188	1.00	1	03/28/2022 14:56	WG1839284
cis-1,2-Dichloroethene	2.10		0.126	1.00	1	03/28/2022 14:56	WG1839284
trans-1,2-Dichloroethene	0.275	E4	0.149	1.00	1	03/28/2022 14:56	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 14:56	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 14:56	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 14:56	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 14:56	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 14:56	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 14:56	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 14:56	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 14:56	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 14:56	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 14:56	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 14:56	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 14:56	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 14:56	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 14:56	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 14:56	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 14:56	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 14:56	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 14:56	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 14:56	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 14:56	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 14:56	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 14:56	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 14:56	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 14:56	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 14:56	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 14:56	WG1839284
Tetrachloroethene	1.69		0.300	1.00	1	03/28/2022 14:56	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 14:56	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 14:56	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 14:56	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 14:56	WG1839284
1,1,2-Trichloroethane	2.19		0.158	1.00	1	03/28/2022 14:56	WG1839284
Trichloroethene	908		1.90	10.0	10	03/30/2022 20:26	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 14:56	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 14:56	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 14:56	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:56	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 14:56	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 14:56	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 14:56	WG1839284
(S) Toluene-d8	*108*			*80.0-120*		*03/28/2022 14:56*	WG1839284
(S) Toluene-d8	*119*			*80.0-120*		*03/30/2022 20:26*	WG1840599
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/28/2022 14:56*	WG1839284
(S) 4-Bromofluorobenzene	*96.3*			*77.0-126*		*03/30/2022 20:26*	WG1840599
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*03/28/2022 14:56*	WG1839284
(S) 1,2-Dichloroethane-d4	*95.4*			*70.0-130*		*03/30/2022 20:26*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	339		0.597	3.00	1	03/27/2022 17:54	WG1838707
(S) Toluene-d8	*99.8*			*77.0-127*		*03/27/2022 17:54*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	120000	M3	1500	20000	5000	03/31/2022 18:43	WG1839233

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	03/28/2022 15:18	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 15:18	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 15:18	WG1839284
Benzene	0.862	E4	0.0941	1.00	1	03/28/2022 15:18	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 15:18	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 15:18	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 15:18	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 15:18	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 15:18	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 15:18	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 15:18	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 15:18	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 15:18	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 15:18	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 15:18	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 15:18	WG1839284
Chloroethane	U	M1	0.192	5.00	1	03/28/2022 15:18	WG1839284
Chloroform	1.69	E4	0.111	5.00	1	03/28/2022 15:18	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 15:18	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 15:18	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 15:18	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 15:18	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 15:18	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 15:18	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 15:18	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 15:18	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 15:18	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 15:18	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 15:18	WG1839284
1,1-Dichloroethane	0.840	E4	0.100	1.00	1	03/28/2022 15:18	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 15:18	WG1839284
1,1-Dichloroethene	83.6	M3	0.188	1.00	1	03/28/2022 15:18	WG1839284
cis-1,2-Dichloroethene	1.11		0.126	1.00	1	03/28/2022 15:18	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 15:18	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 15:18	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 15:18	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 15:18	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 15:18	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 15:18	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 15:18	WG1839284
Dicyclopentadiene	U	M2 R5	0.253	1.00	1	03/28/2022 15:18	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 15:18	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 15:18	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 15:18	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 15:18	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 15:18	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 15:18	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 15:18	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 15:18	WG1839284
Methyl Cyclohexane	U	M1	0.660	1.00	1	03/28/2022 15:18	WG1839284

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	M1 R5	0.430	5.00	1	03/28/2022 15:18	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 15:18	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 15:18	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 15:18	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 15:18	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 15:18	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 15:18	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 15:18	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 15:18	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 15:18	WG1839284
Tetrachloroethene	1.10		0.300	1.00	1	03/28/2022 15:18	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 15:18	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 15:18	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 15:18	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 15:18	WG1839284
1,1,2-Trichloroethane	1.64		0.158	1.00	1	03/28/2022 15:18	WG1839284
Trichloroethene	538		1.90	10.0	10	03/30/2022 20:45	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 15:18	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 15:18	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 15:18	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 15:18	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 15:18	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 15:18	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 15:18	WG1839284
(S) Toluene-d8	*101*			*80.0-120*		*03/28/2022 15:18*	WG1839284
(S) Toluene-d8	*118*			*80.0-120*		*03/30/2022 20:45*	WG1840599
(S) 4-Bromofluorobenzene	*99.3*			*77.0-126*		*03/28/2022 15:18*	WG1839284
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*03/30/2022 20:45*	WG1840599
(S) 1,2-Dichloroethane-d4	*99.5*			*70.0-130*		*03/28/2022 15:18*	WG1839284
(S) 1,2-Dichloroethane-d4	*99.3*			*70.0-130*		*03/30/2022 20:45*	WG1840599

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	149		0.597	3.00	1	03/27/2022 18:14	WG1838707
(S) Toluene-d8	*99.5*			*77.0-127*		*03/27/2022 18:14*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	31.8	M1	0.300	4.00	1	03/31/2022 07:14	WG1841457

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	03/28/2022 15:39	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 15:39	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 15:39	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 15:39	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 15:39	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 15:39	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 15:39	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 15:39	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 15:39	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 15:39	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 15:39	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 15:39	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 15:39	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 15:39	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 15:39	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 15:39	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 15:39	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 15:39	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 15:39	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 15:39	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 15:39	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 15:39	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 15:39	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 15:39	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 15:39	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 15:39	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 15:39	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 15:39	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 15:39	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 15:39	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 15:39	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 15:39	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 15:39	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 15:39	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 15:39	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 15:39	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 15:39	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 15:39	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 15:39	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 15:39	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 15:39	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 15:39	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 15:39	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 15:39	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 15:39	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 15:39	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 15:39	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 15:39	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 15:39	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 15:39	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 15:39	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 15:39	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 15:39	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 15:39	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 15:39	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 15:39	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 15:39	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 15:39	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 15:39	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 15:39	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 15:39	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 15:39	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 15:39	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 15:39	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 15:39	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 15:39	WG1839284
Trichloroethene	U		0.190	1.00	1	03/30/2022 16:54	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 15:39	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 15:39	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 15:39	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 15:39	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 15:39	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 15:39	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 15:39	WG1839284
(S) Toluene-d8	*106*			*80.0-120*		*03/28/2022 15:39*	WG1839284
(S) Toluene-d8	*118*			*80.0-120*		*03/30/2022 16:54*	WG1840599
(S) 4-Bromofluorobenzene	*98.8*			*77.0-126*		*03/28/2022 15:39*	WG1839284
(S) 4-Bromofluorobenzene	*100*			*77.0-126*		*03/30/2022 16:54*	WG1840599
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*03/28/2022 15:39*	WG1839284
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*03/30/2022 16:54*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	1.58	E4	0.597	3.00	1	03/27/2022 18:34	WG1838707
(S) Toluene-d8	*98.6*			*77.0-127*		*03/27/2022 18:34*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	4.14	M2	0.300	4.00	1	03/31/2022 07:42	WG1841457

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	03/28/2022 16:01	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 16:01	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 16:01	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 16:01	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 16:01	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 16:01	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 16:01	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 16:01	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 16:01	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 16:01	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 16:01	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 16:01	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 16:01	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 16:01	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 16:01	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 16:01	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 16:01	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 16:01	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 16:01	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 16:01	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 16:01	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 16:01	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 16:01	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 16:01	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 16:01	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 16:01	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 16:01	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 16:01	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 16:01	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 16:01	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 16:01	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 16:01	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 16:01	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 16:01	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 16:01	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 16:01	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 16:01	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 16:01	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 16:01	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 16:01	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 16:01	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 16:01	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 16:01	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 16:01	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 16:01	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 16:01	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 16:01	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 16:01	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 16:01	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 16:01	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 16:01	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 16:01	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 16:01	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 16:01	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 16:01	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 16:01	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 16:01	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 16:01	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 16:01	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 16:01	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 16:01	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 16:01	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 16:01	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 16:01	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 16:01	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 16:01	WG1839284
Trichloroethene	U		0.190	1.00	1	03/30/2022 17:13	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 16:01	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 16:01	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 16:01	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:01	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:01	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 16:01	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 16:01	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 16:01*	WG1839284
(S) Toluene-d8	*116*			*80.0-120*		*03/30/2022 17:13*	WG1840599
(S) 4-Bromofluorobenzene	*96.6*			*77.0-126*		*03/28/2022 16:01*	WG1839284
(S) 4-Bromofluorobenzene	*99.1*			*77.0-126*		*03/30/2022 17:13*	WG1840599
(S) 1,2-Dichloroethane-d4	*98.2*			*70.0-130*		*03/28/2022 16:01*	WG1839284
(S) 1,2-Dichloroethane-d4	*98.6*			*70.0-130*		*03/30/2022 17:13*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 18:53	WG1838707
(S) Toluene-d8	*98.6*			*77.0-127*		*03/27/2022 18:53*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Perchlorate	0.981	E4	0.300	4.00	1	03/31/2022 08:11	WG1841457

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	03/28/2022 16:22	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 16:22	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 16:22	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 16:22	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 16:22	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 16:22	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 16:22	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 16:22	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 16:22	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 16:22	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 16:22	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 16:22	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 16:22	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 16:22	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 16:22	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 16:22	WG1839284
Chloroethane	U	M1	0.192	5.00	1	03/28/2022 16:22	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 16:22	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 16:22	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 16:22	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 16:22	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 16:22	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 16:22	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 16:22	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 16:22	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 16:22	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 16:22	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 16:22	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 16:22	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 16:22	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 16:22	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 16:22	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 16:22	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 16:22	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 16:22	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 16:22	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 16:22	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 16:22	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 16:22	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 16:22	WG1839284
Dicyclopentadiene	U	M1	0.253	1.00	1	03/28/2022 16:22	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 16:22	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 16:22	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 16:22	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 16:22	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 16:22	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 16:22	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 16:22	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 16:22	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 16:22	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 16:22	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 16:22	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 16:22	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 16:22	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 16:22	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 16:22	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 16:22	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 16:22	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 16:22	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 16:22	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 16:22	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 16:22	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 16:22	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 16:22	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 16:22	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 16:22	WG1839284
Trichloroethene	U		0.190	1.00	1	03/30/2022 17:33	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 16:22	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 16:22	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 16:22	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:22	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:22	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 16:22	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 16:22	WG1839284
(S) Toluene-d8	*112*			*80.0-120*		*03/28/2022 16:22*	WG1839284
(S) Toluene-d8	*117*			*80.0-120*		*03/30/2022 17:33*	WG1840599
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*03/28/2022 16:22*	WG1839284
(S) 4-Bromofluorobenzene	*99.7*			*77.0-126*		*03/30/2022 17:33*	WG1840599
(S) 1,2-Dichloroethane-d4	*94.1*			*70.0-130*		*03/28/2022 16:22*	WG1839284
(S) 1,2-Dichloroethane-d4	*98.6*			*70.0-130*		*03/30/2022 17:33*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 19:13	WG1838707
(S) Toluene-d8	*98.2*			*77.0-127*		*03/27/2022 19:13*	WG1838707

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	2.36	E4	0.300	4.00	1	03/31/2022 09:36	WG1841457

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	03/28/2022 16:43	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 16:43	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 16:43	WG1839284
Benzene	0.120	E4	0.0941	1.00	1	03/28/2022 16:43	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 16:43	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 16:43	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 16:43	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 16:43	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 16:43	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 16:43	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 16:43	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 16:43	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 16:43	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 16:43	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 16:43	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 16:43	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 16:43	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 16:43	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 16:43	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 16:43	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 16:43	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 16:43	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 16:43	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 16:43	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 16:43	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 16:43	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 16:43	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 16:43	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 16:43	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 16:43	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 16:43	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 16:43	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 16:43	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 16:43	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 16:43	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 16:43	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 16:43	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 16:43	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 16:43	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 16:43	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 16:43	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 16:43	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 16:43	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 16:43	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 16:43	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 16:43	WG1839284
Isopropylbenzene	0.160	E4	0.105	1.00	1	03/28/2022 16:43	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 16:43	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 16:43	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 16:43	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 16:43	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 16:43	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 16:43	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 16:43	WG1839284
Propene	2.76		0.936	2.50	1	03/28/2022 16:43	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 16:43	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 16:43	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 16:43	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 16:43	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 16:43	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 16:43	WG1839284
Toluene	1.10		0.278	1.00	1	03/28/2022 16:43	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 16:43	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 16:43	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 16:43	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 16:43	WG1839284
Trichloroethene	U		0.190	1.00	1	03/30/2022 17:52	WG1840599
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 16:43	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 16:43	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 16:43	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:43	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 16:43	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 16:43	WG1839284
Xylenes, Total	0.246	E4	0.174	3.00	1	03/28/2022 16:43	WG1839284
(S) Toluene-d8	*103*			*80.0-120*		*03/28/2022 16:43*	WG1839284
(S) Toluene-d8	*117*			*80.0-120*		*03/30/2022 17:52*	WG1840599
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*		*03/28/2022 16:43*	WG1839284
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*03/30/2022 17:52*	WG1840599
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*03/28/2022 16:43*	WG1839284
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*03/30/2022 17:52*	WG1840599

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 19:33	WG1838707
(S) Toluene-d8	*98.3*			*77.0-127*		*03/27/2022 19:33*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	11.1		0.300	4.00	1	03/31/2022 10:04	WG1841457

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	03/28/2022 17:05	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 17:05	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 17:05	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 17:05	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 17:05	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 17:05	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 17:05	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 17:05	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 17:05	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 17:05	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 17:05	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 17:05	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 17:05	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 17:05	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 17:05	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 17:05	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 17:05	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 17:05	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 17:05	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 17:05	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 17:05	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 17:05	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 17:05	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 17:05	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 17:05	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 17:05	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 17:05	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 17:05	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 17:05	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 17:05	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 17:05	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 17:05	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 17:05	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 17:05	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 17:05	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 17:05	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 17:05	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 17:05	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 17:05	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 17:05	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 17:05	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 17:05	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 17:05	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 17:05	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 17:05	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 17:05	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 17:05	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 17:05	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 17:05	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 17:05	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 17:05	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 17:05	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 17:05	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 17:05	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 17:05	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 17:05	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 17:05	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 17:05	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 17:05	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 17:05	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 17:05	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 17:05	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 17:05	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 17:05	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 17:05	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 17:05	WG1839284
Trichloroethene	U		0.190	1.00	1	03/28/2022 17:05	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 17:05	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 17:05	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 17:05	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:05	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:05	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 17:05	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 17:05	WG1839284
(S) Toluene-d8	*104*			*80.0-120*		*03/28/2022 17:05*	WG1839284
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*		*03/28/2022 17:05*	WG1839284
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*03/28/2022 17:05*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 19:53	WG1838707
(S) Toluene-d8	*98.4*			*77.0-127*		*03/27/2022 19:53*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	339		1.50	20.0	5	03/31/2022 20:08	WG1839233

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	03/28/2022 17:26	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 17:26	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 17:26	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 17:26	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 17:26	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 17:26	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 17:26	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 17:26	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 17:26	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 17:26	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 17:26	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 17:26	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 17:26	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 17:26	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 17:26	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 17:26	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 17:26	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 17:26	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 17:26	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 17:26	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 17:26	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 17:26	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 17:26	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 17:26	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 17:26	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 17:26	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 17:26	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 17:26	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 17:26	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 17:26	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 17:26	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 17:26	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 17:26	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 17:26	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 17:26	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 17:26	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 17:26	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 17:26	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 17:26	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 17:26	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 17:26	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 17:26	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 17:26	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 17:26	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 17:26	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 17:26	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 17:26	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 17:26	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 17:26	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 17:26	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 17:26	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 17:26	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 17:26	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 17:26	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 17:26	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 17:26	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 17:26	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 17:26	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 17:26	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 17:26	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 17:26	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 17:26	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 17:26	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 17:26	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 17:26	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 17:26	WG1839284
Trichloroethene	0.454	E4	0.190	1.00	1	03/28/2022 17:26	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 17:26	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 17:26	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 17:26	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:26	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:26	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 17:26	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 17:26	WG1839284
(S) Toluene-d8	*105*			*80.0-120*		*03/28/2022 17:26*	WG1839284
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*03/28/2022 17:26*	WG1839284
(S) 1,2-Dichloroethane-d4	*99.1*			*70.0-130*		*03/28/2022 17:26*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 20:13	WG1838707
(S) Toluene-d8	*98.5*			*77.0-127*		*03/27/2022 20:13*	WG1838707

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	U		0.300	4.00	1	03/31/2022 11:01	WG1839233

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	03/28/2022 17:48	WG1839284
Acrolein	U		2.54	50.0	1	03/28/2022 17:48	WG1839284
Acrylonitrile	U		0.671	10.0	1	03/28/2022 17:48	WG1839284
Benzene	U		0.0941	1.00	1	03/28/2022 17:48	WG1839284
Bromobenzene	U		0.118	1.00	1	03/28/2022 17:48	WG1839284
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 17:48	WG1839284
Bromoform	U		0.129	1.00	1	03/28/2022 17:48	WG1839284
Bromomethane	U		0.605	5.00	1	03/28/2022 17:48	WG1839284
1,3-Butadiene	U	R7	0.299	2.00	1	03/28/2022 17:48	WG1839284
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 17:48	WG1839284
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 17:48	WG1839284
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 17:48	WG1839284
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 17:48	WG1839284
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 17:48	WG1839284
Chlorobenzene	U		0.116	1.00	1	03/28/2022 17:48	WG1839284
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 17:48	WG1839284
Chloroethane	U		0.192	5.00	1	03/28/2022 17:48	WG1839284
Chloroform	U		0.111	5.00	1	03/28/2022 17:48	WG1839284
Chloromethane	U		0.960	2.50	1	03/28/2022 17:48	WG1839284
Cyclohexane	U		0.188	1.00	1	03/28/2022 17:48	WG1839284
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 17:48	WG1839284
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 17:48	WG1839284
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 17:48	WG1839284
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 17:48	WG1839284
Dibromomethane	U		0.122	1.00	1	03/28/2022 17:48	WG1839284
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 17:48	WG1839284
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 17:48	WG1839284
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 17:48	WG1839284
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 17:48	WG1839284
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 17:48	WG1839284
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 17:48	WG1839284
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 17:48	WG1839284
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 17:48	WG1839284
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 17:48	WG1839284
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 17:48	WG1839284
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 17:48	WG1839284
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 17:48	WG1839284
cis-1,3-Dichloropropene	U		0.111	1.00	1	03/28/2022 17:48	WG1839284
trans-1,3-Dichloropropene	U		0.118	1.00	1	03/28/2022 17:48	WG1839284
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 17:48	WG1839284
Dicyclopentadiene	U		0.253	1.00	1	03/28/2022 17:48	WG1839284
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 17:48	WG1839284
Ethylbenzene	U		0.137	1.00	1	03/28/2022 17:48	WG1839284
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 17:48	WG1839284
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 17:48	WG1839284
n-Hexane	U		0.749	10.0	1	03/28/2022 17:48	WG1839284
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 17:48	WG1839284
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 17:48	WG1839284
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 17:48	WG1839284
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 17:48	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 17:48	WG1839284
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 17:48	WG1839284
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 17:48	WG1839284
Naphthalene	U		1.00	5.00	1	03/28/2022 17:48	WG1839284
Propene	U		0.936	2.50	1	03/28/2022 17:48	WG1839284
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 17:48	WG1839284
Styrene	U		0.118	1.00	1	03/28/2022 17:48	WG1839284
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 17:48	WG1839284
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 17:48	WG1839284
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 17:48	WG1839284
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 17:48	WG1839284
Toluene	U		0.278	1.00	1	03/28/2022 17:48	WG1839284
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 17:48	WG1839284
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 17:48	WG1839284
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 17:48	WG1839284
1,1,2-Trichloroethane	U		0.158	1.00	1	03/28/2022 17:48	WG1839284
Trichloroethene	5.98		0.190	1.00	1	03/28/2022 17:48	WG1839284
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 17:48	WG1839284
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 17:48	WG1839284
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 17:48	WG1839284
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:48	WG1839284
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 17:48	WG1839284
Vinyl chloride	U		0.234	1.00	1	03/28/2022 17:48	WG1839284
Xylenes, Total	U		0.174	3.00	1	03/28/2022 17:48	WG1839284
(S) Toluene-d8	*103*			*80.0-120*		*03/28/2022 17:48*	WG1839284
(S) 4-Bromofluorobenzene	*93.1*			*77.0-126*		*03/28/2022 17:48*	WG1839284
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*		*03/28/2022 17:48*	WG1839284

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	03/27/2022 20:33	WG1838707
(S) Toluene-d8	*98.3*			*77.0-127*		*03/27/2022 20:33*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	178000		1500	20000	5000	03/29/2022 18:00	WG1839234

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	03/28/2022 23:06	WG1839702
Acrolein	U	L2 R7	2.54	50.0	1	03/28/2022 23:06	WG1839702
Acrylonitrile	U		0.671	10.0	1	03/28/2022 23:06	WG1839702
Benzene	1.63		0.0941	1.00	1	03/28/2022 23:06	WG1839702
Bromobenzene	U		0.118	1.00	1	03/28/2022 23:06	WG1839702
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 23:06	WG1839702
Bromoform	U		0.129	1.00	1	03/28/2022 23:06	WG1839702
Bromomethane	U		0.605	5.00	1	03/28/2022 23:06	WG1839702
1,3-Butadiene	U		0.299	2.00	1	03/28/2022 23:06	WG1839702
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 23:06	WG1839702
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 23:06	WG1839702
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 23:06	WG1839702
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 23:06	WG1839702
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 23:06	WG1839702
Chlorobenzene	U		0.116	1.00	1	03/28/2022 23:06	WG1839702
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 23:06	WG1839702
Chloroethane	U		0.192	5.00	1	03/28/2022 23:06	WG1839702
Chloroform	1.79	E4	0.111	5.00	1	03/28/2022 23:06	WG1839702
Chloromethane	U		0.960	2.50	1	03/28/2022 23:06	WG1839702
Cyclohexane	U		0.188	1.00	1	03/28/2022 23:06	WG1839702
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 23:06	WG1839702
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 23:06	WG1839702
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 23:06	WG1839702
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 23:06	WG1839702
Dibromomethane	U		0.122	1.00	1	03/28/2022 23:06	WG1839702
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 23:06	WG1839702
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 23:06	WG1839702
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 23:06	WG1839702
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 23:06	WG1839702
1,1-Dichloroethane	1.00		0.100	1.00	1	03/28/2022 23:06	WG1839702
1,2-Dichloroethane	0.189	E4	0.0819	1.00	1	03/28/2022 23:06	WG1839702
1,1-Dichloroethene	95.8		0.188	1.00	1	03/28/2022 23:06	WG1839702
cis-1,2-Dichloroethene	1.99		0.126	1.00	1	03/28/2022 23:06	WG1839702
trans-1,2-Dichloroethene	0.194	E4	0.149	1.00	1	03/28/2022 23:06	WG1839702
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 23:06	WG1839702
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 23:06	WG1839702
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 23:06	WG1839702
cis-1,3-Dichloropropene	U	L2	0.111	1.00	1	03/28/2022 23:06	WG1839702
trans-1,3-Dichloropropene	U	L2	0.118	1.00	1	03/28/2022 23:06	WG1839702
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 23:06	WG1839702
Dicyclopentadiene	U	L2	0.253	1.00	1	03/28/2022 23:06	WG1839702
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 23:06	WG1839702
Ethylbenzene	U		0.137	1.00	1	03/28/2022 23:06	WG1839702
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 23:06	WG1839702
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 23:06	WG1839702
n-Hexane	U		0.749	10.0	1	03/28/2022 23:06	WG1839702
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 23:06	WG1839702
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 23:06	WG1839702
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 23:06	WG1839702
Methyl Cyclohexane	0.741	E4	0.660	1.00	1	03/28/2022 23:06	WG1839702

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 23:06	WG1839702
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 23:06	WG1839702
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 23:06	WG1839702
Naphthalene	U		1.00	5.00	1	03/28/2022 23:06	WG1839702
Propene	U		0.936	2.50	1	03/28/2022 23:06	WG1839702
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 23:06	WG1839702
Styrene	U		0.118	1.00	1	03/28/2022 23:06	WG1839702
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 23:06	WG1839702
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 23:06	WG1839702
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 23:06	WG1839702
Tetrachloroethene	1.49		0.300	1.00	1	03/28/2022 23:06	WG1839702
Toluene	U		0.278	1.00	1	03/28/2022 23:06	WG1839702
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 23:06	WG1839702
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 23:06	WG1839702
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 23:06	WG1839702
1,1,2-Trichloroethane	1.97	L2	0.158	1.00	1	03/28/2022 23:06	WG1839702
Trichloroethene	879		9.50	50.0	50	03/29/2022 16:35	WG1840141
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 23:06	WG1839702
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 23:06	WG1839702
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 23:06	WG1839702
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 23:06	WG1839702
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 23:06	WG1839702
Vinyl chloride	U		0.234	1.00	1	03/28/2022 23:06	WG1839702
Xylenes, Total	U		0.174	3.00	1	03/28/2022 23:06	WG1839702
(S) Toluene-d8	*108*			*80.0-120*		*03/28/2022 23:06*	WG1839702
(S) Toluene-d8	*114*			*80.0-120*		*03/29/2022 16:35*	WG1840141
(S) 4-Bromofluorobenzene	*97.7*			*77.0-126*		*03/28/2022 23:06*	WG1839702
(S) 4-Bromofluorobenzene	*99.2*			*77.0-126*		*03/29/2022 16:35*	WG1840141
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*03/28/2022 23:06*	WG1839702
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*		*03/29/2022 16:35*	WG1840141

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	321		0.597	3.00	1	03/27/2022 20:52	WG1838707
(S) Toluene-d8	*99.5*			*77.0-127*		*03/27/2022 20:52*	WG1838707

Wet Chemistry by Method 314.0 Mod

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Perchlorate	12.5	M2	0.300	4.00	1	03/29/2022 18:29	WG1839857

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	03/28/2022 23:25	WG1839702
Acrolein	U	L2 R7	2.54	50.0	1	03/28/2022 23:25	WG1839702
Acrylonitrile	U		0.671	10.0	1	03/28/2022 23:25	WG1839702
Benzene	U		0.0941	1.00	1	03/28/2022 23:25	WG1839702
Bromobenzene	U		0.118	1.00	1	03/28/2022 23:25	WG1839702
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 23:25	WG1839702
Bromoform	U		0.129	1.00	1	03/28/2022 23:25	WG1839702
Bromomethane	U		0.605	5.00	1	03/28/2022 23:25	WG1839702
1,3-Butadiene	U		0.299	2.00	1	03/28/2022 23:25	WG1839702
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 23:25	WG1839702
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 23:25	WG1839702
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 23:25	WG1839702
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 23:25	WG1839702
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 23:25	WG1839702
Chlorobenzene	U		0.116	1.00	1	03/28/2022 23:25	WG1839702
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 23:25	WG1839702
Chloroethane	U		0.192	5.00	1	03/28/2022 23:25	WG1839702
Chloroform	U		0.111	5.00	1	03/28/2022 23:25	WG1839702
Chloromethane	U		0.960	2.50	1	03/28/2022 23:25	WG1839702
Cyclohexane	U		0.188	1.00	1	03/28/2022 23:25	WG1839702
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 23:25	WG1839702
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 23:25	WG1839702
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 23:25	WG1839702
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 23:25	WG1839702
Dibromomethane	U		0.122	1.00	1	03/28/2022 23:25	WG1839702
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 23:25	WG1839702
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 23:25	WG1839702
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 23:25	WG1839702
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 23:25	WG1839702
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 23:25	WG1839702
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 23:25	WG1839702
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 23:25	WG1839702
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 23:25	WG1839702
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 23:25	WG1839702
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 23:25	WG1839702
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 23:25	WG1839702
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 23:25	WG1839702
cis-1,3-Dichloropropene	U	L2	0.111	1.00	1	03/28/2022 23:25	WG1839702
trans-1,3-Dichloropropene	U	L2	0.118	1.00	1	03/28/2022 23:25	WG1839702
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 23:25	WG1839702
Dicyclopentadiene	U	L2	0.253	1.00	1	03/28/2022 23:25	WG1839702
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 23:25	WG1839702
Ethylbenzene	U		0.137	1.00	1	03/28/2022 23:25	WG1839702
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 23:25	WG1839702
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 23:25	WG1839702
n-Hexane	U		0.749	10.0	1	03/28/2022 23:25	WG1839702
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 23:25	WG1839702
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 23:25	WG1839702
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 23:25	WG1839702
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 23:25	WG1839702

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	03/28/2022 23:25	WG1839702
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 23:25	WG1839702
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 23:25	WG1839702
Naphthalene	U		1.00	5.00	1	03/28/2022 23:25	WG1839702
Propene	U		0.936	2.50	1	03/28/2022 23:25	WG1839702
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 23:25	WG1839702
Styrene	U		0.118	1.00	1	03/28/2022 23:25	WG1839702
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 23:25	WG1839702
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 23:25	WG1839702
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 23:25	WG1839702
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 23:25	WG1839702
Toluene	U		0.278	1.00	1	03/28/2022 23:25	WG1839702
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 23:25	WG1839702
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 23:25	WG1839702
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 23:25	WG1839702
1,1,2-Trichloroethane	U	L2	0.158	1.00	1	03/28/2022 23:25	WG1839702
Trichloroethene	U		0.190	1.00	1	03/29/2022 15:37	WG1840141
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 23:25	WG1839702
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 23:25	WG1839702
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 23:25	WG1839702
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 23:25	WG1839702
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 23:25	WG1839702
Vinyl chloride	U		0.234	1.00	1	03/28/2022 23:25	WG1839702
Xylenes, Total	U		0.174	3.00	1	03/28/2022 23:25	WG1839702
(S) Toluene-d8	*103*			*80.0-120*		*03/28/2022 23:25*	WG1839702
(S) Toluene-d8	*118*			*80.0-120*		*03/29/2022 15:37*	WG1840141
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*03/28/2022 23:25*	WG1839702
(S) 4-Bromofluorobenzene	*105*			*77.0-126*		*03/29/2022 15:37*	WG1840141
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*		*03/28/2022 23:25*	WG1839702
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*03/29/2022 15:37*	WG1840141

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	2.59	E4	0.597	3.00	1	03/27/2022 21:12	WG1838707
(S) Toluene-d8	*98.0*			*77.0-127*		*03/27/2022 21:12*	WG1838707

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	03/28/2022 21:31	WG1839702
Acrolein	U	L2 R7	2.54	50.0	1	03/28/2022 21:31	WG1839702
Acrylonitrile	U		0.671	10.0	1	03/28/2022 21:31	WG1839702
Benzene	U		0.0941	1.00	1	03/28/2022 21:31	WG1839702
Bromobenzene	U		0.118	1.00	1	03/28/2022 21:31	WG1839702
Bromodichloromethane	U		0.136	1.00	1	03/28/2022 21:31	WG1839702
Bromoform	U		0.129	1.00	1	03/28/2022 21:31	WG1839702
Bromomethane	U		0.605	5.00	1	03/28/2022 21:31	WG1839702
1,3-Butadiene	U		0.299	2.00	1	03/28/2022 21:31	WG1839702
n-Butylbenzene	U		0.157	1.00	1	03/28/2022 21:31	WG1839702
sec-Butylbenzene	U		0.125	1.00	1	03/28/2022 21:31	WG1839702
tert-Butylbenzene	U		0.127	1.00	1	03/28/2022 21:31	WG1839702
Carbon tetrachloride	U		0.128	1.00	1	03/28/2022 21:31	WG1839702
Carbon disulfide	U		0.0962	1.00	1	03/28/2022 21:31	WG1839702
Chlorobenzene	U		0.116	1.00	1	03/28/2022 21:31	WG1839702
Chlorodibromomethane	U		0.140	1.00	1	03/28/2022 21:31	WG1839702
Chloroethane	U		0.192	5.00	1	03/28/2022 21:31	WG1839702
Chloroform	U		0.111	5.00	1	03/28/2022 21:31	WG1839702
Chloromethane	U		0.960	2.50	1	03/28/2022 21:31	WG1839702
Cyclohexane	U		0.188	1.00	1	03/28/2022 21:31	WG1839702
2-Chlorotoluene	U		0.106	1.00	1	03/28/2022 21:31	WG1839702
4-Chlorotoluene	U		0.114	1.00	1	03/28/2022 21:31	WG1839702
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	03/28/2022 21:31	WG1839702
1,2-Dibromoethane	U		0.126	1.00	1	03/28/2022 21:31	WG1839702
Dibromomethane	U		0.122	1.00	1	03/28/2022 21:31	WG1839702
1,2-Dichlorobenzene	U		0.107	1.00	1	03/28/2022 21:31	WG1839702
1,3-Dichlorobenzene	U		0.110	1.00	1	03/28/2022 21:31	WG1839702
1,4-Dichlorobenzene	U		0.120	1.00	1	03/28/2022 21:31	WG1839702
Dichlorodifluoromethane	U		0.374	5.00	1	03/28/2022 21:31	WG1839702
1,1-Dichloroethane	U		0.100	1.00	1	03/28/2022 21:31	WG1839702
1,2-Dichloroethane	U		0.0819	1.00	1	03/28/2022 21:31	WG1839702
1,1-Dichloroethene	U		0.188	1.00	1	03/28/2022 21:31	WG1839702
cis-1,2-Dichloroethene	U		0.126	1.00	1	03/28/2022 21:31	WG1839702
trans-1,2-Dichloroethene	U		0.149	1.00	1	03/28/2022 21:31	WG1839702
1,2-Dichloropropane	U		0.149	1.00	1	03/28/2022 21:31	WG1839702
1,1-Dichloropropene	U		0.142	1.00	1	03/28/2022 21:31	WG1839702
1,3-Dichloropropane	U		0.110	1.00	1	03/28/2022 21:31	WG1839702
cis-1,3-Dichloropropene	U	L2	0.111	1.00	1	03/28/2022 21:31	WG1839702
trans-1,3-Dichloropropene	U	L2	0.118	1.00	1	03/28/2022 21:31	WG1839702
2,2-Dichloropropane	U		0.161	1.00	1	03/28/2022 21:31	WG1839702
Dicyclopentadiene	U	L2	0.253	1.00	1	03/28/2022 21:31	WG1839702
Di-isopropyl ether	U		0.105	1.00	1	03/28/2022 21:31	WG1839702
Ethylbenzene	U		0.137	1.00	1	03/28/2022 21:31	WG1839702
4-Ethyltoluene	U		0.208	1.00	1	03/28/2022 21:31	WG1839702
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/28/2022 21:31	WG1839702
n-Hexane	U		0.749	10.0	1	03/28/2022 21:31	WG1839702
Isopropylbenzene	U		0.105	1.00	1	03/28/2022 21:31	WG1839702
p-Isopropyltoluene	U		0.120	1.00	1	03/28/2022 21:31	WG1839702
2-Butanone (MEK)	U		1.19	10.0	1	03/28/2022 21:31	WG1839702
Methyl Cyclohexane	U		0.660	1.00	1	03/28/2022 21:31	WG1839702
Methylene Chloride	U		0.430	5.00	1	03/28/2022 21:31	WG1839702
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	03/28/2022 21:31	WG1839702
Methyl tert-butyl ether	U		0.101	1.00	1	03/28/2022 21:31	WG1839702
Naphthalene	U		1.00	5.00	1	03/28/2022 21:31	WG1839702
Propene	U		0.936	2.50	1	03/28/2022 21:31	WG1839702
n-Propylbenzene	U		0.0993	1.00	1	03/28/2022 21:31	WG1839702

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.118	1.00	1	03/28/2022 21:31	WG1839702
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	03/28/2022 21:31	WG1839702
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	03/28/2022 21:31	WG1839702
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	03/28/2022 21:31	WG1839702
Tetrachloroethene	U		0.300	1.00	1	03/28/2022 21:31	WG1839702
Toluene	U		0.278	1.00	1	03/28/2022 21:31	WG1839702
1,2,3-Trichlorobenzene	U		0.230	1.00	1	03/28/2022 21:31	WG1839702
1,2,4-Trichlorobenzene	U		0.481	1.00	1	03/28/2022 21:31	WG1839702
1,1,1-Trichloroethane	U		0.149	1.00	1	03/28/2022 21:31	WG1839702
1,1,2-Trichloroethane	U	L2	0.158	1.00	1	03/28/2022 21:31	WG1839702
Trichloroethene	U		0.190	1.00	1	03/28/2022 21:31	WG1839702
Trichlorofluoromethane	U		0.160	5.00	1	03/28/2022 21:31	WG1839702
1,2,3-Trichloropropane	U		0.237	2.50	1	03/28/2022 21:31	WG1839702
1,2,4-Trimethylbenzene	U		0.322	1.00	1	03/28/2022 21:31	WG1839702
1,2,3-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 21:31	WG1839702
1,3,5-Trimethylbenzene	U		0.104	1.00	1	03/28/2022 21:31	WG1839702
Vinyl chloride	U		0.234	1.00	1	03/28/2022 21:31	WG1839702
Xylenes, Total	U		0.174	3.00	1	03/28/2022 21:31	WG1839702
(S) Toluene-d8	*110*			*80.0-120*		*03/28/2022 21:31*	WG1839702
(S) 4-Bromofluorobenzene	*97.8*			*77.0-126*		*03/28/2022 21:31*	WG1839702
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*		*03/28/2022 21:31*	WG1839702

Method Blank (MB)

(MB) R3776422-1 03/30/22 19:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Perchlorate	U		0.300	4.00

L1474972-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1474972-20 03/31/22 11:01 • (DUP) R3776422-6 03/31/22 12:26

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Perchlorate	U	U	1	0.000		15

L1474972-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1474972-09 03/31/22 15:45 • (DUP) R3776422-7 03/31/22 17:44

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Perchlorate	272	270	5	0.620		15

Laboratory Control Sample (LCS)

(LCS) R3776422-2 03/30/22 20:20

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Perchlorate	10.0	9.98	99.8	90.0-110	

L1474972-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-13 03/31/22 18:43 • (MS) R3776422-8 03/31/22 19:11 • (MSD) R3776422-9 03/31/22 19:40

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 %
Perchlorate	10.0	120000	123000	121000	23200	8980	5000	80.0-120	M3	M3	1.17	15

Method Blank (MB)

(MB) R3775741-1 03/29/22 15:38

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Perchlorate	U		0.300	4.00

L1475497-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1475497-09 03/29/22 23:41 • (DUP) R3775741-3 03/30/22 00:10

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Perchlorate	U	0.796	1	200	E4 R8	15

L1475507-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1475507-01 03/30/22 10:35 • (DUP) R3775741-8 03/30/22 11:03

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Perchlorate	113	113	5	0.0735		15

Laboratory Control Sample (LCS)

(LCS) R3775741-2 03/29/22 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Perchlorate	10.0	9.48	94.8	90.0-110	

L1475497-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1475497-10 03/30/22 00:38 • (MS) R3775741-4 03/30/22 01:07 • (MSD) R3775741-5 03/30/22 01:35

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 %
Perchlorate	10.0	U	9.99	10.2	99.9	102	1	80.0-120			1.65	15

Method Blank (MB)

(MB) R3775742-2 03/29/22 17:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Perchlorate	U		0.300	4.00

Laboratory Control Sample (LCS)

(LCS) R3775742-1 03/29/22 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Perchlorate	10.0	9.48	94.8	90.0-110	

L1475497-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L1475497-07 03/29/22 22:45 • (MS) R3775742-4 03/30/22 08:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	54.8	63.4	86.9	1	80.0-120	

L1475497-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1475497-12 03/30/22 03:29 • (MS) R3775742-5 03/30/22 11:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	33.0	28.4	0.000	1	80.0-120	M2

Sample Narrative:

MS: MS re-prepped; no recovery both times.

L1475497-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1475497-13 03/30/22 03:57 • (MS) R3775742-6 03/30/22 12:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	2.37	11.0	85.8	1	80.0-120	

L1475497-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1475497-12 03/30/22 03:29 • (MS) R3775742-9 03/30/22 13:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	33.0	28.2	0.000	1	80.0-120	M2

Sample Narrative:

MS: MS re-prepped; no recovery both times.

L1474972-22 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-22 03/29/22 18:29 • (MS) R3775742-3 03/30/22 07:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	12.5	12.9	3.50	1	80.0-120	M2

L1474972-22 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-22 03/29/22 18:29 • (MS) R3775742-10 03/30/22 15:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	12.5	12.1	0.000	1	80.0-120	M2

Sample Narrative:

MS: MS re-prepped; no recovery both times

L1475497-16 Original Sample (OS) • Matrix Spike (MS)

(OS) L1475497-16 03/30/22 05:22 • (MS) R3775742-11 03/30/22 16:28

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	65.8	64.6	0.000	1	80.0-120	M3

Sample Narrative:

MS: MS re-prepped; no recovery both times

Method Blank (MB)

(MB) R3776425-2 03/30/22 20:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Perchlorate	U		0.300	4.00

Laboratory Control Sample (LCS)

(LCS) R3776425-1 03/30/22 20:20

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Perchlorate	10.0	9.98	99.8	90.0-110	

L1474972-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-16 03/31/22 08:11 • (MS) R3776425-3 03/31/22 08:39 • (MSD) R3776425-4 03/31/22 09:07

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Perchlorate	10.0	0.981	11.2	9.82	103	88.3	1	80.0-120			13.6	15

L1474972-17 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-17 03/31/22 09:36 • (MS) R3776425-8 03/31/22 22:02

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	2.36	12.2	98.5	1	80.0-120	

L1474972-18 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-18 03/31/22 10:04 • (MS) R3776425-9 03/31/22 23:27

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	11.1	21.0	98.4	1	80.0-120	

L1474972-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-10 03/31/22 03:27 • (MS) R3776425-5 03/31/22 20:37

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	12.9	19.9	69.9	1	80.0-120	M2

L1474972-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-14 03/31/22 07:14 • (MS) R3776425-6 03/31/22 21:05

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	31.8	1520	14900	1	80.0-120	E1 M1

L1474972-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1474972-15 03/31/22 07:42 • (MS) R3776425-7 03/31/22 21:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Perchlorate	10.0	4.14	11.5	73.2	1	80.0-120	M2

Method Blank (MB)

(MB) R3774749-3 03/28/22 08:40

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

Method Blank (MB)

(MB) R3774749-3 03/28/22 08:40

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	*99.2*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

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

(LCS) R3774749-1 03/28/22 07:36 • (LCSD) R3774749-2 03/28/22 07:57

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	27.4	25.9	110	104	19.0-160			5.63	27
Acrolein	25.0	26.6	24.3	106	97.2	30.0-160			9.04	26
Acrylonitrile	25.0	24.8	24.8	99.2	99.2	55.0-149			0.000	20
Benzene	5.00	4.58	4.59	91.6	91.8	70.0-123			0.218	20
Bromobenzene	5.00	4.75	4.87	95.0	97.4	73.0-121			2.49	20
Bromodichloromethane	5.00	4.85	4.81	97.0	96.2	75.0-120			0.828	20
Bromoform	5.00	4.80	4.59	96.0	91.8	68.0-132			4.47	20
Bromomethane	5.00	2.31	2.13	46.2	42.6	30.0-160			8.11	25
1,3-Butadiene	5.00	4.97	3.75	99.4	75.0	45.0-147		R7	28.0	20
n-Butylbenzene	5.00	4.88	4.74	97.6	94.8	73.0-125			2.91	20
sec-Butylbenzene	5.00	4.79	4.94	95.8	98.8	75.0-125			3.08	20
tert-Butylbenzene	5.00	4.98	4.89	99.6	97.8	76.0-124			1.82	20
Carbon tetrachloride	5.00	5.53	5.06	111	101	68.0-126			8.88	20
Carbon disulfide	5.00	3.74	3.59	74.8	71.8	61.0-128			4.09	20
Chlorobenzene	5.00	4.67	4.70	93.4	94.0	80.0-121			0.640	20
Chlorodibromomethane	5.00	4.64	4.67	92.8	93.4	77.0-125			0.644	20
Chloroethane	5.00	5.21	5.43	104	109	47.0-150			4.14	20
Chloroform	5.00	5.11	4.81	102	96.2	73.0-120			6.05	20
Chloromethane	5.00	4.27	3.64	85.4	72.8	41.0-142			15.9	20
Cyclohexane	5.00	4.51	4.14	90.2	82.8	71.0-124			8.55	20
2-Chlorotoluene	5.00	4.90	4.71	98.0	94.2	76.0-123			3.95	20
4-Chlorotoluene	5.00	4.87	4.79	97.4	95.8	75.0-122			1.66	20
1,2-Dibromo-3-Chloropropane	5.00	4.90	4.76	98.0	95.2	58.0-134			2.90	20
1,2-Dibromoethane	5.00	4.75	4.56	95.0	91.2	80.0-122			4.08	20
Dibromomethane	5.00	4.63	4.26	92.6	85.2	80.0-120			8.32	20
1,2-Dichlorobenzene	5.00	5.06	5.19	101	104	79.0-121			2.54	20
1,3-Dichlorobenzene	5.00	5.40	5.00	108	100	79.0-120			7.69	20
1,4-Dichlorobenzene	5.00	4.39	4.74	87.8	94.8	79.0-120			7.67	20
Dichlorodifluoromethane	5.00	5.53	4.67	111	93.4	51.0-149			16.9	20
1,1-Dichloroethane	5.00	4.80	4.64	96.0	92.8	70.0-126			3.39	20
1,2-Dichloroethane	5.00	5.09	4.65	102	93.0	70.0-128			9.03	20
1,1-Dichloroethene	5.00	4.90	4.49	98.0	89.8	71.0-124			8.73	20
cis-1,2-Dichloroethene	5.00	4.75	4.68	95.0	93.6	73.0-120			1.48	20
trans-1,2-Dichloroethene	5.00	4.48	4.53	89.6	90.6	73.0-120			1.11	20
1,2-Dichloropropane	5.00	4.56	4.65	91.2	93.0	77.0-125			1.95	20
1,1-Dichloropropene	5.00	4.58	4.39	91.6	87.8	74.0-126			4.24	20
1,3-Dichloropropane	5.00	4.87	4.62	97.4	92.4	80.0-120			5.27	20
cis-1,3-Dichloropropene	5.00	4.81	4.46	96.2	89.2	80.0-123			7.55	20
trans-1,3-Dichloropropene	5.00	4.48	4.48	89.6	89.6	78.0-124			0.000	20
2,2-Dichloropropane	5.00	4.75	4.39	95.0	87.8	58.0-130			7.88	20

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

(LCS) R3774749-1 03/28/22 07:36 • (LCSD) R3774749-2 03/28/22 07:57

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	4.71	4.72	94.2	94.4	74.0-126			0.212	20
Di-isopropyl ether	5.00	5.27	4.83	105	96.6	58.0-138			8.71	20
Ethylbenzene	5.00	4.74	4.76	94.8	95.2	79.0-123			0.421	20
4-Ethyltoluene	5.00	5.38	5.20	108	104	74.0-127			3.40	20
Hexachloro-1,3-butadiene	5.00	5.00	4.73	100	94.6	54.0-138			5.55	20
n-Hexane	5.00	4.17	3.68	83.4	73.6	57.0-133			12.5	20
Isopropylbenzene	5.00	4.86	5.04	97.2	101	76.0-127			3.64	20
p-Isopropyltoluene	5.00	5.13	5.09	103	102	76.0-125			0.783	20
2-Butanone (MEK)	25.0	27.3	23.2	109	92.8	44.0-160			16.2	20
Methyl Cyclohexane	5.00	4.02	3.98	80.4	79.6	68.0-126			1.00	20
Methylene Chloride	5.00	4.72	4.51	94.4	90.2	67.0-120			4.55	20
4-Methyl-2-pentanone (MIBK)	25.0	27.2	27.2	109	109	68.0-142			0.000	20
Methyl tert-butyl ether	5.00	5.19	4.71	104	94.2	68.0-125			9.70	20
Naphthalene	5.00	4.23	4.74	84.6	94.8	54.0-135			11.4	20
Propene	5.00	3.69	3.02	73.8	60.4	30.0-160			20.0	20
n-Propylbenzene	5.00	5.21	4.92	104	98.4	77.0-124			5.73	20
Styrene	5.00	4.32	4.35	86.4	87.0	73.0-130			0.692	20
1,1,1,2-Tetrachloroethane	5.00	4.71	4.49	94.2	89.8	75.0-125			4.78	20
1,1,2,2-Tetrachloroethane	5.00	4.70	4.99	94.0	99.8	65.0-130			5.99	20
1,1,2-Trichlorotrifluoroethane	5.00	5.10	4.88	102	97.6	69.0-132			4.41	20
Tetrachloroethene	5.00	4.65	4.83	93.0	96.6	72.0-132			3.80	20
Toluene	5.00	4.79	4.64	95.8	92.8	79.0-120			3.18	20
1,2,3-Trichlorobenzene	5.00	4.45	4.64	89.0	92.8	50.0-138			4.18	20
1,2,4-Trichlorobenzene	5.00	4.47	4.67	89.4	93.4	57.0-137			4.38	20
1,1,1-Trichloroethane	5.00	5.19	4.91	104	98.2	73.0-124			5.54	20
1,1,2-Trichloroethane	5.00	4.68	4.45	93.6	89.0	80.0-120			5.04	20
Trichloroethene	5.00	4.86	4.56	97.2	91.2	78.0-124			6.37	20
Trichlorofluoromethane	5.00	4.71	4.60	94.2	92.0	59.0-147			2.36	20
1,2,3-Trichloropropane	5.00	4.86	4.91	97.2	98.2	73.0-130			1.02	20
1,2,4-Trimethylbenzene	5.00	5.43	5.28	109	106	76.0-121			2.80	20
1,2,3-Trimethylbenzene	5.00	5.16	5.12	103	102	77.0-120			0.778	20
1,3,5-Trimethylbenzene	5.00	5.00	4.90	100	98.0	76.0-122			2.02	20
Vinyl chloride	5.00	4.36	3.85	87.2	77.0	67.0-131			12.4	20
Xylenes, Total	15.0	14.7	14.3	98.0	95.3	79.0-123			2.76	20
(S) Toluene-d8				*98.4*	*96.1*	*80.0-120*				
(S) 4-Bromofluorobenzene				*100*	*106*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*105*	*107*	*70.0-130*				

L1474972-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-13 03/28/22 15:18 • (MS) R3774749-4 03/28/22 18:52 • (MSD) R3774749-5 03/28/22 19:14

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	30.1	29.2	120	117	1	10.0-160			3.04	35
Acrolein	25.0	U	29.0	26.8	116	107	1	10.0-160			7.89	39
Acrylonitrile	25.0	U	30.8	31.1	123	124	1	21.0-160			0.969	32
Benzene	5.00	0.862	6.51	7.14	113	126	1	17.0-158			9.23	27
Bromobenzene	5.00	U	6.48	6.11	130	122	1	30.0-149			5.88	28
Bromodichloromethane	5.00	U	5.83	6.13	117	123	1	31.0-150			5.02	27
Bromoform	5.00	U	4.96	5.41	99.2	108	1	29.0-150			8.68	29
Bromomethane	5.00	U	2.56	2.95	51.2	59.0	1	10.0-160			14.2	38
1,3-Butadiene	5.00	U	6.66	6.20	133	124	1	10.0-160			7.15	22
n-Butylbenzene	5.00	U	5.29	5.95	106	119	1	31.0-150			11.7	30
sec-Butylbenzene	5.00	U	6.26	6.36	125	127	1	33.0-155			1.58	29
tert-Butylbenzene	5.00	U	6.10	5.94	122	119	1	34.0-153			2.66	28
Carbon tetrachloride	5.00	U	5.60	6.84	112	137	1	23.0-159			19.9	28
Carbon disulfide	5.00	U	4.36	4.42	87.2	88.4	1	10.0-156			1.37	28
Chlorobenzene	5.00	U	5.52	5.85	110	117	1	33.0-152			5.80	27
Chlorodibromomethane	5.00	U	5.02	5.31	100	106	1	37.0-149			5.61	27
Chloroethane	5.00	U	8.25	7.80	165	156	1	10.0-160	M1		5.61	30
Chloroform	5.00	1.69	7.29	8.01	112	126	1	29.0-154			9.41	28
Chloromethane	5.00	U	4.69	4.75	93.8	95.0	1	10.0-160			1.27	29
Cyclohexane	5.00	U	5.28	5.78	106	116	1	19.0-160			9.04	23
2-Chlorotoluene	5.00	U	6.49	6.00	130	120	1	32.0-153			7.85	28
4-Chlorotoluene	5.00	U	6.29	6.12	126	122	1	32.0-150			2.74	28
1,2-Dibromo-3-Chloropropane	5.00	U	5.39	5.61	108	112	1	22.0-151			4.00	34
1,2-Dibromoethane	5.00	U	5.62	5.43	112	109	1	34.0-147			3.44	27
Dibromomethane	5.00	U	5.95	5.80	119	116	1	30.0-151			2.55	27
1,2-Dichlorobenzene	5.00	U	5.81	6.01	116	120	1	34.0-149			3.38	28
1,3-Dichlorobenzene	5.00	U	5.87	5.82	117	116	1	36.0-146			0.855	27
1,4-Dichlorobenzene	5.00	U	5.54	5.38	111	108	1	35.0-142			2.93	27
Dichlorodifluoromethane	5.00	U	6.10	7.00	122	140	1	10.0-160			13.7	29
1,1-Dichloroethane	5.00	0.840	6.78	6.82	119	120	1	25.0-158			0.588	27
1,2-Dichloroethane	5.00	U	5.94	5.74	119	115	1	29.0-151			3.42	27
1,1-Dichloroethene	5.00	83.6	92.1	92.7	170	182	1	11.0-160	M3	M3	0.649	29
cis-1,2-Dichloroethene	5.00	1.11	6.63	7.29	110	124	1	10.0-160			9.48	27
trans-1,2-Dichloroethene	5.00	U	5.44	6.04	109	121	1	17.0-153			10.5	27
1,2-Dichloropropane	5.00	U	5.94	6.13	119	123	1	30.0-156			3.15	27
1,1-Dichloropropene	5.00	U	5.70	6.14	114	123	1	25.0-158			7.43	27
1,3-Dichloropropane	5.00	U	5.58	6.11	112	122	1	38.0-147			9.07	27
cis-1,3-Dichloropropene	5.00	U	5.16	5.50	103	110	1	34.0-149			6.38	28
trans-1,3-Dichloropropene	5.00	U	4.88	5.34	97.6	107	1	32.0-149			9.00	28
2,2-Dichloropropane	5.00	U	5.54	6.13	111	123	1	24.0-152			10.1	29

L1474972-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-13 03/28/22 15:18 • (MS) R3774749-4 03/28/22 18:52 • (MSD) R3774749-5 03/28/22 19:14

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	3.32	1.51	66.4	30.2	1	51.0-139		M2 R5	74.9	20
Di-isopropyl ether	5.00	U	6.32	6.37	126	127	1	21.0-160			0.788	28
Ethylbenzene	5.00	U	5.39	6.03	108	121	1	30.0-155			11.2	27
4-Ethyltoluene	5.00	U	6.51	6.17	130	123	1	10.0-160			5.36	20
Hexachloro-1,3-butadiene	5.00	U	4.94	5.65	98.8	113	1	20.0-154			13.4	34
n-Hexane	5.00	U	4.31	4.68	86.2	93.6	1	10.0-153			8.23	28
Isopropylbenzene	5.00	U	5.94	6.24	119	125	1	28.0-157			4.93	27
p-Isopropyltoluene	5.00	U	6.36	6.20	127	124	1	30.0-154			2.55	29
2-Butanone (MEK)	25.0	U	31.0	32.7	124	131	1	10.0-160			5.34	32
Methyl Cyclohexane	5.00	U	8.79	9.32	176	186	1	11.0-160	M1	M1	5.85	24
Methylene Chloride	5.00	U	10.3	6.84	206	137	1	23.0-144	M1	R5	40.4	28
4-Methyl-2-pentanone (MIBK)	25.0	U	33.3	34.2	133	137	1	29.0-160			2.67	29
Methyl tert-butyl ether	5.00	U	5.78	6.12	116	122	1	28.0-150			5.71	29
Naphthalene	5.00	U	4.42	5.22	88.4	104	1	12.0-156			16.6	35
Propene	5.00	U	4.64	5.11	92.8	102	1	10.0-160			9.64	29
n-Propylbenzene	5.00	U	6.58	6.34	132	127	1	31.0-154			3.72	28
Styrene	5.00	U	4.75	4.50	95.0	90.0	1	33.0-155			5.41	28
1,1,1,2-Tetrachloroethane	5.00	U	5.60	5.87	112	117	1	36.0-151			4.71	29
1,1,2,2-Tetrachloroethane	5.00	U	6.98	6.40	140	128	1	33.0-150			8.67	28
1,1,2-Trichlorotrifluoroethane	5.00	U	6.11	6.55	122	131	1	23.0-160			6.95	30
Tetrachloroethene	5.00	1.10	5.90	6.75	96.0	113	1	10.0-160			13.4	27
Toluene	5.00	U	5.61	5.81	112	116	1	26.0-154			3.50	28
1,2,3-Trichlorobenzene	5.00	U	4.46	5.17	89.2	103	1	17.0-150			14.7	36
1,2,4-Trichlorobenzene	5.00	U	4.56	5.23	91.2	105	1	24.0-150			13.7	33
1,1,1-Trichloroethane	5.00	U	5.90	6.31	118	126	1	23.0-160			6.72	28
1,1,2-Trichloroethane	5.00	1.64	7.06	7.32	108	114	1	35.0-147			3.62	27
Trichloroethene	5.00	523	518	545	0.000	440	1	10.0-160	E1 M3	E1 M3	5.08	25
Trichlorofluoromethane	5.00	U	5.64	6.51	113	130	1	17.0-160			14.3	31
1,2,3-Trichloropropane	5.00	U	6.26	5.96	125	119	1	34.0-151			4.91	29
1,2,4-Trimethylbenzene	5.00	U	6.10	5.98	122	120	1	26.0-154			1.99	27
1,2,3-Trimethylbenzene	5.00	U	5.90	5.78	118	116	1	32.0-149			2.05	28
1,3,5-Trimethylbenzene	5.00	U	6.10	5.80	122	116	1	28.0-153			5.04	27
Vinyl chloride	5.00	U	5.99	5.77	120	115	1	10.0-160			3.74	27
Xylenes, Total	15.0	U	15.5	17.2	103	115	1	29.0-154			10.4	28
(S) Toluene-d8					*98.3*	*99.3*		*80.0-120*				
(S) 4-Bromofluorobenzene					*99.2*	*103*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*104*	*103*		*70.0-130*				

L1474972-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-16 03/28/22 16:22 • (MS) R3774749-6 03/28/22 19:35 • (MSD) R3774749-7 03/28/22 19:57

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	30.6	29.1	122	116	1	10.0-160			5.03	35
Acrolein	25.0	U	28.8	25.6	115	102	1	10.0-160			11.8	39
Acrylonitrile	25.0	U	31.7	30.0	127	120	1	21.0-160			5.51	32
Benzene	5.00	U	6.15	5.97	123	119	1	17.0-158			2.97	27
Bromobenzene	5.00	U	6.54	6.68	131	134	1	30.0-149			2.12	28
Bromodichloromethane	5.00	U	5.94	5.96	119	119	1	31.0-150			0.336	27
Bromoform	5.00	U	5.07	5.19	101	104	1	29.0-150			2.34	29
Bromomethane	5.00	U	2.99	2.42	59.8	48.4	1	10.0-160			21.1	38
1,3-Butadiene	5.00	U	6.55	6.72	131	134	1	10.0-160			2.56	22
n-Butylbenzene	5.00	U	5.88	6.16	118	123	1	31.0-150			4.65	30
sec-Butylbenzene	5.00	U	6.13	6.71	123	134	1	33.0-155			9.03	29
tert-Butylbenzene	5.00	U	5.95	6.66	119	133	1	34.0-153			11.3	28
Carbon tetrachloride	5.00	U	6.21	6.33	124	127	1	23.0-159			1.91	28
Carbon disulfide	5.00	U	4.43	4.51	88.6	90.2	1	10.0-156			1.79	28
Chlorobenzene	5.00	U	5.95	5.73	119	115	1	33.0-152			3.77	27
Chlorodibromomethane	5.00	U	5.29	5.44	106	109	1	37.0-149			2.80	27
Chloroethane	5.00	U	11.2	11.0	224	220	1	10.0-160	M1	M1	1.80	30
Chloroform	5.00	U	6.46	6.12	129	122	1	29.0-154			5.41	28
Chloromethane	5.00	U	4.63	4.69	92.6	93.8	1	10.0-160			1.29	29
Cyclohexane	5.00	U	5.19	5.85	104	117	1	19.0-160			12.0	23
2-Chlorotoluene	5.00	U	6.17	6.45	123	129	1	32.0-153			4.44	28
4-Chlorotoluene	5.00	U	6.17	6.38	123	128	1	32.0-150			3.35	28
1,2-Dibromo-3-Chloropropane	5.00	U	5.83	5.64	117	113	1	22.0-151			3.31	34
1,2-Dibromoethane	5.00	U	5.66	5.44	113	109	1	34.0-147			3.96	27
Dibromomethane	5.00	U	5.82	5.86	116	117	1	30.0-151			0.685	27
1,2-Dichlorobenzene	5.00	U	6.11	6.27	122	125	1	34.0-149			2.58	28
1,3-Dichlorobenzene	5.00	U	6.15	5.98	123	120	1	36.0-146			2.80	27
1,4-Dichlorobenzene	5.00	U	5.92	5.63	118	113	1	35.0-142			5.02	27
Dichlorodifluoromethane	5.00	U	5.37	6.25	107	125	1	10.0-160			15.1	29
1,1-Dichloroethane	5.00	U	6.30	6.09	126	122	1	25.0-158			3.39	27
1,2-Dichloroethane	5.00	U	5.86	5.95	117	119	1	29.0-151			1.52	27
1,1-Dichloroethene	5.00	U	6.01	6.00	120	120	1	11.0-160			0.167	29
cis-1,2-Dichloroethene	5.00	U	5.79	5.68	116	114	1	10.0-160			1.92	27
trans-1,2-Dichloroethene	5.00	U	5.69	5.68	114	114	1	17.0-153			0.176	27
1,2-Dichloropropane	5.00	U	6.10	6.29	122	126	1	30.0-156			3.07	27
1,1-Dichloropropene	5.00	U	6.20	6.13	124	123	1	25.0-158			1.14	27
1,3-Dichloropropane	5.00	U	6.30	5.69	126	114	1	38.0-147			10.2	27
cis-1,3-Dichloropropene	5.00	U	5.28	5.46	106	109	1	34.0-149			3.35	28
trans-1,3-Dichloropropene	5.00	U	5.23	5.31	105	106	1	32.0-149			1.52	28
2,2-Dichloropropane	5.00	U	6.03	6.14	121	123	1	24.0-152			1.81	29

L1474972-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-16 03/28/22 16:22 • (MS) R3774749-6 03/28/22 19:35 • (MSD) R3774749-7 03/28/22 19:57

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	6.28	7.00	126	140	1	51.0-139		M1	10.8	20
Di-isopropyl ether	5.00	U	6.73	6.63	135	133	1	21.0-160			1.50	28
Ethylbenzene	5.00	U	5.97	6.08	119	122	1	30.0-155			1.83	27
4-Ethyltoluene	5.00	U	6.41	6.55	128	131	1	10.0-160			2.16	20
Hexachloro-1,3-butadiene	5.00	U	5.60	5.64	112	113	1	20.0-154			0.712	34
n-Hexane	5.00	U	4.68	5.06	93.6	101	1	10.0-153			7.80	28
Isopropylbenzene	5.00	U	5.79	6.19	116	124	1	28.0-157			6.68	27
p-Isopropyltoluene	5.00	U	6.24	6.43	125	129	1	30.0-154			3.00	29
2-Butanone (MEK)	25.0	U	29.3	28.0	117	112	1	10.0-160			4.54	32
Methyl Cyclohexane	5.00	U	4.51	5.20	90.2	104	1	11.0-160			14.2	24
Methylene Chloride	5.00	U	6.72	6.27	134	125	1	23.0-144			6.93	28
4-Methyl-2-pentanone (MIBK)	25.0	U	35.7	34.5	143	138	1	29.0-160			3.42	29
Methyl tert-butyl ether	5.00	U	6.10	6.15	122	123	1	28.0-150			0.816	29
Naphthalene	5.00	U	5.55	5.57	111	111	1	12.0-156			0.360	35
Propene	5.00	U	4.85	5.65	97.0	113	1	10.0-160			15.2	29
n-Propylbenzene	5.00	U	6.54	6.74	131	135	1	31.0-154			3.01	28
Styrene	5.00	U	4.97	5.17	99.4	103	1	33.0-155			3.94	28
1,1,1,2-Tetrachloroethane	5.00	U	5.55	5.82	111	116	1	36.0-151			4.75	29
1,1,2,2-Tetrachloroethane	5.00	U	6.97	6.70	139	134	1	33.0-150			3.95	28
1,1,2-Trichlorotrifluoroethane	5.00	U	6.17	6.43	123	129	1	23.0-160			4.13	30
Tetrachloroethene	5.00	U	5.11	5.38	102	108	1	10.0-160			5.15	27
Toluene	5.00	U	6.14	6.18	123	124	1	26.0-154			0.649	28
1,2,3-Trichlorobenzene	5.00	U	5.62	5.65	112	113	1	17.0-150			0.532	36
1,2,4-Trichlorobenzene	5.00	U	5.30	5.00	106	100	1	24.0-150			5.83	33
1,1,1-Trichloroethane	5.00	U	6.52	6.17	130	123	1	23.0-160			5.52	28
1,1,2-Trichloroethane	5.00	U	5.98	6.11	120	122	1	35.0-147			2.15	27
Trichloroethene	5.00	0.338	6.64	5.98	126	113	1	10.0-160			10.5	25
Trichlorofluoromethane	5.00	U	6.26	6.49	125	130	1	17.0-160			3.61	31
1,2,3-Trichloropropane	5.00	U	6.29	6.05	126	121	1	34.0-151			3.89	29
1,2,4-Trimethylbenzene	5.00	U	6.22	6.33	124	127	1	26.0-154			1.75	27
1,2,3-Trimethylbenzene	5.00	U	6.28	6.45	126	129	1	32.0-149			2.67	28
1,3,5-Trimethylbenzene	5.00	U	6.14	6.20	123	124	1	28.0-153			0.972	27
Vinyl chloride	5.00	U	6.20	6.05	124	121	1	10.0-160			2.45	27
Xylenes, Total	15.0	U	17.0	18.0	113	120	1	29.0-154			5.71	28
(S) Toluene-d8					*103*	*103*		*80.0-120*				
(S) 4-Bromofluorobenzene					*102*	*98.8*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*102*	*107*		*70.0-130*				

Method Blank (MB)

(MB) R3775003-3 03/28/22 20:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
1,1-Dichloroethene	U		0.188	1.00
Trichloroethene	U		0.190	1.00
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*

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

(LCS) R3775003-1 03/28/22 19:53 • (LCSD) R3775003-2 03/28/22 20:13

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	%	%	%			%	%
1,1-Dichloroethene	5.00	5.26	4.95	105	99.0	71.0-124			6.07	20
Trichloroethene	5.00	5.70	5.36	114	107	78.0-124			6.15	20
(S) Toluene-d8				*102*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*104*	*104*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*104*	*103*	*70.0-130*				

Method Blank (MB)

(MB) R3775183-3 03/28/22 19:00

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

Method Blank (MB)

(MB) R3775183-3 03/28/22 19:00

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	*108*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.7*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.0*			*70.0-130*

QUALITY CONTROL SUMMARY

L1474972-21,22,23

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

(LCS) R3775183-1 03/28/22 18:04 • (LCSD) R3775183-2 03/28/22 18:22

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	21.5	101	86.0	19.0-160			15.8	27
Acrolein	25.0	3.46	1.92	13.8	7.68	30.0-160	L2	L2 R7	57.2	26
Acrylonitrile	25.0	18.7	16.4	74.8	65.6	55.0-149			13.1	20
Benzene	5.00	4.57	4.38	91.4	87.6	70.0-123			4.25	20
Bromobenzene	5.00	4.73	4.15	94.6	83.0	73.0-121			13.1	20
Bromodichloromethane	5.00	4.66	4.26	93.2	85.2	75.0-120			8.97	20
Bromoform	5.00	4.64	4.41	92.8	88.2	68.0-132			5.08	20
Bromomethane	5.00	5.57	5.55	111	111	30.0-160			0.360	25
1,3-Butadiene	5.00	4.71	4.49	94.2	89.8	45.0-147			4.78	20
n-Butylbenzene	5.00	4.33	4.31	86.6	86.2	73.0-125			0.463	20
sec-Butylbenzene	5.00	4.41	4.27	88.2	85.4	75.0-125			3.23	20
tert-Butylbenzene	5.00	4.19	4.13	83.8	82.6	76.0-124			1.44	20
Carbon tetrachloride	5.00	5.65	5.62	113	112	68.0-126			0.532	20
Carbon disulfide	5.00	4.59	4.38	91.8	87.6	61.0-128			4.68	20
Chlorobenzene	5.00	4.88	4.71	97.6	94.2	80.0-121			3.55	20
Chlorodibromomethane	5.00	5.19	4.78	104	95.6	77.0-125			8.22	20
Chloroethane	5.00	4.27	4.41	85.4	88.2	47.0-150			3.23	20
Chloroform	5.00	4.64	4.41	92.8	88.2	73.0-120			5.08	20
Chloromethane	5.00	4.02	3.76	80.4	75.2	41.0-142			6.68	20
Cyclohexane	5.00	4.56	4.35	91.2	87.0	71.0-124			4.71	20
2-Chlorotoluene	5.00	4.76	4.44	95.2	88.8	76.0-123			6.96	20
4-Chlorotoluene	5.00	4.40	4.18	88.0	83.6	75.0-122			5.13	20
1,2-Dibromo-3-Chloropropane	5.00	4.09	4.08	81.8	81.6	58.0-134			0.245	20
1,2-Dibromoethane	5.00	4.95	4.65	99.0	93.0	80.0-122			6.25	20
Dibromomethane	5.00	4.62	4.07	92.4	81.4	80.0-120			12.7	20
1,2-Dichlorobenzene	5.00	4.41	4.35	88.2	87.0	79.0-121			1.37	20
1,3-Dichlorobenzene	5.00	4.45	4.35	89.0	87.0	79.0-120			2.27	20
1,4-Dichlorobenzene	5.00	4.44	4.31	88.8	86.2	79.0-120			2.97	20
Dichlorodifluoromethane	5.00	5.78	5.76	116	115	51.0-149			0.347	20
1,1-Dichloroethane	5.00	4.11	4.20	82.2	84.0	70.0-126			2.17	20
1,2-Dichloroethane	5.00	4.51	4.21	90.2	84.2	70.0-128			6.88	20
1,1-Dichloroethene	5.00	4.21	4.12	84.2	82.4	71.0-124			2.16	20
cis-1,2-Dichloroethene	5.00	4.83	4.46	96.6	89.2	73.0-120			7.97	20
trans-1,2-Dichloroethene	5.00	4.49	4.37	89.8	87.4	73.0-120			2.71	20
1,2-Dichloropropane	5.00	4.07	3.87	81.4	77.4	77.0-125			5.04	20
1,1-Dichloropropene	5.00	4.53	4.33	90.6	86.6	74.0-126			4.51	20
1,3-Dichloropropane	5.00	4.57	4.13	91.4	82.6	80.0-120			10.1	20
cis-1,3-Dichloropropene	5.00	3.93	3.78	78.6	75.6	80.0-123	L2	L2	3.89	20
trans-1,3-Dichloropropene	5.00	4.07	3.83	81.4	76.6	78.0-124		L2	6.08	20
2,2-Dichloropropane	5.00	5.36	4.92	107	98.4	58.0-130			8.56	20

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

(LCS) R3775183-1 03/28/22 18:04 • (LCSD) R3775183-2 03/28/22 18:22

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	3.47	3.52	69.4	70.4	74.0-126	L2	L2	1.43	20
Di-isopropyl ether	5.00	3.98	3.73	79.6	74.6	58.0-138			6.49	20
Ethylbenzene	5.00	4.83	4.31	96.6	86.2	79.0-123			11.4	20
4-Ethyltoluene	5.00	4.44	4.29	88.8	85.8	74.0-127			3.44	20
Hexachloro-1,3-butadiene	5.00	3.85	4.14	77.0	82.8	54.0-138			7.26	20
n-Hexane	5.00	4.24	4.00	84.8	80.0	57.0-133			5.83	20
Isopropylbenzene	5.00	4.66	4.69	93.2	93.8	76.0-127			0.642	20
p-Isopropyltoluene	5.00	4.42	4.32	88.4	86.4	76.0-125			2.29	20
2-Butanone (MEK)	25.0	19.0	21.2	76.0	84.8	44.0-160			10.9	20
Methyl Cyclohexane	5.00	5.23	5.16	105	103	68.0-126			1.35	20
Methylene Chloride	5.00	4.82	4.03	96.4	80.6	67.0-120			17.9	20
4-Methyl-2-pentanone (MIBK)	25.0	21.5	19.0	86.0	76.0	68.0-142			12.3	20
Methyl tert-butyl ether	5.00	4.54	3.81	90.8	76.2	68.0-125			17.5	20
Naphthalene	5.00	3.60	3.50	72.0	70.0	54.0-135			2.82	20
Propene	5.00	2.53	2.60	50.6	52.0	30.0-160			2.73	20
n-Propylbenzene	5.00	4.39	4.24	87.8	84.8	77.0-124			3.48	20
Styrene	5.00	4.31	4.33	86.2	86.6	73.0-130			0.463	20
1,1,1,2-Tetrachloroethane	5.00	4.74	4.41	94.8	88.2	75.0-125			7.21	20
1,1,2,2-Tetrachloroethane	5.00	4.79	4.16	95.8	83.2	65.0-130			14.1	20
1,1,2-Trichlorotrifluoroethane	5.00	5.02	4.98	100	99.6	69.0-132			0.800	20
Tetrachloroethene	5.00	4.98	4.84	99.6	96.8	72.0-132			2.85	20
Toluene	5.00	4.51	4.30	90.2	86.0	79.0-120			4.77	20
1,2,3-Trichlorobenzene	5.00	3.42	3.48	68.4	69.6	50.0-138			1.74	20
1,2,4-Trichlorobenzene	5.00	3.61	3.91	72.2	78.2	57.0-137			7.98	20
1,1,1-Trichloroethane	5.00	5.79	5.47	116	109	73.0-124			5.68	20
1,1,2-Trichloroethane	5.00	4.41	3.96	88.2	79.2	80.0-120		L2	10.8	20
Trichloroethene	5.00	5.00	4.86	100	97.2	78.0-124			2.84	20
Trichlorofluoromethane	5.00	5.06	5.03	101	101	59.0-147			0.595	20
1,2,3-Trichloropropane	5.00	4.67	4.04	93.4	80.8	73.0-130			14.5	20
1,2,4-Trimethylbenzene	5.00	4.11	4.07	82.2	81.4	76.0-121			0.978	20
1,2,3-Trimethylbenzene	5.00	4.03	3.94	80.6	78.8	77.0-120			2.26	20
1,3,5-Trimethylbenzene	5.00	4.23	4.25	84.6	85.0	76.0-122			0.472	20
Vinyl chloride	5.00	4.72	4.60	94.4	92.0	67.0-131			2.58	20
Xylenes, Total	15.0	14.2	13.5	94.7	90.0	79.0-123			5.05	20
(S) Toluene-d8				*104*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.8*	*97.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*104*	*99.6*	*70.0-130*				

L1475076-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1475076-06 03/29/22 02:52 • (MS) R3775183-4 03/29/22 04:08 • (MSD) R3775183-5 03/29/22 04:27

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	2500	U	3040	2110	122	84.4	100	10.0-160		R5	36.1	35
Acrolein	2500	U	370	275	14.8	11.0	100	10.0-160			29.5	39
Acrylonitrile	2500	U	2910	1850	116	74.0	100	21.0-160		R5	44.5	32
Benzene	500	U	371	341	74.2	68.2	100	17.0-158			8.43	27
Bromobenzene	500	U	378	408	75.6	81.6	100	30.0-149			7.63	28
Bromodichloromethane	500	U	401	377	80.2	75.4	100	31.0-150			6.17	27
Bromoform	500	U	444	417	88.8	83.4	100	29.0-150			6.27	29
Bromomethane	500	U	432	342	86.4	68.4	100	10.0-160			23.3	38
1,3-Butadiene	500	U	416	334	83.2	66.8	100	10.0-160			21.9	22
n-Butylbenzene	500	U	371	347	74.2	69.4	100	31.0-150			6.69	30
sec-Butylbenzene	500	U	357	367	71.4	73.4	100	33.0-155			2.76	29
tert-Butylbenzene	500	U	348	358	69.6	71.6	100	34.0-153			2.83	28
Carbon tetrachloride	500	U	420	418	84.0	83.6	100	23.0-159			0.477	28
Carbon disulfide	500	U	217	228	43.4	45.6	100	10.0-156			4.94	28
Chlorobenzene	500	U	409	399	81.8	79.8	100	33.0-152			2.48	27
Chlorodibromomethane	500	U	462	460	92.4	92.0	100	37.0-149			0.434	27
Chloroethane	500	U	375	289	75.0	57.8	100	10.0-160			25.9	30
Chloroform	500	U	383	365	76.6	73.0	100	29.0-154			4.81	28
Chloromethane	500	U	360	292	72.0	58.4	100	10.0-160			20.9	29
Cyclohexane	500	U	301	313	60.2	62.6	100	19.0-160			3.91	23
2-Chlorotoluene	500	U	368	390	73.6	78.0	100	32.0-153			5.80	28
4-Chlorotoluene	500	U	355	377	71.0	75.4	100	32.0-150			6.01	28
1,2-Dibromo-3-Chloropropane	500	U	516	395	103	79.0	100	22.0-151			26.6	34
1,2-Dibromoethane	500	U	448	448	89.6	89.6	100	34.0-147			0.000	27
Dibromomethane	500	U	410	379	82.0	75.8	100	30.0-151			7.86	27
1,2-Dichlorobenzene	500	U	422	387	84.4	77.4	100	34.0-149			8.65	28
1,3-Dichlorobenzene	500	U	391	383	78.2	76.6	100	36.0-146			2.07	27
1,4-Dichlorobenzene	500	U	401	377	80.2	75.4	100	35.0-142			6.17	27
Dichlorodifluoromethane	500	U	445	378	89.0	75.6	100	10.0-160			16.3	29
1,1-Dichloroethane	500	U	350	336	70.0	67.2	100	25.0-158			4.08	27
1,2-Dichloroethane	500	U	423	376	84.6	75.2	100	29.0-151			11.8	27
1,1-Dichloroethene	500	145	441	430	59.2	57.0	100	11.0-160			2.53	29
cis-1,2-Dichloroethene	500	42400	38400	38600	0.000	0.000	100	10.0-160	E1 M3	E1 M3	0.519	27
trans-1,2-Dichloroethene	500	152	453	429	60.2	55.4	100	17.0-153			5.44	27
1,2-Dichloropropane	500	U	334	347	66.8	69.4	100	30.0-156			3.82	27
1,1-Dichloropropene	500	U	349	320	69.8	64.0	100	25.0-158			8.67	27
1,3-Dichloropropane	500	U	405	409	81.0	81.8	100	38.0-147			0.983	27
cis-1,3-Dichloropropene	500	U	382	350	76.4	70.0	100	34.0-149			8.74	28
trans-1,3-Dichloropropene	500	U	366	374	73.2	74.8	100	32.0-149			2.16	28
2,2-Dichloropropane	500	U	374	419	74.8	83.8	100	24.0-152			11.3	29

L1475076-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1475076-06 03/29/22 02:52 • (MS) R3775183-4 03/29/22 04:08 • (MSD) R3775183-5 03/29/22 04:27

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	500	U	284	284	56.8	56.8	100	51.0-139			0.000	20
Di-isopropyl ether	500	U	344	330	68.8	66.0	100	21.0-160			4.15	28
Ethylbenzene	500	U	376	359	75.2	71.8	100	30.0-155			4.63	27
4-Ethyltoluene	500	U	351	357	70.2	71.4	100	10.0-160			1.69	20
Hexachloro-1,3-butadiene	500	U	369	320	73.8	64.0	100	20.0-154			14.2	34
n-Hexane	500	U	295	263	59.0	52.6	100	10.0-153			11.5	28
Isopropylbenzene	500	U	403	357	80.6	71.4	100	28.0-157			12.1	27
p-Isopropyltoluene	500	U	364	353	72.8	70.6	100	30.0-154			3.07	29
2-Butanone (MEK)	2500	U	3310	2000	132	80.0	100	10.0-160		R5	49.3	32
Methyl Cyclohexane	500	95.1	480	452	77.0	71.4	100	11.0-160			6.01	24
Methylene Chloride	500	U	358	347	71.6	69.4	100	23.0-144			3.12	28
4-Methyl-2-pentanone (MIBK)	2500	U	2420	2230	96.8	89.2	100	29.0-160			8.17	29
Methyl tert-butyl ether	500	U	423	384	84.6	76.8	100	28.0-150			9.67	29
Naphthalene	500	U	401	328	80.2	65.6	100	12.0-156			20.0	35
Propene	500	U	242	231	43.6	41.4	100	10.0-160			4.65	29
n-Propylbenzene	500	U	342	365	68.4	73.0	100	31.0-154			6.51	28
Styrene	500	U	382	342	76.4	68.4	100	33.0-155			11.0	28
1,1,1,2-Tetrachloroethane	500	U	414	393	82.8	78.6	100	36.0-151			5.20	29
1,1,2,2-Tetrachloroethane	500	U	461	502	92.2	100	100	33.0-150			8.52	28
1,1,2-Trichlorotrifluoroethane	500	U	422	366	84.4	73.2	100	23.0-160			14.2	30
Tetrachloroethene	500	32.5	388	398	71.1	73.1	100	10.0-160			2.54	27
Toluene	500	60.3	397	415	67.3	70.9	100	26.0-154			4.43	28
1,2,3-Trichlorobenzene	500	U	349	306	69.8	61.2	100	17.0-150			13.1	36
1,2,4-Trichlorobenzene	500	U	386	314	77.2	62.8	100	24.0-150			20.6	33
1,1,1-Trichloroethane	500	U	428	402	85.6	80.4	100	23.0-160			6.27	28
1,1,2-Trichloroethane	500	U	416	413	83.2	82.6	100	35.0-147			0.724	27
Trichloroethene	500	128000	120000	119000	0.000	0.000	100	10.0-160	E1 M3	E1 M3	0.837	25
Trichlorofluoromethane	500	U	441	366	88.2	73.2	100	17.0-160			18.6	31
1,2,3-Trichloropropane	500	U	463	479	92.6	95.8	100	34.0-151			3.40	29
1,2,4-Trimethylbenzene	500	U	335	342	67.0	68.4	100	26.0-154			2.07	27
1,2,3-Trimethylbenzene	500	U	360	339	72.0	67.8	100	32.0-149			6.01	28
1,3,5-Trimethylbenzene	500	U	347	350	69.4	70.0	100	28.0-153			0.861	27
Vinyl chloride	500	419	803	702	76.8	56.6	100	10.0-160			13.4	27
Xylenes, Total	1500	U	1160	1100	77.3	73.3	100	29.0-154			5.31	28
(S) Toluene-d8					*99.7*	*107*		*80.0-120*				
(S) 4-Bromofluorobenzene					*102*	*92.9*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*107*	*101*		*70.0-130*				

Method Blank (MB)

(MB) R3775715-3 03/29/22 11:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Trichloroethene	U		0.190	1.00
(S) Toluene-d8	*117*			*80.0-120*
(S) 4-Bromofluorobenzene	*99.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*99.8*			*70.0-130*

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

(LCS) R3775715-1 03/29/22 10:18 • (LCSD) R3775715-2 03/29/22 10:50

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	%	%	%			%	%
Trichloroethene	5.00	5.55	5.79	111	116	78.0-124			4.23	20
(S) Toluene-d8				*115*	*112*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*104*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*99.2*	*103*	*70.0-130*				

Method Blank (MB)

(MB) R3775955-3 03/30/22 13:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Methylene Chloride	U		0.430	5.00
Trichloroethene	U		0.190	1.00
(S) Toluene-d8	*119*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.6*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*97.8*			*70.0-130*

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

(LCS) R3775955-1 03/30/22 12:05 • (LCSD) R3775955-2 03/30/22 12:24

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 %
Methylene Chloride	5.00	5.40	5.44	108	109	67.0-120			0.738	20
Trichloroethene	5.00	4.74	5.12	94.8	102	78.0-124			7.71	20
(S) Toluene-d8				*112*	*115*	*80.0-120*				
(S) 4-Bromofluorobenzene				*102*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*102*	*97.6*	*70.0-130*				

Method Blank (MB)

(MB) R3775397-3 03/26/22 11:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	*99.0*			*77.0-127*

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

(LCS) R3775397-1 03/26/22 10:14 • (LCSD) R3775397-2 03/26/22 10:34

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 %
1,4-Dioxane	50.0	47.8	52.8	95.6	106	55.0-138			9.94	24
(S) Toluene-d8				*98.0*	*98.3*	*77.0-127*				

Method Blank (MB)

(MB) R3775691-3 03/27/22 16:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	*98.1*			*77.0-127*

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

(LCS) R3775691-1 03/27/22 15:07 • (LCSD) R3775691-2 03/27/22 15:27

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	%	%	%			%	%
1,4-Dioxane	50.0	56.0	54.1	112	108	55.0-138			3.45	24
(S) Toluene-d8				*98.1*	*98.4*	*77.0-127*				

L1474972-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-13 03/27/22 18:14 • (MS) R3775691-4 03/27/22 23:31 • (MSD) R3775691-5 03/27/22 23:51

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	149	184	198	70.0	98.0	1	13.0-160			7.33	31
(S) Toluene-d8					*99.2*	*98.7*		*77.0-127*				

L1474972-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1474972-16 03/27/22 19:13 • (MS) R3775691-6 03/28/22 00:11 • (MSD) R3775691-7 03/28/22 00:30

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	U	49.6	57.0	99.2	114	1	13.0-160			13.9	31
(S) Toluene-d8					*98.4*	*98.0*		*77.0-127*				

Method Blank (MB)

(MB) R3776929-3 04/02/22 13:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	*101*			*77.0-127*

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

(LCS) R3776929-1 04/02/22 12:05 • (LCSD) R3776929-2 04/02/22 12:25

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 %
1,4-Dioxane	50.0	52.0	48.8	104	97.6	55.0-138			6.35	24
(S) Toluene-d8				*101*	*101*	*77.0-127*				

INTERNAL STANDARD SUMMARY

Instrument: VOCMS20 • File ID: 0329_05

03/29/22 10:18

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0329_05	385053	144841	96520
Upper Limit		770106	289682	193040
Lower Limit		192527	72421	48260
LCS R3775715-1 WG1840141 1x	0329_05LCS	385053	144841	96520
LCSD R3775715-2 WG1840141 1x	0329_06	368909	145538	90969
BLANK R3775715-3 WG1840141 1x	0329_08	337329	122057	76353
L1474972-22 WG1840141 1x	0329_09	371540	133911	91120
L1474972-21 WG1840141 50x	0329_12	357369	133165	81153

Instrument: VOCMS20 • File ID: 0330_06

03/30/22 12:05

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0330_06	393857	149164	99697
Upper Limit		787714	298328	199394
Lower Limit		196929	74582	49849
LCS R3775955-1 WG1840599 1x	0330_06LCSB	393857	149164	99697
LCSD R3775955-2 WG1840599 1x	0330_07B	385688	139624	86956
BLANK R3775955-3 WG1840599 1x	0330_09B	380788	136303	78046
L1474972-14 WG1840599 1x	0330_16	345071	122090	73886
L1474972-15 WG1840599 1x	0330_17	362349	131946	81942
L1474972-16 WG1840599 1x	0330_18	361770	133862	77987
L1474972-17 WG1840599 1x	0330_19	345786	122167	74407
L1474972-08 WG1840599 1000x	0330_26	337648	117314	68558
L1474972-12 WG1840599 10x	0330_27	356065	126803	69154
L1474972-13 WG1840599 10x	0330_28	337998	118779	70631

INTERNAL STANDARD SUMMARY

Instrument: VOCMS21 • File ID: 0328_02

03/28/22 07:36

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0328_02	253207	109476	111797
Upper Limit		506414	218952	223594
Lower Limit		126604	54738	55899
LCS R3774749-1 WG1839284 1x	0328_02LCS	253207	109476	111797
LCSD R3774749-2 WG1839284 1x	0328_03	273365	114165	121462
BLANK R3774749-3 WG1839284 1x	0328_05	315867	127053	128666
L1474972-01 WG1839284 1x	0328_13	274788	120021	118113
L1474972-02 WG1839284 1x	0328_14	327456	128912	131700
L1474972-03 WG1839284 1x	0328_15	299567	135489	136301
L1474972-04 WG1839284 1x	0328_16	306140	123621	124062
L1474972-05 WG1839284 1x	0328_17	313318	119500	125499
L1474972-06 WG1839284 1x	0328_18	325782	122525	127648
L1474972-09 WG1839284 1x	0328_19	328373	124180	116023
L1474972-10 WG1839284 1x	0328_20	324133	127382	119313
L1474972-11 WG1839284 1x	0328_21	332289	131928	122243
L1474972-12 WG1839284 1x	0328_22	343832	126824	127616
L1474972-13 WG1839284 1x	0328_23	327773	129362	119387
L1474972-14 WG1839284 1x	0328_24	314263	123459	119150
L1474972-15 WG1839284 1x	0328_25	323805	128893	119114
L1474972-16 WG1839284 1x	0328_26	325520	119052	127017
L1474972-17 WG1839284 1x	0328_27	327428	132075	127797
L1474972-18 WG1839284 1x	0328_28	333950	134811	116106
L1474972-19 WG1839284 1x	0328_29	299280	115974	109875
L1474972-20 WG1839284 1x	0328_30	298106	120886	108126
L1474972-07 WG1839284 5x	0328_31	306373	124739	120958
L1474972-08 WG1839284 50x	0328_32	337099	128115	123759
MS R3774749-4 WG1839284 1x	0328_33	330626	139662	124990
MSD R3774749-5 WG1839284 1x	0328_34	314450	131137	137718
MS R3774749-6 WG1839284 1x	0328_35	333572	135934	134487
MSD R3774749-7 WG1839284 1x	0328_36	338749	138710	134678

INTERNAL STANDARD SUMMARY

Instrument: VOCMS35 • File ID: 0328_48

03/28/22 19:53

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
Standard	0328_48	198930	77411	39401
Upper Limit		397860	154822	78802
Lower Limit		99465	38706	19701
LCS R3775003-1 WG1839557 1x	0328_48LCS_D	198930	77411	39401
LCSD R3775003-2 WG1839557 1x	0328_49D	206919	81975	43539
BLANK R3775003-3 WG1839557 1x	0328_51D	202461	77318	40252
L1474972-02 WG1839557 25x	0328_57	197067	75247	38294
L1474972-03 WG1839557 100x	0328_58	198136	75277	38625
L1474972-04 WG1839557 10x	0328_59	195651	73960	37004

Instrument: VOCMS56 • File ID: 0328_02

03/28/22 18:04

Sample ID	File ID	8260-FLUOROBENZENE Response	8260-CHLOROBENZENE-D5 Response	8260-1,4-DICHLOROBENZENE-D4 Response
Standard	0328_02	368892.60	143145.20	153740.20
Upper Limit		737785	286290	307480
Lower Limit		184446	71573	76870
LCS R3775183-1 WG1839702 1x	0328_02LCS	368892.60	143145.20	153740.20
LCSD R3775183-2 WG1839702 1x	0328_03	390391.30	158460.40	182599.40
BLANK R3775183-3 WG1839702 1x	0328_05	394178.70	149884.90	156876.20
L1474972-23 WG1839702 1x	0328_13	347343	123364.10	128098.20
L1474972-21 WG1839702 1x	0328_18	392245.40	139000	141314
L1474972-22 WG1839702 1x	0328_19	382178.20	152446.10	170579.90
MS R3775183-4 WG1839702 100x	0328_34	344489.90	143077.10	174465.20
MSD R3775183-5 WG1839702 100x	0328_35	400048.60	149499.10	147088.60

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 0326_03

03/26/22 09:55

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
Standard	0326_03	1301087
Upper Limit		2602174
Lower Limit		650544
LCS R3775397-1 WG1838706 1x	0326_04	1193341
LCSD R3775397-2 WG1838706 1x	0326_05	1192178
BLANK R3775397-3 WG1838706 1x	0326_07	1092292
L1474972-01 WG1838706 1x	0326_18	1004236
L1474972-02 WG1838706 1x	0326_19	1073043
L1474972-04 WG1838706 1x	0326_21	1026967
L1474972-05 WG1838706 1x	0326_22	1042172
L1474972-06 WG1838706 1x	0326_23	1074504
L1474972-07 WG1838706 1x	0326_24	1012462

Instrument: VOCMS27 • File ID: 0327_03

03/27/22 14:48

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
Standard	0327_03	941693
Upper Limit		1883386
Lower Limit		470847
LCS R3775691-1 WG1838707 1x	0327_04	1101296
LCSD R3775691-2 WG1838707 1x	0327_05	1101103
BLANK R3775691-3 WG1838707 1x	0327_07	1168604
L1474972-11 WG1838707 1x	0327_10	1046288
L1474972-12 WG1838707 1x	0327_11	1015302
L1474972-13 WG1838707 1x	0327_12	1108126
L1474972-14 WG1838707 1x	0327_13	1093097
L1474972-15 WG1838707 1x	0327_14	1089854
L1474972-16 WG1838707 1x	0327_15	1054589
L1474972-17 WG1838707 1x	0327_16	1086503
L1474972-18 WG1838707 1x	0327_17	1076462
L1474972-19 WG1838707 1x	0327_18	1026621
L1474972-20 WG1838707 1x	0327_19	1122179
L1474972-21 WG1838707 1x	0327_20	1064598
L1474972-22 WG1838707 1x	0327_21	1083697

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 0327_03

03/27/22 14:48

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
MS R3775691-4 WG1838707 1x	0327_28	1106219
MSD R3775691-5 WG1838707 1x	0327_29	1033975
MS R3775691-6 WG1838707 1x	0327_30	1054002
MSD R3775691-7 WG1838707 1x	0327_31	1003742

Instrument: VOCMS27 • File ID: 0402A_02

04/02/22 11:45

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
Standard	0402A_02	495912
Upper Limit		991824
Lower Limit		247956
LCS R3776929-1 WG1840384 1x	0402A_03A	484844
LCSD R3776929-2 WG1840384 1x	0402A_04A	498203
BLANK R3776929-3 WG1840384 1x	0402A_06A	487066
L1474972-03 WG1840384 10x	0402A_08	483193
L1474972-08 WG1840384 200x	0402A_09	486550
L1474972-09 WG1840384 1x	0402A_10	498634
L1474972-10 WG1840384 1x	0402A_11	482578

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
E1	Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
L2	The associated blank spike recovery was below laboratory acceptance limits.
M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
R5	MS/MSD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
R7	LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.
R8	Sample RPD exceeded the method acceptance limit.

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	LAO000356
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

Pres Chk

Report to:
Christopher Funk

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: (PT) MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed: Standard TAT

Chain of Custody Page 1 of 3

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/hubfs/pas-standard-terms.pdf

SDG # 1474992

L-218

Acctnum: **PINYONMAZ**
Template: **T205653**
Prelogin: **P912520**
PM: **288 - Daphne Richards**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
TTU-EX-5-80-20220321	G	GW	80	03/21/22	1305	7	X		X	X		-01
TTU-EX-4-77-20220321	G	GW	77	03/21/22	1357	7	X		X	X		-02
TTU-EX-3-76-20220321	G	GW	76	03/21/22	1430	7	X		X	X		-03
TTU-EX-2-74-20220321	G	GW	74	03/21/22	1500	7	X		X	X		-04
TTU-EX-1-69-20220321	G	GW	69	03/21/22	1533	7	X		X	X		-05
TTU-17-80-20220321	G	GW	80	03/21/22	1605	7	X		X	X		-06
TTU-15-75-20220321	G	GW	75	03/21/22	1635	7	X		X	X		-07
TTU-16-80-20220321	G	GW	80	03/21/22	1710	7	X		X	X		-08
TTU-5-110-20220321	G	GW	110	03/21/22	1750	7	X		X	X		-09
TTU-9a-61-20220322	G	GW	61	03/22/22	0837	7	X		X	X		-10

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

Remarks:SUBPER6850 to be subbed to Eurofins - Sacramento, CA

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

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

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	
	03/22/22	0615		1 HCl	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp BAM °C	Bottles Received:
	3/23/22	1800		4.0 to 4.0	168
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				3/24/22	800

If preservation required by Login: Date/Time

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

Report to: **Christopher Funk**

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

Project Description: **Nammo TTU Groundwater Monitoring**

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

Please Circle: PT MT CT ET

Phone: **602-290-4774**

Client Project # **722152201**

Lab Project # **PINYONMAZ-722152201**

Collected by (print): **Christopher Funk**

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed: Standard TAT

Analysis / Container / Preservative

Chain of Custody Page 2 of 3

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/hubfs/pas-standard-terms.pdf

SDG # 147492

Table #

Acctnum: **PINYONMAZ**
Template: **T205653**
Prelogin: **P912520**
PM: **288 - Daphne Richards**
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
TTU-13-51-20220322	G	GW	51	03/22/22	0907	7	X		X	X		-11
TTU-14-64-20220322	G	GW	64	03/22/22	1015	7	X		X	X	2day rush	-12
TTU-12-82-20220322	G	GW	82	03/22/22	1055	14	X		X	X	MS/MSD	-13
TTU-10-147-20220322	G	GW	147	03/22/22	1249	7	X		X	X		-14
TTU-4-57-20220322	G	GW	57	03/22/22	1327	7	X		X	X		-15
TTU-8-164-20220322	G	GW	164	03/22/22	1404	14	X		X	X	MS/MSD	-16
TTU-7-345-20220322	G	GW	345	03/22/22	1435	7	X		X	X		-17
TTU-6-143-20220322	G	GW	143	03/22/22	1500	7	X		X	X		-18
TTU-3-108-20220322	G	GW	108	03/22/22	1528	7	X		X	X		-19
PF-2-400-20220322	G	GW	400	03/22/22	1211	XQ 3124		X				

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

Remarks:SUBPER6850 to be subbed to Eurofins - Sacramento, CA
2day rush on TTU-14-64-20220322

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	03/23/22	0615			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.4+7 °C Bottles Received: 4.0 to 4.0 168	
	3/23/22	1800			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3/24/22 Time: 800	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

Report to:
Christopher Funk

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: (PT) MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed
Standard TAT

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
Dup-01	G	GW	—	—	—	7	X		X	X		-20
Dup-02	G	GW	—	—	—	7	X		X	X	2 day rush	-21
Dup-03	G	GW	—	—	—	7	X		X	X		-22
Trip Blank	—	GW	—	—	—	1			X			-23
Temp Blank	—	GW	—	—	—	1	—		—			
		GW										
		GW										
		GW										
		GW										
		GW										

03/23/22

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # 1474972

Table #

Acctnum: **PINYONMAZ**
Template: **T205653**
Prelogin: **P912520**
PM: **288 - Daphne Richards**
PB:

Shipped Via:

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

Remarks:SUBPER6850 to be subbed to Eurofins - Sacramento, CA
2day rush on Dup-02

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No, HCl / MeoH, TBR	
	03/23/22	0615		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 8.4.7 °C Bottles Received:	If preservation required by Login: Date/Time
	3/23/22	1800		4.0+0.2=4.0 168	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				3/24/22	800

Hold: Condition: NCF / OK

PNPAZ

ANALYTICAL REPORT

April 05, 2022

Pinyon Environmental

Sample Delivery Group:	L1476358
Samples Received:	03/29/2022
Project Number:	722152201
Description:	Nammo TTU Groundwater Monitoring

Report To: Christopher Funk
4815 E. Carefree Highway
#108-274
Cave Creek, AZ 85331

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

TTU-1-50-20220326 L1476358-01 GW

Collected by: Christopher Funk | Collected date/time: 03/26/22 09:50 | Received date/time: 03/29/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839236	500	04/01/22 10:01	04/01/22 10:01	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1841562	1	04/01/22 06:51	04/01/22 06:51	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 16:43	04/02/22 16:43	BMB	Mt. Juliet, TN

TTU-2-114-20220326 L1476358-02 GW

Collected by: Christopher Funk | Collected date/time: 03/26/22 10:18 | Received date/time: 03/29/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839236	5000	04/01/22 10:25	04/01/22 10:25	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1841562	1	04/01/22 07:11	04/01/22 07:11	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1842601	20	04/04/22 03:28	04/04/22 03:28	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 17:03	04/02/22 17:03	BMB	Mt. Juliet, TN

DUP-04 L1476358-03 GW

Collected by: Christopher Funk | Collected date/time: 03/26/22 00:00 | Received date/time: 03/29/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1839236	500	04/01/22 10:49	04/01/22 10:49	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1841562	1	04/01/22 07:32	04/01/22 07:32	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1842601	1	04/04/22 01:45	04/04/22 01:45	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 17:23	04/02/22 17:23	BMB	Mt. Juliet, TN

TRIP BLANK L1476358-04 GW

Collected by: Christopher Funk | Collected date/time: 03/26/22 00:00 | Received date/time: 03/29/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1841562	1	04/01/22 04:07	04/01/22 04:07	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1842601	1	04/04/22 01:25	04/04/22 01:25	BMB	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 R Richards

Daphne Richards
Project Manager

Sample Delivery Group (SDG) Narrative

Insufficient sample volume to perform MS/MSD analyses per method QC requirements.

Lab Sample ID	Project Sample ID	Method
L1476358-02	TTU-2-114-20220326	8260B
L1476358-03	DUP-04	8260B
L1476358-04	TRIP BLANK	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	15100		150	2000	500	04/01/2022 10:01	WG1839236

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	04/01/2022 06:51	WG1841562
Acrolein	U	L1	2.54	50.0	1	04/01/2022 06:51	WG1841562
Acrylonitrile	U		0.671	10.0	1	04/01/2022 06:51	WG1841562
Benzene	U		0.0941	1.00	1	04/01/2022 06:51	WG1841562
Bromobenzene	U		0.118	1.00	1	04/01/2022 06:51	WG1841562
Bromodichloromethane	U		0.136	1.00	1	04/01/2022 06:51	WG1841562
Bromoform	U		0.129	1.00	1	04/01/2022 06:51	WG1841562
Bromomethane	U		0.605	5.00	1	04/01/2022 06:51	WG1841562
1,3-Butadiene	U		0.299	2.00	1	04/01/2022 06:51	WG1841562
n-Butylbenzene	U		0.157	1.00	1	04/01/2022 06:51	WG1841562
sec-Butylbenzene	U		0.125	1.00	1	04/01/2022 06:51	WG1841562
tert-Butylbenzene	U		0.127	1.00	1	04/01/2022 06:51	WG1841562
Carbon tetrachloride	U		0.128	1.00	1	04/01/2022 06:51	WG1841562
Carbon disulfide	U		0.0962	1.00	1	04/01/2022 06:51	WG1841562
Chlorobenzene	U		0.116	1.00	1	04/01/2022 06:51	WG1841562
Chlorodibromomethane	U		0.140	1.00	1	04/01/2022 06:51	WG1841562
Chloroethane	U		0.192	5.00	1	04/01/2022 06:51	WG1841562
Chloroform	U		0.111	5.00	1	04/01/2022 06:51	WG1841562
Chloromethane	U		0.960	2.50	1	04/01/2022 06:51	WG1841562
Cyclohexane	U		0.188	1.00	1	04/01/2022 06:51	WG1841562
2-Chlorotoluene	U		0.106	1.00	1	04/01/2022 06:51	WG1841562
4-Chlorotoluene	U		0.114	1.00	1	04/01/2022 06:51	WG1841562
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/01/2022 06:51	WG1841562
1,2-Dibromoethane	U		0.126	1.00	1	04/01/2022 06:51	WG1841562
Dibromomethane	U		0.122	1.00	1	04/01/2022 06:51	WG1841562
1,2-Dichlorobenzene	U		0.107	1.00	1	04/01/2022 06:51	WG1841562
1,3-Dichlorobenzene	U		0.110	1.00	1	04/01/2022 06:51	WG1841562
1,4-Dichlorobenzene	U		0.120	1.00	1	04/01/2022 06:51	WG1841562
Dichlorodifluoromethane	U		0.374	5.00	1	04/01/2022 06:51	WG1841562
1,1-Dichloroethane	U		0.100	1.00	1	04/01/2022 06:51	WG1841562
1,2-Dichloroethane	U		0.0819	1.00	1	04/01/2022 06:51	WG1841562
1,1-Dichloroethene	0.886	E4	0.188	1.00	1	04/01/2022 06:51	WG1841562
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/01/2022 06:51	WG1841562
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/01/2022 06:51	WG1841562
1,2-Dichloropropane	U		0.149	1.00	1	04/01/2022 06:51	WG1841562
1,1-Dichloropropene	U		0.142	1.00	1	04/01/2022 06:51	WG1841562
1,3-Dichloropropane	U		0.110	1.00	1	04/01/2022 06:51	WG1841562
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/01/2022 06:51	WG1841562
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/01/2022 06:51	WG1841562
2,2-Dichloropropane	U		0.161	1.00	1	04/01/2022 06:51	WG1841562
Dicyclopentadiene	U		0.253	1.00	1	04/01/2022 06:51	WG1841562
Di-isopropyl ether	U		0.105	1.00	1	04/01/2022 06:51	WG1841562
Ethylbenzene	U		0.137	1.00	1	04/01/2022 06:51	WG1841562
4-Ethyltoluene	U		0.208	1.00	1	04/01/2022 06:51	WG1841562
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/01/2022 06:51	WG1841562
n-Hexane	U		0.749	10.0	1	04/01/2022 06:51	WG1841562
Isopropylbenzene	U		0.105	1.00	1	04/01/2022 06:51	WG1841562
p-Isopropyltoluene	U		0.120	1.00	1	04/01/2022 06:51	WG1841562
2-Butanone (MEK)	U		1.19	10.0	1	04/01/2022 06:51	WG1841562
Methyl Cyclohexane	U		0.660	1.00	1	04/01/2022 06:51	WG1841562

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	04/01/2022 06:51	WG1841562
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/01/2022 06:51	WG1841562
Methyl tert-butyl ether	U		0.101	1.00	1	04/01/2022 06:51	WG1841562
Naphthalene	U		1.00	5.00	1	04/01/2022 06:51	WG1841562
Propene	U		0.936	2.50	1	04/01/2022 06:51	WG1841562
n-Propylbenzene	U		0.0993	1.00	1	04/01/2022 06:51	WG1841562
Styrene	U		0.118	1.00	1	04/01/2022 06:51	WG1841562
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/01/2022 06:51	WG1841562
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/01/2022 06:51	WG1841562
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/01/2022 06:51	WG1841562
Tetrachloroethene	U		0.300	1.00	1	04/01/2022 06:51	WG1841562
Toluene	U		0.278	1.00	1	04/01/2022 06:51	WG1841562
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/01/2022 06:51	WG1841562
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/01/2022 06:51	WG1841562
1,1,1-Trichloroethane	U		0.149	1.00	1	04/01/2022 06:51	WG1841562
1,1,2-Trichloroethane	U		0.158	1.00	1	04/01/2022 06:51	WG1841562
Trichloroethene	3.72		0.190	1.00	1	04/01/2022 06:51	WG1841562
Trichlorofluoromethane	U		0.160	5.00	1	04/01/2022 06:51	WG1841562
1,2,3-Trichloropropane	U		0.237	2.50	1	04/01/2022 06:51	WG1841562
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/01/2022 06:51	WG1841562
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 06:51	WG1841562
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 06:51	WG1841562
Vinyl chloride	U		0.234	1.00	1	04/01/2022 06:51	WG1841562
Xylenes, Total	U		0.174	3.00	1	04/01/2022 06:51	WG1841562
(S) Toluene-d8	*111*			*80.0-120*		*04/01/2022 06:51*	WG1841562
(S) 4-Bromofluorobenzene	*95.5*			*77.0-126*		*04/01/2022 06:51*	WG1841562
(S) 1,2-Dichloroethane-d4	*91.6*			*70.0-130*		*04/01/2022 06:51*	WG1841562

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	18.4		0.597	3.00	1	04/02/2022 16:43	WG1841205
(S) Toluene-d8	*101*			*77.0-127*		*04/02/2022 16:43*	WG1841205

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	151000	M3	1500	20000	5000	04/01/2022 10:25	WG1839236

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	04/01/2022 07:11	WG1841562
Acrolein	U	L1 M1	2.54	50.0	1	04/01/2022 07:11	WG1841562
Acrylonitrile	U		0.671	10.0	1	04/01/2022 07:11	WG1841562
Benzene	1.56		0.0941	1.00	1	04/01/2022 07:11	WG1841562
Bromobenzene	U		0.118	1.00	1	04/01/2022 07:11	WG1841562
Bromodichloromethane	U		0.136	1.00	1	04/01/2022 07:11	WG1841562
Bromoform	0.392	E4	0.129	1.00	1	04/01/2022 07:11	WG1841562
Bromomethane	U		0.605	5.00	1	04/01/2022 07:11	WG1841562
1,3-Butadiene	U		0.299	2.00	1	04/01/2022 07:11	WG1841562
n-Butylbenzene	U		0.157	1.00	1	04/01/2022 07:11	WG1841562
sec-Butylbenzene	U		0.125	1.00	1	04/01/2022 07:11	WG1841562
tert-Butylbenzene	U		0.127	1.00	1	04/01/2022 07:11	WG1841562
Carbon tetrachloride	U		0.128	1.00	1	04/01/2022 07:11	WG1841562
Carbon disulfide	U		0.0962	1.00	1	04/01/2022 07:11	WG1841562
Chlorobenzene	U		0.116	1.00	1	04/01/2022 07:11	WG1841562
Chlorodibromomethane	U		0.140	1.00	1	04/01/2022 07:11	WG1841562
Chloroethane	U		0.192	5.00	1	04/01/2022 07:11	WG1841562
Chloroform	2.17	E4	0.111	5.00	1	04/01/2022 07:11	WG1841562
Chloromethane	U		0.960	2.50	1	04/01/2022 07:11	WG1841562
Cyclohexane	U		0.188	1.00	1	04/01/2022 07:11	WG1841562
2-Chlorotoluene	U		0.106	1.00	1	04/01/2022 07:11	WG1841562
4-Chlorotoluene	U		0.114	1.00	1	04/01/2022 07:11	WG1841562
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/01/2022 07:11	WG1841562
1,2-Dibromoethane	U		0.126	1.00	1	04/01/2022 07:11	WG1841562
Dibromomethane	U		0.122	1.00	1	04/01/2022 07:11	WG1841562
1,2-Dichlorobenzene	U		0.107	1.00	1	04/01/2022 07:11	WG1841562
1,3-Dichlorobenzene	U		0.110	1.00	1	04/01/2022 07:11	WG1841562
1,4-Dichlorobenzene	U		0.120	1.00	1	04/01/2022 07:11	WG1841562
Dichlorodifluoromethane	U		0.374	5.00	1	04/01/2022 07:11	WG1841562
1,1-Dichloroethane	1.40		0.100	1.00	1	04/01/2022 07:11	WG1841562
1,2-Dichloroethane	U		0.0819	1.00	1	04/01/2022 07:11	WG1841562
1,1-Dichloroethene	107	M3	0.188	1.00	1	04/01/2022 07:11	WG1841562
cis-1,2-Dichloroethene	2.13		0.126	1.00	1	04/01/2022 07:11	WG1841562
trans-1,2-Dichloroethene	0.314	E4	0.149	1.00	1	04/01/2022 07:11	WG1841562
1,2-Dichloropropane	U		0.149	1.00	1	04/01/2022 07:11	WG1841562
1,1-Dichloropropene	U		0.142	1.00	1	04/01/2022 07:11	WG1841562
1,3-Dichloropropane	U		0.110	1.00	1	04/01/2022 07:11	WG1841562
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/01/2022 07:11	WG1841562
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/01/2022 07:11	WG1841562
2,2-Dichloropropane	U		0.161	1.00	1	04/01/2022 07:11	WG1841562
Dicyclopentadiene	U	M2 R5	0.253	1.00	1	04/01/2022 07:11	WG1841562
Di-isopropyl ether	U		0.105	1.00	1	04/01/2022 07:11	WG1841562
Ethylbenzene	U		0.137	1.00	1	04/01/2022 07:11	WG1841562
4-Ethyltoluene	U		0.208	1.00	1	04/01/2022 07:11	WG1841562
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/01/2022 07:11	WG1841562
n-Hexane	U		0.749	10.0	1	04/01/2022 07:11	WG1841562
Isopropylbenzene	U		0.105	1.00	1	04/01/2022 07:11	WG1841562
p-Isopropyltoluene	U		0.120	1.00	1	04/01/2022 07:11	WG1841562
2-Butanone (MEK)	U		1.19	10.0	1	04/01/2022 07:11	WG1841562
Methyl Cyclohexane	U	M1	0.660	1.00	1	04/01/2022 07:11	WG1841562

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	04/01/2022 07:11	WG1841562
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/01/2022 07:11	WG1841562
Methyl tert-butyl ether	U		0.101	1.00	1	04/01/2022 07:11	WG1841562
Naphthalene	U		1.00	5.00	1	04/01/2022 07:11	WG1841562
Propene	U		0.936	2.50	1	04/01/2022 07:11	WG1841562
n-Propylbenzene	U		0.0993	1.00	1	04/01/2022 07:11	WG1841562
Styrene	U		0.118	1.00	1	04/01/2022 07:11	WG1841562
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/01/2022 07:11	WG1841562
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/01/2022 07:11	WG1841562
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/01/2022 07:11	WG1841562
Tetrachloroethene	1.53		0.300	1.00	1	04/01/2022 07:11	WG1841562
Toluene	U		0.278	1.00	1	04/01/2022 07:11	WG1841562
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/01/2022 07:11	WG1841562
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/01/2022 07:11	WG1841562
1,1,1-Trichloroethane	U		0.149	1.00	1	04/01/2022 07:11	WG1841562
1,1,2-Trichloroethane	2.20		0.158	1.00	1	04/01/2022 07:11	WG1841562
Trichloroethene	823		3.80	20.0	20	04/04/2022 03:28	WG1842601
Trichlorofluoromethane	U		0.160	5.00	1	04/01/2022 07:11	WG1841562
1,2,3-Trichloropropane	U		0.237	2.50	1	04/01/2022 07:11	WG1841562
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/01/2022 07:11	WG1841562
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 07:11	WG1841562
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 07:11	WG1841562
Vinyl chloride	U		0.234	1.00	1	04/01/2022 07:11	WG1841562
Xylenes, Total	U		0.174	3.00	1	04/01/2022 07:11	WG1841562
(S) Toluene-d8	*110*			*80.0-120*		*04/01/2022 07:11*	WG1841562
(S) Toluene-d8	*112*			*80.0-120*		*04/04/2022 03:28*	WG1842601
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*		*04/01/2022 07:11*	WG1841562
(S) 4-Bromofluorobenzene	*102*			*77.0-126*		*04/04/2022 03:28*	WG1842601
(S) 1,2-Dichloroethane-d4	*89.2*			*70.0-130*		*04/01/2022 07:11*	WG1841562
(S) 1,2-Dichloroethane-d4	*81.4*			*70.0-130*		*04/04/2022 03:28*	WG1842601

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	251		0.597	3.00	1	04/02/2022 17:03	WG1841205
(S) Toluene-d8	*102*			*77.0-127*		*04/02/2022 17:03*	WG1841205

Wet Chemistry by Method 314.0 Mod

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Perchlorate	14500		150	2000	500	04/01/2022 10:49	WG1839236

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	04/01/2022 07:32	WG1841562
Acrolein	U	L1	2.54	50.0	1	04/01/2022 07:32	WG1841562
Acrylonitrile	U		0.671	10.0	1	04/01/2022 07:32	WG1841562
Benzene	U		0.0941	1.00	1	04/01/2022 07:32	WG1841562
Bromobenzene	U		0.118	1.00	1	04/01/2022 07:32	WG1841562
Bromodichloromethane	U		0.136	1.00	1	04/01/2022 07:32	WG1841562
Bromoform	U		0.129	1.00	1	04/01/2022 07:32	WG1841562
Bromomethane	U		0.605	5.00	1	04/01/2022 07:32	WG1841562
1,3-Butadiene	U		0.299	2.00	1	04/01/2022 07:32	WG1841562
n-Butylbenzene	U		0.157	1.00	1	04/01/2022 07:32	WG1841562
sec-Butylbenzene	U		0.125	1.00	1	04/01/2022 07:32	WG1841562
tert-Butylbenzene	U		0.127	1.00	1	04/01/2022 07:32	WG1841562
Carbon tetrachloride	U		0.128	1.00	1	04/01/2022 07:32	WG1841562
Carbon disulfide	U		0.0962	1.00	1	04/01/2022 07:32	WG1841562
Chlorobenzene	U		0.116	1.00	1	04/01/2022 07:32	WG1841562
Chlorodibromomethane	U		0.140	1.00	1	04/01/2022 07:32	WG1841562
Chloroethane	U		0.192	5.00	1	04/01/2022 07:32	WG1841562
Chloroform	U		0.111	5.00	1	04/01/2022 07:32	WG1841562
Chloromethane	U		0.960	2.50	1	04/01/2022 07:32	WG1841562
Cyclohexane	U		0.188	1.00	1	04/01/2022 07:32	WG1841562
2-Chlorotoluene	U		0.106	1.00	1	04/01/2022 07:32	WG1841562
4-Chlorotoluene	U		0.114	1.00	1	04/01/2022 07:32	WG1841562
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/01/2022 07:32	WG1841562
1,2-Dibromoethane	U		0.126	1.00	1	04/01/2022 07:32	WG1841562
Dibromomethane	U		0.122	1.00	1	04/01/2022 07:32	WG1841562
1,2-Dichlorobenzene	U		0.107	1.00	1	04/01/2022 07:32	WG1841562
1,3-Dichlorobenzene	U		0.110	1.00	1	04/01/2022 07:32	WG1841562
1,4-Dichlorobenzene	U		0.120	1.00	1	04/01/2022 07:32	WG1841562
Dichlorodifluoromethane	U		0.374	5.00	1	04/01/2022 07:32	WG1841562
1,1-Dichloroethane	U		0.100	1.00	1	04/01/2022 07:32	WG1841562
1,2-Dichloroethane	U		0.0819	1.00	1	04/01/2022 07:32	WG1841562
1,1-Dichloroethene	0.694	E4	0.188	1.00	1	04/04/2022 01:45	WG1842601
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/01/2022 07:32	WG1841562
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/01/2022 07:32	WG1841562
1,2-Dichloropropane	U		0.149	1.00	1	04/01/2022 07:32	WG1841562
1,1-Dichloropropene	U		0.142	1.00	1	04/01/2022 07:32	WG1841562
1,3-Dichloropropane	U		0.110	1.00	1	04/01/2022 07:32	WG1841562
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/01/2022 07:32	WG1841562
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/01/2022 07:32	WG1841562
2,2-Dichloropropane	U		0.161	1.00	1	04/01/2022 07:32	WG1841562
Dicyclopentadiene	U		0.253	1.00	1	04/01/2022 07:32	WG1841562
Di-isopropyl ether	U		0.105	1.00	1	04/01/2022 07:32	WG1841562
Ethylbenzene	U		0.137	1.00	1	04/01/2022 07:32	WG1841562
4-Ethyltoluene	U		0.208	1.00	1	04/01/2022 07:32	WG1841562
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/01/2022 07:32	WG1841562
n-Hexane	U		0.749	10.0	1	04/01/2022 07:32	WG1841562
Isopropylbenzene	U		0.105	1.00	1	04/01/2022 07:32	WG1841562
p-Isopropyltoluene	U		0.120	1.00	1	04/01/2022 07:32	WG1841562
2-Butanone (MEK)	U		1.19	10.0	1	04/01/2022 07:32	WG1841562
Methyl Cyclohexane	U		0.660	1.00	1	04/01/2022 07:32	WG1841562

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Methylene Chloride	U		0.430	5.00	1	04/01/2022 07:32	WG1841562
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/01/2022 07:32	WG1841562
Methyl tert-butyl ether	U		0.101	1.00	1	04/01/2022 07:32	WG1841562
Naphthalene	U		1.00	5.00	1	04/01/2022 07:32	WG1841562
Propene	U		0.936	2.50	1	04/01/2022 07:32	WG1841562
n-Propylbenzene	U		0.0993	1.00	1	04/01/2022 07:32	WG1841562
Styrene	U		0.118	1.00	1	04/01/2022 07:32	WG1841562
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/01/2022 07:32	WG1841562
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/01/2022 07:32	WG1841562
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/01/2022 07:32	WG1841562
Tetrachloroethene	U		0.300	1.00	1	04/01/2022 07:32	WG1841562
Toluene	U		0.278	1.00	1	04/01/2022 07:32	WG1841562
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/01/2022 07:32	WG1841562
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/01/2022 07:32	WG1841562
1,1,1-Trichloroethane	U		0.149	1.00	1	04/01/2022 07:32	WG1841562
1,1,2-Trichloroethane	U		0.158	1.00	1	04/01/2022 07:32	WG1841562
Trichloroethene	4.46		0.190	1.00	1	04/04/2022 01:45	WG1842601
Trichlorofluoromethane	U		0.160	5.00	1	04/01/2022 07:32	WG1841562
1,2,3-Trichloropropane	U		0.237	2.50	1	04/01/2022 07:32	WG1841562
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/01/2022 07:32	WG1841562
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 07:32	WG1841562
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 07:32	WG1841562
Vinyl chloride	U		0.234	1.00	1	04/01/2022 07:32	WG1841562
Xylenes, Total	U		0.174	3.00	1	04/01/2022 07:32	WG1841562
(S) Toluene-d8	*109*			*80.0-120*		*04/01/2022 07:32*	WG1841562
(S) Toluene-d8	*112*			*80.0-120*		*04/04/2022 01:45*	WG1842601
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*		*04/01/2022 07:32*	WG1841562
(S) 4-Bromofluorobenzene	*99.0*			*77.0-126*		*04/04/2022 01:45*	WG1842601
(S) 1,2-Dichloroethane-d4	*90.9*			*70.0-130*		*04/01/2022 07:32*	WG1841562
(S) 1,2-Dichloroethane-d4	*81.7*			*70.0-130*		*04/04/2022 01:45*	WG1842601

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	19.9		0.597	3.00	1	04/02/2022 17:23	WG1841205
(S) Toluene-d8	*102*			*77.0-127*		*04/02/2022 17:23*	WG1841205

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	04/01/2022 04:07	WG1841562
Acrolein	U	L1	2.54	50.0	1	04/01/2022 04:07	WG1841562
Acrylonitrile	U		0.671	10.0	1	04/01/2022 04:07	WG1841562
Benzene	U		0.0941	1.00	1	04/01/2022 04:07	WG1841562
Bromobenzene	U		0.118	1.00	1	04/01/2022 04:07	WG1841562
Bromodichloromethane	U		0.136	1.00	1	04/01/2022 04:07	WG1841562
Bromoform	U		0.129	1.00	1	04/01/2022 04:07	WG1841562
Bromomethane	U		0.605	5.00	1	04/01/2022 04:07	WG1841562
1,3-Butadiene	U		0.299	2.00	1	04/01/2022 04:07	WG1841562
n-Butylbenzene	U		0.157	1.00	1	04/01/2022 04:07	WG1841562
sec-Butylbenzene	U		0.125	1.00	1	04/01/2022 04:07	WG1841562
tert-Butylbenzene	U		0.127	1.00	1	04/01/2022 04:07	WG1841562
Carbon tetrachloride	U		0.128	1.00	1	04/01/2022 04:07	WG1841562
Carbon disulfide	U		0.0962	1.00	1	04/01/2022 04:07	WG1841562
Chlorobenzene	U		0.116	1.00	1	04/01/2022 04:07	WG1841562
Chlorodibromomethane	U		0.140	1.00	1	04/01/2022 04:07	WG1841562
Chloroethane	U		0.192	5.00	1	04/01/2022 04:07	WG1841562
Chloroform	U		0.111	5.00	1	04/01/2022 04:07	WG1841562
Chloromethane	U		0.960	2.50	1	04/01/2022 04:07	WG1841562
Cyclohexane	U		0.188	1.00	1	04/01/2022 04:07	WG1841562
2-Chlorotoluene	U		0.106	1.00	1	04/01/2022 04:07	WG1841562
4-Chlorotoluene	U		0.114	1.00	1	04/01/2022 04:07	WG1841562
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/01/2022 04:07	WG1841562
1,2-Dibromoethane	U		0.126	1.00	1	04/01/2022 04:07	WG1841562
Dibromomethane	U		0.122	1.00	1	04/01/2022 04:07	WG1841562
1,2-Dichlorobenzene	U		0.107	1.00	1	04/01/2022 04:07	WG1841562
1,3-Dichlorobenzene	U		0.110	1.00	1	04/01/2022 04:07	WG1841562
1,4-Dichlorobenzene	U		0.120	1.00	1	04/01/2022 04:07	WG1841562
Dichlorodifluoromethane	U		0.374	5.00	1	04/01/2022 04:07	WG1841562
1,1-Dichloroethane	U		0.100	1.00	1	04/01/2022 04:07	WG1841562
1,2-Dichloroethane	U		0.0819	1.00	1	04/01/2022 04:07	WG1841562
1,1-Dichloroethene	U		0.188	1.00	1	04/01/2022 04:07	WG1841562
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/01/2022 04:07	WG1841562
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/01/2022 04:07	WG1841562
1,2-Dichloropropane	U		0.149	1.00	1	04/01/2022 04:07	WG1841562
1,1-Dichloropropene	U		0.142	1.00	1	04/01/2022 04:07	WG1841562
1,3-Dichloropropane	U		0.110	1.00	1	04/01/2022 04:07	WG1841562
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/01/2022 04:07	WG1841562
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/01/2022 04:07	WG1841562
2,2-Dichloropropane	U		0.161	1.00	1	04/01/2022 04:07	WG1841562
Dicyclopentadiene	U		0.253	1.00	1	04/01/2022 04:07	WG1841562
Di-isopropyl ether	U		0.105	1.00	1	04/01/2022 04:07	WG1841562
Ethylbenzene	U		0.137	1.00	1	04/01/2022 04:07	WG1841562
4-Ethyltoluene	U		0.208	1.00	1	04/01/2022 04:07	WG1841562
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/01/2022 04:07	WG1841562
n-Hexane	U		0.749	10.0	1	04/01/2022 04:07	WG1841562
Isopropylbenzene	U		0.105	1.00	1	04/01/2022 04:07	WG1841562
p-Isopropyltoluene	U		0.120	1.00	1	04/01/2022 04:07	WG1841562
2-Butanone (MEK)	U		1.19	10.0	1	04/01/2022 04:07	WG1841562
Methyl Cyclohexane	U		0.660	1.00	1	04/01/2022 04:07	WG1841562
Methylene Chloride	U		0.430	5.00	1	04/01/2022 04:07	WG1841562
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/01/2022 04:07	WG1841562
Methyl tert-butyl ether	U		0.101	1.00	1	04/01/2022 04:07	WG1841562
Naphthalene	U		1.00	5.00	1	04/01/2022 04:07	WG1841562
Propene	U		0.936	2.50	1	04/01/2022 04:07	WG1841562
n-Propylbenzene	U		0.0993	1.00	1	04/01/2022 04:07	WG1841562

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.118	1.00	1	04/01/2022 04:07	WG1841562
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/01/2022 04:07	WG1841562
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/01/2022 04:07	WG1841562
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/01/2022 04:07	WG1841562
Tetrachloroethene	U		0.300	1.00	1	04/01/2022 04:07	WG1841562
Toluene	U		0.278	1.00	1	04/01/2022 04:07	WG1841562
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/04/2022 01:25	WG1842601
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/01/2022 04:07	WG1841562
1,1,1-Trichloroethane	U		0.149	1.00	1	04/01/2022 04:07	WG1841562
1,1,2-Trichloroethane	U		0.158	1.00	1	04/01/2022 04:07	WG1841562
Trichloroethene	U		0.190	1.00	1	04/01/2022 04:07	WG1841562
Trichlorofluoromethane	U		0.160	5.00	1	04/01/2022 04:07	WG1841562
1,2,3-Trichloropropane	U		0.237	2.50	1	04/01/2022 04:07	WG1841562
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/01/2022 04:07	WG1841562
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 04:07	WG1841562
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/01/2022 04:07	WG1841562
Vinyl chloride	U		0.234	1.00	1	04/01/2022 04:07	WG1841562
Xylenes, Total	U		0.174	3.00	1	04/01/2022 04:07	WG1841562
(S) Toluene-d8	*113*			*80.0-120*		*04/01/2022 04:07*	WG1841562
(S) Toluene-d8	*113*			*80.0-120*		*04/04/2022 01:25*	WG1842601
(S) 4-Bromofluorobenzene	*98.8*			*77.0-126*		*04/01/2022 04:07*	WG1841562
(S) 4-Bromofluorobenzene	*99.4*			*77.0-126*		*04/04/2022 01:25*	WG1842601
(S) 1,2-Dichloroethane-d4	*87.8*			*70.0-130*		*04/01/2022 04:07*	WG1841562
(S) 1,2-Dichloroethane-d4	*81.4*			*70.0-130*		*04/04/2022 01:25*	WG1842601

Method Blank (MB)

(MB) R3776659-1 03/31/22 07:22

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Perchlorate	U		0.300	4.00

L1476358-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1476358-03 04/01/22 10:49 • (DUP) R3776659-9 04/01/22 11:13

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Perchlorate	14500	15100	500	3.97		15

Laboratory Control Sample (LCS)

(LCS) R3776659-2 03/31/22 08:10

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Perchlorate	10.0	9.45	94.5	90.0-110	

L1476358-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476358-02 04/01/22 10:25 • (MS) R3776659-10 04/01/22 13:12 • (MSD) R3776659-11 04/01/22 13:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Perchlorate	10.0	151000	173000	153000	216000	17100	5000	80.0-120	M3	M3	12.2	15

L1476360-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476360-01 04/01/22 11:37 • (MS) R3776659-12 04/01/22 14:00 • (MSD) R3776659-13 04/01/22 14:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Perchlorate	10.0	108	112	109	35.6	8.05	5	80.0-120	M3	M3	2.49	15

Method Blank (MB)

(MB) R3777046-3 04/01/22 03:46

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	0.427	E4	0.157	1.00
sec-Butylbenzene	0.168	E4	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	0.335	E4	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

Method Blank (MB)

(MB) R3777046-3 04/01/22 03:46

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	0.449	E4	0.337	1.00
n-Hexane	U		0.749	10.0
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	0.352	E4	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	0.502	E4	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	0.340	E4	0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*110*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*86.6*			*70.0-130*

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

(LCS) R3777046-1 04/01/22 02:45 • (LCSD) R3777046-2 04/01/22 03:05

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	28.1	27.8	112	111	19.0-160			1.07	27
Acrolein	25.0	46.3	44.3	185	177	30.0-160	L1	L1	4.42	26
Acrylonitrile	25.0	29.6	28.6	118	114	55.0-149			3.44	20
Benzene	5.00	5.20	4.96	104	99.2	70.0-123			4.72	20
Bromobenzene	5.00	4.97	4.88	99.4	97.6	73.0-121			1.83	20
Bromodichloromethane	5.00	4.79	4.55	95.8	91.0	75.0-120			5.14	20
Bromoform	5.00	4.51	4.59	90.2	91.8	68.0-132			1.76	20
Bromomethane	5.00	5.34	4.70	107	94.0	30.0-160			12.7	25
1,3-Butadiene	5.00	4.54	4.48	90.8	89.6	45.0-147			1.33	20
n-Butylbenzene	5.00	4.50	4.42	90.0	88.4	73.0-125			1.79	20
sec-Butylbenzene	5.00	4.53	4.48	90.6	89.6	75.0-125			1.11	20
tert-Butylbenzene	5.00	4.72	4.59	94.4	91.8	76.0-124			2.79	20
Carbon tetrachloride	5.00	4.39	4.13	87.8	82.6	68.0-126			6.10	20
Carbon disulfide	5.00	4.76	4.43	95.2	88.6	61.0-128			7.18	20
Chlorobenzene	5.00	5.23	5.01	105	100	80.0-121			4.30	20
Chlorodibromomethane	5.00	4.55	4.49	91.0	89.8	77.0-125			1.33	20
Chloroethane	5.00	5.05	4.64	101	92.8	47.0-150			8.46	20
Chloroform	5.00	4.91	4.80	98.2	96.0	73.0-120			2.27	20
Chloromethane	5.00	5.28	5.08	106	102	41.0-142			3.86	20
Cyclohexane	5.00	5.10	4.73	102	94.6	71.0-124			7.53	20
2-Chlorotoluene	5.00	5.02	4.82	100	96.4	76.0-123			4.07	20
4-Chlorotoluene	5.00	4.65	4.35	93.0	87.0	75.0-122			6.67	20
1,2-Dibromo-3-Chloropropane	5.00	5.14	4.92	103	98.4	58.0-134			4.37	20
1,2-Dibromoethane	5.00	5.07	4.84	101	96.8	80.0-122			4.64	20
Dibromomethane	5.00	4.41	4.46	88.2	89.2	80.0-120			1.13	20
1,2-Dichlorobenzene	5.00	5.29	4.87	106	97.4	79.0-121			8.27	20
1,3-Dichlorobenzene	5.00	4.80	4.48	96.0	89.6	79.0-120			6.90	20
1,4-Dichlorobenzene	5.00	4.82	4.76	96.4	95.2	79.0-120			1.25	20
Dichlorodifluoromethane	5.00	4.19	3.94	83.8	78.8	51.0-149			6.15	20
1,1-Dichloroethane	5.00	5.06	4.82	101	96.4	70.0-126			4.86	20
1,2-Dichloroethane	5.00	4.53	4.29	90.6	85.8	70.0-128			5.44	20
1,1-Dichloroethene	5.00	4.68	4.49	93.6	89.8	71.0-124			4.14	20
cis-1,2-Dichloroethene	5.00	5.27	4.76	105	95.2	73.0-120			10.2	20
trans-1,2-Dichloroethene	5.00	5.23	4.87	105	97.4	73.0-120			7.13	20
1,2-Dichloropropane	5.00	5.01	5.02	100	100	77.0-125			0.199	20
1,1-Dichloropropene	5.00	4.56	4.18	91.2	83.6	74.0-126			8.70	20
1,3-Dichloropropane	5.00	5.20	5.17	104	103	80.0-120			0.579	20
cis-1,3-Dichloropropene	5.00	4.70	4.40	94.0	88.0	80.0-123			6.59	20
trans-1,3-Dichloropropene	5.00	5.03	4.74	101	94.8	78.0-124			5.94	20
2,2-Dichloropropane	5.00	5.18	4.82	104	96.4	58.0-130			7.20	20

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

(LCS) R3777046-1 04/01/22 02:45 • (LCSD) R3777046-2 04/01/22 03:05

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	4.41	4.28	88.2	85.6	74.0-126			2.99	20
Di-isopropyl ether	5.00	5.41	5.15	108	103	58.0-138			4.92	20
Ethylbenzene	5.00	5.17	4.85	103	97.0	79.0-123			6.39	20
4-Ethyltoluene	5.00	5.12	4.54	102	90.8	74.0-127			12.0	20
Hexachloro-1,3-butadiene	5.00	4.11	4.36	82.2	87.2	54.0-138			5.90	20
n-Hexane	5.00	5.56	5.15	111	103	57.0-133			7.66	20
Isopropylbenzene	5.00	4.58	4.49	91.6	89.8	76.0-127			1.98	20
p-Isopropyltoluene	5.00	4.77	4.78	95.4	95.6	76.0-125			0.209	20
2-Butanone (MEK)	25.0	25.2	26.1	101	104	44.0-160			3.51	20
Methyl Cyclohexane	5.00	4.97	4.77	99.4	95.4	68.0-126			4.11	20
Methylene Chloride	5.00	5.70	5.12	114	102	67.0-120			10.7	20
4-Methyl-2-pentanone (MIBK)	25.0	27.1	26.0	108	104	68.0-142			4.14	20
Methyl tert-butyl ether	5.00	4.91	4.59	98.2	91.8	68.0-125			6.74	20
Naphthalene	5.00	3.93	4.16	78.6	83.2	54.0-135			5.69	20
Propene	5.00	5.23	5.62	105	112	30.0-160			7.19	20
n-Propylbenzene	5.00	5.02	4.66	100	93.2	77.0-124			7.44	20
Styrene	5.00	4.63	4.50	92.6	90.0	73.0-130			2.85	20
1,1,1,2-Tetrachloroethane	5.00	5.54	5.21	111	104	75.0-125			6.14	20
1,1,2,2-Tetrachloroethane	5.00	5.41	5.40	108	108	65.0-130			0.185	20
1,1,2-Trichlorotrifluoroethane	5.00	4.80	4.47	96.0	89.4	69.0-132			7.12	20
Tetrachloroethene	5.00	5.46	5.02	109	100	72.0-132			8.40	20
Toluene	5.00	5.19	4.86	104	97.2	79.0-120			6.57	20
1,2,3-Trichlorobenzene	5.00	3.98	4.44	79.6	88.8	50.0-138			10.9	20
1,2,4-Trichlorobenzene	5.00	3.75	4.30	75.0	86.0	57.0-137			13.7	20
1,1,1-Trichloroethane	5.00	4.48	4.25	89.6	85.0	73.0-124			5.27	20
1,1,2-Trichloroethane	5.00	5.37	5.15	107	103	80.0-120			4.18	20
Trichloroethene	5.00	4.69	4.36	93.8	87.2	78.0-124			7.29	20
Trichlorofluoromethane	5.00	4.32	4.05	86.4	81.0	59.0-147			6.45	20
1,2,3-Trichloropropane	5.00	5.46	5.67	109	113	73.0-130			3.77	20
1,2,4-Trimethylbenzene	5.00	4.87	4.65	97.4	93.0	76.0-121			4.62	20
1,2,3-Trimethylbenzene	5.00	5.10	5.07	102	101	77.0-120			0.590	20
1,3,5-Trimethylbenzene	5.00	5.10	5.23	102	105	76.0-122			2.52	20
Vinyl chloride	5.00	4.42	4.26	88.4	85.2	67.0-131			3.69	20
Xylenes, Total	15.0	16.0	15.4	107	103	79.0-123			3.82	20
(S) Toluene-d8				*107*	*108*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.8*	*98.6*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*92.7*	*88.1*	*70.0-130*				

L1476358-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476358-02 04/01/22 07:11 • (MS) R3777046-4 04/01/22 10:56 • (MSD) R3777046-5 04/01/22 11:17

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	30.0	27.5	120	110	1	10.0-160			8.70	35
Acrolein	25.0	U	51.1	51.3	204	205	1	10.0-160	M1	M1	0.391	39
Acrylonitrile	25.0	U	30.6	29.6	122	118	1	21.0-160			3.32	32
Benzene	5.00	1.56	7.03	6.46	109	98.0	1	17.0-158			8.45	27
Bromobenzene	5.00	U	5.07	4.71	101	94.2	1	30.0-149			7.36	28
Bromodichloromethane	5.00	U	4.75	4.43	95.0	88.6	1	31.0-150			6.97	27
Bromoform	5.00	0.392	4.55	4.62	83.2	84.6	1	29.0-150			1.53	29
Bromomethane	5.00	U	4.47	4.31	89.4	86.2	1	10.0-160			3.64	38
1,3-Butadiene	5.00	U	4.62	4.10	92.4	82.0	1	10.0-160			11.9	22
n-Butylbenzene	5.00	U	3.69	4.03	73.8	80.6	1	31.0-150			8.81	30
sec-Butylbenzene	5.00	U	4.10	4.30	82.0	86.0	1	33.0-155			4.76	29
tert-Butylbenzene	5.00	U	4.58	4.68	91.6	93.6	1	34.0-153			2.16	28
Carbon tetrachloride	5.00	U	4.46	4.31	89.2	86.2	1	23.0-159			3.42	28
Carbon disulfide	5.00	U	4.53	4.19	90.6	83.8	1	10.0-156			7.80	28
Chlorobenzene	5.00	U	5.51	5.26	110	105	1	33.0-152			4.64	27
Chlorodibromomethane	5.00	U	4.61	4.50	92.2	90.0	1	37.0-149			2.41	27
Chloroethane	5.00	U	5.11	4.79	102	95.8	1	10.0-160			6.46	30
Chloroform	5.00	2.17	7.16	6.89	99.8	94.4	1	29.0-154			3.84	28
Chloromethane	5.00	U	6.12	5.61	122	112	1	10.0-160			8.70	29
Cyclohexane	5.00	U	5.01	5.01	100	100	1	19.0-160			0.000	23
2-Chlorotoluene	5.00	U	4.99	4.95	99.8	99.0	1	32.0-153			0.805	28
4-Chlorotoluene	5.00	U	4.39	4.30	87.8	86.0	1	32.0-150			2.07	28
1,2-Dibromo-3-Chloropropane	5.00	U	5.18	5.13	104	103	1	22.0-151			0.970	34
1,2-Dibromoethane	5.00	U	5.46	4.84	109	96.8	1	34.0-147			12.0	27
Dibromomethane	5.00	U	4.60	4.15	92.0	83.0	1	30.0-151			10.3	27
1,2-Dichlorobenzene	5.00	U	5.18	5.17	104	103	1	34.0-149			0.193	28
1,3-Dichlorobenzene	5.00	U	4.57	4.63	91.4	92.6	1	36.0-146			1.30	27
1,4-Dichlorobenzene	5.00	U	4.60	4.58	92.0	91.6	1	35.0-142			0.436	27
Dichlorodifluoromethane	5.00	U	4.03	4.31	80.6	86.2	1	10.0-160			6.71	29
1,1-Dichloroethane	5.00	1.40	6.62	6.25	104	97.0	1	25.0-158			5.75	27
1,2-Dichloroethane	5.00	U	4.89	4.49	97.8	89.8	1	29.0-151			8.53	27
1,1-Dichloroethene	5.00	107	111	106	80.0	0.000	1	11.0-160		M3	4.61	29
cis-1,2-Dichloroethene	5.00	2.13	7.22	6.63	102	90.0	1	10.0-160			8.52	27
trans-1,2-Dichloroethene	5.00	0.314	5.42	5.24	102	98.5	1	17.0-153			3.38	27
1,2-Dichloropropane	5.00	U	5.42	5.00	108	100	1	30.0-156			8.06	27
1,1-Dichloropropene	5.00	U	4.55	4.26	91.0	85.2	1	25.0-158			6.58	27
1,3-Dichloropropane	5.00	U	5.38	5.15	108	103	1	38.0-147			4.37	27
cis-1,3-Dichloropropene	5.00	U	4.44	4.16	88.8	83.2	1	34.0-149			6.51	28
trans-1,3-Dichloropropene	5.00	U	5.06	4.65	101	93.0	1	32.0-149			8.44	28
2,2-Dichloropropane	5.00	U	5.50	5.08	110	102	1	24.0-152			7.94	29

L1476358-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476358-02 04/01/22 07:11 • (MS) R3777046-4 04/01/22 10:56 • (MSD) R3777046-5 04/01/22 11:17

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	2.25	0.926	45.0	18.5	1	51.0-139	M2	M2 R5	83.4	20
Di-isopropyl ether	5.00	U	5.61	5.09	112	102	1	21.0-160			9.72	28
Ethylbenzene	5.00	U	5.26	5.04	105	101	1	30.0-155			4.27	27
4-Ethyltoluene	5.00	U	4.22	4.58	84.4	91.6	1	10.0-160			8.18	20
Hexachloro-1,3-butadiene	5.00	U	3.20	3.94	64.0	78.8	1	20.0-154			20.7	34
n-Hexane	5.00	U	3.60	4.35	72.0	87.0	1	10.0-153			18.9	28
Isopropylbenzene	5.00	U	4.62	4.43	92.4	88.6	1	28.0-157			4.20	27
p-Isopropyltoluene	5.00	U	4.08	4.42	81.6	88.4	1	30.0-154			8.00	29
2-Butanone (MEK)	25.0	U	27.3	25.9	109	104	1	10.0-160			5.26	32
Methyl Cyclohexane	5.00	U	10.3	10.1	206	202	1	11.0-160	M1	M1	1.96	24
Methylene Chloride	5.00	U	5.77	5.14	115	103	1	23.0-144			11.5	28
4-Methyl-2-pentanone (MIBK)	25.0	U	28.9	28.0	116	112	1	29.0-160			3.16	29
Methyl tert-butyl ether	5.00	U	4.63	4.38	92.6	87.6	1	28.0-150			5.55	29
Naphthalene	5.00	U	4.30	4.46	86.0	89.2	1	12.0-156			3.65	35
Propene	5.00	U	4.39	4.14	87.8	82.8	1	10.0-160			5.86	29
n-Propylbenzene	5.00	U	4.53	4.81	90.6	96.2	1	31.0-154			6.00	28
Styrene	5.00	U	4.11	3.33	82.2	66.6	1	33.0-155			21.0	28
1,1,1,2-Tetrachloroethane	5.00	U	5.51	5.36	110	107	1	36.0-151			2.76	29
1,1,2,2-Tetrachloroethane	5.00	U	5.76	5.56	115	111	1	33.0-150			3.53	28
1,1,2-Trichlorotrifluoroethane	5.00	U	4.49	4.54	89.8	90.8	1	23.0-160			1.11	30
Tetrachloroethene	5.00	1.53	6.57	6.12	101	91.8	1	10.0-160			7.09	27
Toluene	5.00	U	5.10	4.89	102	97.8	1	26.0-154			4.20	28
1,2,3-Trichlorobenzene	5.00	U	3.82	4.15	76.4	83.0	1	17.0-150			8.28	36
1,2,4-Trichlorobenzene	5.00	U	3.31	3.79	66.2	75.8	1	24.0-150			13.5	33
1,1,1-Trichloroethane	5.00	U	4.63	4.46	92.6	89.2	1	23.0-160			3.74	28
1,1,2-Trichloroethane	5.00	2.20	7.52	7.16	106	99.2	1	35.0-147			4.90	27
Trichloroethene	5.00	744	732	688	0.000	0.000	1	10.0-160	E1 M3	E1 M3	6.20	25
Trichlorofluoromethane	5.00	U	4.48	4.15	89.6	83.0	1	17.0-160			7.65	31
1,2,3-Trichloropropane	5.00	U	5.93	5.80	119	116	1	34.0-151			2.22	29
1,2,4-Trimethylbenzene	5.00	U	4.49	4.64	89.8	92.8	1	26.0-154			3.29	27
1,2,3-Trimethylbenzene	5.00	U	4.97	4.99	99.4	99.8	1	32.0-149			0.402	28
1,3,5-Trimethylbenzene	5.00	U	5.04	5.12	101	102	1	28.0-153			1.57	27
Vinyl chloride	5.00	U	4.85	4.53	97.0	90.6	1	10.0-160			6.82	27
Xylenes, Total	15.0	U	15.3	14.7	102	98.0	1	29.0-154			4.00	28
(S) Toluene-d8					*109*	*110*		*80.0-120*				
(S) 4-Bromofluorobenzene					*96.7*	*98.1*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*92.7*	*88.3*		*70.0-130*				

L1476360-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476360-01 04/01/22 07:52 • (MS) R3777046-6 04/01/22 11:37 • (MSD) R3777046-7 04/01/22 11:58

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	27.3	29.1	109	116	1	10.0-160			6.38	35
Acrolein	25.0	U	51.8	55.9	207	224	1	10.0-160	M1	M1	7.61	39
Acrylonitrile	25.0	U	29.6	31.0	118	124	1	21.0-160			4.62	32
Benzene	5.00	U	4.93	5.38	98.6	108	1	17.0-158			8.73	27
Bromobenzene	5.00	U	4.69	4.79	93.8	95.8	1	30.0-149			2.11	28
Bromodichloromethane	5.00	U	4.46	4.93	89.2	98.6	1	31.0-150			10.0	27
Bromoform	5.00	U	4.56	4.69	91.2	93.8	1	29.0-150			2.81	29
Bromomethane	5.00	U	4.56	4.95	91.2	99.0	1	10.0-160			8.20	38
1,3-Butadiene	5.00	U	4.32	5.00	86.4	100	1	10.0-160			14.6	22
n-Butylbenzene	5.00	U	3.14	4.09	62.8	81.8	1	31.0-150			26.3	30
sec-Butylbenzene	5.00	U	3.77	4.33	75.4	86.6	1	33.0-155			13.8	29
tert-Butylbenzene	5.00	U	4.25	4.69	85.0	93.8	1	34.0-153			9.84	28
Carbon tetrachloride	5.00	U	4.42	4.57	88.4	91.4	1	23.0-159			3.34	28
Carbon disulfide	5.00	U	4.13	4.68	82.6	93.6	1	10.0-156			12.5	28
Chlorobenzene	5.00	U	5.04	5.54	101	111	1	33.0-152			9.45	27
Chlorodibromomethane	5.00	U	4.41	4.70	88.2	94.0	1	37.0-149			6.37	27
Chloroethane	5.00	U	4.90	5.04	98.0	101	1	10.0-160			2.82	30
Chloroform	5.00	0.171	4.95	5.42	95.6	105	1	29.0-154			9.06	28
Chloromethane	5.00	U	5.72	6.08	114	122	1	10.0-160			6.10	29
Cyclohexane	5.00	U	4.61	5.19	92.2	104	1	19.0-160			11.8	23
2-Chlorotoluene	5.00	U	4.72	4.97	94.4	99.4	1	32.0-153			5.16	28
4-Chlorotoluene	5.00	U	4.09	4.40	81.8	88.0	1	32.0-150			7.30	28
1,2-Dibromo-3-Chloropropane	5.00	U	5.53	5.34	111	107	1	22.0-151			3.50	34
1,2-Dibromoethane	5.00	U	4.78	5.24	95.6	105	1	34.0-147			9.18	27
Dibromomethane	5.00	U	4.31	4.58	86.2	91.6	1	30.0-151			6.07	27
1,2-Dichlorobenzene	5.00	U	4.62	5.05	92.4	101	1	34.0-149			8.89	28
1,3-Dichlorobenzene	5.00	U	4.08	4.54	81.6	90.8	1	36.0-146			10.7	27
1,4-Dichlorobenzene	5.00	U	4.04	4.62	80.8	92.4	1	35.0-142			13.4	27
Dichlorodifluoromethane	5.00	U	3.64	4.54	72.8	90.8	1	10.0-160			22.0	29
1,1-Dichloroethane	5.00	U	5.16	5.53	103	111	1	25.0-158			6.92	27
1,2-Dichloroethane	5.00	U	4.71	4.84	94.2	96.8	1	29.0-151			2.72	27
1,1-Dichloroethene	5.00	1.75	6.06	6.45	86.2	94.0	1	11.0-160			6.24	29
cis-1,2-Dichloroethene	5.00	U	5.04	5.38	101	108	1	10.0-160			6.53	27
trans-1,2-Dichloroethene	5.00	U	5.00	5.26	100	105	1	17.0-153			5.07	27
1,2-Dichloropropane	5.00	U	5.14	5.62	103	112	1	30.0-156			8.92	27
1,1-Dichloropropene	5.00	U	4.19	4.73	83.8	94.6	1	25.0-158			12.1	27
1,3-Dichloropropane	5.00	U	5.00	5.38	100	108	1	38.0-147			7.32	27
cis-1,3-Dichloropropene	5.00	U	4.16	4.49	83.2	89.8	1	34.0-149			7.63	28
trans-1,3-Dichloropropene	5.00	U	4.73	5.11	94.6	102	1	32.0-149			7.72	28
2,2-Dichloropropane	5.00	U	5.37	5.42	107	108	1	24.0-152			0.927	29

L1476360-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476360-01 04/01/22 07:52 • (MS) R3777046-6 04/01/22 11:37 • (MSD) R3777046-7 04/01/22 11:58

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	4.00	4.27	80.0	85.4	1	51.0-139			6.53	20
Di-isopropyl ether	5.00	U	5.37	5.65	107	113	1	21.0-160			5.08	28
Ethylbenzene	5.00	U	4.65	5.45	93.0	109	1	30.0-155			15.8	27
4-Ethyltoluene	5.00	U	3.88	4.62	77.6	92.4	1	10.0-160			17.4	20
Hexachloro-1,3-butadiene	5.00	U	2.81	3.87	56.2	77.4	1	20.0-154			31.7	34
n-Hexane	5.00	U	3.05	4.52	61.0	90.4	1	10.0-153		R5	38.8	28
Isopropylbenzene	5.00	U	4.31	4.72	86.2	94.4	1	28.0-157			9.08	27
p-Isopropyltoluene	5.00	U	3.66	4.44	73.2	88.8	1	30.0-154			19.3	29
2-Butanone (MEK)	25.0	U	27.5	28.2	110	113	1	10.0-160			2.51	32
Methyl Cyclohexane	5.00	U	3.49	4.53	69.8	90.6	1	11.0-160		R5	25.9	24
Methylene Chloride	5.00	U	5.16	5.47	103	109	1	23.0-144			5.83	28
4-Methyl-2-pentanone (MIBK)	25.0	U	27.8	29.6	111	118	1	29.0-160			6.27	29
Methyl tert-butyl ether	5.00	U	4.49	4.79	89.8	95.8	1	28.0-150			6.47	29
Naphthalene	5.00	U	4.06	4.44	81.2	88.8	1	12.0-156			8.94	35
Propene	5.00	U	5.28	5.82	106	116	1	10.0-160			9.73	29
n-Propylbenzene	5.00	U	4.11	4.70	82.2	94.0	1	31.0-154			13.4	28
Styrene	5.00	U	4.43	4.67	88.6	93.4	1	33.0-155			5.27	28
1,1,1,2-Tetrachloroethane	5.00	U	5.30	5.53	106	111	1	36.0-151			4.25	29
1,1,2,2-Tetrachloroethane	5.00	U	5.62	5.66	112	113	1	33.0-150			0.709	28
1,1,2-Trichlorotrifluoroethane	5.00	U	3.68	4.64	73.6	92.8	1	23.0-160			23.1	30
Tetrachloroethene	5.00	U	4.24	5.44	84.8	109	1	10.0-160			24.8	27
Toluene	5.00	U	4.94	5.18	98.8	104	1	26.0-154			4.74	28
1,2,3-Trichlorobenzene	5.00	U	3.84	4.37	76.8	87.4	1	17.0-150			12.9	36
1,2,4-Trichlorobenzene	5.00	U	3.24	4.13	64.8	82.6	1	24.0-150			24.2	33
1,1,1-Trichloroethane	5.00	U	4.49	4.78	89.8	95.6	1	23.0-160			6.26	28
1,1,2-Trichloroethane	5.00	U	5.11	5.71	102	114	1	35.0-147			11.1	27
Trichloroethene	5.00	4.33	8.84	8.63	90.2	86.0	1	10.0-160			2.40	25
Trichlorofluoromethane	5.00	U	4.07	4.68	81.4	93.6	1	17.0-160			13.9	31
1,2,3-Trichloropropane	5.00	U	5.72	5.75	114	115	1	34.0-151			0.523	29
1,2,4-Trimethylbenzene	5.00	U	4.19	4.72	83.8	94.4	1	26.0-154			11.9	27
1,2,3-Trimethylbenzene	5.00	U	4.54	5.12	90.8	102	1	32.0-149			12.0	28
1,3,5-Trimethylbenzene	5.00	U	4.73	5.14	94.6	103	1	28.0-153			8.31	27
Vinyl chloride	5.00	U	4.35	4.83	87.0	96.6	1	10.0-160			10.5	27
Xylenes, Total	15.0	U	14.3	15.8	95.3	105	1	29.0-154			9.97	28
(S) Toluene-d8					*108*	*109*		*80.0-120*				
(S) 4-Bromofluorobenzene					*97.9*	*98.7*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*89.5*	*91.6*		*70.0-130*				

Method Blank (MB)

(MB) R3777107-3 04/04/22 01:04

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1-Dichloroethene	U		0.188	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
Trichloroethene	U		0.190	1.00
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*101*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*81.1*			*70.0-130*

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

(LCS) R3777107-1 04/03/22 23:21 • (LCSD) R3777107-2 04/03/22 23:42

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 %
1,1-Dichloroethene	5.00	5.12	4.83	102	96.6	71.0-124			5.83	20
1,2,3-Trichlorobenzene	5.00	5.73	6.18	115	124	50.0-138			7.56	20
Trichloroethene	5.00	5.52	5.27	110	105	78.0-124			4.63	20
(S) Toluene-d8				*111*	*110*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*99.9*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*83.0*	*82.0*	*70.0-130*				

Method Blank (MB)

(MB) R3776930-3 04/02/22 13:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	*101*			*77.0-127*

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

(LCS) R3776930-1 04/02/22 12:05 • (LCSD) R3776930-2 04/02/22 12:25

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	%	%	%			%	%
1,4-Dioxane	50.0	52.0	48.8	104	97.6	55.0-138			6.35	24
(S) Toluene-d8				*101*	*101*	*77.0-127*				

L1476358-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476358-02 04/02/22 17:03 • (MS) R3776930-4 04/02/22 20:21 • (MSD) R3776930-5 04/02/22 20:41

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	251	309	322	116	142	1	13.0-160			4.12	31
(S) Toluene-d8					*102*	*102*		*77.0-127*				

L1477519-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1477519-01 04/02/22 19:02 • (MS) R3776930-6 04/02/22 21:01 • (MSD) R3776930-7 04/02/22 21:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	U	52.5	54.2	105	108	1	13.0-160			3.19	31
(S) Toluene-d8					*101*	*101*		*77.0-127*				

INTERNAL STANDARD SUMMARY

Instrument: VOCMS16 • File ID: 0331_54

04/01/22 02:45

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0331_54	453075	179234	143395
Upper Limit		906150	358468	286790
Lower Limit		226538	89617	71698
LCS R3777046-1 WG1841562 1x	0331_54LCS	453075	179234	143395
LCSD R3777046-2 WG1841562 1x	0401_01	464538	182669	147215
BLANK R3777046-3 WG1841562 1x	0401_03	426730	163671	131492
L1476358-04 WG1841562 1x	0401_04	436390	162286	133175
L1476358-01 WG1841562 1x	0401_12	415467	157494	122923
L1476358-02 WG1841562 1x	0401_13	425114	158487	127603
L1476358-03 WG1841562 1x	0401_14	408215	155500	124778
MS R3777046-4 WG1841562 1x	0401_24	396182	153078	124332
MSD R3777046-5 WG1841562 1x	0401_25	418336	158612	125664
MS R3777046-6 WG1841562 1x	0401_26	411608	159262	130045
MSD R3777046-7 WG1841562 1x	0401_27	407439	158840	134426

Instrument: VOCMS26 • File ID: 0404_02

04/03/22 23:21

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0404_02	480543	191825	184738
Upper Limit		961086	383650	369476
Lower Limit		240272	95913	92369
LCS R3777107-1 WG1842601 1x	0404_02LCSA	480543	191825	184738
LCSD R3777107-2 WG1842601 1x	0404_03A	480439	191498	182460
BLANK R3777107-3 WG1842601 1x	0404_07A	491279	189485	180247
L1476358-04 WG1842601 1x	0404_08	490074	188141	177283
L1476358-03 WG1842601 1x	0404_09	492278	191365	178897
L1476358-02 WG1842601 20x	0404_14	477861	188298	183391

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 0402A_02

04/02/22 11:45

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
Standard	0402A_02	495912
Upper Limit		991824
Lower Limit		247956
LCS R3776930-1 WG1841205 1x	0402A_03	484844
LCSD R3776930-2 WG1841205 1x	0402A_04	498203
BLANK R3776930-3 WG1841205 1x	0402A_06	487066
L1476358-01 WG1841205 1x	0402A_14	478643
L1476358-02 WG1841205 1x	0402A_15	495678
L1476358-03 WG1841205 1x	0402A_16	465683
MS R3776930-4 WG1841205 1x	0402A_25	470974
MSD R3776930-5 WG1841205 1x	0402A_26	475120
MS R3776930-6 WG1841205 1x	0402A_27	479664
MSD R3776930-7 WG1841205 1x	0402A_28	473534

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
E1	Concentration estimated. Analyte exceeded calibration range. Reanalysis not possible due to insufficient sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
L1	The associated blank spike recovery was above laboratory acceptance limits.
M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
R5	MS/MSD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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

Pres Chk

Report to:
Christopher Funk

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

Project Description:
Nammo TTU Groundwater Monitoring

City/State Collected: Mesa, AZ

Please Circle: (PT) MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed: Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	SUBPER6850 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
TTU-1-50-20220326	G	GW	50	03/26/22	0950	7	X		X	X		-01
TTU-2-114-20220326	G	GW	114	03/26/22	1018	14	X		X	X	MS/MSD	-02
~~FIELD BLANK~~ Dup-04	-	GW	-	-	-	7	X		X	X		-03
~~TRIP BLANK~~ Trip Blank	-	GW	-	-	-	1			X			-04
Temp Blank	-	GW	-	-	-	1	—	—	—	—		
		GW										

03/26/22

Chain of Custody Page 1 of 1

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/hubfs/pas-standard-terms.pdf

SDG # 1476358
E117

Acctnum: **PINYONMAZ**
Template: **T205653**
Prelogin: **P912520**
PM: **288 - Daphne Richards**
PB:
Shipped Via:

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

Remarks:SUBPER6850 to be subbed to Eurofins - Sacramento, CA

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 5349 7820 9901

Sample Receipt Checklist
COC Seal Present/Intact: NP 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)	Date:	Time:	Received by: (Signature)
	3/26/22	1200	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	3/28/22	1800	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: (Yes) No
(HCL) MeoH
TBR

Temp: 1.7°C Bottles Received:
1.7 ±0=1.7 36

Date: 03/29/22 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

April 05, 2022

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

Pinyon Environmental

Sample Delivery Group:	L1477519
Samples Received:	04/01/2022
Project Number:	722152201
Description:	Nammo TTU Groundwater Monitoring

Report To: Christopher Funk
4815 E. Carefree Highway
#108-274
Cave Creek, AZ 85331

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

PF-2-400-20220331 L1477519-01 GW

Collected by: Christopher Funk
Collected date/time: 03/31/22 13:00
Received date/time: 04/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1843079	1	04/05/22 10:59	04/05/22 10:59	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 19:02	04/02/22 19:02	BMB	Mt. Juliet, TN

DUP-05 L1477519-02 GW

Collected by: Christopher Funk
Collected date/time: 03/31/22 00:00
Received date/time: 04/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1843079	1	04/05/22 11:20	04/05/22 11:20	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 19:22	04/02/22 19:22	BMB	Mt. Juliet, TN

TRIP BLANK L1477519-03 GW

Collected by: Christopher Funk
Collected date/time: 03/31/22 00:00
Received date/time: 04/01/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1843079	1	04/05/22 10:19	04/05/22 10:19	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B-SIM	WG1841205	1	04/02/22 14:24	04/02/22 14:24	BMB	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

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	04/05/2022 10:59	WG1843079
Acrolein	U		2.54	50.0	1	04/05/2022 10:59	WG1843079
Acrylonitrile	U		0.671	10.0	1	04/05/2022 10:59	WG1843079
Benzene	U		0.0941	1.00	1	04/05/2022 10:59	WG1843079
Bromobenzene	U		0.118	1.00	1	04/05/2022 10:59	WG1843079
Bromodichloromethane	U		0.136	1.00	1	04/05/2022 10:59	WG1843079
Bromoform	U		0.129	1.00	1	04/05/2022 10:59	WG1843079
Bromomethane	U		0.605	5.00	1	04/05/2022 10:59	WG1843079
1,3-Butadiene	U		0.299	2.00	1	04/05/2022 10:59	WG1843079
n-Butylbenzene	U		0.157	1.00	1	04/05/2022 10:59	WG1843079
sec-Butylbenzene	U		0.125	1.00	1	04/05/2022 10:59	WG1843079
tert-Butylbenzene	U		0.127	1.00	1	04/05/2022 10:59	WG1843079
Carbon tetrachloride	U		0.128	1.00	1	04/05/2022 10:59	WG1843079
Carbon disulfide	U		0.0962	1.00	1	04/05/2022 10:59	WG1843079
Chlorobenzene	U		0.116	1.00	1	04/05/2022 10:59	WG1843079
Chlorodibromomethane	U		0.140	1.00	1	04/05/2022 10:59	WG1843079
Chloroethane	U		0.192	5.00	1	04/05/2022 10:59	WG1843079
Chloroform	U		0.111	5.00	1	04/05/2022 10:59	WG1843079
Chloromethane	U		0.960	2.50	1	04/05/2022 10:59	WG1843079
Cyclohexane	U		0.188	1.00	1	04/05/2022 10:59	WG1843079
2-Chlorotoluene	U		0.106	1.00	1	04/05/2022 10:59	WG1843079
4-Chlorotoluene	U		0.114	1.00	1	04/05/2022 10:59	WG1843079
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/05/2022 10:59	WG1843079
1,2-Dibromoethane	U		0.126	1.00	1	04/05/2022 10:59	WG1843079
Dibromomethane	U		0.122	1.00	1	04/05/2022 10:59	WG1843079
1,2-Dichlorobenzene	U		0.107	1.00	1	04/05/2022 10:59	WG1843079
1,3-Dichlorobenzene	U		0.110	1.00	1	04/05/2022 10:59	WG1843079
1,4-Dichlorobenzene	U		0.120	1.00	1	04/05/2022 10:59	WG1843079
Dichlorodifluoromethane	U		0.374	5.00	1	04/05/2022 10:59	WG1843079
1,1-Dichloroethane	U		0.100	1.00	1	04/05/2022 10:59	WG1843079
1,2-Dichloroethane	U		0.0819	1.00	1	04/05/2022 10:59	WG1843079
1,1-Dichloroethene	U		0.188	1.00	1	04/05/2022 10:59	WG1843079
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/05/2022 10:59	WG1843079
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/05/2022 10:59	WG1843079
1,2-Dichloropropane	U		0.149	1.00	1	04/05/2022 10:59	WG1843079
1,1-Dichloropropene	U		0.142	1.00	1	04/05/2022 10:59	WG1843079
1,3-Dichloropropane	U		0.110	1.00	1	04/05/2022 10:59	WG1843079
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/05/2022 10:59	WG1843079
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/05/2022 10:59	WG1843079
2,2-Dichloropropane	U		0.161	1.00	1	04/05/2022 10:59	WG1843079
Dicyclopentadiene	U		0.253	1.00	1	04/05/2022 10:59	WG1843079
Di-isopropyl ether	U		0.105	1.00	1	04/05/2022 10:59	WG1843079
Ethylbenzene	U		0.137	1.00	1	04/05/2022 10:59	WG1843079
4-Ethyltoluene	U		0.208	1.00	1	04/05/2022 10:59	WG1843079
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/05/2022 10:59	WG1843079
n-Hexane	U		0.749	10.0	1	04/05/2022 10:59	WG1843079
Isopropylbenzene	U		0.105	1.00	1	04/05/2022 10:59	WG1843079
p-Isopropyltoluene	U		0.120	1.00	1	04/05/2022 10:59	WG1843079
2-Butanone (MEK)	U		1.19	10.0	1	04/05/2022 10:59	WG1843079
Methyl Cyclohexane	U		0.660	1.00	1	04/05/2022 10:59	WG1843079
Methylene Chloride	U		0.430	5.00	1	04/05/2022 10:59	WG1843079
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/05/2022 10:59	WG1843079
Methyl tert-butyl ether	U		0.101	1.00	1	04/05/2022 10:59	WG1843079
Naphthalene	U		1.00	5.00	1	04/05/2022 10:59	WG1843079
Propene	U		0.936	2.50	1	04/05/2022 10:59	WG1843079
n-Propylbenzene	U		0.0993	1.00	1	04/05/2022 10:59	WG1843079

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.118	1.00	1	04/05/2022 10:59	WG1843079
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/05/2022 10:59	WG1843079
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/05/2022 10:59	WG1843079
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/05/2022 10:59	WG1843079
Tetrachloroethene	U		0.300	1.00	1	04/05/2022 10:59	WG1843079
Toluene	U		0.278	1.00	1	04/05/2022 10:59	WG1843079
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/05/2022 10:59	WG1843079
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/05/2022 10:59	WG1843079
1,1,1-Trichloroethane	U		0.149	1.00	1	04/05/2022 10:59	WG1843079
1,1,2-Trichloroethane	U		0.158	1.00	1	04/05/2022 10:59	WG1843079
Trichloroethene	U	R7	0.190	1.00	1	04/05/2022 10:59	WG1843079
Trichlorofluoromethane	U		0.160	5.00	1	04/05/2022 10:59	WG1843079
1,2,3-Trichloropropane	U		0.237	2.50	1	04/05/2022 10:59	WG1843079
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/05/2022 10:59	WG1843079
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 10:59	WG1843079
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 10:59	WG1843079
Vinyl chloride	U		0.234	1.00	1	04/05/2022 10:59	WG1843079
Xylenes, Total	U		0.174	3.00	1	04/05/2022 10:59	WG1843079
(S) Toluene-d8	*112*			*80.0-120*		*04/05/2022 10:59*	WG1843079
(S) 4-Bromofluorobenzene	*98.8*			*77.0-126*		*04/05/2022 10:59*	WG1843079
(S) 1,2-Dichloroethane-d4	*89.2*			*70.0-130*		*04/05/2022 10:59*	WG1843079

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	04/02/2022 19:02	WG1841205
(S) Toluene-d8	*101*			*77.0-127*		*04/02/2022 19:02*	WG1841205

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	04/05/2022 11:20	WG1843079
Acrolein	U		2.54	50.0	1	04/05/2022 11:20	WG1843079
Acrylonitrile	U		0.671	10.0	1	04/05/2022 11:20	WG1843079
Benzene	U		0.0941	1.00	1	04/05/2022 11:20	WG1843079
Bromobenzene	U		0.118	1.00	1	04/05/2022 11:20	WG1843079
Bromodichloromethane	U		0.136	1.00	1	04/05/2022 11:20	WG1843079
Bromoform	U		0.129	1.00	1	04/05/2022 11:20	WG1843079
Bromomethane	U		0.605	5.00	1	04/05/2022 11:20	WG1843079
1,3-Butadiene	U		0.299	2.00	1	04/05/2022 11:20	WG1843079
n-Butylbenzene	U		0.157	1.00	1	04/05/2022 11:20	WG1843079
sec-Butylbenzene	U		0.125	1.00	1	04/05/2022 11:20	WG1843079
tert-Butylbenzene	U		0.127	1.00	1	04/05/2022 11:20	WG1843079
Carbon tetrachloride	U		0.128	1.00	1	04/05/2022 11:20	WG1843079
Carbon disulfide	U		0.0962	1.00	1	04/05/2022 11:20	WG1843079
Chlorobenzene	U		0.116	1.00	1	04/05/2022 11:20	WG1843079
Chlorodibromomethane	U		0.140	1.00	1	04/05/2022 11:20	WG1843079
Chloroethane	U		0.192	5.00	1	04/05/2022 11:20	WG1843079
Chloroform	U		0.111	5.00	1	04/05/2022 11:20	WG1843079
Chloromethane	U		0.960	2.50	1	04/05/2022 11:20	WG1843079
Cyclohexane	U		0.188	1.00	1	04/05/2022 11:20	WG1843079
2-Chlorotoluene	U		0.106	1.00	1	04/05/2022 11:20	WG1843079
4-Chlorotoluene	U		0.114	1.00	1	04/05/2022 11:20	WG1843079
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/05/2022 11:20	WG1843079
1,2-Dibromoethane	U		0.126	1.00	1	04/05/2022 11:20	WG1843079
Dibromomethane	U		0.122	1.00	1	04/05/2022 11:20	WG1843079
1,2-Dichlorobenzene	U		0.107	1.00	1	04/05/2022 11:20	WG1843079
1,3-Dichlorobenzene	U		0.110	1.00	1	04/05/2022 11:20	WG1843079
1,4-Dichlorobenzene	U		0.120	1.00	1	04/05/2022 11:20	WG1843079
Dichlorodifluoromethane	U		0.374	5.00	1	04/05/2022 11:20	WG1843079
1,1-Dichloroethane	U		0.100	1.00	1	04/05/2022 11:20	WG1843079
1,2-Dichloroethane	U		0.0819	1.00	1	04/05/2022 11:20	WG1843079
1,1-Dichloroethene	U		0.188	1.00	1	04/05/2022 11:20	WG1843079
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/05/2022 11:20	WG1843079
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/05/2022 11:20	WG1843079
1,2-Dichloropropane	U		0.149	1.00	1	04/05/2022 11:20	WG1843079
1,1-Dichloropropene	U		0.142	1.00	1	04/05/2022 11:20	WG1843079
1,3-Dichloropropane	U		0.110	1.00	1	04/05/2022 11:20	WG1843079
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/05/2022 11:20	WG1843079
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/05/2022 11:20	WG1843079
2,2-Dichloropropane	U		0.161	1.00	1	04/05/2022 11:20	WG1843079
Dicyclopentadiene	U		0.253	1.00	1	04/05/2022 11:20	WG1843079
Di-isopropyl ether	U		0.105	1.00	1	04/05/2022 11:20	WG1843079
Ethylbenzene	U		0.137	1.00	1	04/05/2022 11:20	WG1843079
4-Ethyltoluene	U		0.208	1.00	1	04/05/2022 11:20	WG1843079
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/05/2022 11:20	WG1843079
n-Hexane	U		0.749	10.0	1	04/05/2022 11:20	WG1843079
Isopropylbenzene	U		0.105	1.00	1	04/05/2022 11:20	WG1843079
p-Isopropyltoluene	U		0.120	1.00	1	04/05/2022 11:20	WG1843079
2-Butanone (MEK)	U		1.19	10.0	1	04/05/2022 11:20	WG1843079
Methyl Cyclohexane	U		0.660	1.00	1	04/05/2022 11:20	WG1843079
Methylene Chloride	U		0.430	5.00	1	04/05/2022 11:20	WG1843079
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/05/2022 11:20	WG1843079
Methyl tert-butyl ether	U		0.101	1.00	1	04/05/2022 11:20	WG1843079
Naphthalene	U		1.00	5.00	1	04/05/2022 11:20	WG1843079
Propene	U		0.936	2.50	1	04/05/2022 11:20	WG1843079
n-Propylbenzene	U		0.0993	1.00	1	04/05/2022 11:20	WG1843079

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.118	1.00	1	04/05/2022 11:20	WG1843079
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/05/2022 11:20	WG1843079
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/05/2022 11:20	WG1843079
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/05/2022 11:20	WG1843079
Tetrachloroethene	U		0.300	1.00	1	04/05/2022 11:20	WG1843079
Toluene	U		0.278	1.00	1	04/05/2022 11:20	WG1843079
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/05/2022 11:20	WG1843079
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/05/2022 11:20	WG1843079
1,1,1-Trichloroethane	U		0.149	1.00	1	04/05/2022 11:20	WG1843079
1,1,2-Trichloroethane	U		0.158	1.00	1	04/05/2022 11:20	WG1843079
Trichloroethene	U	R7	0.190	1.00	1	04/05/2022 11:20	WG1843079
Trichlorofluoromethane	U		0.160	5.00	1	04/05/2022 11:20	WG1843079
1,2,3-Trichloropropane	U		0.237	2.50	1	04/05/2022 11:20	WG1843079
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/05/2022 11:20	WG1843079
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 11:20	WG1843079
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 11:20	WG1843079
Vinyl chloride	U		0.234	1.00	1	04/05/2022 11:20	WG1843079
Xylenes, Total	U		0.174	3.00	1	04/05/2022 11:20	WG1843079
(S) Toluene-d8	*110*			*80.0-120*		*04/05/2022 11:20*	WG1843079
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*		*04/05/2022 11:20*	WG1843079
(S) 1,2-Dichloroethane-d4	*89.6*			*70.0-130*		*04/05/2022 11:20*	WG1843079

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,4-Dioxane	U		0.597	3.00	1	04/02/2022 19:22	WG1841205
(S) Toluene-d8	*102*			*77.0-127*		*04/02/2022 19:22*	WG1841205

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	04/05/2022 10:19	WG1843079
Acrolein	U		2.54	50.0	1	04/05/2022 10:19	WG1843079
Acrylonitrile	U		0.671	10.0	1	04/05/2022 10:19	WG1843079
Benzene	U		0.0941	1.00	1	04/05/2022 10:19	WG1843079
Bromobenzene	U		0.118	1.00	1	04/05/2022 10:19	WG1843079
Bromodichloromethane	U		0.136	1.00	1	04/05/2022 10:19	WG1843079
Bromoform	U		0.129	1.00	1	04/05/2022 10:19	WG1843079
Bromomethane	U		0.605	5.00	1	04/05/2022 10:19	WG1843079
1,3-Butadiene	U		0.299	2.00	1	04/05/2022 10:19	WG1843079
n-Butylbenzene	U		0.157	1.00	1	04/05/2022 10:19	WG1843079
sec-Butylbenzene	U		0.125	1.00	1	04/05/2022 10:19	WG1843079
tert-Butylbenzene	U		0.127	1.00	1	04/05/2022 10:19	WG1843079
Carbon tetrachloride	U		0.128	1.00	1	04/05/2022 10:19	WG1843079
Carbon disulfide	U		0.0962	1.00	1	04/05/2022 10:19	WG1843079
Chlorobenzene	U		0.116	1.00	1	04/05/2022 10:19	WG1843079
Chlorodibromomethane	U		0.140	1.00	1	04/05/2022 10:19	WG1843079
Chloroethane	U		0.192	5.00	1	04/05/2022 10:19	WG1843079
Chloroform	U		0.111	5.00	1	04/05/2022 10:19	WG1843079
Chloromethane	U		0.960	2.50	1	04/05/2022 10:19	WG1843079
Cyclohexane	U		0.188	1.00	1	04/05/2022 10:19	WG1843079
2-Chlorotoluene	U		0.106	1.00	1	04/05/2022 10:19	WG1843079
4-Chlorotoluene	U		0.114	1.00	1	04/05/2022 10:19	WG1843079
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	04/05/2022 10:19	WG1843079
1,2-Dibromoethane	U		0.126	1.00	1	04/05/2022 10:19	WG1843079
Dibromomethane	U		0.122	1.00	1	04/05/2022 10:19	WG1843079
1,2-Dichlorobenzene	U		0.107	1.00	1	04/05/2022 10:19	WG1843079
1,3-Dichlorobenzene	U		0.110	1.00	1	04/05/2022 10:19	WG1843079
1,4-Dichlorobenzene	U		0.120	1.00	1	04/05/2022 10:19	WG1843079
Dichlorodifluoromethane	U		0.374	5.00	1	04/05/2022 10:19	WG1843079
1,1-Dichloroethane	U		0.100	1.00	1	04/05/2022 10:19	WG1843079
1,2-Dichloroethane	U		0.0819	1.00	1	04/05/2022 10:19	WG1843079
1,1-Dichloroethene	U		0.188	1.00	1	04/05/2022 10:19	WG1843079
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/05/2022 10:19	WG1843079
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/05/2022 10:19	WG1843079
1,2-Dichloropropane	U		0.149	1.00	1	04/05/2022 10:19	WG1843079
1,1-Dichloropropene	U		0.142	1.00	1	04/05/2022 10:19	WG1843079
1,3-Dichloropropane	U		0.110	1.00	1	04/05/2022 10:19	WG1843079
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/05/2022 10:19	WG1843079
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/05/2022 10:19	WG1843079
2,2-Dichloropropane	U		0.161	1.00	1	04/05/2022 10:19	WG1843079
Dicyclopentadiene	U		0.253	1.00	1	04/05/2022 10:19	WG1843079
Di-isopropyl ether	U		0.105	1.00	1	04/05/2022 10:19	WG1843079
Ethylbenzene	U		0.137	1.00	1	04/05/2022 10:19	WG1843079
4-Ethyltoluene	U		0.208	1.00	1	04/05/2022 10:19	WG1843079
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/05/2022 10:19	WG1843079
n-Hexane	U		0.749	10.0	1	04/05/2022 10:19	WG1843079
Isopropylbenzene	U		0.105	1.00	1	04/05/2022 10:19	WG1843079
p-Isopropyltoluene	U		0.120	1.00	1	04/05/2022 10:19	WG1843079
2-Butanone (MEK)	U		1.19	10.0	1	04/05/2022 10:19	WG1843079
Methyl Cyclohexane	U		0.660	1.00	1	04/05/2022 10:19	WG1843079
Methylene Chloride	U		0.430	5.00	1	04/05/2022 10:19	WG1843079
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	04/05/2022 10:19	WG1843079
Methyl tert-butyl ether	U		0.101	1.00	1	04/05/2022 10:19	WG1843079
Naphthalene	U		1.00	5.00	1	04/05/2022 10:19	WG1843079
Propene	U		0.936	2.50	1	04/05/2022 10:19	WG1843079
n-Propylbenzene	U		0.0993	1.00	1	04/05/2022 10:19	WG1843079

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	04/05/2022 10:19	WG1843079
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/05/2022 10:19	WG1843079
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/05/2022 10:19	WG1843079
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/05/2022 10:19	WG1843079
Tetrachloroethene	U		0.300	1.00	1	04/05/2022 10:19	WG1843079
Toluene	U		0.278	1.00	1	04/05/2022 10:19	WG1843079
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/05/2022 10:19	WG1843079
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/05/2022 10:19	WG1843079
1,1,1-Trichloroethane	U		0.149	1.00	1	04/05/2022 10:19	WG1843079
1,1,2-Trichloroethane	U		0.158	1.00	1	04/05/2022 10:19	WG1843079
Trichloroethene	U	R7	0.190	1.00	1	04/05/2022 10:19	WG1843079
Trichlorofluoromethane	U		0.160	5.00	1	04/05/2022 10:19	WG1843079
1,2,3-Trichloropropane	U		0.237	2.50	1	04/05/2022 10:19	WG1843079
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/05/2022 10:19	WG1843079
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 10:19	WG1843079
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/05/2022 10:19	WG1843079
Vinyl chloride	U		0.234	1.00	1	04/05/2022 10:19	WG1843079
Xylenes, Total	U		0.174	3.00	1	04/05/2022 10:19	WG1843079
(S) Toluene-d8	*109*			*80.0-120*		*04/05/2022 10:19*	WG1843079
(S) 4-Bromofluorobenzene	*98.1*			*77.0-126*		*04/05/2022 10:19*	WG1843079
(S) 1,2-Dichloroethane-d4	*88.3*			*70.0-130*		*04/05/2022 10:19*	WG1843079

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	04/02/2022 14:24	WG1841205
(S) Toluene-d8	*100*			*77.0-127*		*04/02/2022 14:24*	WG1841205

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

Method Blank (MB)

(MB) R3777838-3 04/05/22 09:58

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	0.447	E4	0.157	1.00
sec-Butylbenzene	0.174	E4	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

Method Blank (MB)

(MB) R3777838-3 04/05/22 09:58

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	0.534	E4	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	*110*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*88.8*			*70.0-130*

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) R3777838-1 04/05/22 08:57 • (LCSD) R3777838-2 04/05/22 09:17

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	28.0	26.7	112	107	19.0-160			4.75	27
Acrolein	25.0	29.5	27.2	118	109	30.0-160			8.11	26
Acrylonitrile	25.0	29.1	29.0	116	116	55.0-149			0.344	20
Benzene	5.00	5.11	4.85	102	97.0	70.0-123			5.22	20
Bromobenzene	5.00	5.14	5.11	103	102	73.0-121			0.585	20
Bromodichloromethane	5.00	4.68	4.52	93.6	90.4	75.0-120			3.48	20
Bromoform	5.00	5.07	4.99	101	99.8	68.0-132			1.59	20
Bromomethane	5.00	4.58	4.24	91.6	84.8	30.0-160			7.71	25
1,3-Butadiene	5.00	4.60	3.86	92.0	77.2	45.0-147			17.5	20
n-Butylbenzene	5.00	4.65	4.56	93.0	91.2	73.0-125			1.95	20
sec-Butylbenzene	5.00	4.79	4.44	95.8	88.8	75.0-125			7.58	20
tert-Butylbenzene	5.00	4.89	4.64	97.8	92.8	76.0-124			5.25	20
Carbon tetrachloride	5.00	4.58	4.40	91.6	88.0	68.0-126			4.01	20
Carbon disulfide	5.00	4.82	4.33	96.4	86.6	61.0-128			10.7	20
Chlorobenzene	5.00	5.70	5.39	114	108	80.0-121			5.59	20
Chlorodibromomethane	5.00	4.93	4.76	98.6	95.2	77.0-125			3.51	20
Chloroethane	5.00	4.74	4.17	94.8	83.4	47.0-150			12.8	20
Chloroform	5.00	5.06	4.69	101	93.8	73.0-120			7.59	20
Chloromethane	5.00	6.07	5.56	121	111	41.0-142			8.77	20
Cyclohexane	5.00	5.13	4.55	103	91.0	71.0-124			12.0	20
2-Chlorotoluene	5.00	5.08	4.95	102	99.0	76.0-123			2.59	20
4-Chlorotoluene	5.00	4.55	4.73	91.0	94.6	75.0-122			3.88	20
1,2-Dibromo-3-Chloropropane	5.00	5.58	5.03	112	101	58.0-134			10.4	20
1,2-Dibromoethane	5.00	5.18	5.09	104	102	80.0-122			1.75	20
Dibromomethane	5.00	4.47	4.39	89.4	87.8	80.0-120			1.81	20
1,2-Dichlorobenzene	5.00	5.15	5.06	103	101	79.0-121			1.76	20
1,3-Dichlorobenzene	5.00	4.77	4.66	95.4	93.2	79.0-120			2.33	20
1,4-Dichlorobenzene	5.00	5.05	4.94	101	98.8	79.0-120			2.20	20
Dichlorodifluoromethane	5.00	4.41	4.23	88.2	84.6	51.0-149			4.17	20
1,1-Dichloroethane	5.00	5.21	4.80	104	96.0	70.0-126			8.19	20
1,2-Dichloroethane	5.00	4.82	4.58	96.4	91.6	70.0-128			5.11	20
1,1-Dichloroethene	5.00	4.62	4.46	92.4	89.2	71.0-124			3.52	20
cis-1,2-Dichloroethene	5.00	5.24	4.74	105	94.8	73.0-120			10.0	20
trans-1,2-Dichloroethene	5.00	5.19	5.15	104	103	73.0-120			0.774	20
1,2-Dichloropropane	5.00	4.82	4.94	96.4	98.8	77.0-125			2.46	20
1,1-Dichloropropene	5.00	4.66	4.44	93.2	88.8	74.0-126			4.84	20
1,3-Dichloropropane	5.00	5.49	5.43	110	109	80.0-120			1.10	20
cis-1,3-Dichloropropene	5.00	4.62	4.19	92.4	83.8	80.0-123			9.76	20
trans-1,3-Dichloropropene	5.00	5.15	4.98	103	99.6	78.0-124			3.36	20
2,2-Dichloropropane	5.00	5.14	4.64	103	92.8	58.0-130			10.2	20

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

(LCS) R3777838-1 04/05/22 08:57 • (LCSD) R3777838-2 04/05/22 09:17

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	4.43	4.14	88.6	82.8	74.0-126			6.77	20
Di-isopropyl ether	5.00	5.40	5.30	108	106	58.0-138			1.87	20
Ethylbenzene	5.00	5.56	4.99	111	99.8	79.0-123			10.8	20
4-Ethyltoluene	5.00	5.06	5.17	101	103	74.0-127			2.15	20
Hexachloro-1,3-butadiene	5.00	4.78	4.77	95.6	95.4	54.0-138			0.209	20
n-Hexane	5.00	5.14	4.70	103	94.0	57.0-133			8.94	20
Isopropylbenzene	5.00	4.92	4.43	98.4	88.6	76.0-127			10.5	20
p-Isopropyltoluene	5.00	5.03	4.80	101	96.0	76.0-125			4.68	20
2-Butanone (MEK)	25.0	28.2	26.6	113	106	44.0-160			5.84	20
Methyl Cyclohexane	5.00	5.18	4.51	104	90.2	68.0-126			13.8	20
Methylene Chloride	5.00	5.30	5.12	106	102	67.0-120			3.45	20
4-Methyl-2-pentanone (MIBK)	25.0	29.6	27.9	118	112	68.0-142			5.91	20
Methyl tert-butyl ether	5.00	4.45	4.49	89.0	89.8	68.0-125			0.895	20
Naphthalene	5.00	4.59	4.29	91.8	85.8	54.0-135			6.76	20
Propene	5.00	3.73	3.90	74.6	78.0	30.0-160			4.46	20
n-Propylbenzene	5.00	5.12	4.86	102	97.2	77.0-124			5.21	20
Styrene	5.00	4.95	4.78	99.0	95.6	73.0-130			3.49	20
1,1,1,2-Tetrachloroethane	5.00	5.64	5.30	113	106	75.0-125			6.22	20
1,1,2,2-Tetrachloroethane	5.00	5.23	5.33	105	107	65.0-130			1.89	20
1,1,2-Trichlorotrifluoroethane	5.00	4.87	4.51	97.4	90.2	69.0-132			7.68	20
Tetrachloroethene	5.00	6.02	5.85	120	117	72.0-132			2.86	20
Toluene	5.00	5.53	4.96	111	99.2	79.0-120			10.9	20
1,2,3-Trichlorobenzene	5.00	4.95	4.53	99.0	90.6	50.0-138			8.86	20
1,2,4-Trichlorobenzene	5.00	4.58	4.15	91.6	83.0	57.0-137			9.85	20
1,1,1-Trichloroethane	5.00	4.67	4.38	93.4	87.6	73.0-124			6.41	20
1,1,2-Trichloroethane	5.00	5.42	5.00	108	100	80.0-120			8.06	20
Trichloroethene	5.00	5.27	4.30	105	86.0	78.0-124		R7	20.3	20
Trichlorofluoromethane	5.00	4.58	4.03	91.6	80.6	59.0-147			12.8	20
1,2,3-Trichloropropane	5.00	5.74	5.78	115	116	73.0-130			0.694	20
1,2,4-Trimethylbenzene	5.00	4.98	4.86	99.6	97.2	76.0-121			2.44	20
1,2,3-Trimethylbenzene	5.00	5.25	5.09	105	102	77.0-120			3.09	20
1,3,5-Trimethylbenzene	5.00	5.13	5.06	103	101	76.0-122			1.37	20
Vinyl chloride	5.00	4.20	3.67	84.0	73.4	67.0-131			13.5	20
Xylenes, Total	15.0	17.1	15.8	114	105	79.0-123			7.90	20
(S) Toluene-d8				*110*	*110*	*80.0-120*				
(S) 4-Bromofluorobenzene				*100*	*96.8*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*93.1*	*91.1*	*70.0-130*				

Method Blank (MB)

(MB) R3776930-3 04/02/22 13:04

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
1,4-Dioxane	U		0.597	3.00
(S) Toluene-d8	*101*			*77.0-127*

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

(LCS) R3776930-1 04/02/22 12:05 • (LCSD) R3776930-2 04/02/22 12:25

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	%	%	%			%	%
1,4-Dioxane	50.0	52.0	48.8	104	97.6	55.0-138			6.35	24
(S) Toluene-d8				*101*	*101*	*77.0-127*				

L1476358-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1476358-02 04/02/22 17:03 • (MS) R3776930-4 04/02/22 20:21 • (MSD) R3776930-5 04/02/22 20:41

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	251	309	322	116	142	1	13.0-160			4.12	31
(S) Toluene-d8					*102*	*102*		*77.0-127*				

L1477519-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1477519-01 04/02/22 19:02 • (MS) R3776930-6 04/02/22 21:01 • (MSD) R3776930-7 04/02/22 21:21

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
1,4-Dioxane	50.0	U	52.5	54.2	105	108	1	13.0-160			3.19	31
(S) Toluene-d8					*101*	*101*		*77.0-127*				

INTERNAL STANDARD SUMMARY

Instrument: VOCMS16 • File ID: 0405_03

04/05/22 08:57

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0405_03	331012	125834	104431
Upper Limit		662024	251668	208862
Lower Limit		165506	62917	52216
LCS R3777838-1 WG1843079 1x	0405_03LCS	331012	125834	104431
LCSD R3777838-2 WG1843079 1x	0405_04	349972	134175	104201
BLANK R3777838-3 WG1843079 1x	0405_06	337148	125718	99007
L1477519-03 WG1843079 1x	0405_07	324977	121672	99067
L1477519-01 WG1843079 1x	0405_09	337894	124567	100081
L1477519-02 WG1843079 1x	0405_10	335169	127070	100726

INTERNAL STANDARD SUMMARY

Instrument: VOCMS27 • File ID: 0402A_02

04/02/22 11:45

Sample ID	File ID	8260-1,4-DIFLUOROBENZENE Response
Standard	0402A_02	495912
Upper Limit		991824
Lower Limit		247956
LCS R3776930-1 WG1841205 1x	0402A_03	484844
LCSD R3776930-2 WG1841205 1x	0402A_04	498203
BLANK R3776930-3 WG1841205 1x	0402A_06	487066
L1477519-03 WG1841205 1x	0402A_07	495350
L1477519-01 WG1841205 1x	0402A_21	489733
L1477519-02 WG1841205 1x	0402A_22	469747
MS R3776930-4 WG1841205 1x	0402A_25	470974
MSD R3776930-5 WG1841205 1x	0402A_26	475120
MS R3776930-6 WG1841205 1x	0402A_27	479664
MSD R3776930-7 WG1841205 1x	0402A_28	473534

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
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
R7	LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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	LAO000356
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.

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

Company Name/Address:	Billing Information:	Pres Chk	Chain of Custody Page 1 of 1
Pinyon Environmental 4815 E. Carefree Highway #108-274 Cave Creek, AZ 85331	Accounts Payable 3222 S Vance Street Suite 200 Lakewood, CO 80227		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/hubfs/pas-standard-terms.pdf
Report to: Christopher Funk	Email To: funk@pinyon-env.com;guarnieri@pinyon-		

Project Description: Nammo ~~WBO~~ IJU Groundwater Monitoring	City/State Collected: Mesa, AZ	Please Circle: (PT) MT CT ET
Phone: 602-290-4774	Client Project # 722152201	Lab Project # PINYONMAZ-722152201
Collected by (print): Christopher Funk	Site/Facility ID #	P.O. #
Collected by (signature): [signature]	Rush? (Lab MUST Be Notified) ___ Same Day ___ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day	Quote # 00105689 Date Results Needed: Standard
Immediately Packed on Ice N ___ Y X		

SDG # L1477519 F065

Acctnum: PINYONMAZ
Template: T205686
Prelogin: P912514
PM: 288 - Daphne Richards
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
PF-2-400-20220331	G	GW	400	03/31/22	1300	~~6~~ 12		X	X	MS/MSD	-01
Dup-05	–	GW	–	–	–	6		X	X		-02
Trip Blank	–	GW	–	–	–	1		X			-03
Temp Blank	–	GW	–	–	–	1	—	—			
		GW									
		GW									
		GW									
		GW									
		GW									
		GW									

(Unused rows lined out, initialed, 03/31/22)

* 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 # 5671 5381 0161

Sample Receipt Checklist
COC Seal Present/Intact: __NP _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)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No (HCl) / MeoH TBR	
[signature]	3/31/22	1450	[signature]	1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DR A6 °C 0.5+0=0.5 / Bottles Received: 18	If preservation required by Login: Date/Time
[signature]	3/31/22	1800	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/1/22 Time: 900	Hold: / Condition: NCF / (OK)
			[signature]		

PNPAZ

ANALYTICAL REPORT

May 11, 2022

Revised Report

Pinyon Environmental

Sample Delivery Group:	L1488163
Samples Received:	04/30/2022
Project Number:	722152201
Description:	Nammo TTU Groundwater Monitoring

Report To:

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

Entire Report Reviewed By:

Daphne R Richards

Daphne Richards
Project Manager

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

SAMPLE SUMMARY

TTU-10-157-20220429 L1488163-01 GW

Collected by: Christopher Funk
Collected date/time: 04/29/22 11:25
Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1860946	1	05/10/22 21:22	05/10/22 21:22	KEG	Mt. Juliet, TN

DUP-06 L1488163-02 GW

Collected by: Christopher Funk
Collected date/time: 04/29/22 00:00
Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 314.0 Mod	WG1860946	1	05/10/22 22:48	05/10/22 22:48	KEG	Mt. Juliet, TN

TRIP BLANK L1488163-03 GW

Collected by: Christopher Funk
Collected date/time: 04/29/22 00:00
Received date/time: 04/30/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1857590	1	05/02/22 19:13	05/02/22 19:13	ADM	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: 05/11/22 11:26

Project Narrative

MDL format

Sample Delivery Group (SDG) Narrative

Insufficient sample volume to perform MS/MSD analyses per method QC requirements.

Lab Sample ID	Project Sample ID	Method
L1488163-03	TRIP BLANK	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	U		0.300	4.00	1	05/10/2022 21:22	WG1860946

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	05/10/2022 22:48	WG1860946

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	05/02/2022 19:13	WG1857590
Acrolein	U	L1 R7	2.54	50.0	1	05/02/2022 19:13	WG1857590
Acrylonitrile	U		0.671	10.0	1	05/02/2022 19:13	WG1857590
Benzene	U		0.0941	1.00	1	05/02/2022 19:13	WG1857590
Bromobenzene	U		0.118	1.00	1	05/02/2022 19:13	WG1857590
Bromodichloromethane	U		0.136	1.00	1	05/02/2022 19:13	WG1857590
Bromoform	U		0.129	1.00	1	05/02/2022 19:13	WG1857590
Bromomethane	U		0.605	5.00	1	05/02/2022 19:13	WG1857590
1,3-Butadiene	U		0.299	2.00	1	05/02/2022 19:13	WG1857590
n-Butylbenzene	U		0.157	1.00	1	05/02/2022 19:13	WG1857590
sec-Butylbenzene	U		0.125	1.00	1	05/02/2022 19:13	WG1857590
tert-Butylbenzene	U		0.127	1.00	1	05/02/2022 19:13	WG1857590
Carbon tetrachloride	U		0.128	1.00	1	05/02/2022 19:13	WG1857590
Carbon disulfide	0.315	E4	0.0962	1.00	1	05/02/2022 19:13	WG1857590
Chlorobenzene	U		0.116	1.00	1	05/02/2022 19:13	WG1857590
Chlorodibromomethane	U		0.140	1.00	1	05/02/2022 19:13	WG1857590
Chloroethane	U		0.192	5.00	1	05/02/2022 19:13	WG1857590
Chloroform	U		0.111	5.00	1	05/02/2022 19:13	WG1857590
Chloromethane	U		0.960	2.50	1	05/02/2022 19:13	WG1857590
Cyclohexane	U		0.188	1.00	1	05/02/2022 19:13	WG1857590
2-Chlorotoluene	U		0.106	1.00	1	05/02/2022 19:13	WG1857590
4-Chlorotoluene	U		0.114	1.00	1	05/02/2022 19:13	WG1857590
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	05/02/2022 19:13	WG1857590
1,2-Dibromoethane	U		0.126	1.00	1	05/02/2022 19:13	WG1857590
Dibromomethane	U		0.122	1.00	1	05/02/2022 19:13	WG1857590
1,2-Dichlorobenzene	U		0.107	1.00	1	05/02/2022 19:13	WG1857590
1,3-Dichlorobenzene	U		0.110	1.00	1	05/02/2022 19:13	WG1857590
1,4-Dichlorobenzene	U		0.120	1.00	1	05/02/2022 19:13	WG1857590
Dichlorodifluoromethane	U		0.374	5.00	1	05/02/2022 19:13	WG1857590
1,1-Dichloroethane	U		0.100	1.00	1	05/02/2022 19:13	WG1857590
1,2-Dichloroethane	U		0.0819	1.00	1	05/02/2022 19:13	WG1857590
1,1-Dichloroethene	U		0.188	1.00	1	05/02/2022 19:13	WG1857590
cis-1,2-Dichloroethene	U		0.126	1.00	1	05/02/2022 19:13	WG1857590
trans-1,2-Dichloroethene	U		0.149	1.00	1	05/02/2022 19:13	WG1857590
1,2-Dichloropropane	U		0.149	1.00	1	05/02/2022 19:13	WG1857590
1,1-Dichloropropene	U		0.142	1.00	1	05/02/2022 19:13	WG1857590
1,3-Dichloropropane	U		0.110	1.00	1	05/02/2022 19:13	WG1857590
cis-1,3-Dichloropropene	U		0.111	1.00	1	05/02/2022 19:13	WG1857590
trans-1,3-Dichloropropene	U		0.118	1.00	1	05/02/2022 19:13	WG1857590
2,2-Dichloropropane	U		0.161	1.00	1	05/02/2022 19:13	WG1857590
Dicyclopentadiene	U		0.253	1.00	1	05/02/2022 19:13	WG1857590
Di-isopropyl ether	U		0.105	1.00	1	05/02/2022 19:13	WG1857590
Ethylbenzene	U		0.137	1.00	1	05/02/2022 19:13	WG1857590
4-Ethyltoluene	U		0.208	1.00	1	05/02/2022 19:13	WG1857590
Hexachloro-1,3-butadiene	U		0.337	1.00	1	05/02/2022 19:13	WG1857590
n-Hexane	U		0.749	10.0	1	05/02/2022 19:13	WG1857590
Isopropylbenzene	U		0.105	1.00	1	05/02/2022 19:13	WG1857590
p-Isopropyltoluene	U		0.120	1.00	1	05/02/2022 19:13	WG1857590
2-Butanone (MEK)	U		1.19	10.0	1	05/02/2022 19:13	WG1857590
Methyl Cyclohexane	U		0.660	1.00	1	05/02/2022 19:13	WG1857590
Methylene Chloride	U		0.430	5.00	1	05/02/2022 19:13	WG1857590
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	05/02/2022 19:13	WG1857590
Methyl tert-butyl ether	U		0.101	1.00	1	05/02/2022 19:13	WG1857590
Naphthalene	U		1.00	5.00	1	05/02/2022 19:13	WG1857590
Propene	U		0.936	2.50	1	05/02/2022 19:13	WG1857590
n-Propylbenzene	U		0.0993	1.00	1	05/02/2022 19:13	WG1857590

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Styrene	U		0.118	1.00	1	05/02/2022 19:13	WG1857590
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	05/02/2022 19:13	WG1857590
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	05/02/2022 19:13	WG1857590
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	05/02/2022 19:13	WG1857590
Tetrachloroethene	U		0.300	1.00	1	05/02/2022 19:13	WG1857590
Toluene	U		0.278	1.00	1	05/02/2022 19:13	WG1857590
1,2,3-Trichlorobenzene	U		0.230	1.00	1	05/02/2022 19:13	WG1857590
1,2,4-Trichlorobenzene	U		0.481	1.00	1	05/02/2022 19:13	WG1857590
1,1,1-Trichloroethane	U		0.149	1.00	1	05/02/2022 19:13	WG1857590
1,1,2-Trichloroethane	U		0.158	1.00	1	05/02/2022 19:13	WG1857590
Trichloroethene	U		0.190	1.00	1	05/02/2022 19:13	WG1857590
Trichlorofluoromethane	U		0.160	5.00	1	05/02/2022 19:13	WG1857590
1,2,3-Trichloropropane	U		0.237	2.50	1	05/02/2022 19:13	WG1857590
1,2,4-Trimethylbenzene	U		0.322	1.00	1	05/02/2022 19:13	WG1857590
1,2,3-Trimethylbenzene	U		0.104	1.00	1	05/02/2022 19:13	WG1857590
1,3,5-Trimethylbenzene	U		0.104	1.00	1	05/02/2022 19:13	WG1857590
Vinyl chloride	U		0.234	1.00	1	05/02/2022 19:13	WG1857590
Xylenes, Total	U		0.174	3.00	1	05/02/2022 19:13	WG1857590
(S) Toluene-d8	*119*			*80.0-120*		*05/02/2022 19:13*	WG1857590
(S) 4-Bromofluorobenzene	*95.6*			*77.0-126*		*05/02/2022 19:13*	WG1857590
(S) 1,2-Dichloroethane-d4	*89.9*			*70.0-130*		*05/02/2022 19:13*	WG1857590

QUALITY CONTROL SUMMARY

L1488163-01,02

Method Blank (MB)

(MB) R3790444-2 05/10/22 10:29

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Perchlorate	U		0.300	4.00

Laboratory Control Sample (LCS)

(LCS) R3790444-1 05/10/22 10:01

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Perchlorate	10.0	10.7	107	90.0-110	

L1488163-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1488163-01 05/10/22 21:22 • (MS) R3790444-3 05/10/22 21:51 • (MSD) R3790444-4 05/10/22 22:19

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Perchlorate	10.0	U	9.60	10.3	96.0	103	1	80.0-120			7.18	15

L1486955-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486955-04 05/10/22 17:07 • (MS) R3790444-5 05/10/22 23:45

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	U	9.68	96.8	1	80.0-120	

L1486955-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1486955-05 05/10/22 17:35 • (MS) R3790444-6 05/11/22 00:13

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	U	9.71	97.1	1	80.0-120	

L1487410-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1487410-02 05/10/22 18:32 • (MS) R3790444-7 05/11/22 00:41

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	U	9.45	94.5	1	80.0-120	

L1488163-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1488163-02 05/10/22 22:48 • (MS) R3790444-8 05/11/22 02:07

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

L1488645-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1488645-01 05/10/22 23:16 • (MS) R3790444-9 05/11/22 02:35

Analyte	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
	ug/l	ug/l	ug/l	%		%	
Perchlorate	10.0	62.5	71.2	87.2	1	80.0-120	

Method Blank (MB)

(MB) R3788137-3 05/02/22 14:43

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

Method Blank (MB)

(MB) R3788137-3 05/02/22 14:43

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	*117*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.3*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*89.4*			*70.0-130*

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

(LCS) R3788137-1 05/02/22 13:41 • (LCSD) R3788137-2 05/02/22 14:01

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	32.3	29.7	129	119	19.0-160			8.39	27
Acrolein	25.0	152	203	608	812	30.0-160	L1	L1 R7	28.7	26
Acrylonitrile	25.0	30.5	28.9	122	116	55.0-149			5.39	20
Benzene	5.00	4.96	5.14	99.2	103	70.0-123			3.56	20
Bromobenzene	5.00	4.93	5.07	98.6	101	73.0-121			2.80	20
Bromodichloromethane	5.00	4.57	4.63	91.4	92.6	75.0-120			1.30	20
Bromoform	5.00	4.79	4.38	95.8	87.6	68.0-132			8.94	20
Bromomethane	5.00	5.12	4.95	102	99.0	30.0-160			3.38	25
1,3-Butadiene	5.00	5.01	5.06	100	101	45.0-147			0.993	20
n-Butylbenzene	5.00	4.75	5.06	95.0	101	73.0-125			6.32	20
sec-Butylbenzene	5.00	4.77	4.99	95.4	99.8	75.0-125			4.51	20
tert-Butylbenzene	5.00	4.70	4.88	94.0	97.6	76.0-124			3.76	20
Carbon tetrachloride	5.00	3.93	3.79	78.6	75.8	68.0-126			3.63	20
Carbon disulfide	5.00	4.18	4.24	83.6	84.8	61.0-128			1.43	20
Chlorobenzene	5.00	5.42	5.44	108	109	80.0-121			0.368	20
Chlorodibromomethane	5.00	4.71	4.53	94.2	90.6	77.0-125			3.90	20
Chloroethane	5.00	5.42	5.37	108	107	47.0-150			0.927	20
Chloroform	5.00	4.83	4.78	96.6	95.6	73.0-120			1.04	20
Chloromethane	5.00	5.93	5.71	119	114	41.0-142			3.78	20
Cyclohexane	5.00	4.96	4.25	99.2	85.0	71.0-124			15.4	20
2-Chlorotoluene	5.00	5.22	5.28	104	106	76.0-123			1.14	20
4-Chlorotoluene	5.00	4.86	4.86	97.2	97.2	75.0-122			0.000	20
1,2-Dibromo-3-Chloropropane	5.00	5.96	5.45	119	109	58.0-134			8.94	20
1,2-Dibromoethane	5.00	5.35	5.30	107	106	80.0-122			0.939	20
Dibromomethane	5.00	4.46	4.40	89.2	88.0	80.0-120			1.35	20
1,2-Dichlorobenzene	5.00	5.46	5.60	109	112	79.0-121			2.53	20
1,3-Dichlorobenzene	5.00	5.05	5.22	101	104	79.0-120			3.31	20
1,4-Dichlorobenzene	5.00	5.16	5.05	103	101	79.0-120			2.15	20
Dichlorodifluoromethane	5.00	4.09	3.81	81.8	76.2	51.0-149			7.09	20
1,1-Dichloroethane	5.00	5.03	5.01	101	100	70.0-126			0.398	20
1,2-Dichloroethane	5.00	4.73	4.59	94.6	91.8	70.0-128			3.00	20
1,1-Dichloroethene	5.00	4.45	4.03	89.0	80.6	71.0-124			9.91	20
cis-1,2-Dichloroethene	5.00	4.83	4.83	96.6	96.6	73.0-120			0.000	20
trans-1,2-Dichloroethene	5.00	4.75	4.83	95.0	96.6	73.0-120			1.67	20
1,2-Dichloropropane	5.00	4.91	5.14	98.2	103	77.0-125			4.58	20
1,1-Dichloropropene	5.00	4.46	4.16	89.2	83.2	74.0-126			6.96	20
1,3-Dichloropropane	5.00	5.54	5.53	111	111	80.0-120			0.181	20
cis-1,3-Dichloropropene	5.00	4.41	4.45	88.2	89.0	80.0-123			0.903	20
trans-1,3-Dichloropropene	5.00	5.17	5.15	103	103	78.0-124			0.388	20
2,2-Dichloropropane	5.00	5.60	4.96	112	99.2	58.0-130			12.1	20

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

(LCS) R3788137-1 05/02/22 13:41 • (LCSD) R3788137-2 05/02/22 14:01

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	4.86	5.10	97.2	102	74.0-126			4.82	20
Di-isopropyl ether	5.00	5.52	5.53	110	111	58.0-138			0.181	20
Ethylbenzene	5.00	5.43	5.18	109	104	79.0-123			4.71	20
4-Ethyltoluene	5.00	5.10	5.08	102	102	74.0-127			0.393	20
Hexachloro-1,3-butadiene	5.00	4.70	4.48	94.0	89.6	54.0-138			4.79	20
n-Hexane	5.00	5.58	5.23	112	105	57.0-133			6.48	20
Isopropylbenzene	5.00	4.76	4.74	95.2	94.8	76.0-127			0.421	20
p-Isopropyltoluene	5.00	4.88	5.06	97.6	101	76.0-125			3.62	20
2-Butanone (MEK)	25.0	29.7	27.7	119	111	44.0-160			6.97	20
Methyl Cyclohexane	5.00	4.82	4.41	96.4	88.2	68.0-126			8.88	20
Methylene Chloride	5.00	5.27	5.14	105	103	67.0-120			2.50	20
4-Methyl-2-pentanone (MIBK)	25.0	32.0	30.5	128	122	68.0-142			4.80	20
Methyl tert-butyl ether	5.00	4.57	4.69	91.4	93.8	68.0-125			2.59	20
Naphthalene	5.00	4.70	4.87	94.0	97.4	54.0-135			3.55	20
Propene	5.00	4.29	3.85	85.8	77.0	30.0-160			10.8	20
n-Propylbenzene	5.00	5.02	5.05	100	101	77.0-124			0.596	20
Styrene	5.00	4.87	4.75	97.4	95.0	73.0-130			2.49	20
1,1,1,2-Tetrachloroethane	5.00	5.23	5.24	105	105	75.0-125			0.191	20
1,1,2,2-Tetrachloroethane	5.00	5.85	6.10	117	122	65.0-130			4.18	20
1,1,2-Trichlorotrifluoroethane	5.00	4.54	4.05	90.8	81.0	69.0-132			11.4	20
Tetrachloroethene	5.00	5.58	5.38	112	108	72.0-132			3.65	20
Toluene	5.00	5.38	5.30	108	106	79.0-120			1.50	20
1,2,3-Trichlorobenzene	5.00	4.99	4.90	99.8	98.0	50.0-138			1.82	20
1,2,4-Trichlorobenzene	5.00	4.48	4.71	89.6	94.2	57.0-137			5.01	20
1,1,1-Trichloroethane	5.00	4.40	4.26	88.0	85.2	73.0-124			3.23	20
1,1,2-Trichloroethane	5.00	5.41	5.66	108	113	80.0-120			4.52	20
Trichloroethene	5.00	4.30	4.17	86.0	83.4	78.0-124			3.07	20
Trichlorofluoromethane	5.00	4.23	3.93	84.6	78.6	59.0-147			7.35	20
1,2,3-Trichloropropane	5.00	5.68	5.54	114	111	73.0-130			2.50	20
1,2,4-Trimethylbenzene	5.00	4.93	5.28	98.6	106	76.0-121			6.86	20
1,2,3-Trimethylbenzene	5.00	5.55	5.67	111	113	77.0-120			2.14	20
1,3,5-Trimethylbenzene	5.00	5.13	5.77	103	115	76.0-122			11.7	20
Vinyl chloride	5.00	4.71	4.53	94.2	90.6	67.0-131			3.90	20
Xylenes, Total	15.0	16.1	16.2	107	108	79.0-123			0.619	20
(S) Toluene-d8				*111*	*114*	*80.0-120*				
(S) 4-Bromofluorobenzene				*93.9*	*94.5*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*86.3*	*89.4*	*70.0-130*				

INTERNAL STANDARD SUMMARY

Instrument: VOCMS16 • File ID: 0502_29

05/02/22 13:41

Sample ID	File ID	8260-FLUOROBENZENE	8260-CHLOROBENZENE-D5	8260-1,4-DICHLOROBENZENE-D4
		Response	Response	Response
Standard	0502_29	353680	131209	110355
Upper Limit		707360	262418	220710
Lower Limit		176840	65605	55178
LCS R3788137-1 WG1857590 1x	0502_29LCS	353680	131209	110355
LCSD R3788137-2 WG1857590 1x	0502_30	363077	137448	110885
BLANK R3788137-3 WG1857590 1x	0502_32A	359552	127343	107154
L1488163-03 WG1857590 1x	0502_42	343851	121319	96153

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
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
L1	The associated blank spike recovery was above laboratory acceptance limits.
R7	LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

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

Pres Chk

Report to:
Christopher Funk

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

Project Description: TTU
Nammo ~~WBO~~ Groundwater Monitoring

City/State Collected: Mesa AZ

Please Circle: (PT) MT CT ET

Phone: **602-290-4774**

Client Project #
722152201

Lab Project #
PINYONMAZ-722152201

Collected by (print):
Christopher Funk

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

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

Quote # 00105689

Date Results Needed: Standard

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	PERCHLORATE 125mlHDPE-NoPres	V8260AZ 40mlAmb-HCl	V8260LL14D 40mlAmb-HCl	Remarks	Sample # (lab only)
TTU-10-157-20220429	G	GW	157	04/29/22	1125	2	X			MS/MSD	-01
Dup-06	—	GW	—	—	—	1	X				-02
Trip Blank	—	GW	—	—	—	1		X			-03
		GW									
		GW									
		GW									
		GW									
		GW									
		GW									
		GW									

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

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/hubfs/pas-standard-terms.pdf

SDG # L1488163

G156

Acctnum: PINYONMAZ
Template: T205686
Prelogin: P912514
PM: 288 - Daphne Richards
PB:
Shipped Via:

* 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 # 5671 5376 6414

Sample Receipt Checklist

COC Seal Present/Intact:	NP	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

	Date:	Time:		
Relinquished by: (Signature)	04/29/22	1220	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	4-29-22	1800	Received by: (Signature)	Temp: 4.1 6.2 °C Bottles Received: 3
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/30/20 Time: 900

If preservation required by Login: Date/Time

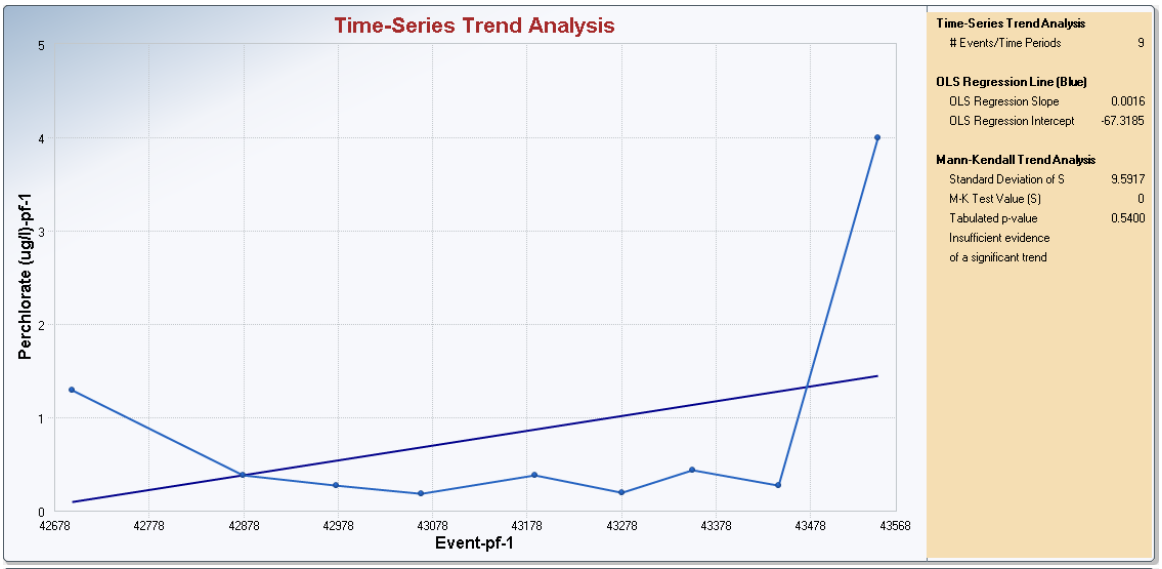
Hold:

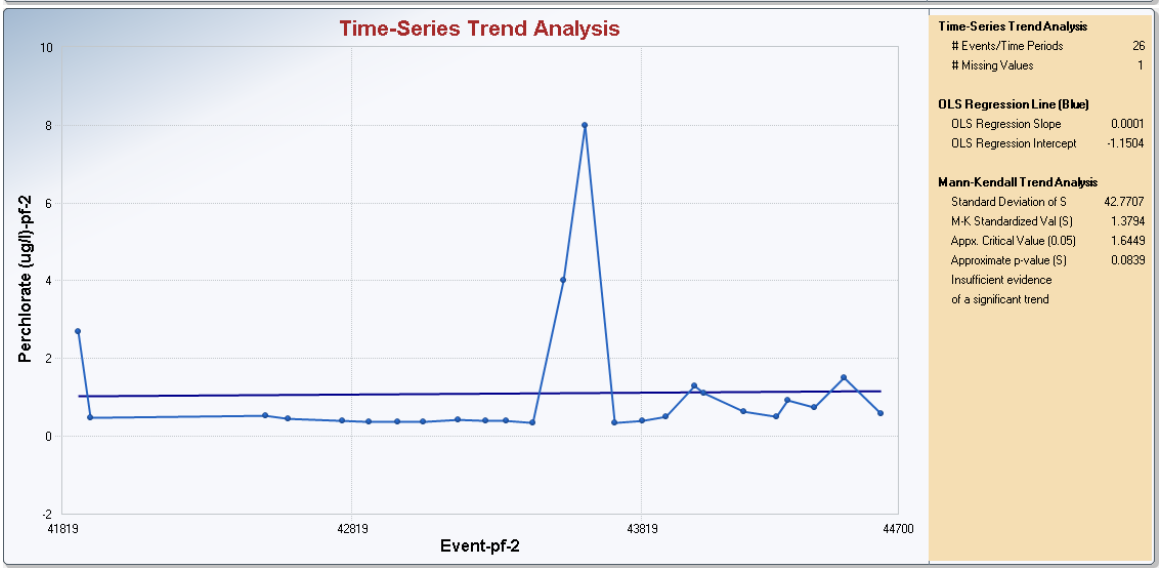
Condition: NCF / OK

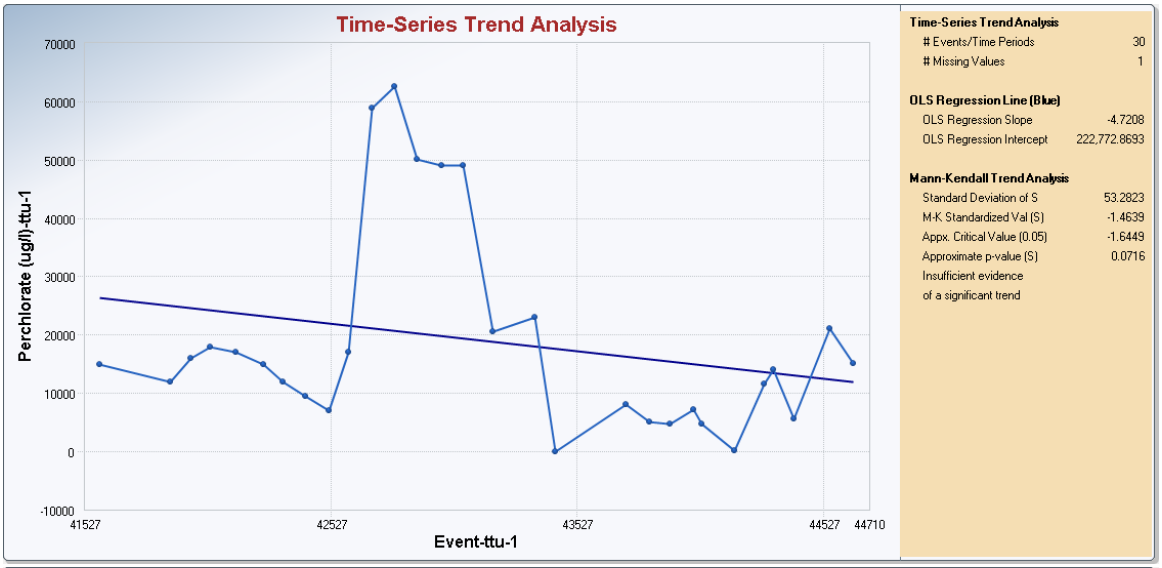
PM172

Attachment 4 – Mann-Kendall Trend Analysis

Perchlorate (ug/l)







Time-Series Trend Analysis

# Events/Time Periods	30
# Missing Values	1

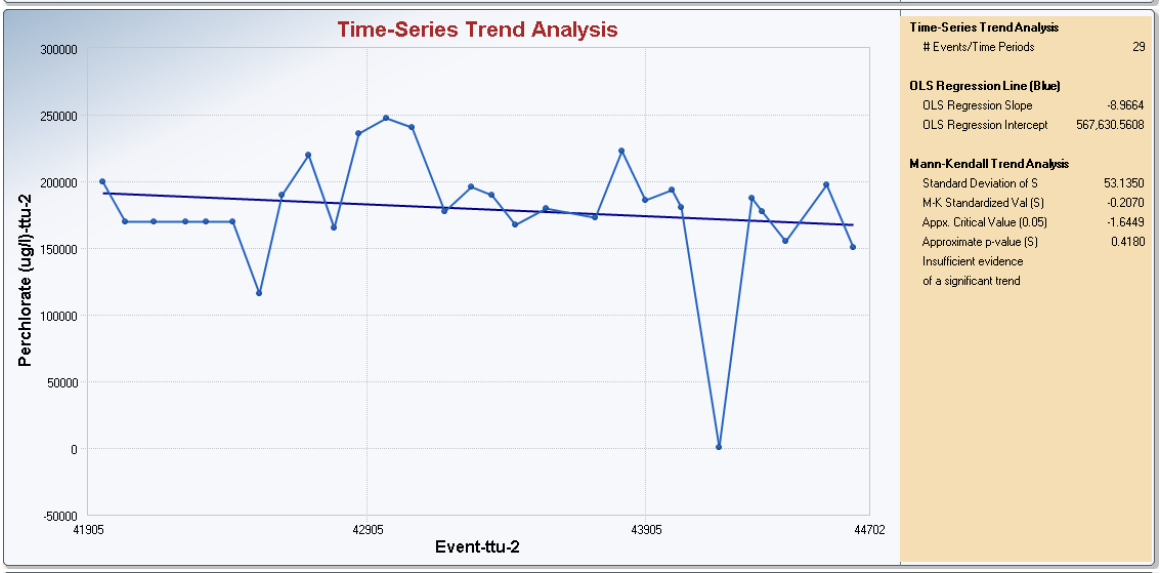
OLS Regression Line (Blue)

OLS Regression Slope	-4.7208
OLS Regression Intercept	222,772.8693

Mann-Kendall Trend Analysis

Standard Deviation of S	53.2823
M-K Standardized Val (S)	-1.4639
Appx. Critical Value (0.05)	-1.6449
Approximate p-value (S)	0.0716

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	29

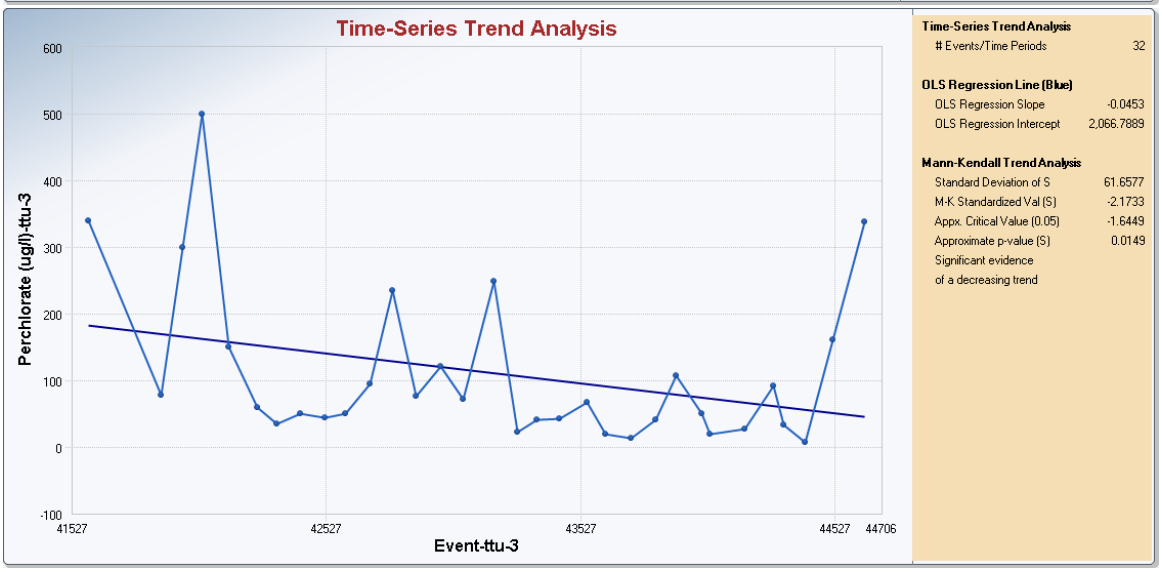
OLS Regression Line (Blue)

OLS Regression Slope	-8.9664
OLS Regression Intercept	567,630.5608

Mann-Kendall Trend Analysis

Standard Deviation of S	53.1350
M-K Standardized Val (S)	-0.2070
Appx. Critical Value (0.05)	-1.6449
Approximate p-value (S)	0.4180

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	32

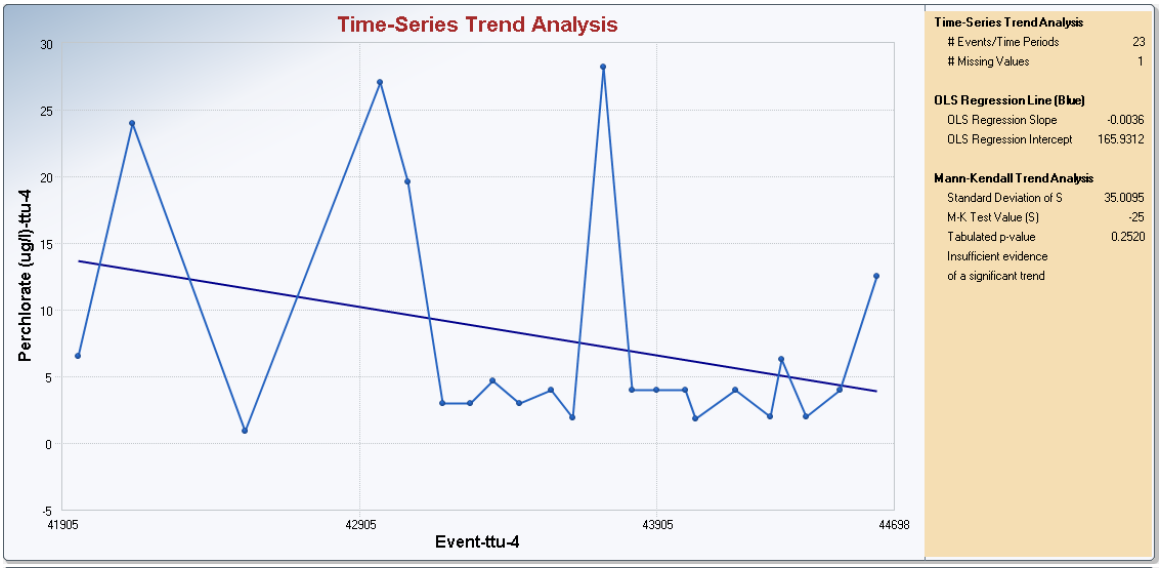
OLS Regression Line (Blue)

OLS Regression Slope	-0.0453
OLS Regression Intercept	2,066.7889

Mann-Kendall Trend Analysis

Standard Deviation of S	61.6577
M-K Standardized Val (S)	-2.1733
Appx. Critical Value (0.05)	-1.6449
Approximate p-value (S)	0.0149

Significant evidence of a decreasing trend



Time-Series Trend Analysis

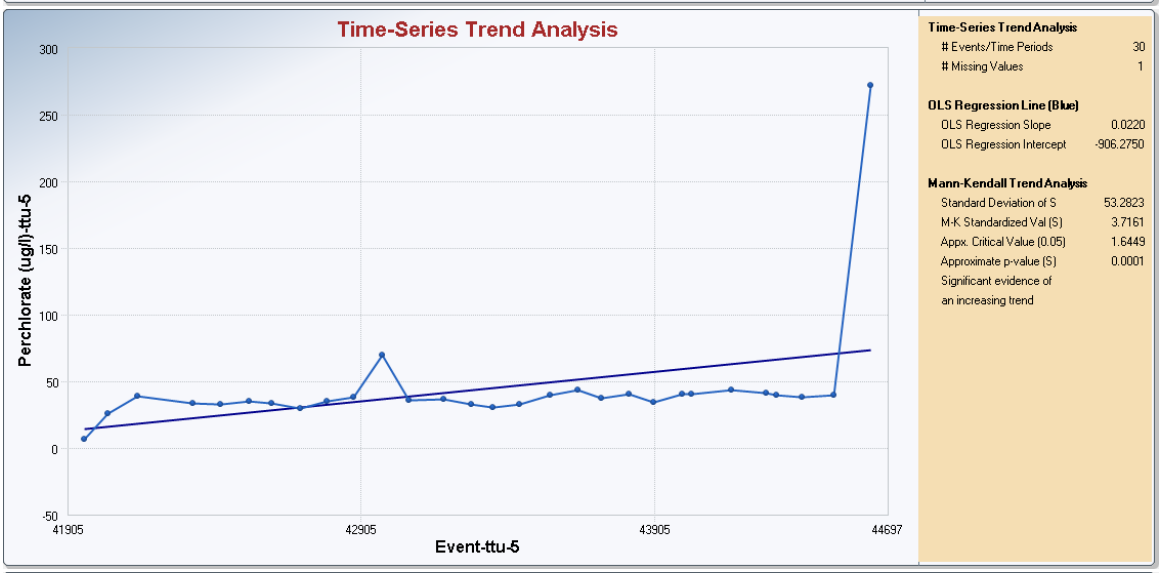
# Events/Time Periods	23
# Missing Values	1

OLS Regression Line (Blue)

OLS Regression Slope	-0.0036
OLS Regression Intercept	165.9312

Mann-Kendall Trend Analysis

Standard Deviation of S	35.0095
M-K Test Value (S)	-25
Tabulated p-value	0.2520
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

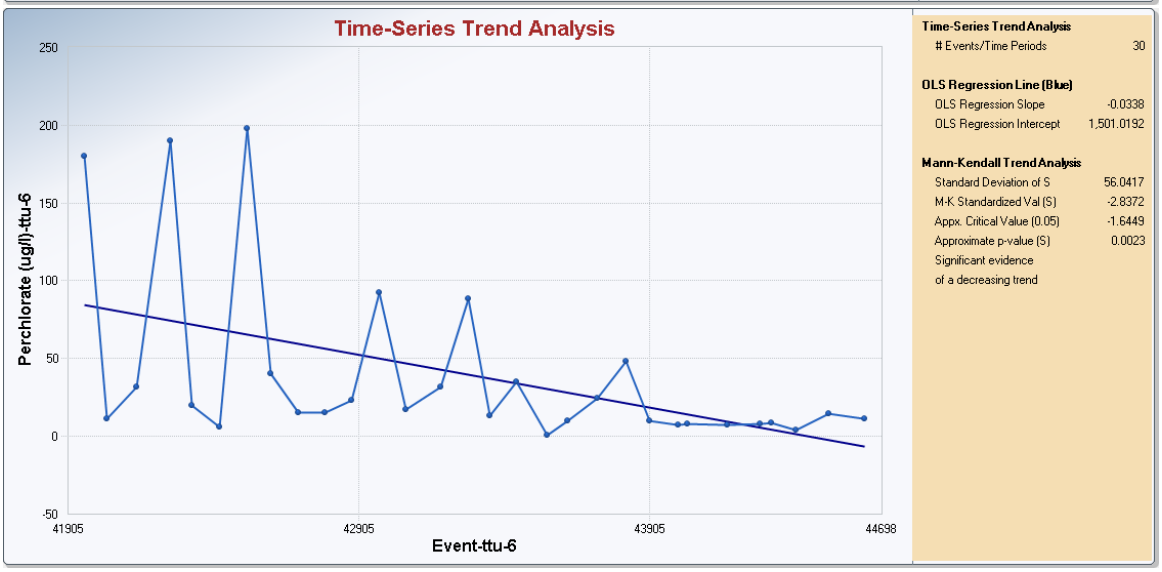
# Events/Time Periods	30
# Missing Values	1

OLS Regression Line (Blue)

OLS Regression Slope	0.0220
OLS Regression Intercept	-906.2750

Mann-Kendall Trend Analysis

Standard Deviation of S	53.2823
M-K Standardized Val (S)	3.7161
Appx. Critical Value (0.05)	1.6449
Approximate p-value (S)	0.0001
Significant evidence of an increasing trend	



Time-Series Trend Analysis

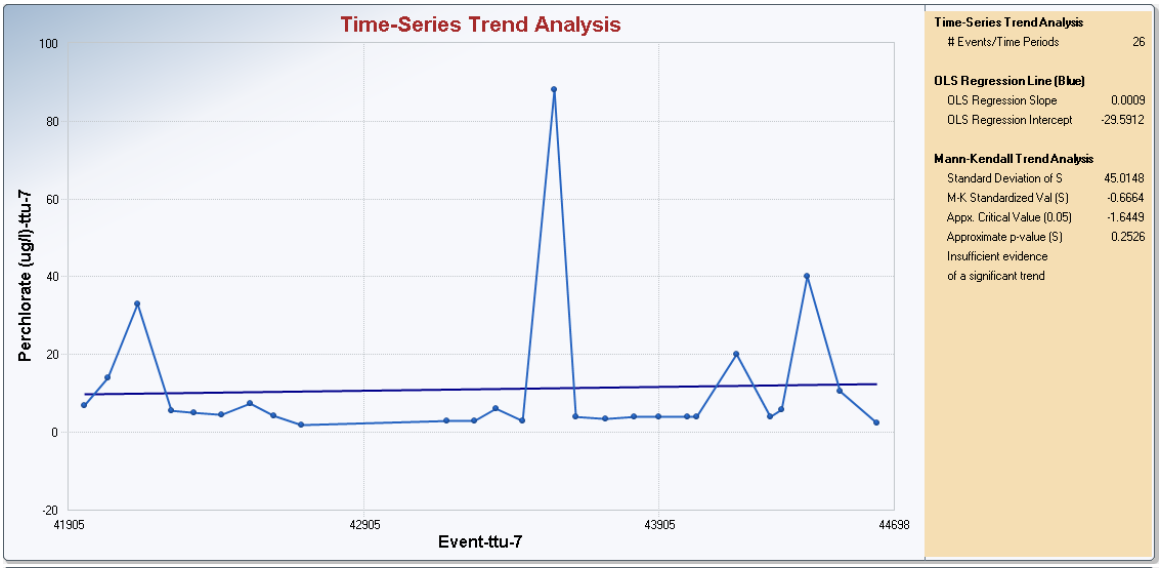
# Events/Time Periods	30

OLS Regression Line (Blue)

OLS Regression Slope	-0.0338
OLS Regression Intercept	1,501.0192

Mann-Kendall Trend Analysis

Standard Deviation of S	56.0417
M-K Standardized Val (S)	-2.8372
Appx. Critical Value (0.05)	-1.6449
Approximate p-value (S)	0.0023
Significant evidence of a decreasing trend	



Time-Series Trend Analysis

# Events/Time Periods	26

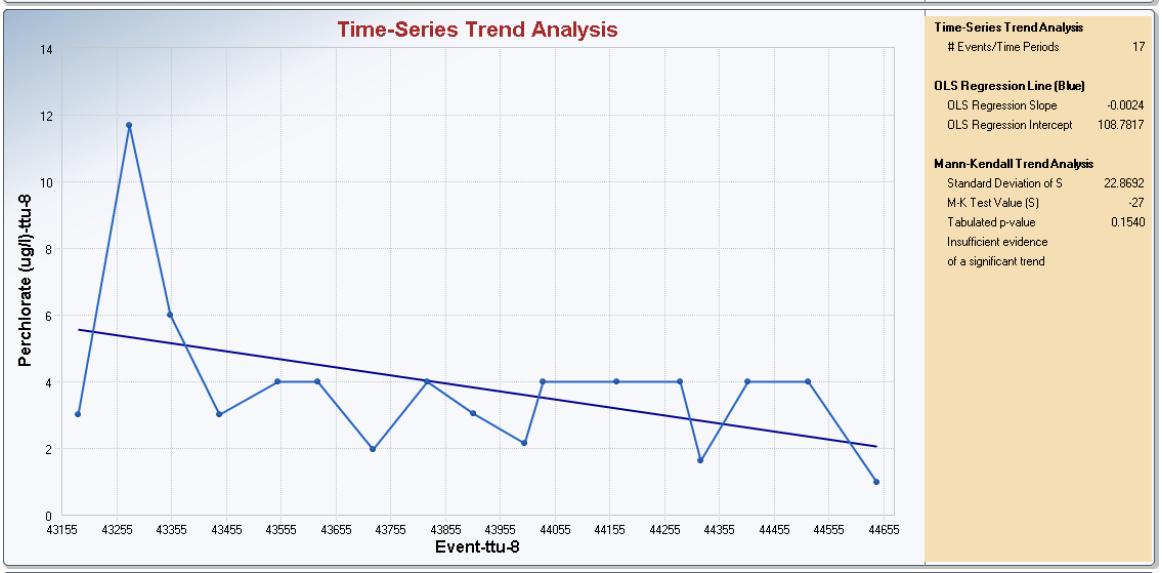
OLS Regression Line (Blue)

OLS Regression Slope	0.0009
OLS Regression Intercept	-29.5912

Mann-Kendall Trend Analysis

Standard Deviation of S	45.0148
M-K Standardized Val (S)	-0.6664
Appx. Critical Value (0.05)	-1.6449
Approximate p-value (S)	0.2526

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	17

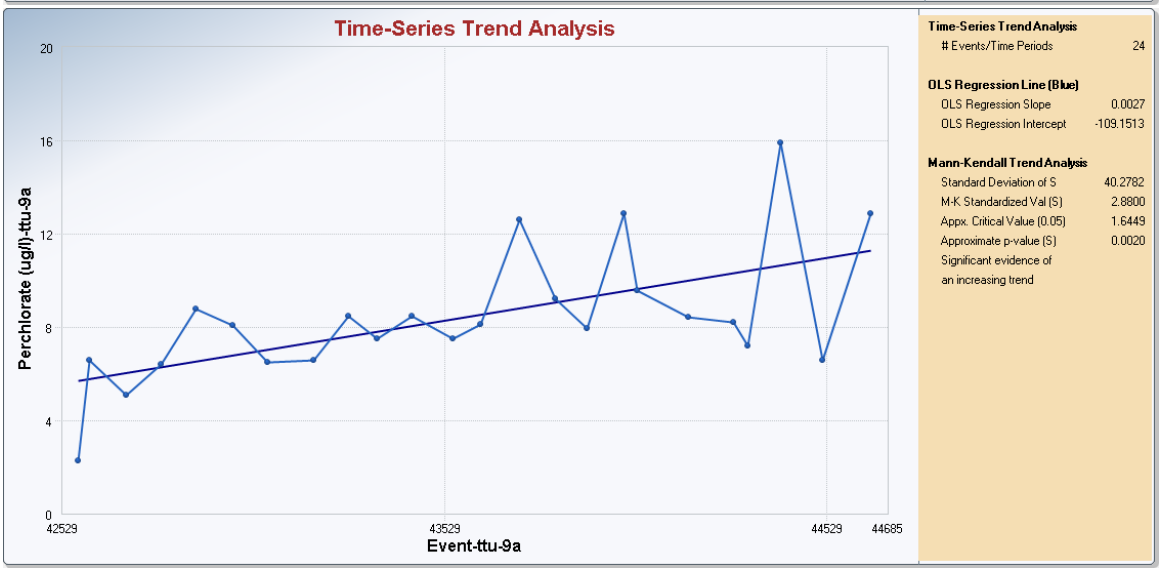
OLS Regression Line (Blue)

OLS Regression Slope	-0.0024
OLS Regression Intercept	108.7817

Mann-Kendall Trend Analysis

Standard Deviation of S	22.8692
M-K Test Value (S)	-27
Tabulated p-value	0.1540

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	24

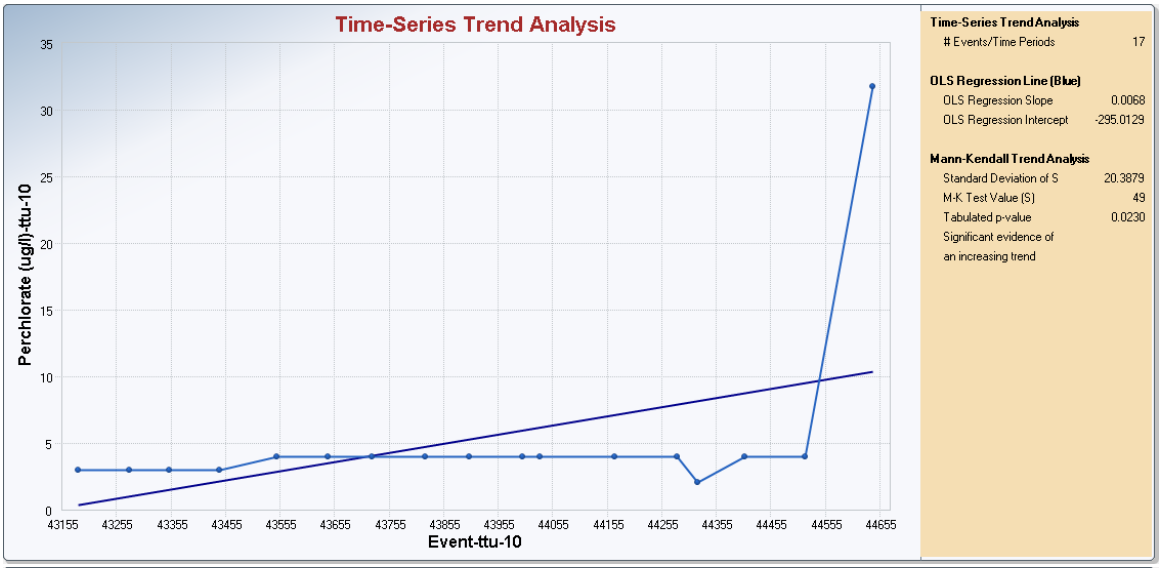
OLS Regression Line (Blue)

OLS Regression Slope	0.0027
OLS Regression Intercept	-109.1513

Mann-Kendall Trend Analysis

Standard Deviation of S	40.2782
M-K Standardized Val (S)	2.8800
Appx. Critical Value (0.05)	1.6449
Approximate p-value (S)	0.0020

Significant evidence of an increasing trend



Time-Series Trend Analysis

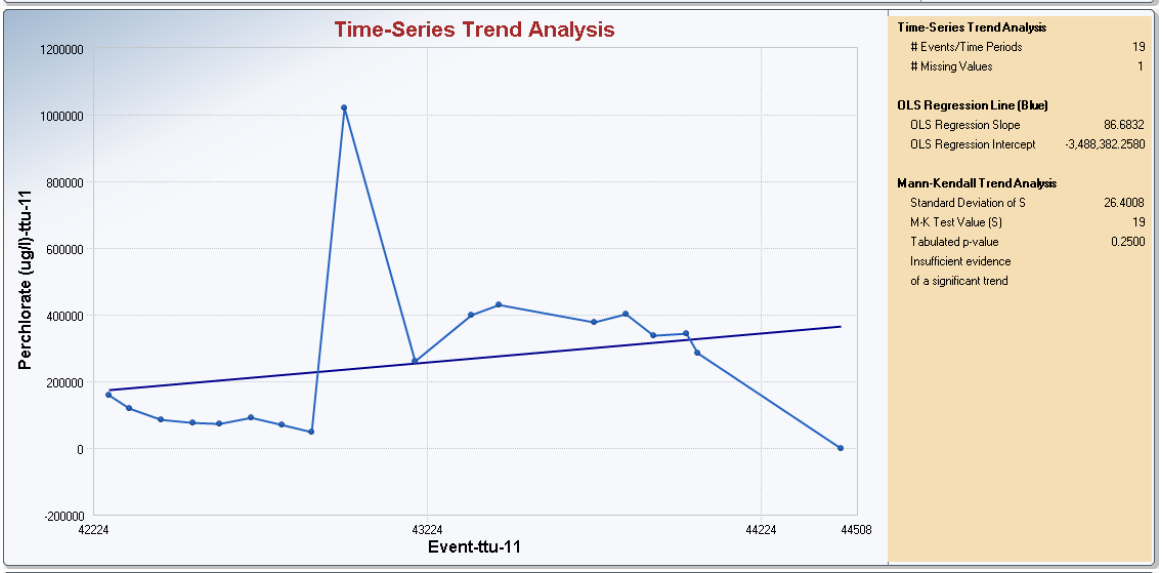
# Events/Time Periods	17

OLS Regression Line (Blue)

OLS Regression Slope	0.0068
OLS Regression Intercept	-295.0129

Mann-Kendall Trend Analysis

Standard Deviation of S	20.3879
M-K Test Value (S)	49
Tabulated p-value	0.0230
Significant evidence of an increasing trend	



Time-Series Trend Analysis

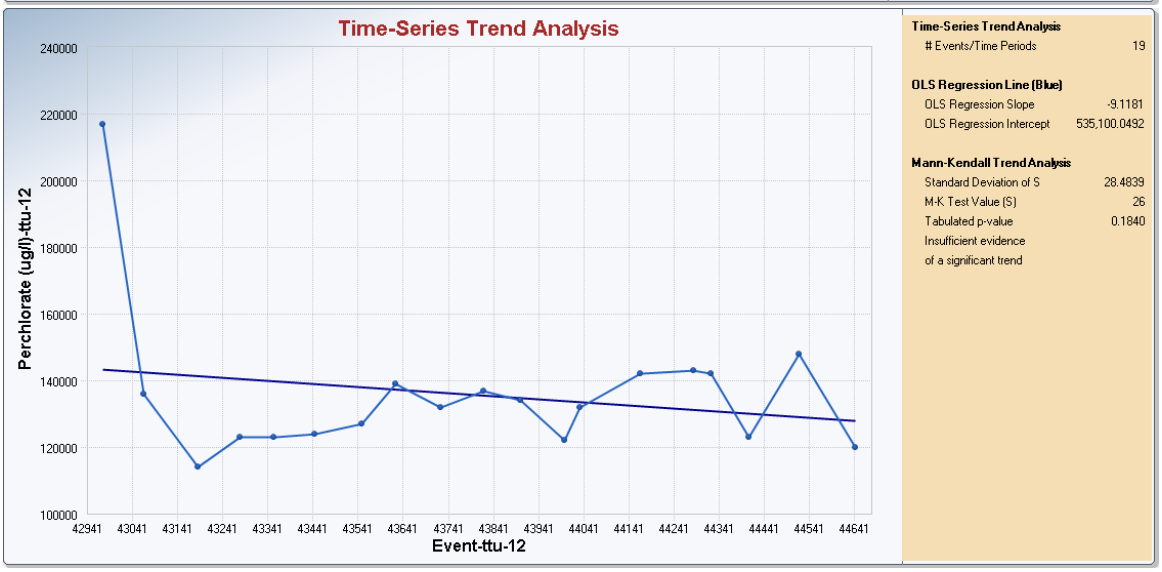
# Events/Time Periods	19
# Missing Values	1

OLS Regression Line (Blue)

OLS Regression Slope	86.6832
OLS Regression Intercept	-3,488,382.2580

Mann-Kendall Trend Analysis

Standard Deviation of S	26.4008
M-K Test Value (S)	19
Tabulated p-value	0.2500
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

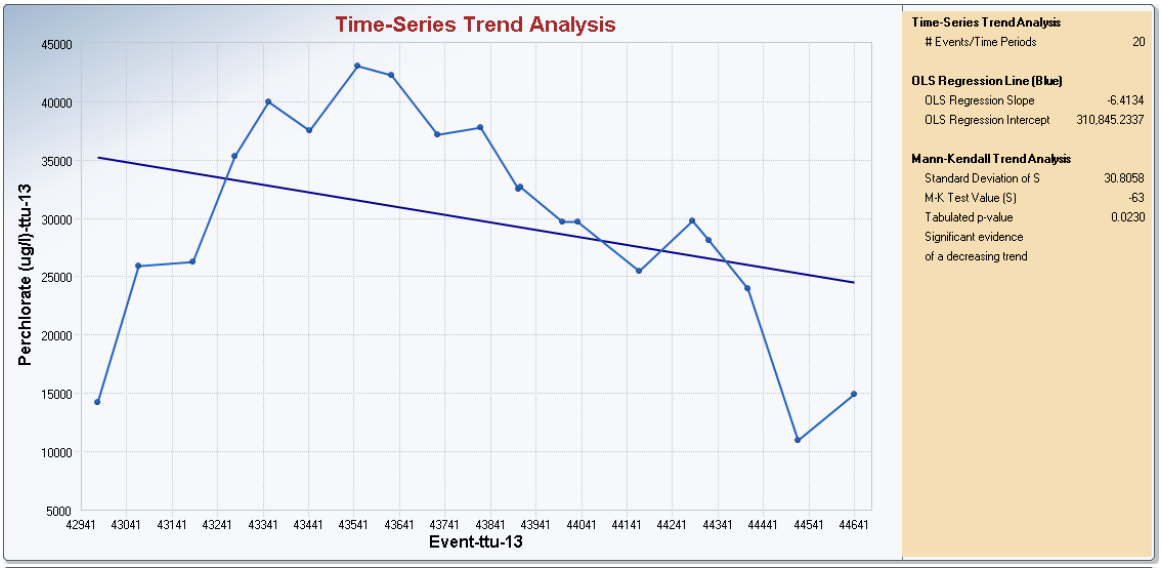
# Events/Time Periods	19

OLS Regression Line (Blue)

OLS Regression Slope	-9.1181
OLS Regression Intercept	535,100.0492

Mann-Kendall Trend Analysis

Standard Deviation of S	28.4839
M-K Test Value (S)	26
Tabulated p-value	0.1840
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

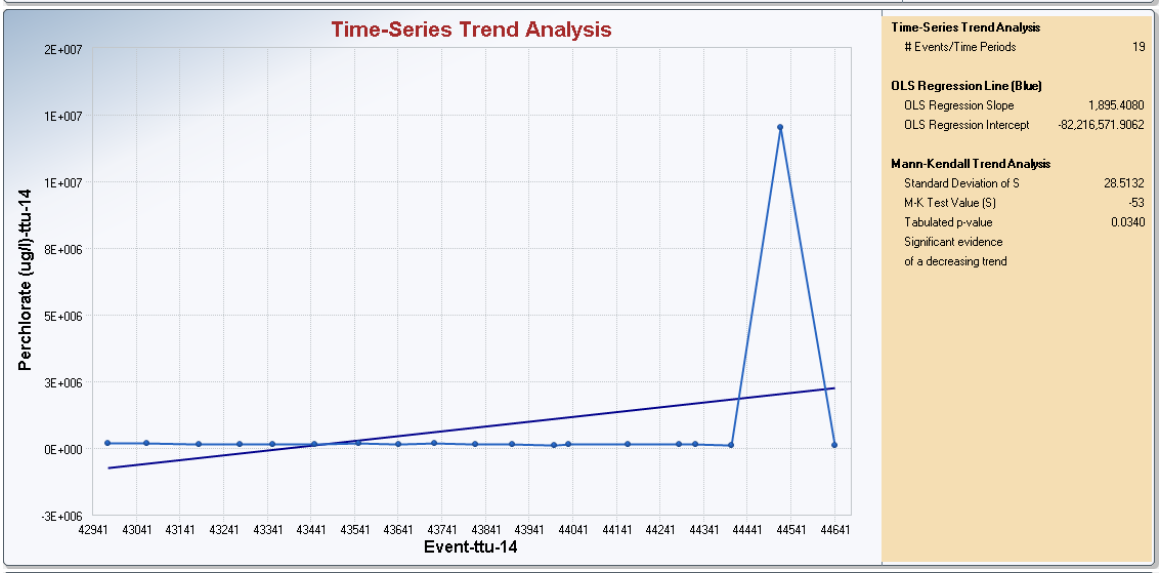
# Events/Time Periods	20

OLS Regression Line (Blue)

OLS Regression Slope	-6.4134
OLS Regression Intercept	310,845.2337

Mann-Kendall Trend Analysis

Standard Deviation of S	30.8058
M-K Test Value (S)	-63
Tabulated p-value	0.0230
Significant evidence of a decreasing trend	



Time-Series Trend Analysis

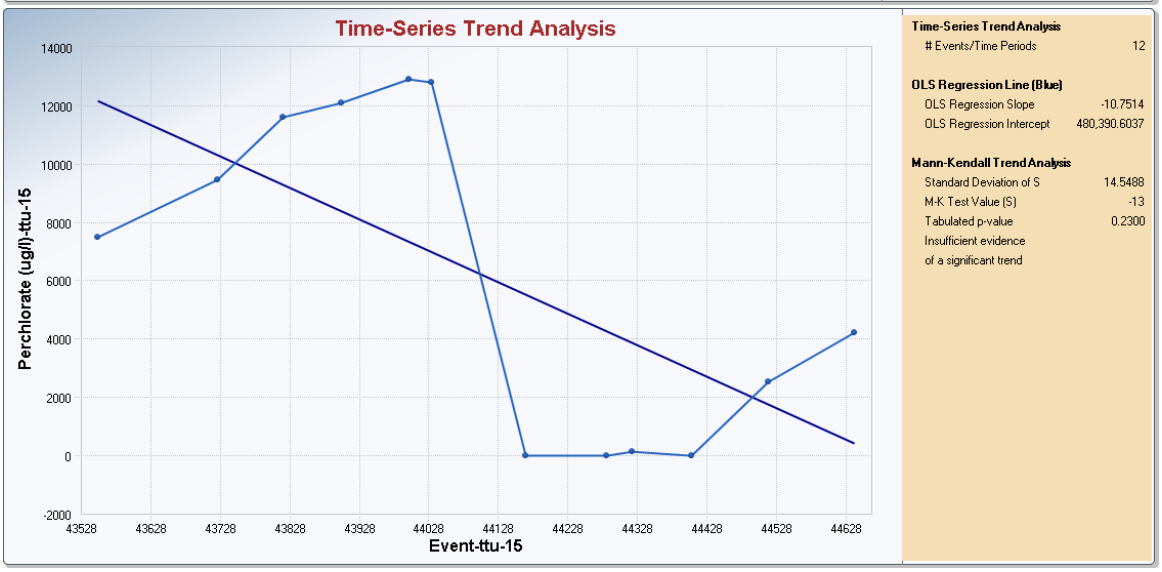
# Events/Time Periods	19

OLS Regression Line (Blue)

OLS Regression Slope	1,895.4080
OLS Regression Intercept	-82,216,571.9062

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5132
M-K Test Value (S)	-53
Tabulated p-value	0.0340
Significant evidence of a decreasing trend	



Time-Series Trend Analysis

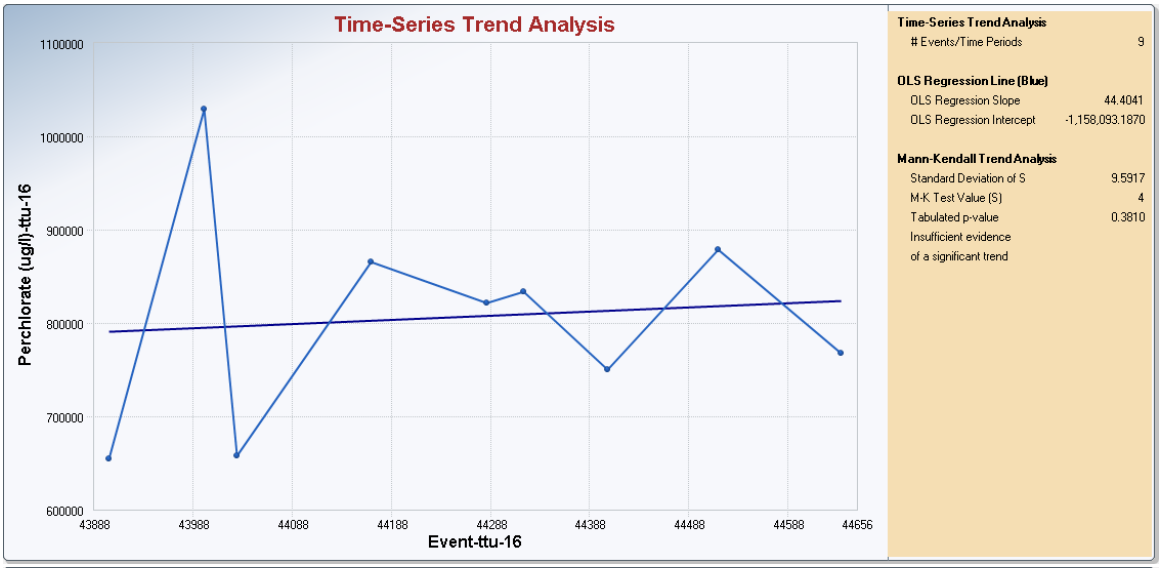
# Events/Time Periods	12

OLS Regression Line (Blue)

OLS Regression Slope	-10.7514
OLS Regression Intercept	480,390.6037

Mann-Kendall Trend Analysis

Standard Deviation of S	14.5488
M-K Test Value (S)	-13
Tabulated p-value	0.2300
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

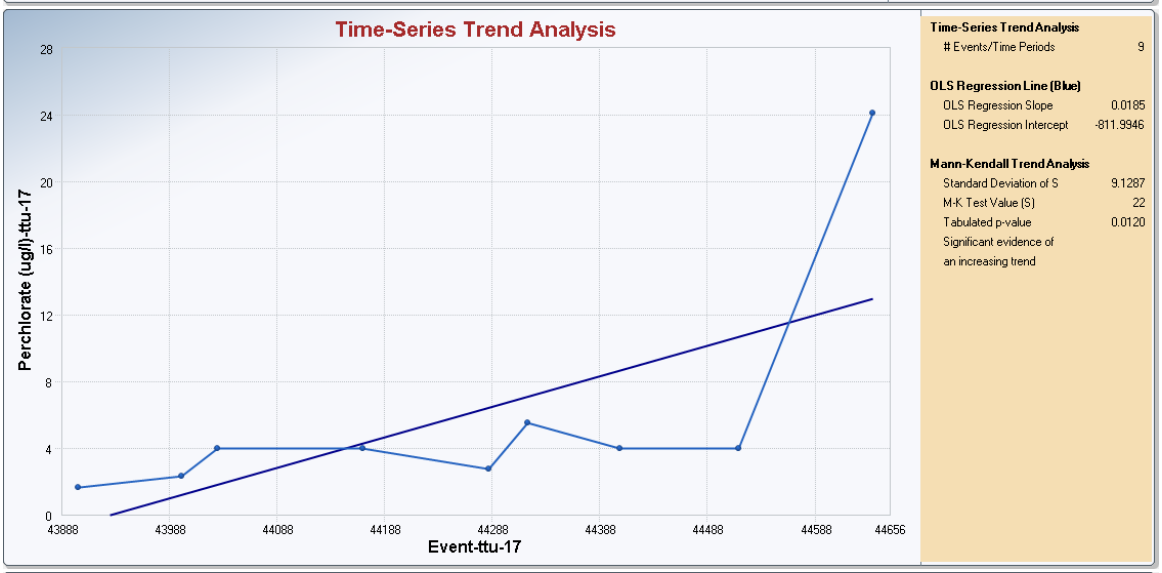
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	44.4041
OLS Regression Intercept	-1,158,093.1870

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	4
Tabulated p-value	0.3810
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

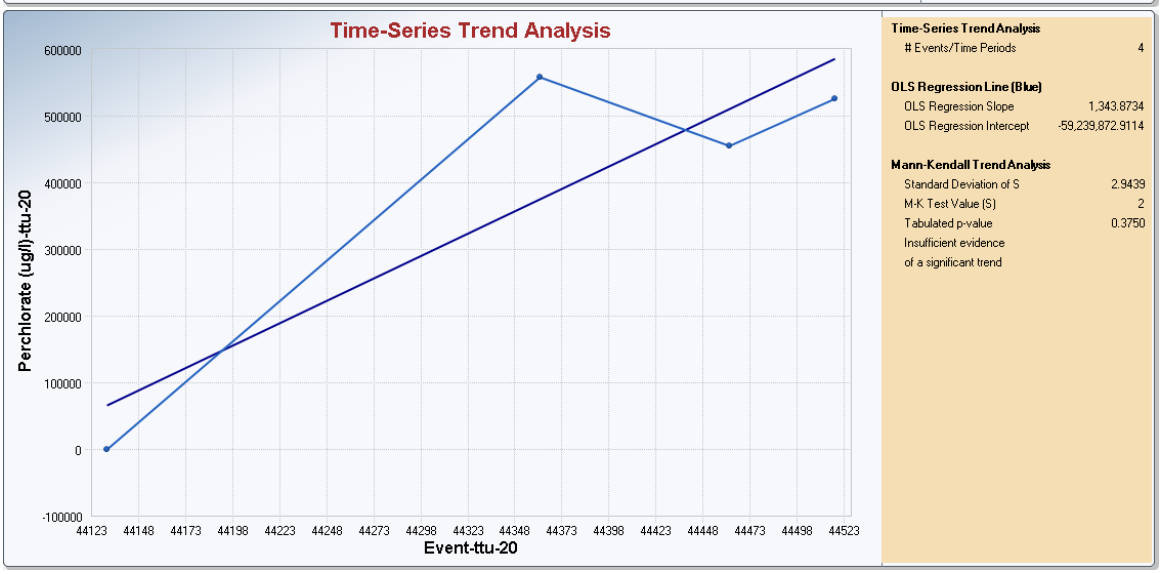
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	0.0185
OLS Regression Intercept	-811.9946

Mann-Kendall Trend Analysis

Standard Deviation of S	9.1287
M-K Test Value (S)	22
Tabulated p-value	0.0120
Significant evidence of an increasing trend	



Time-Series Trend Analysis

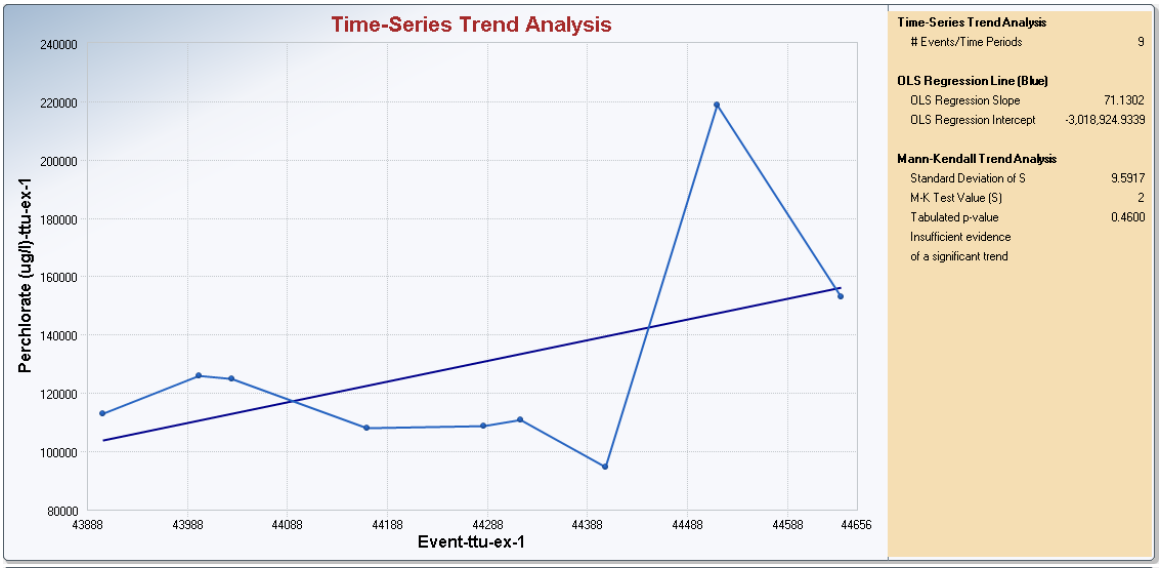
# Events/Time Periods	4

OLS Regression Line (Blue)

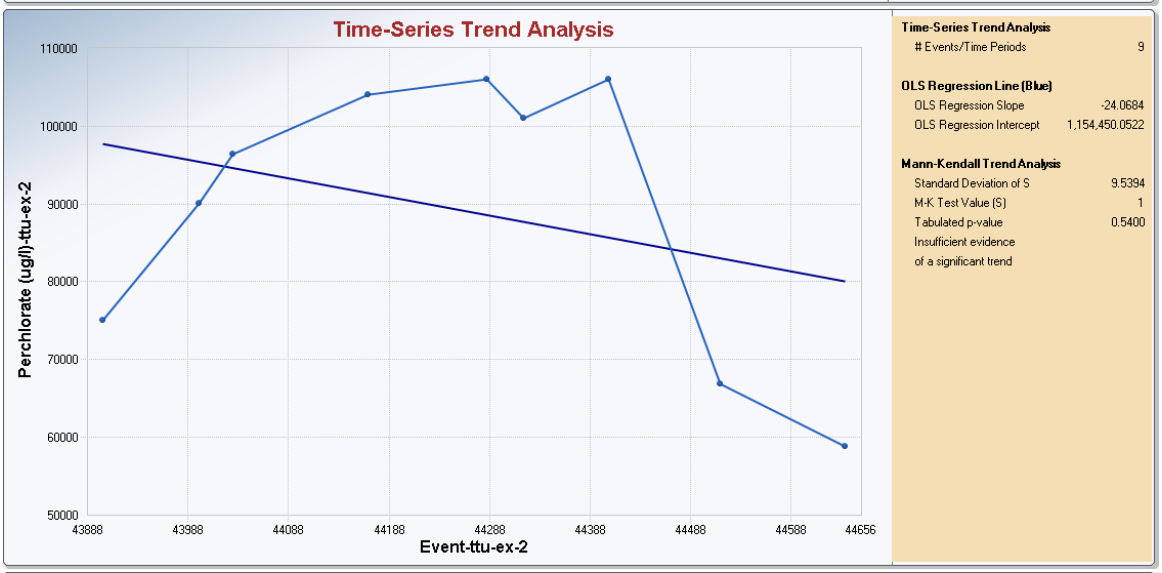
OLS Regression Slope	1,343.8734
OLS Regression Intercept	-59,239,872.9114

Mann-Kendall Trend Analysis

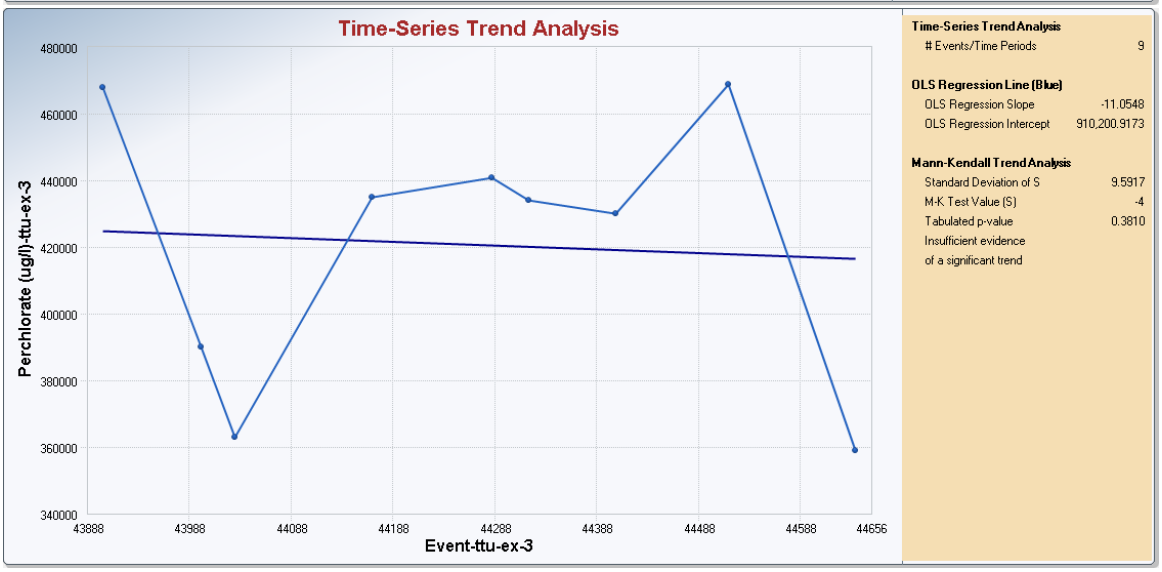
Standard Deviation of S	2.9439
M-K Test Value (S)	2
Tabulated p-value	0.3750
Insufficient evidence of a significant trend	



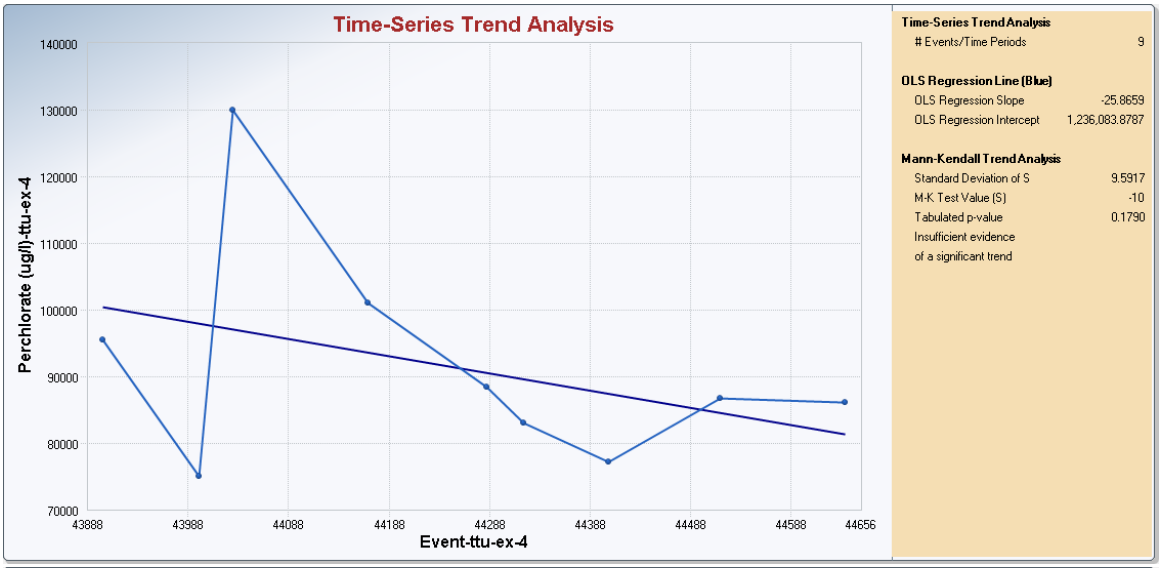
Time-Series Trend Analysis	
# Events/Time Periods	9
OLS Regression Line (Blue)	
OLS Regression Slope	71.1302
OLS Regression Intercept	-3,018,924.9339
Mann-Kendall Trend Analysis	
Standard Deviation of S	9.5917
M-K Test Value (S)	2
Tabulated p-value	0.4600
Insufficient evidence of a significant trend	



Time-Series Trend Analysis	
# Events/Time Periods	9
OLS Regression Line (Blue)	
OLS Regression Slope	-24.0684
OLS Regression Intercept	1,154,450.0522
Mann-Kendall Trend Analysis	
Standard Deviation of S	9.5394
M-K Test Value (S)	1
Tabulated p-value	0.5400
Insufficient evidence of a significant trend	



Time-Series Trend Analysis	
# Events/Time Periods	9
OLS Regression Line (Blue)	
OLS Regression Slope	-11.0548
OLS Regression Intercept	910,200.9173
Mann-Kendall Trend Analysis	
Standard Deviation of S	9.5917
M-K Test Value (S)	-4
Tabulated p-value	0.3810
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

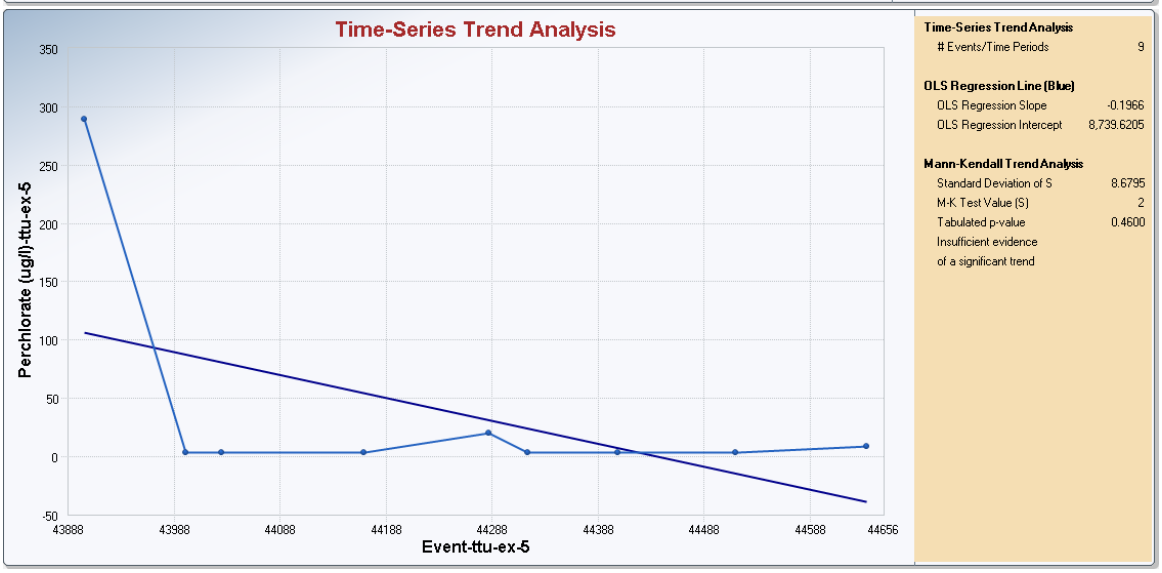
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	-25.8659
OLS Regression Intercept	1,236,083.8787

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	-10
Tabulated p-value	0.1790
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

# Events/Time Periods	9

OLS Regression Line (Blue)

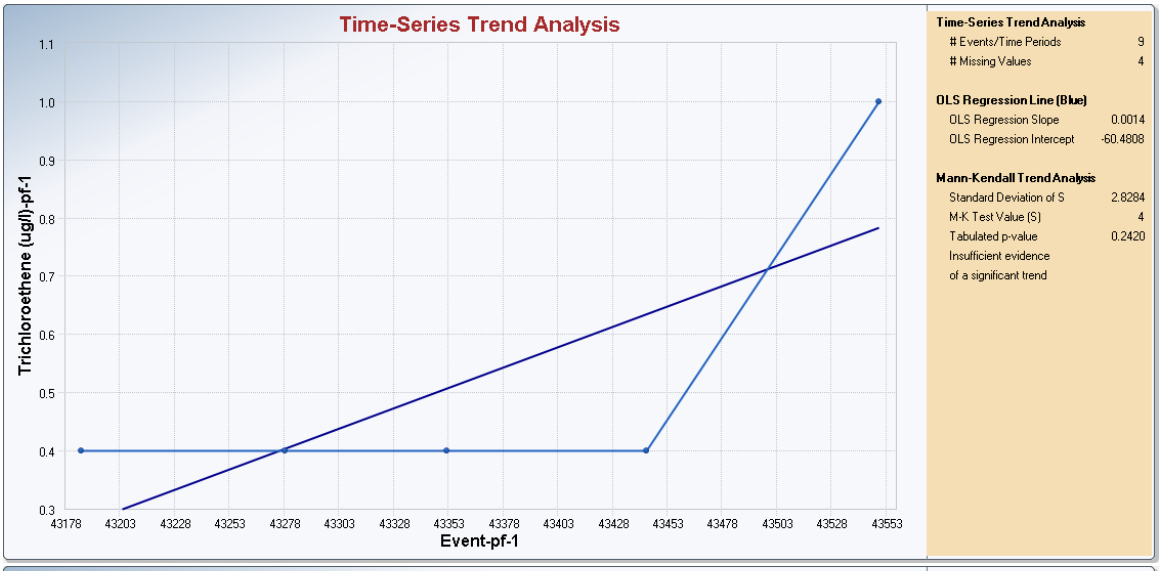
OLS Regression Slope	-0.1966
OLS Regression Intercept	8,739.6205

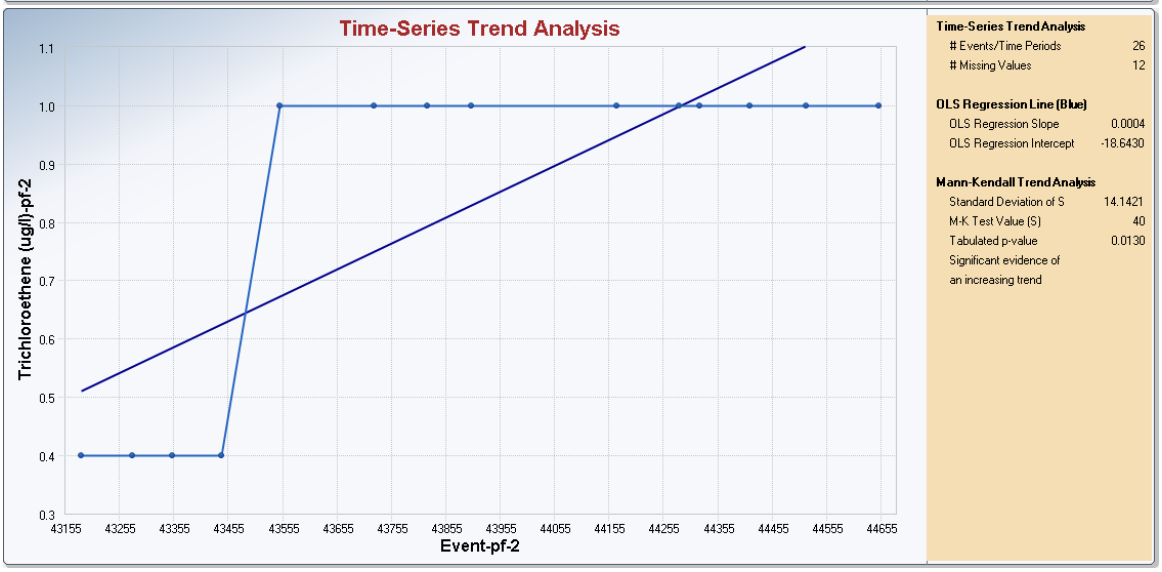
Mann-Kendall Trend Analysis

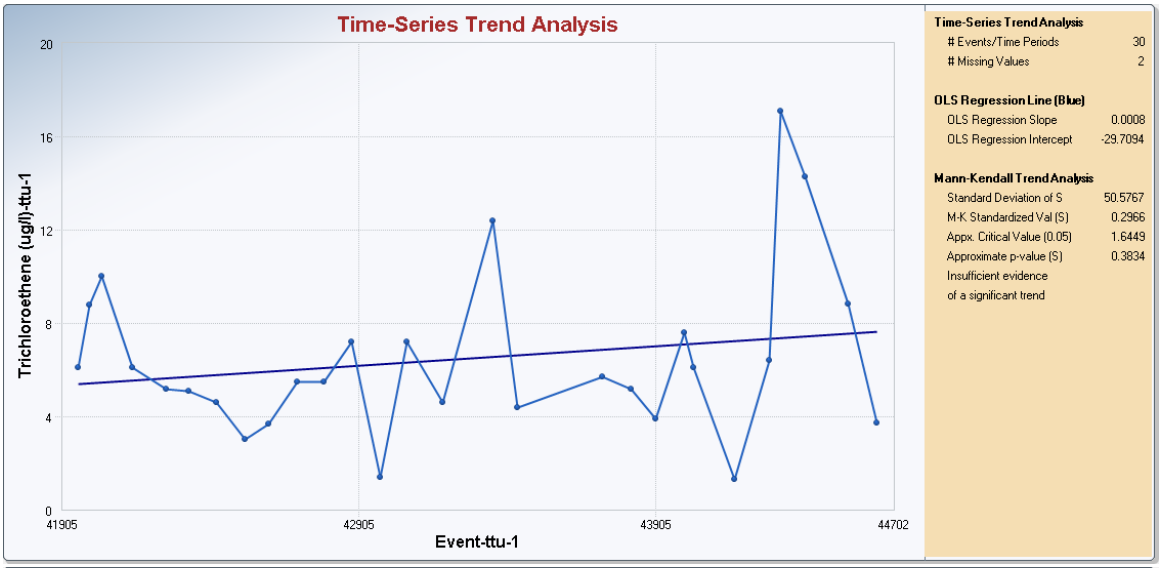
Standard Deviation of S	8.6795
M-K Test Value (S)	2
Tabulated p-value	0.4600
Insufficient evidence of a significant trend	

Time-Series Plot of Concentrations for TTU

Trichloroethene (ug/l)







Time-Series Trend Analysis

# Events/Time Periods	30
# Missing Values	2

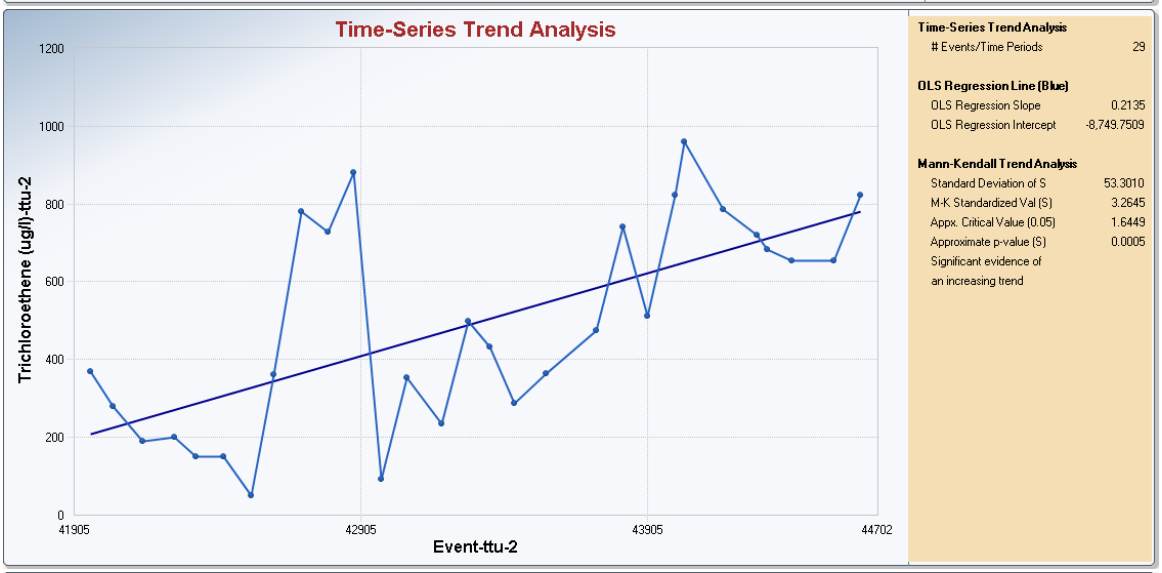
OLS Regression Line (Blue)

OLS Regression Slope	0.0008
OLS Regression Intercept	-29.7094

Mann-Kendall Trend Analysis

Standard Deviation of S	50.5767
M-K Standardized Val (S)	0.2966
Appx. Critical Value (0.05)	1.6449
Approximate p-value (S)	0.3834

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	29

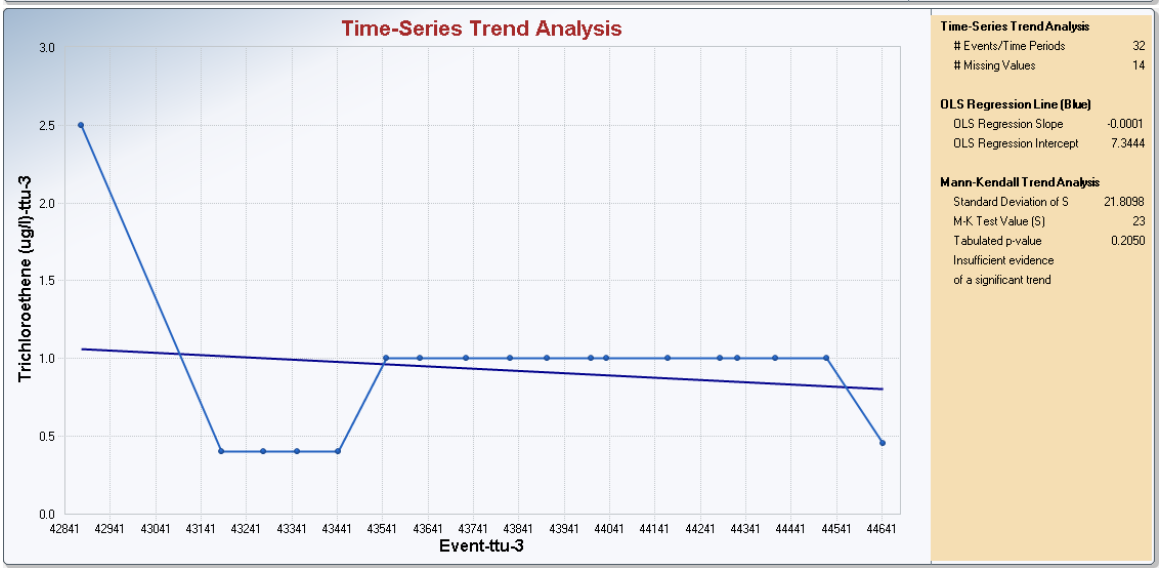
OLS Regression Line (Blue)

OLS Regression Slope	0.2135
OLS Regression Intercept	-8,749.7509

Mann-Kendall Trend Analysis

Standard Deviation of S	53.3010
M-K Standardized Val (S)	3.2645
Appx. Critical Value (0.05)	1.6449
Approximate p-value (S)	0.0005

Significant evidence of an increasing trend



Time-Series Trend Analysis

# Events/Time Periods	32
# Missing Values	14

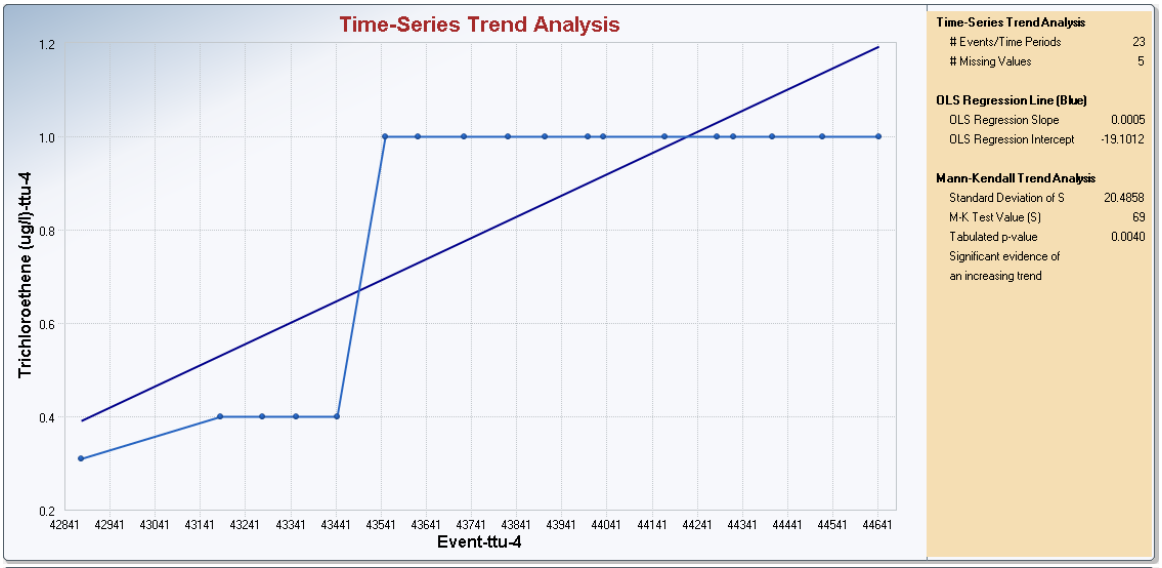
OLS Regression Line (Blue)

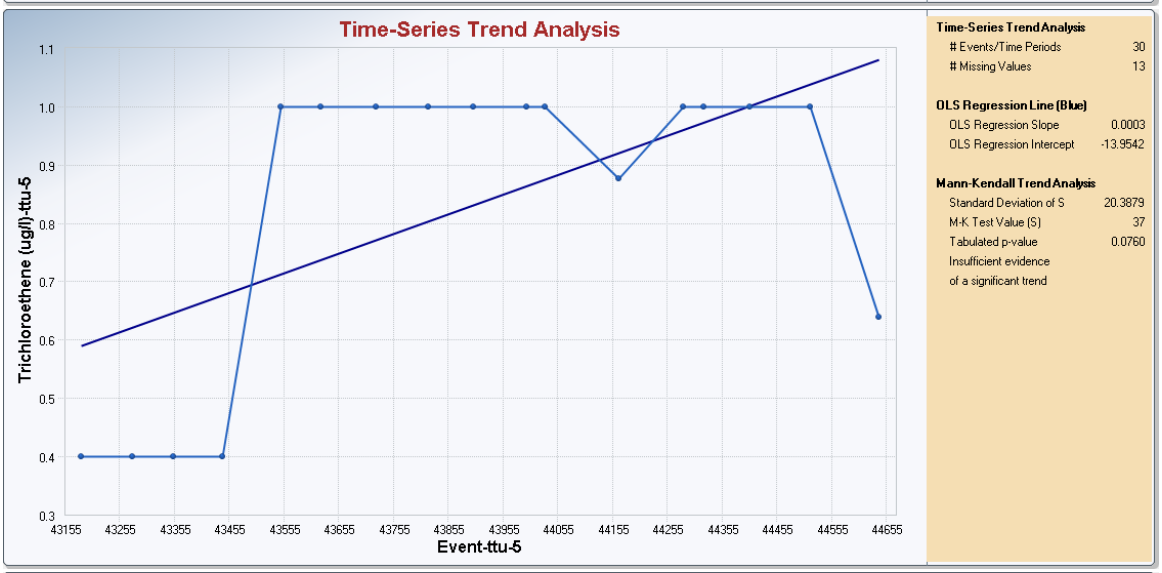
OLS Regression Slope	-0.0001
OLS Regression Intercept	7.3444

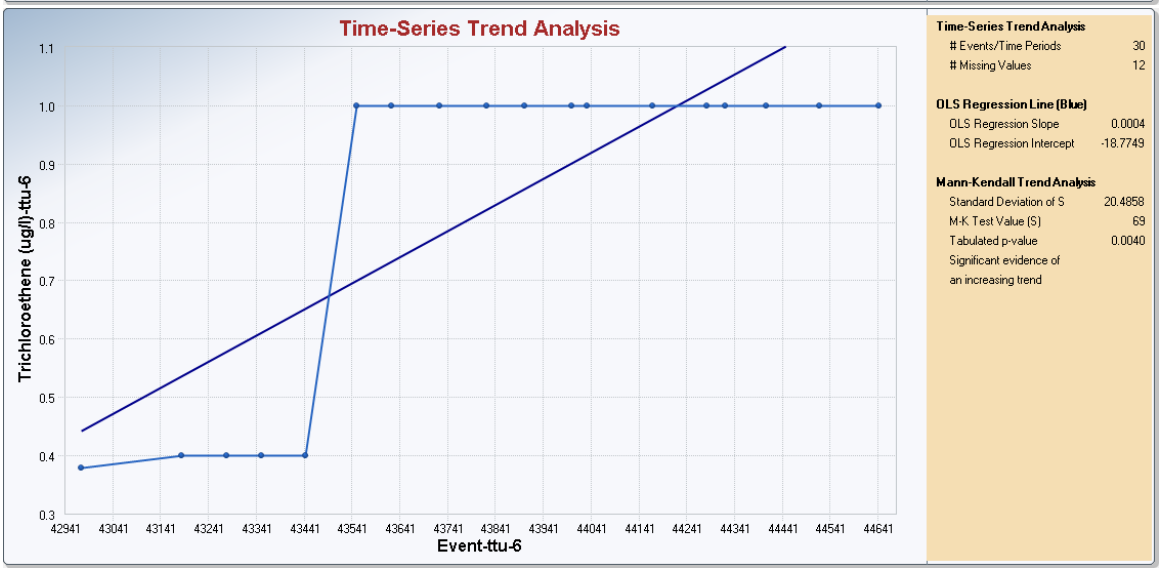
Mann-Kendall Trend Analysis

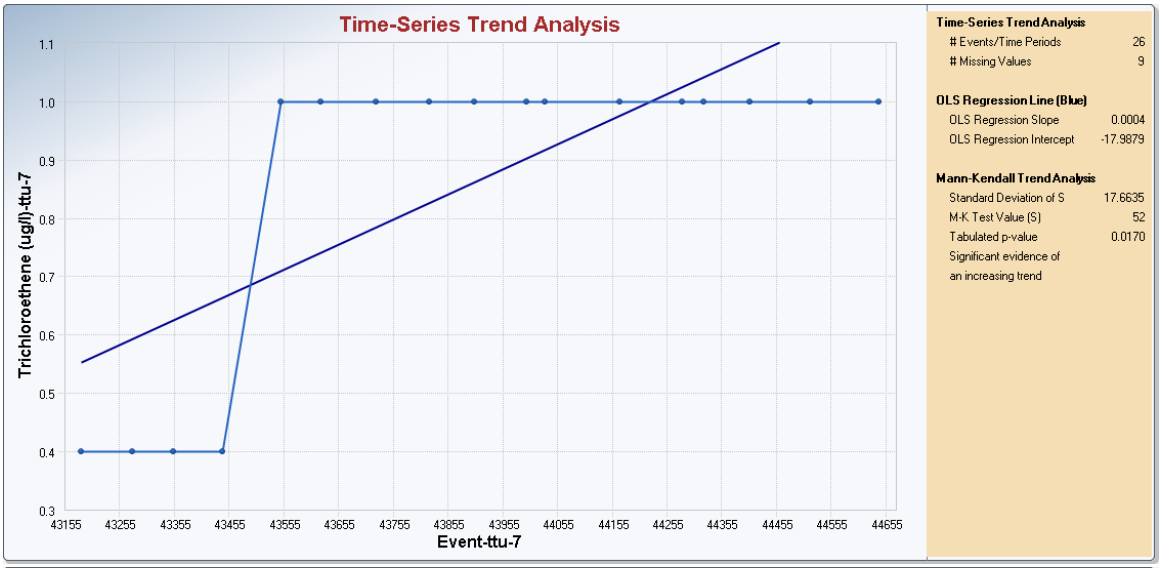
Standard Deviation of S	21.8098
M-K Test Value (S)	23
Tabulated p-value	0.2050

Insufficient evidence of a significant trend


Time-Series Trend Analysis
Trichloroethene (ug/l)-ttu-4
1.2
1.0
0.8
0.6
0.4
0.2
42841 42941 43041 43141 43241 43341 43441 43541 43641 43741 43841 43941 44041 44141 44241 44341 44441 44541 44641
Event-ttu-4
Time-Series Trend Analysis
Events/Time Periods 23
Missing Values 5
OLS Regression Line (Blue)
OLS Regression Slope 0.0005
OLS Regression Intercept -19.1012
Mann-Kendall Trend Analysis
Standard Deviation of S 20.4858
M-K Test Value (S) 69
Tabulated p-value 0.0040
Significant evidence of
an increasing trend


Time-Series Trend Analysis
Trichloroethene (ug/l)-ttu-5
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
43155 43255 43355 43455 43555 43655 43755 43855 43955 44055 44155 44255 44355 44455 44555 44655
Event-ttu-5
Time-Series Trend Analysis
Events/Time Periods 30
Missing Values 13
OLS Regression Line (Blue)
OLS Regression Slope 0.0003
OLS Regression Intercept -13.9542
Mann-Kendall Trend Analysis
Standard Deviation of S 20.3879
M-K Test Value (S) 37
Tabulated p-value 0.0760
Insufficient evidence
of a significant trend


Time-Series Trend Analysis
Trichloroethene (ug/l)-ttu-6
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
42941 43041 43141 43241 43341 43441 43541 43641 43741 43841 43941 44041 44141 44241 44341 44441 44541 44641
Event-ttu-6
Time-Series Trend Analysis
Events/Time Periods 30
Missing Values 12
OLS Regression Line (Blue)
OLS Regression Slope 0.0004
OLS Regression Intercept -18.7749
Mann-Kendall Trend Analysis
Standard Deviation of S 20.4858
M-K Test Value (S) 69
Tabulated p-value 0.0040
Significant evidence of
an increasing trend



Time-Series Trend Analysis

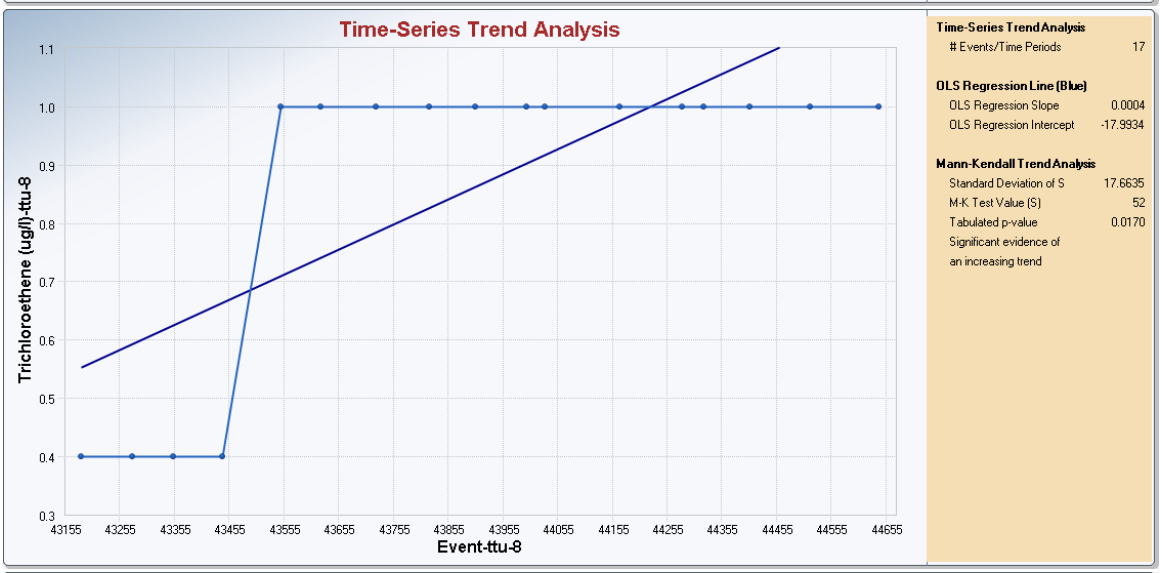
# Events/Time Periods	26
# Missing Values	9

OLS Regression Line (Blue)

OLS Regression Slope	0.0004
OLS Regression Intercept	-17.9879

Mann-Kendall Trend Analysis

Standard Deviation of S	17.6635
M-K Test Value (S)	52
Tabulated p-value	0.0170
Significant evidence of an increasing trend	



Time-Series Trend Analysis

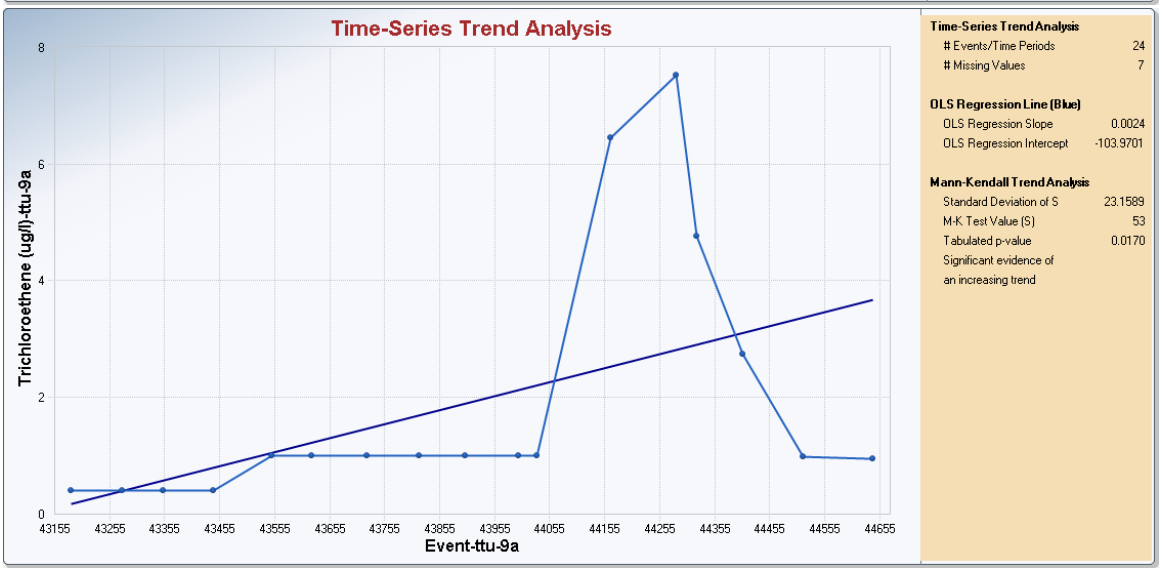
# Events/Time Periods	17

OLS Regression Line (Blue)

OLS Regression Slope	0.0004
OLS Regression Intercept	-17.9934

Mann-Kendall Trend Analysis

Standard Deviation of S	17.6635
M-K Test Value (S)	52
Tabulated p-value	0.0170
Significant evidence of an increasing trend	



Time-Series Trend Analysis

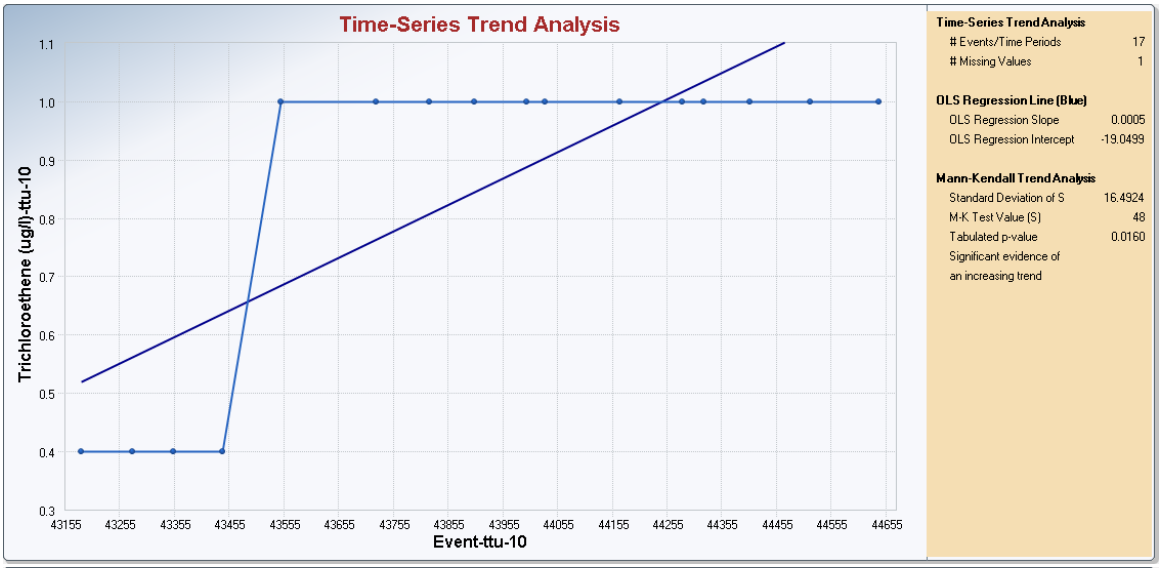
# Events/Time Periods	24
# Missing Values	7

OLS Regression Line (Blue)

OLS Regression Slope	0.0024
OLS Regression Intercept	-103.9701

Mann-Kendall Trend Analysis

Standard Deviation of S	23.1589
M-K Test Value (S)	53
Tabulated p-value	0.0170
Significant evidence of an increasing trend	



Time-Series Trend Analysis

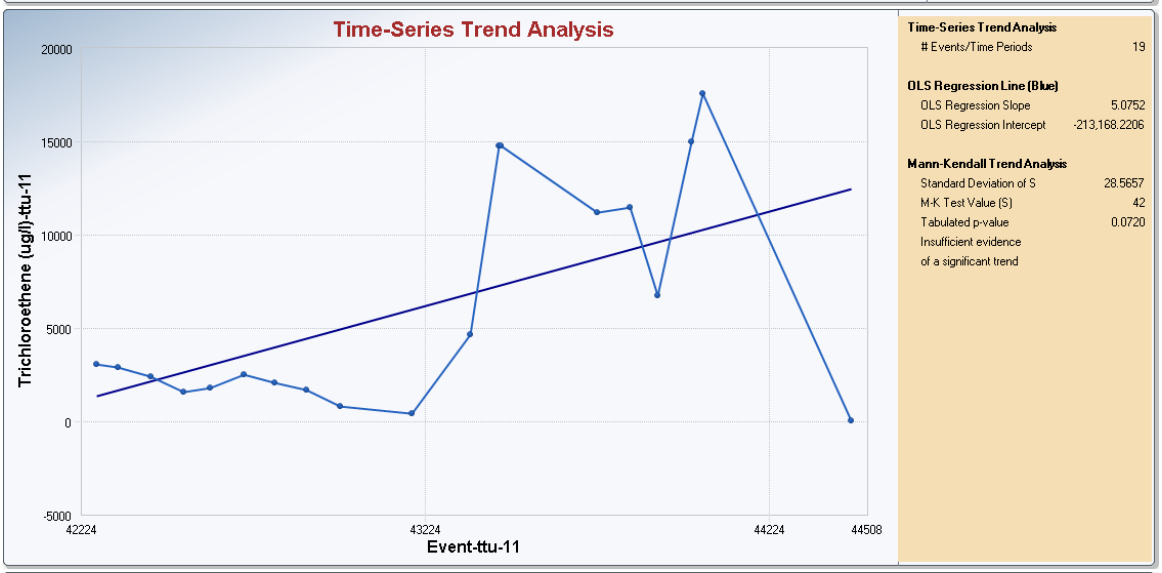
# Events/Time Periods	17
# Missing Values	1

OLS Regression Line (Blue)

OLS Regression Slope	0.0005
OLS Regression Intercept	-19.0499

Mann-Kendall Trend Analysis

Standard Deviation of S	16.4924
M-K Test Value (S)	48
Tabulated p-value	0.0160
Significant evidence of an increasing trend	



Time-Series Trend Analysis

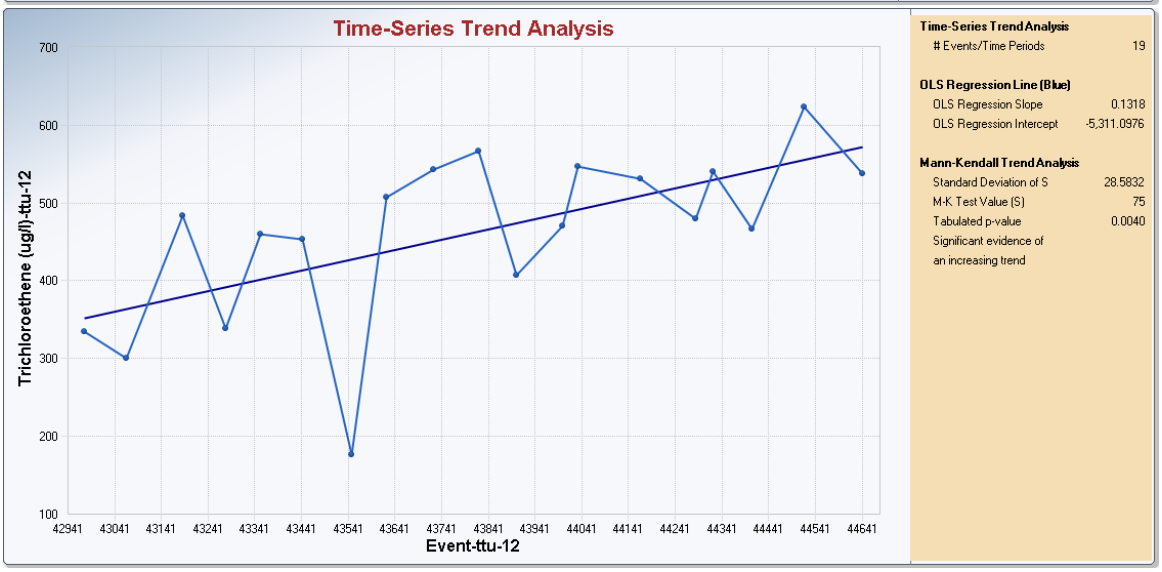
# Events/Time Periods	19

OLS Regression Line (Blue)

OLS Regression Slope	5.0752
OLS Regression Intercept	-213,168.2206

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5657
M-K Test Value (S)	42
Tabulated p-value	0.0720
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

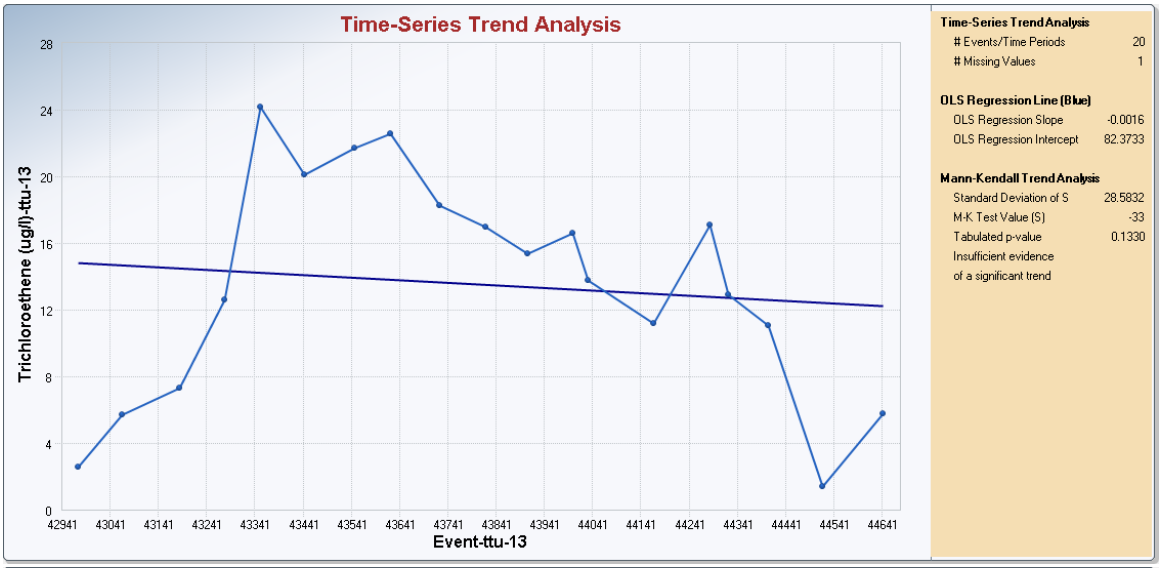
# Events/Time Periods	19

OLS Regression Line (Blue)

OLS Regression Slope	0.1318
OLS Regression Intercept	-5,311.0976

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5832
M-K Test Value (S)	75
Tabulated p-value	0.0040
Significant evidence of an increasing trend	



Time-Series Trend Analysis

# Events/Time Periods	20
# Missing Values	1

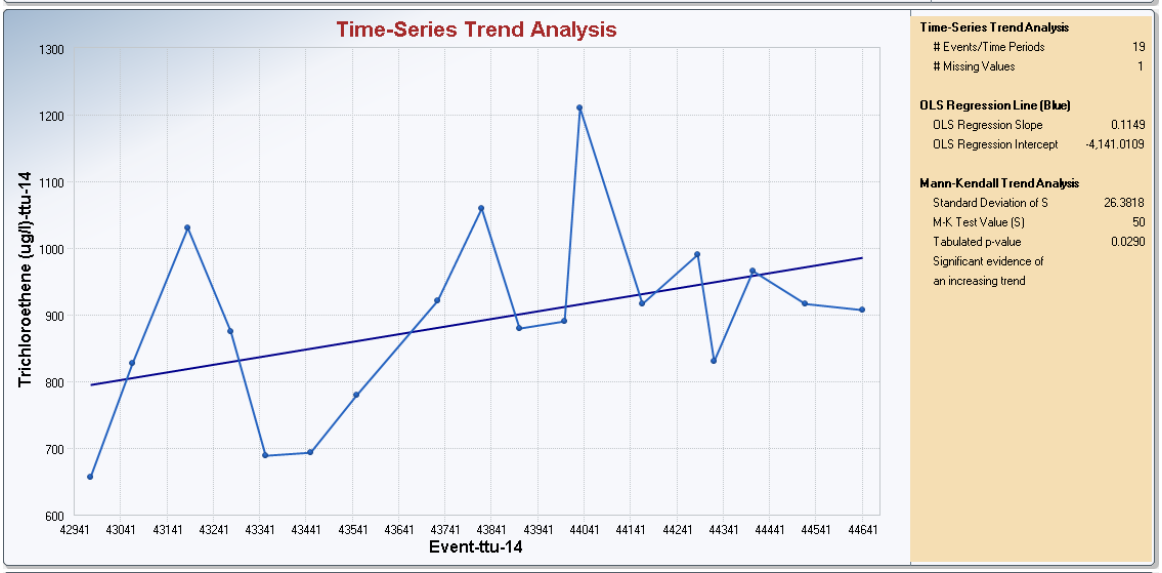
OLS Regression Line (Blue)

OLS Regression Slope	-0.0016
OLS Regression Intercept	82.3733

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5832
M-K Test Value (S)	-33
Tabulated p-value	0.1330

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	19
# Missing Values	1

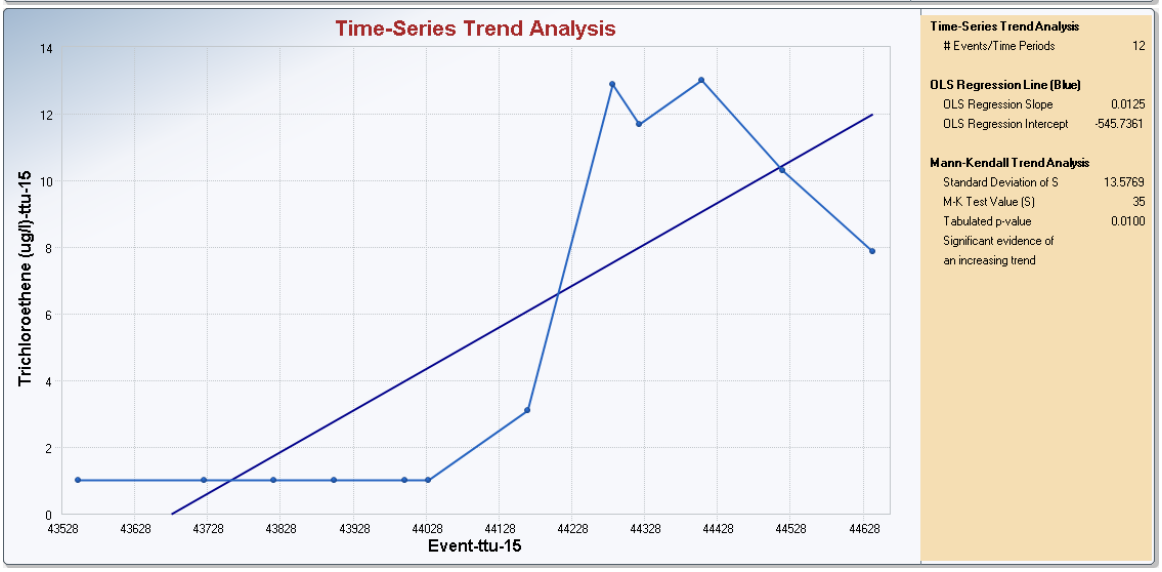
OLS Regression Line (Blue)

OLS Regression Slope	0.1149
OLS Regression Intercept	-4,141.0109

Mann-Kendall Trend Analysis

Standard Deviation of S	26.3818
M-K Test Value (S)	50
Tabulated p-value	0.0290

Significant evidence of an increasing trend



Time-Series Trend Analysis

# Events/Time Periods	12

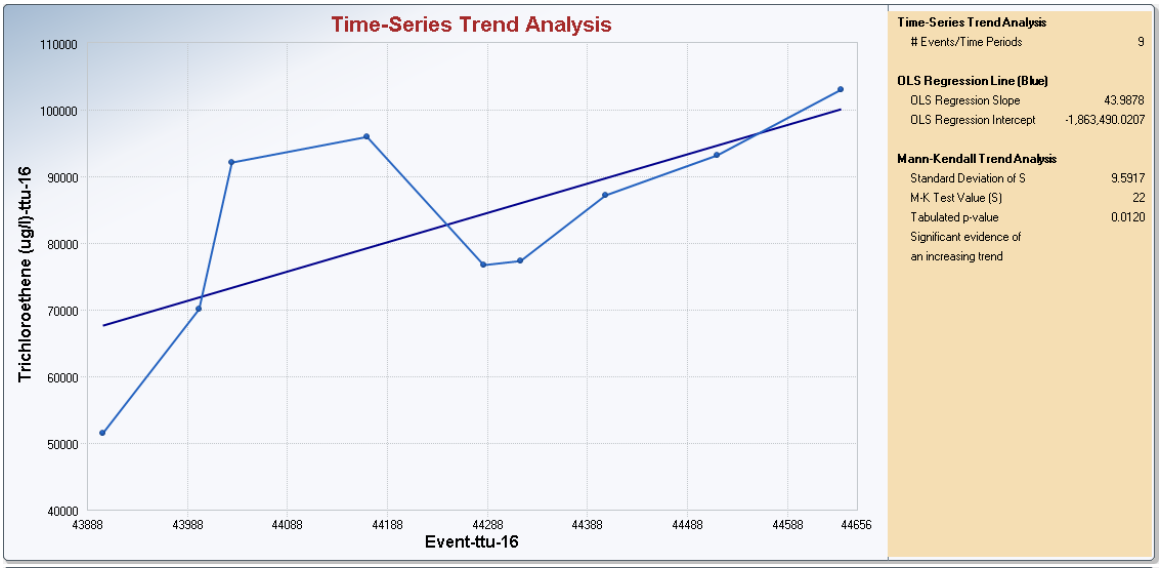
OLS Regression Line (Blue)

OLS Regression Slope	0.0125
OLS Regression Intercept	-545.7361

Mann-Kendall Trend Analysis

Standard Deviation of S	13.5769
M-K Test Value (S)	35
Tabulated p-value	0.0100

Significant evidence of an increasing trend



Time-Series Trend Analysis

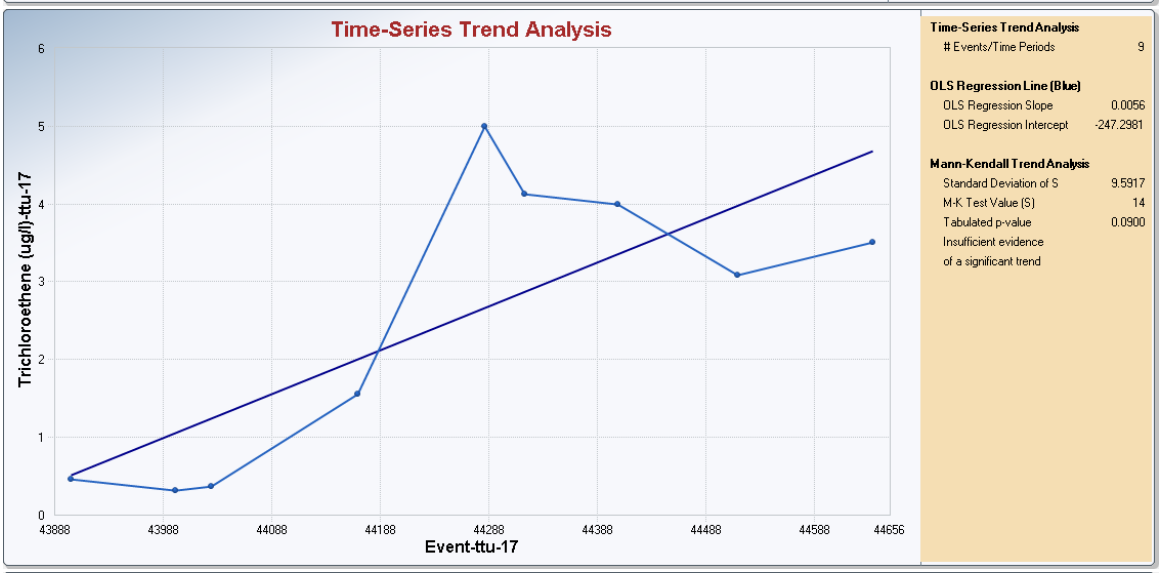
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	43.9878
OLS Regression Intercept	-1,863,490.0207

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	22
Tabulated p-value	0.0120
Significant evidence of an increasing trend	



Time-Series Trend Analysis

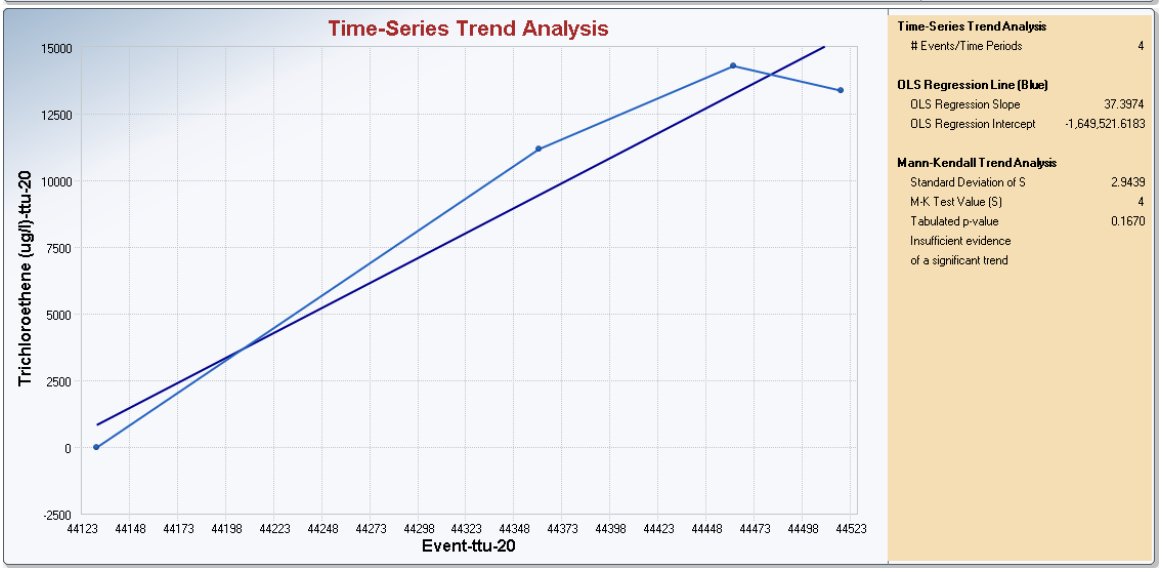
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	0.0056
OLS Regression Intercept	-247.2981

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	14
Tabulated p-value	0.0900
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

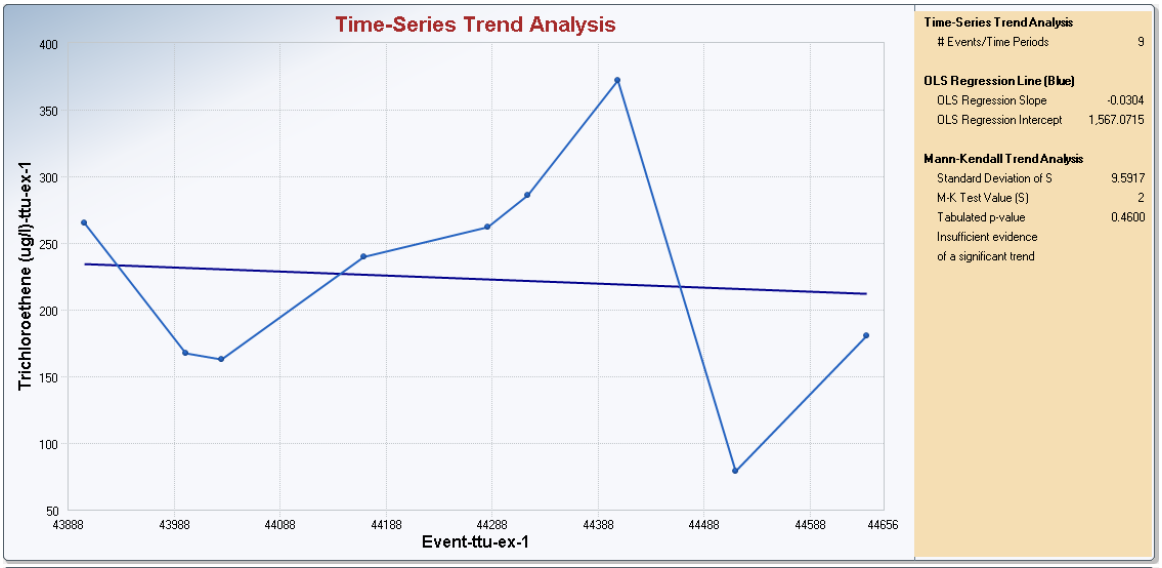
# Events/Time Periods	4

OLS Regression Line (Blue)

OLS Regression Slope	37.3974
OLS Regression Intercept	-1,649,521.6183

Mann-Kendall Trend Analysis

Standard Deviation of S	2.9439
M-K Test Value (S)	4
Tabulated p-value	0.1670
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

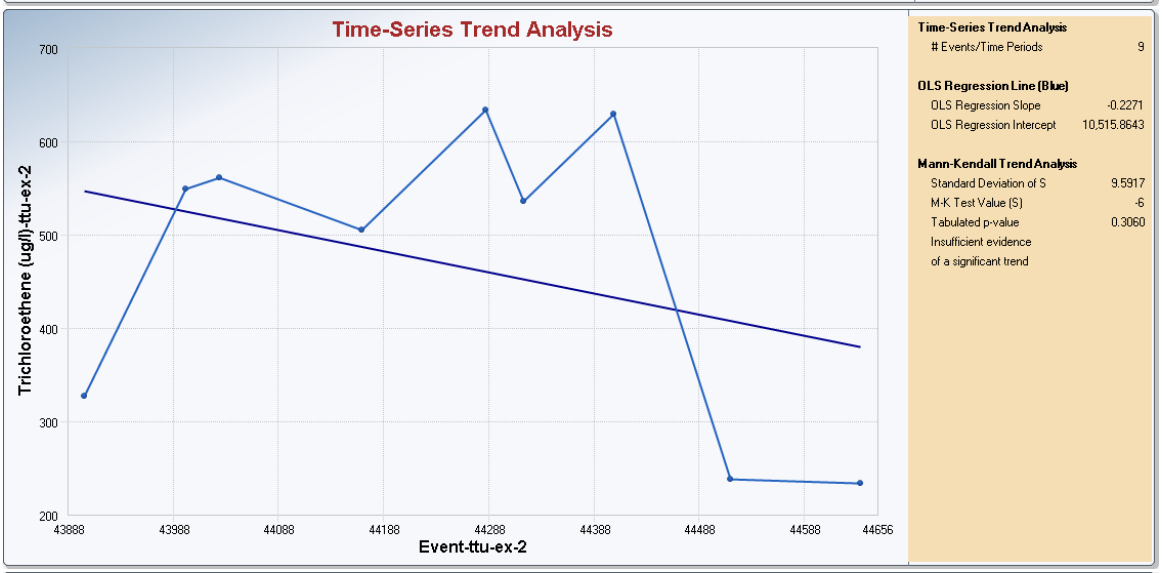
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	-0.0304
OLS Regression Intercept	1,567.0715

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	2
Tabulated p-value	0.4600
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

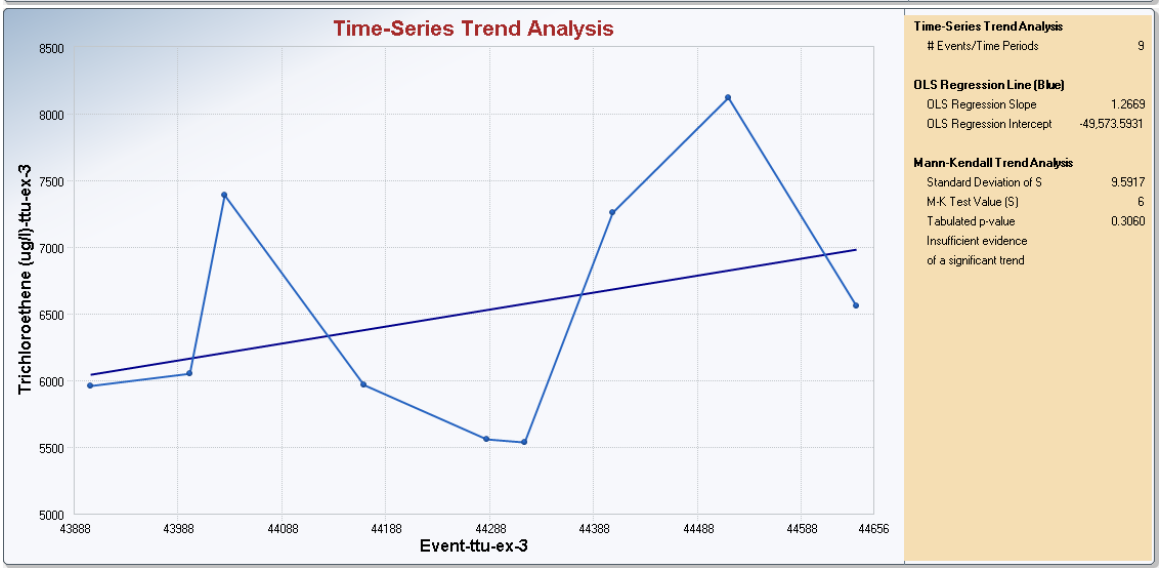
# Events/Time Periods	9

OLS Regression Line (Blue)

OLS Regression Slope	-0.2271
OLS Regression Intercept	10,515.8643

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	-6
Tabulated p-value	0.3060
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

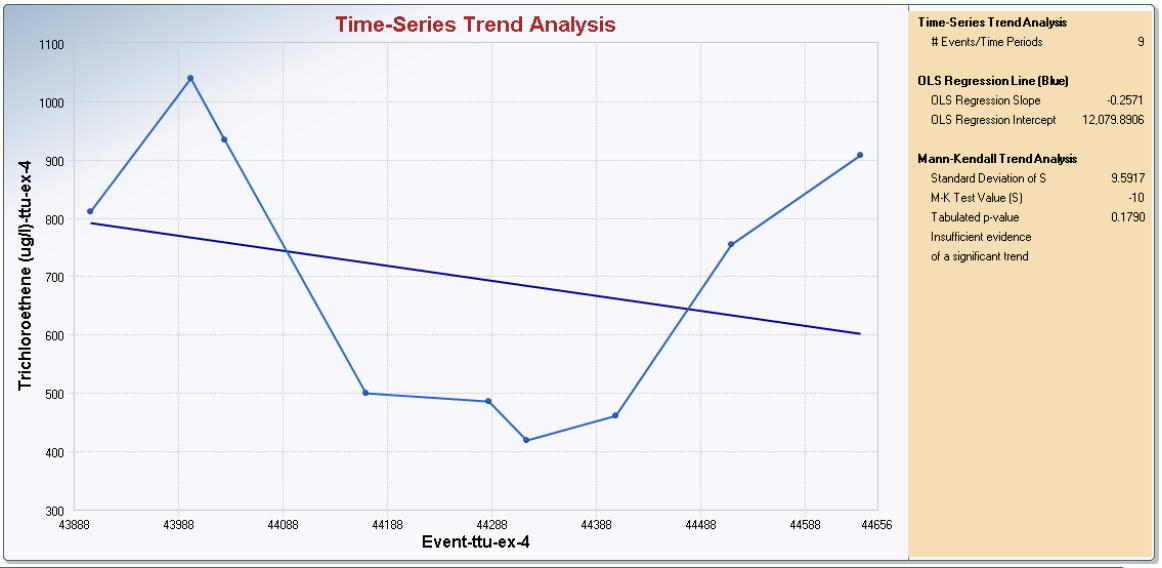
# Events/Time Periods	9

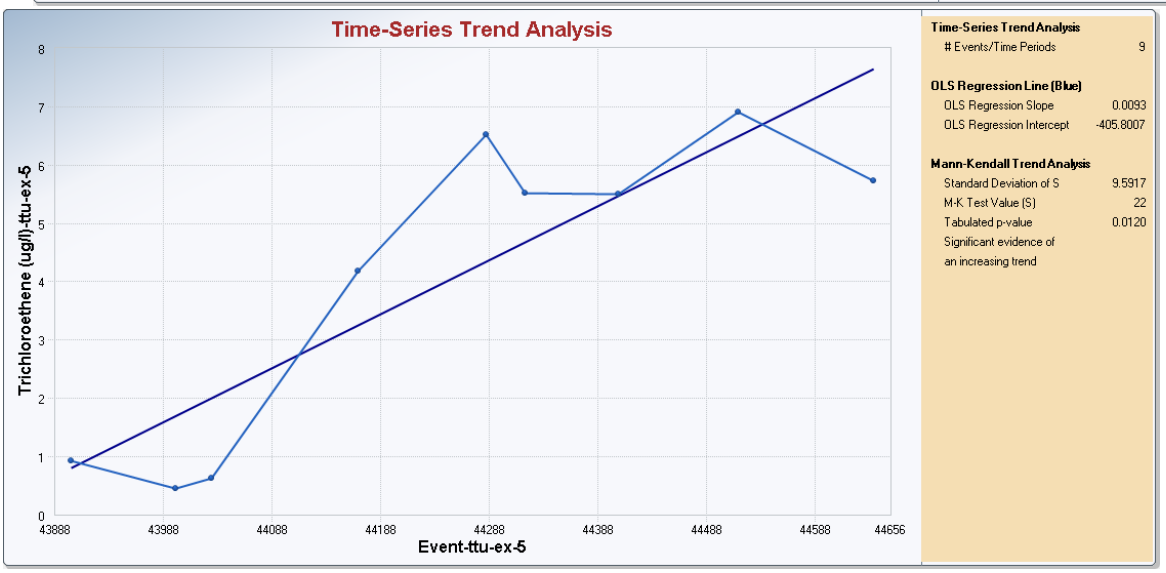
OLS Regression Line (Blue)

OLS Regression Slope	1.2669
OLS Regression Intercept	-49,573.5931

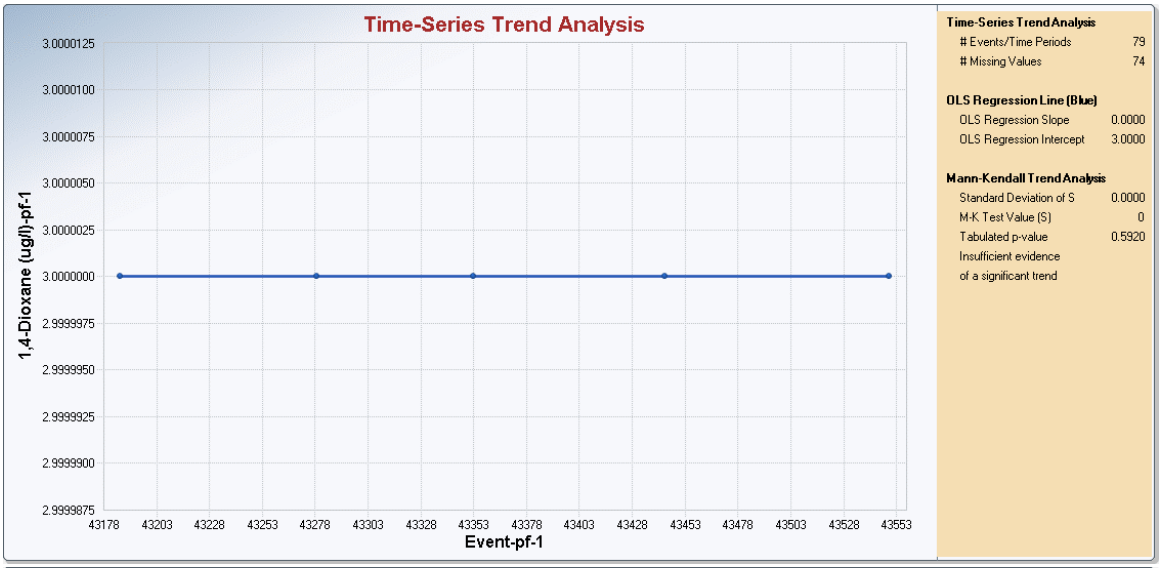
Mann-Kendall Trend Analysis

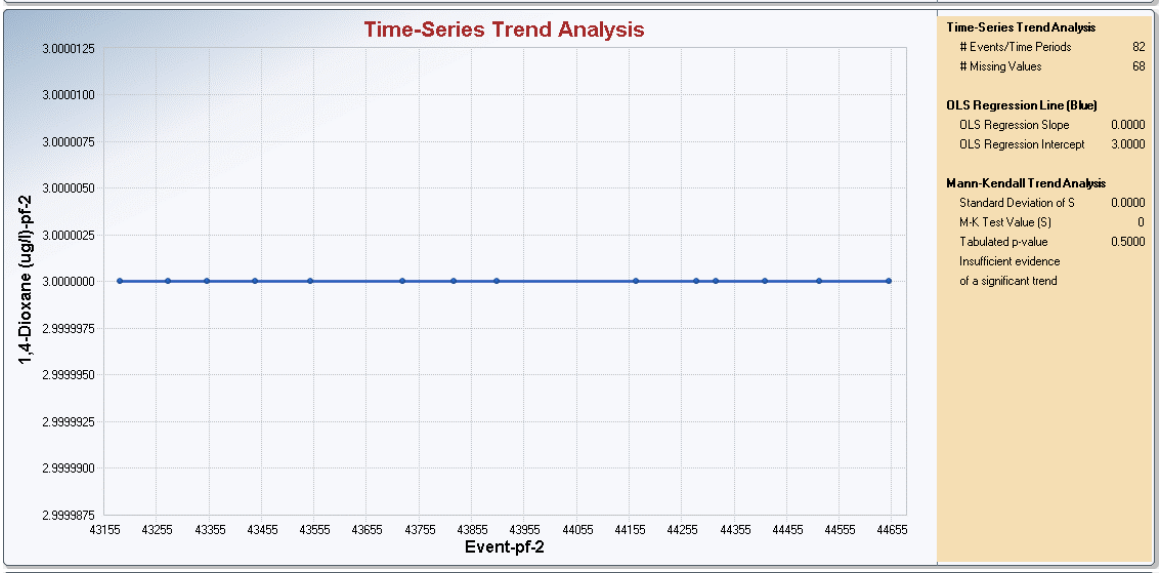
Standard Deviation of S	9.5917
M-K Test Value (S)	6
Tabulated p-value	0.3060
Insufficient evidence of a significant trend	

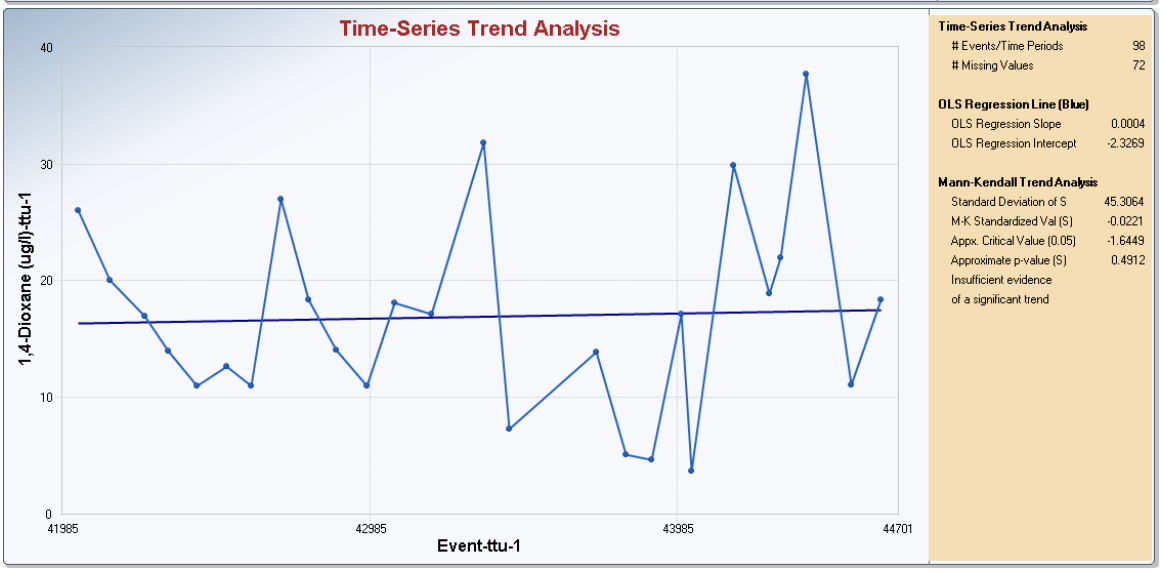

Time-Series Trend Analysis
Trichloroethene (ug/l)-ttu-ex-4
1100
1000
900
800
700
600
500
400
300
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-4
Time-Series Trend Analysis
Events/Time Periods 9
OLS Regression Line (Blue)
OLS Regression Slope -0.2571
OLS Regression Intercept 12,079.8906
Mann-Kendall Trend Analysis
Standard Deviation of S 9.5917
M-K Test Value (S) -10
Tabulated p-value 0.1790
Insufficient evidence
of a significant trend

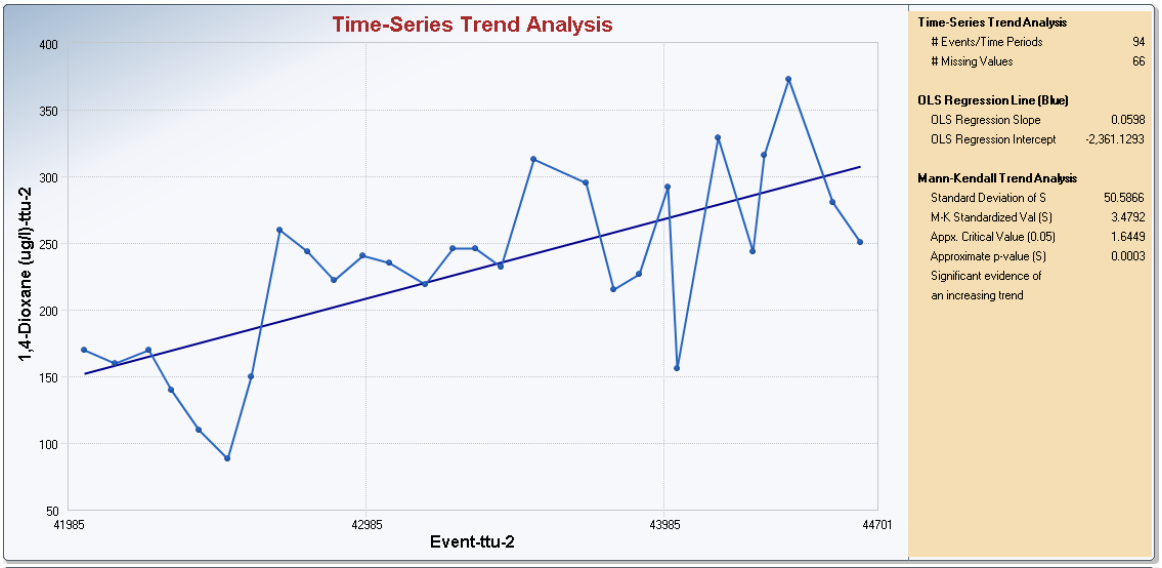

Time-Series Trend Analysis
Trichloroethene (ug/l)-ttu-ex-5
8
7
6
5
4
3
2
1
0
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-5
Time-Series Trend Analysis
Events/Time Periods 9
OLS Regression Line (Blue)
OLS Regression Slope 0.0093
OLS Regression Intercept -405.8007
Mann-Kendall Trend Analysis
Standard Deviation of S 9.5917
M-K Test Value (S) 22
Tabulated p-value 0.0120
Significant evidence of
an increasing trend

1,4-Dioxane(ug/l)









Time-Series Trend Analysis

# Events/Time Periods	94
# Missing Values	66

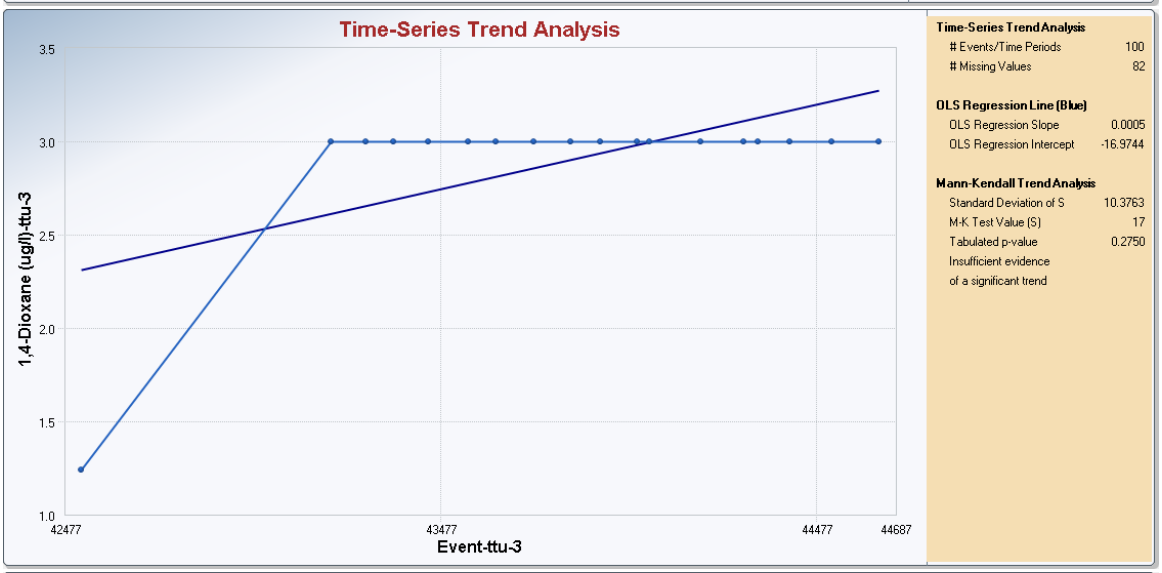
OLS Regression Line (Blue)

OLS Regression Slope	0.0598
OLS Regression Intercept	-2,361.1293

Mann-Kendall Trend Analysis

Standard Deviation of S	50.5866
M-K Standardized Val (S)	3.4792
Appx. Critical Value (0.05)	1.6449
Approximate p-value (S)	0.0003

Significant evidence of an increasing trend



Time-Series Trend Analysis

# Events/Time Periods	100
# Missing Values	82

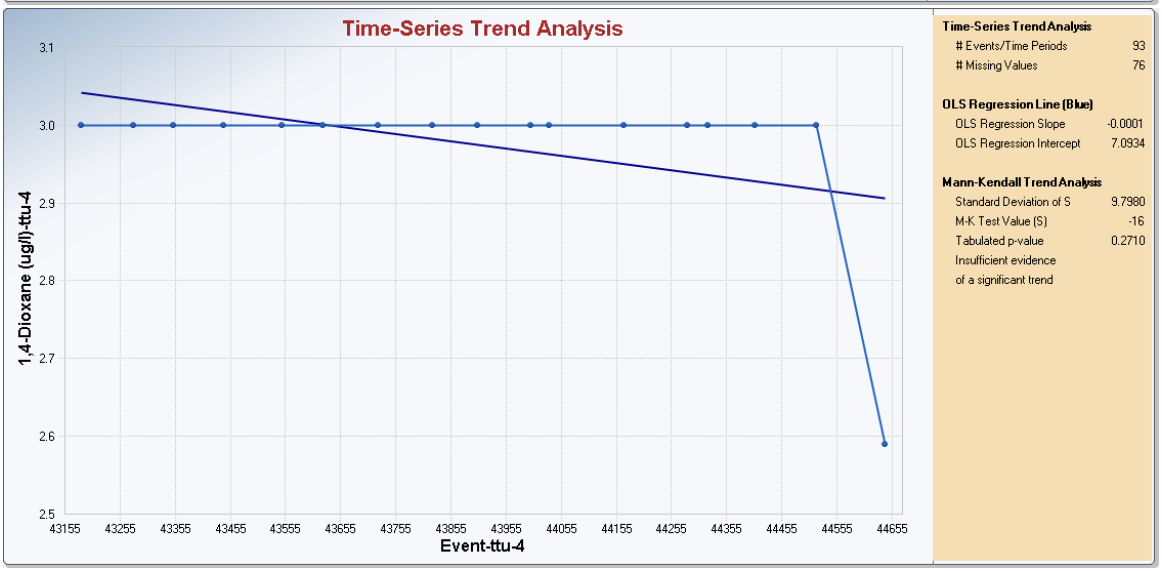
OLS Regression Line (Blue)

OLS Regression Slope	0.0005
OLS Regression Intercept	-16.9744

Mann-Kendall Trend Analysis

Standard Deviation of S	10.3763
M-K Test Value (S)	17
Tabulated p-value	0.2750

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	93
# Missing Values	76

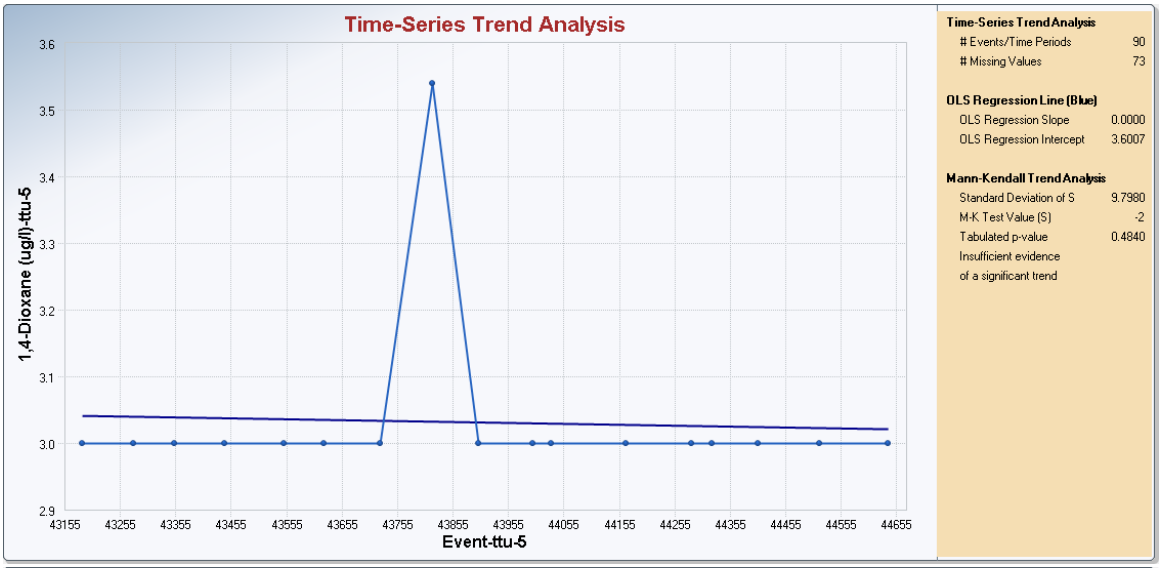
OLS Regression Line (Blue)

OLS Regression Slope	-0.0001
OLS Regression Intercept	7.0934

Mann-Kendall Trend Analysis

Standard Deviation of S	9.7980
M-K Test Value (S)	-16
Tabulated p-value	0.2710

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	90
# Missing Values	73

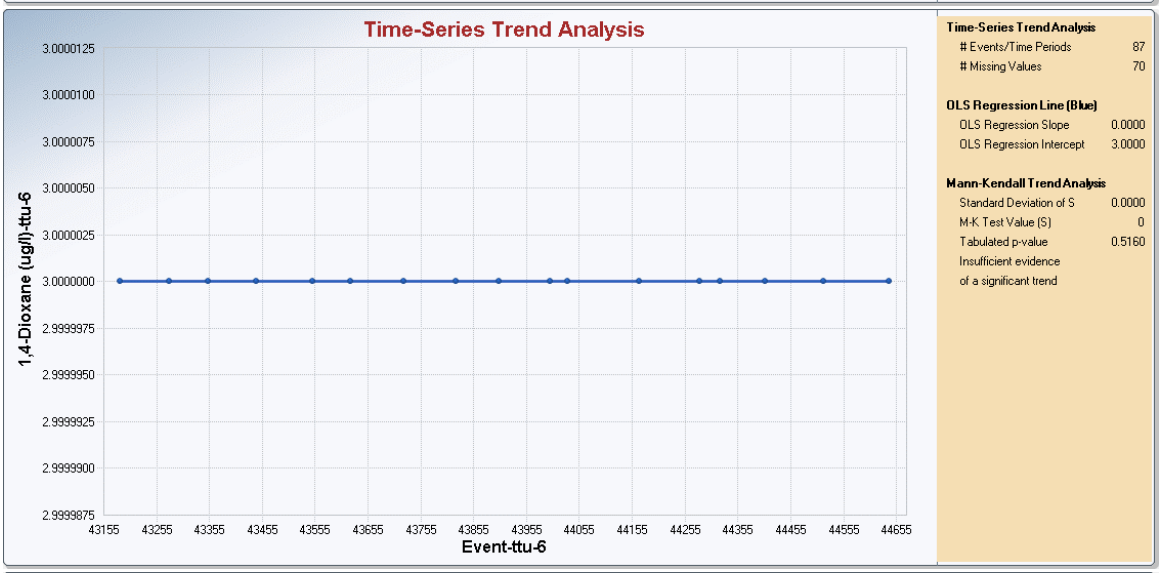
OLS Regression Line (Blue)

OLS Regression Slope	0.0000
OLS Regression Intercept	3.6007

Mann-Kendall Trend Analysis

Standard Deviation of S	9.7980
M-K Test Value (S)	-2
Tabulated p-value	0.4840

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	87
# Missing Values	70

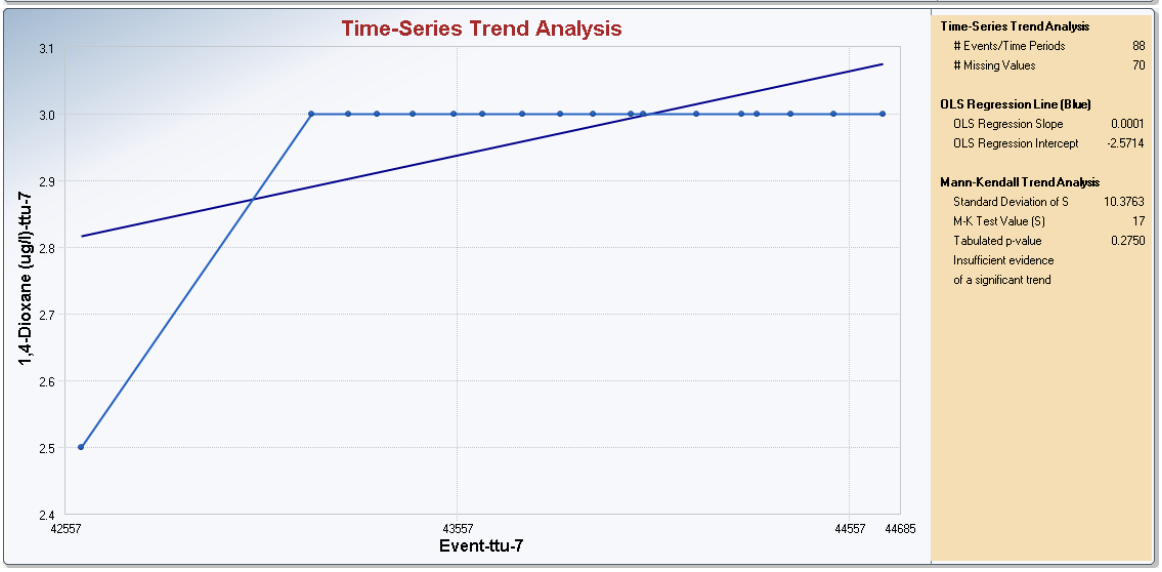
OLS Regression Line (Blue)

OLS Regression Slope	0.0000
OLS Regression Intercept	3.0000

Mann-Kendall Trend Analysis

Standard Deviation of S	0.0000
M-K Test Value (S)	0
Tabulated p-value	0.5160

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	88
# Missing Values	70

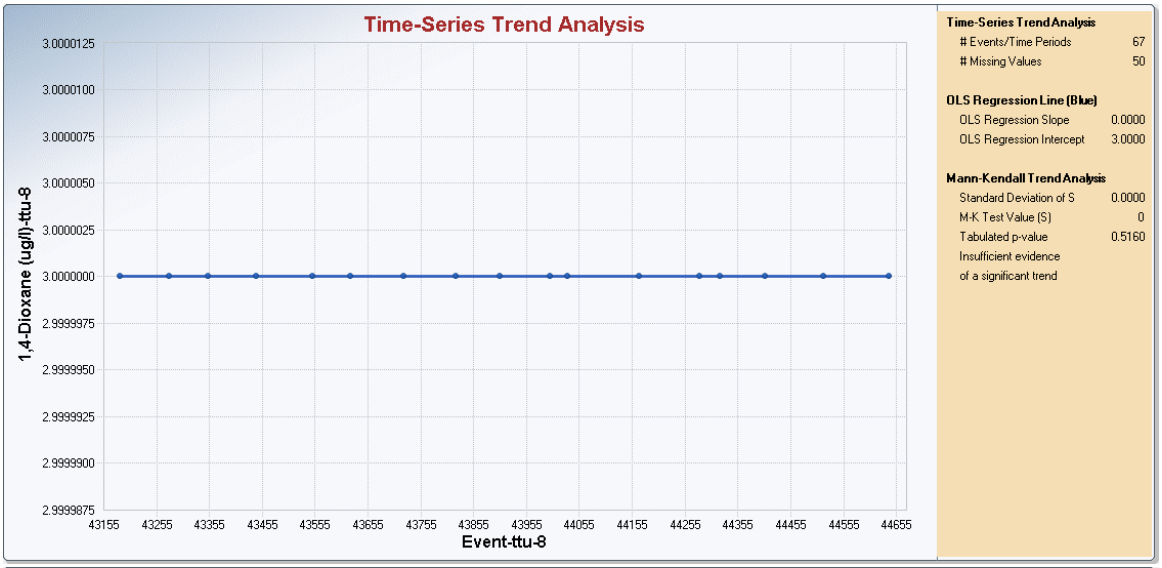
OLS Regression Line (Blue)

OLS Regression Slope	0.0001
OLS Regression Intercept	-2.5714

Mann-Kendall Trend Analysis

Standard Deviation of S	10.3763
M-K Test Value (S)	17
Tabulated p-value	0.2750

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	67
# Missing Values	50

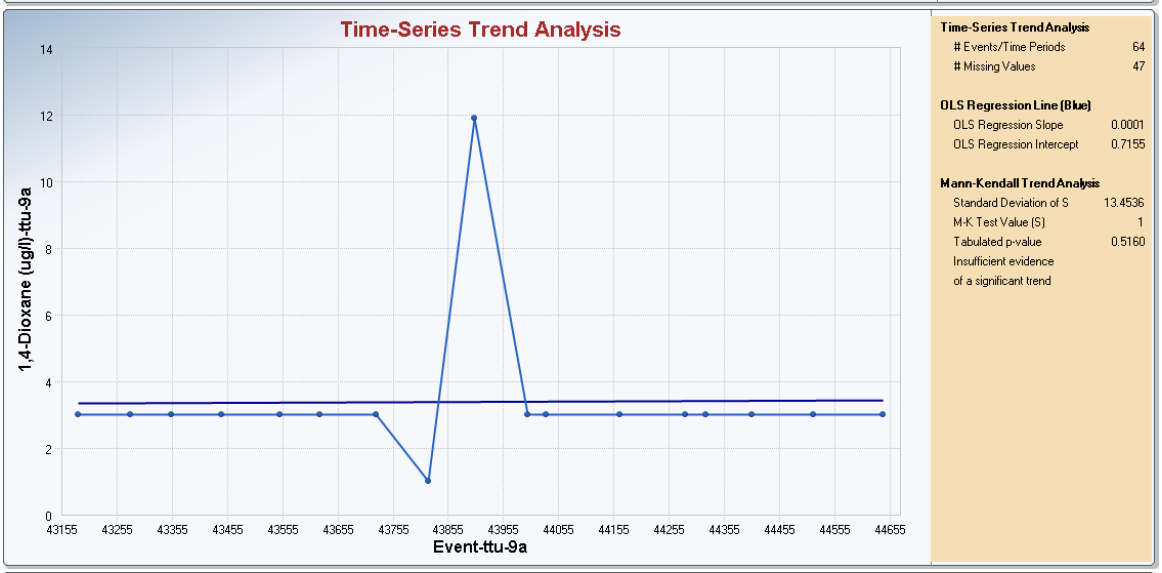
OLS Regression Line (Blue)

OLS Regression Slope	0.0000
OLS Regression Intercept	3.0000

Mann-Kendall Trend Analysis

Standard Deviation of S	0.0000
M-K Test Value (S)	0
Tabulated p-value	0.5160

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	64
# Missing Values	47

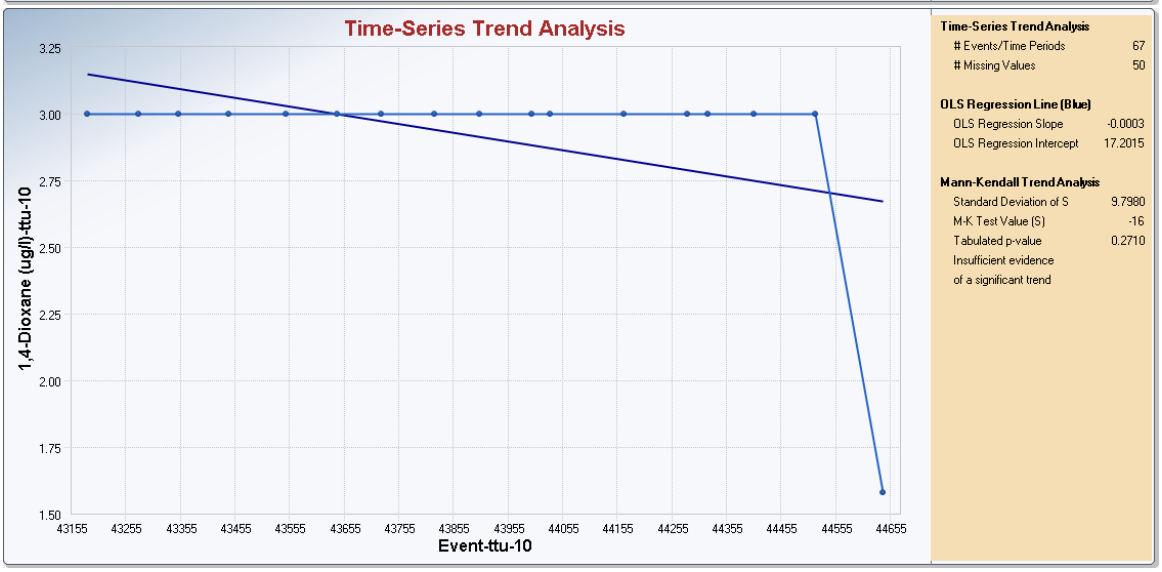
OLS Regression Line (Blue)

OLS Regression Slope	0.0001
OLS Regression Intercept	0.7155

Mann-Kendall Trend Analysis

Standard Deviation of S	13.4536
M-K Test Value (S)	1
Tabulated p-value	0.5160

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	67
# Missing Values	50

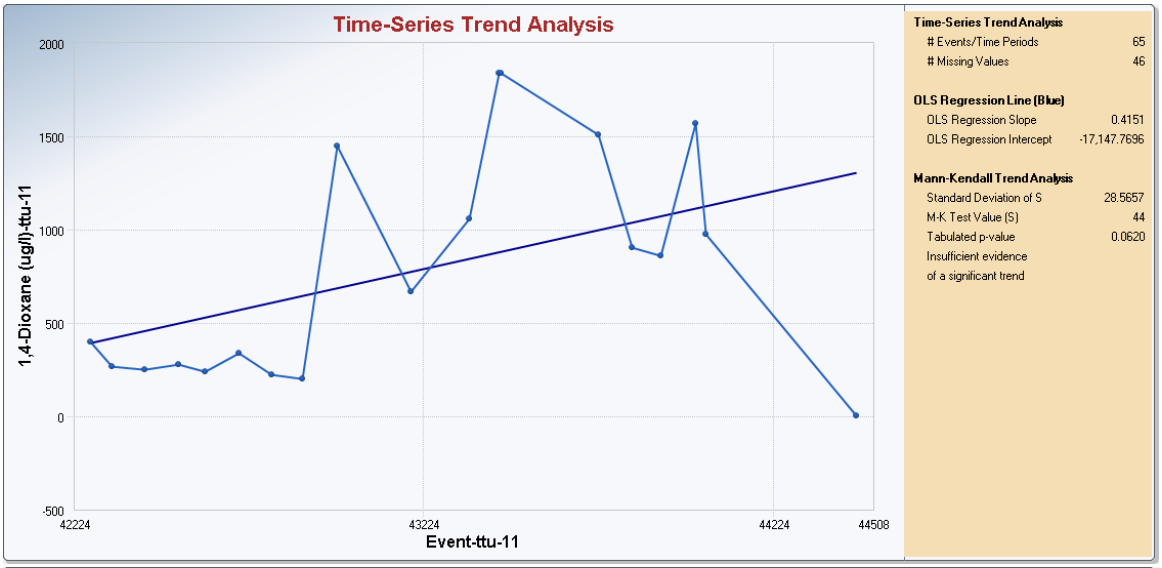
OLS Regression Line (Blue)

OLS Regression Slope	-0.0003
OLS Regression Intercept	17.2015

Mann-Kendall Trend Analysis

Standard Deviation of S	9.7980
M-K Test Value (S)	-16
Tabulated p-value	0.2710

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	65
# Missing Values	46

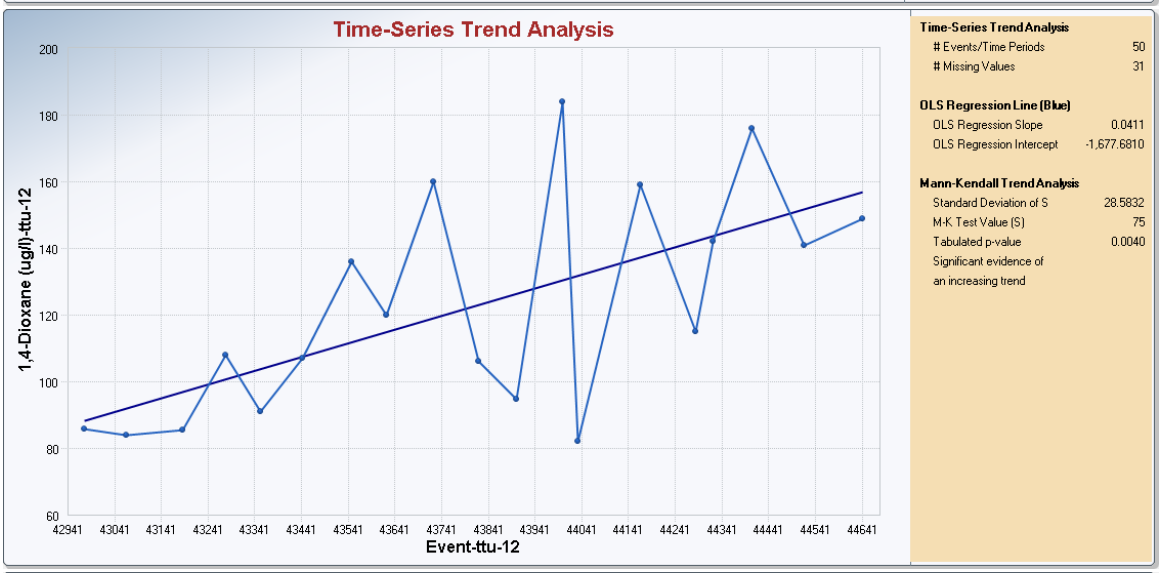
OLS Regression Line (Blue)

OLS Regression Slope	0.4151
OLS Regression Intercept	-17,147.7696

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5657
M-K Test Value (S)	44
Tabulated p-value	0.0620

Insufficient evidence of a significant trend



Time-Series Trend Analysis

# Events/Time Periods	50
# Missing Values	31

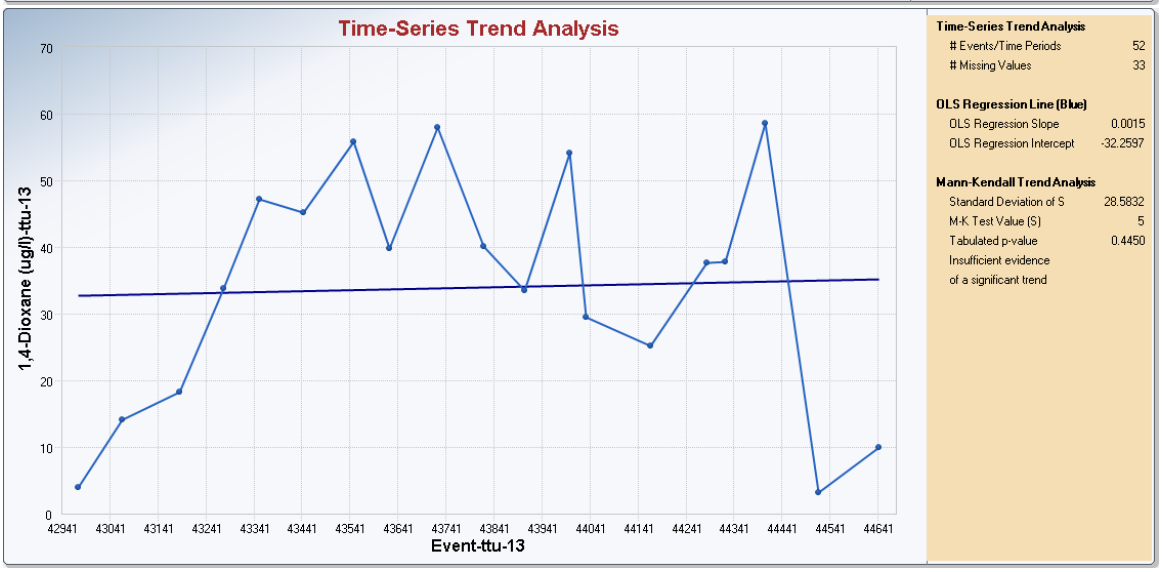
OLS Regression Line (Blue)

OLS Regression Slope	0.0411
OLS Regression Intercept	-1,677.6810

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5832
M-K Test Value (S)	75
Tabulated p-value	0.0040

Significant evidence of an increasing trend



Time-Series Trend Analysis

# Events/Time Periods	52
# Missing Values	33

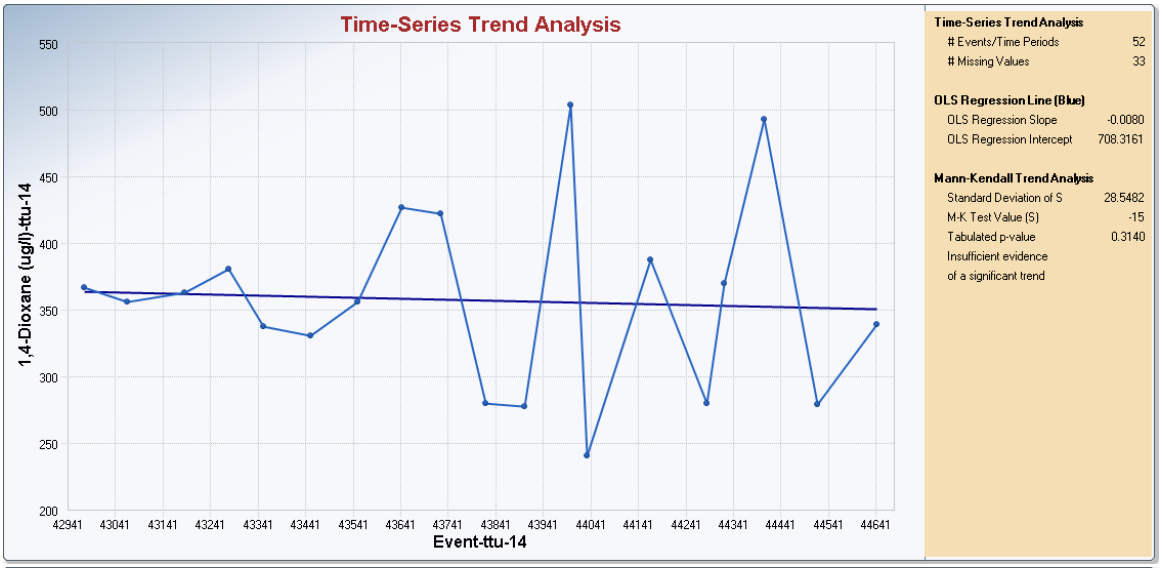
OLS Regression Line (Blue)

OLS Regression Slope	0.0015
OLS Regression Intercept	-32.2597

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5832
M-K Test Value (S)	5
Tabulated p-value	0.4450

Insufficient evidence of a significant trend



Time-Series Trend Analysis

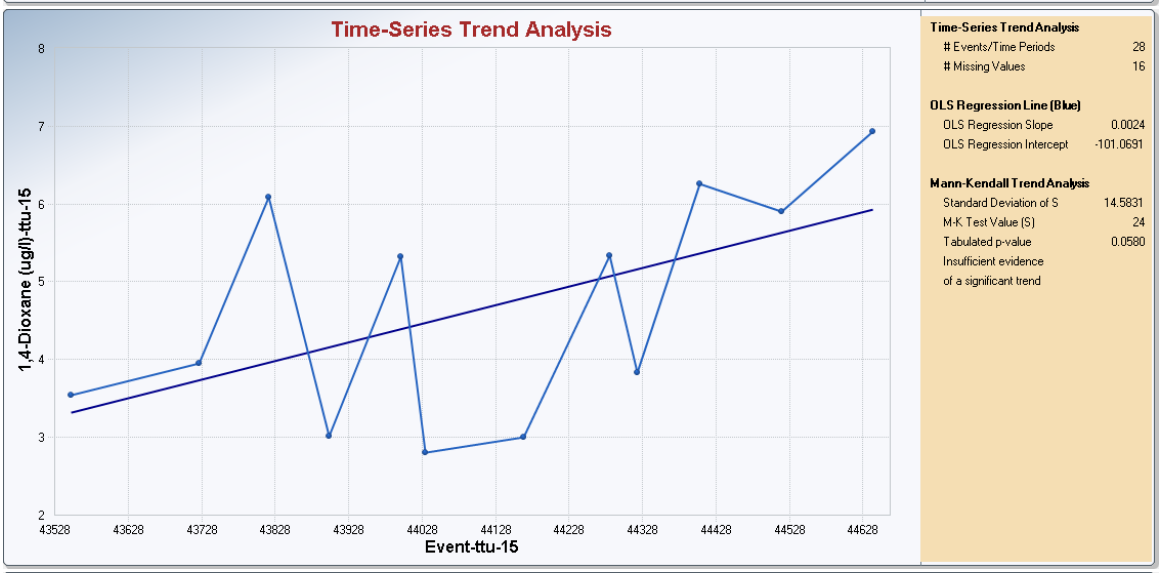
# Events/Time Periods	52
# Missing Values	33

OLS Regression Line (Blue)

OLS Regression Slope	-0.0080
OLS Regression Intercept	708.3161

Mann-Kendall Trend Analysis

Standard Deviation of S	28.5482
M-K Test Value (S)	-15
Tabulated p-value	0.3140
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

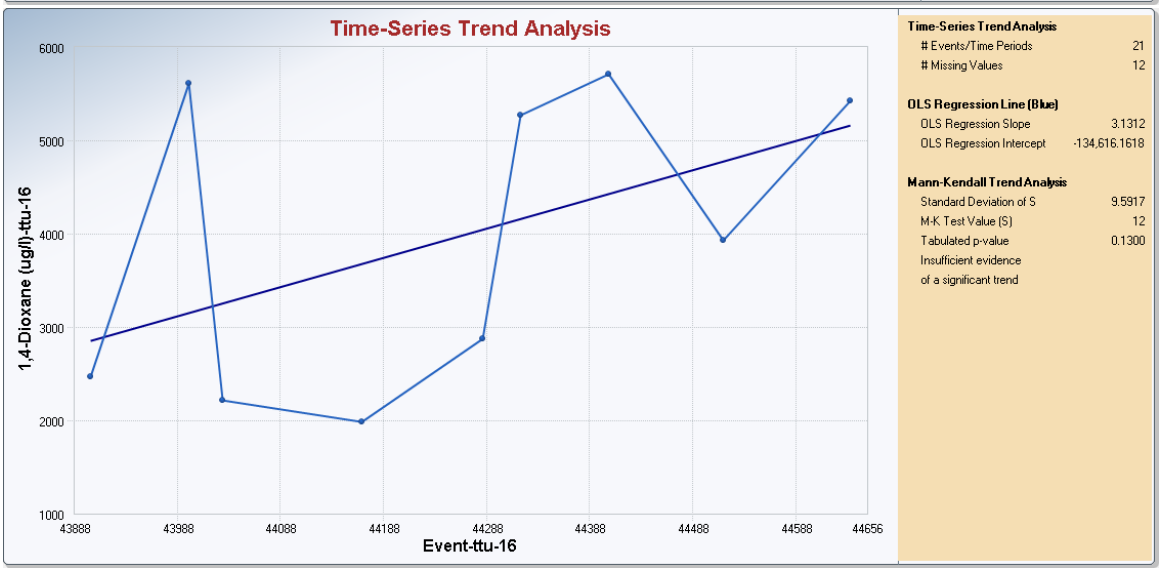
# Events/Time Periods	28
# Missing Values	16

OLS Regression Line (Blue)

OLS Regression Slope	0.0024
OLS Regression Intercept	-101.0691

Mann-Kendall Trend Analysis

Standard Deviation of S	14.5831
M-K Test Value (S)	24
Tabulated p-value	0.0580
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

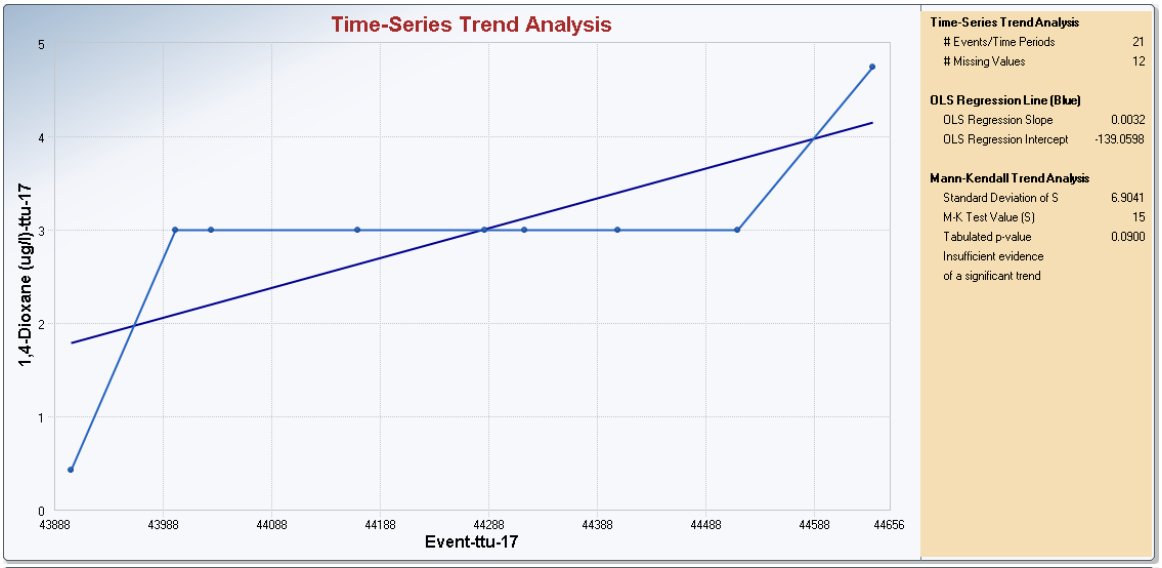
# Events/Time Periods	21
# Missing Values	12

OLS Regression Line (Blue)

OLS Regression Slope	3.1312
OLS Regression Intercept	-134,616.1618

Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	12
Tabulated p-value	0.1300
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

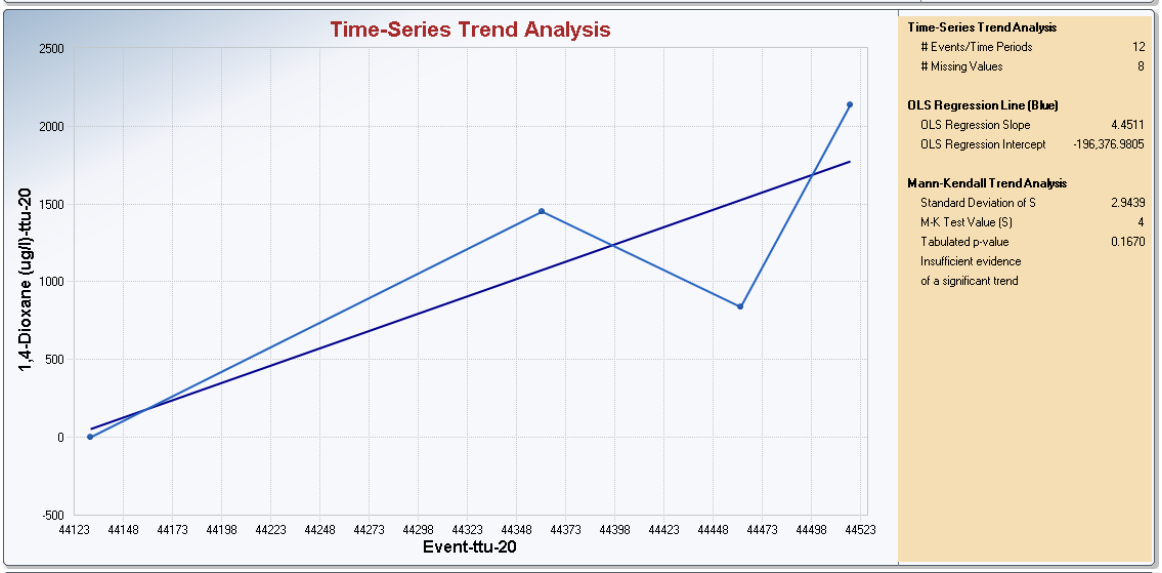
# Events/Time Periods	21
# Missing Values	12

OLS Regression Line (Blue)

OLS Regression Slope	0.0032
OLS Regression Intercept	-139.0598

Mann-Kendall Trend Analysis

Standard Deviation of S	6.9041
M-K Test Value (S)	15
Tabulated p-value	0.0900
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

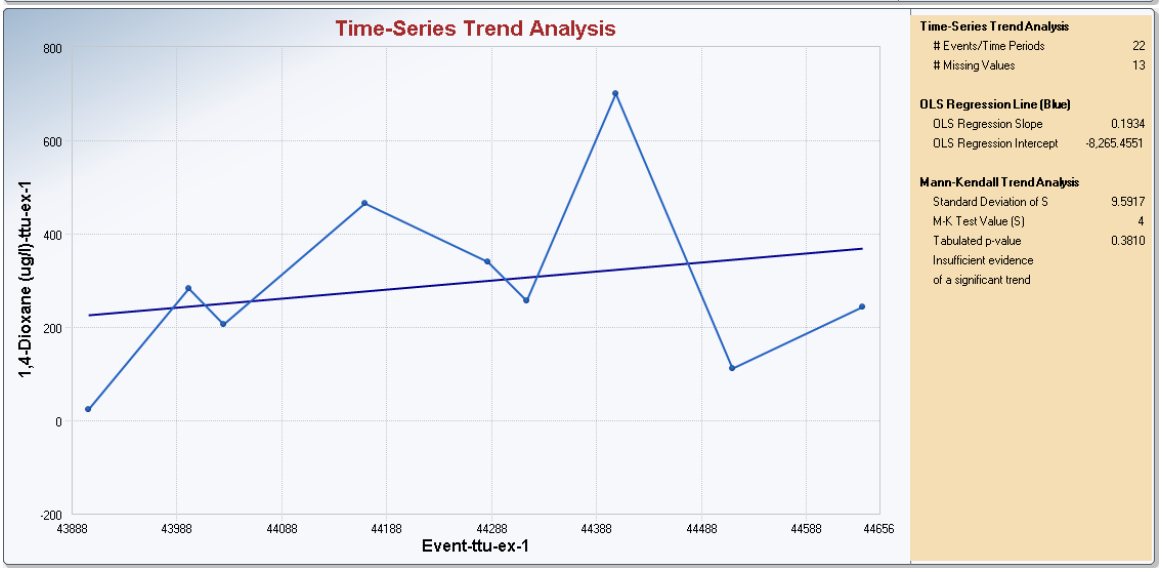
# Events/Time Periods	12
# Missing Values	8

OLS Regression Line (Blue)

OLS Regression Slope	4.4511
OLS Regression Intercept	-196,376.9805

Mann-Kendall Trend Analysis

Standard Deviation of S	2.9439
M-K Test Value (S)	4
Tabulated p-value	0.1670
Insufficient evidence of a significant trend	



Time-Series Trend Analysis

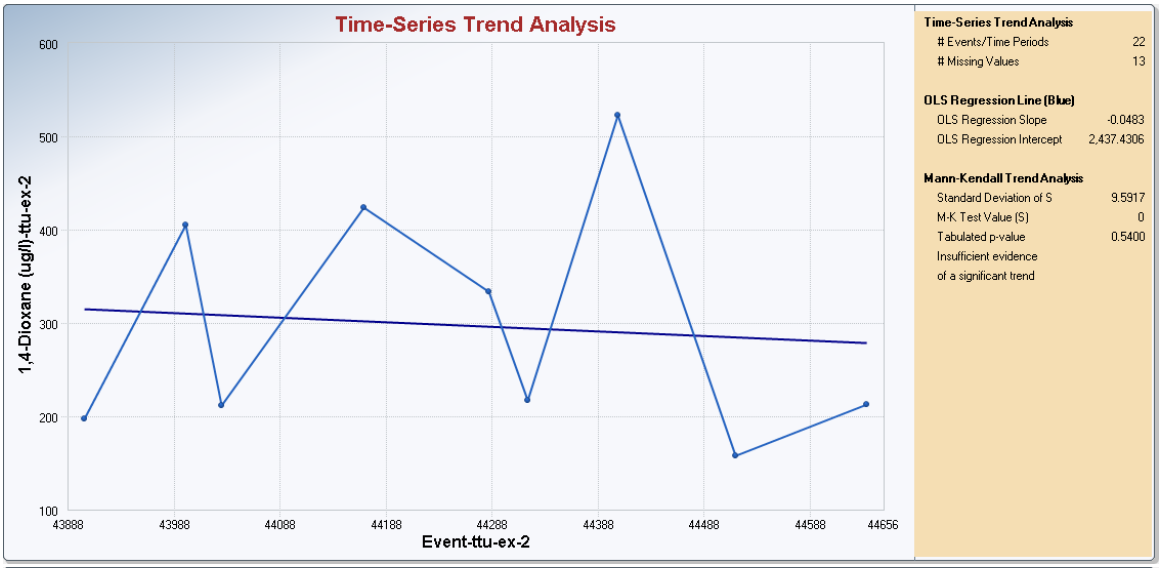
# Events/Time Periods	22
# Missing Values	13

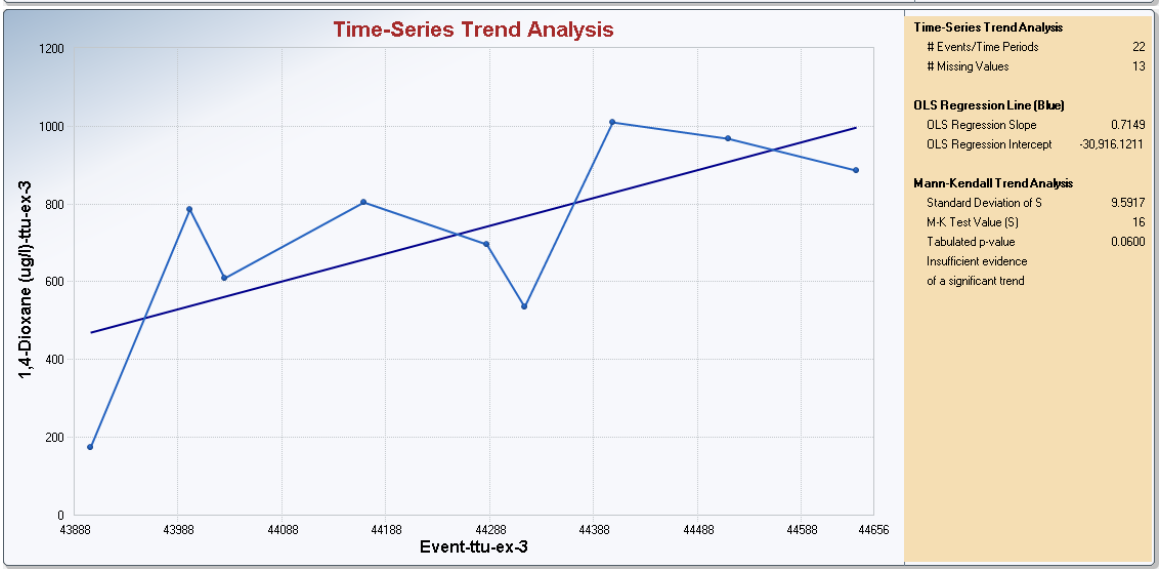
OLS Regression Line (Blue)

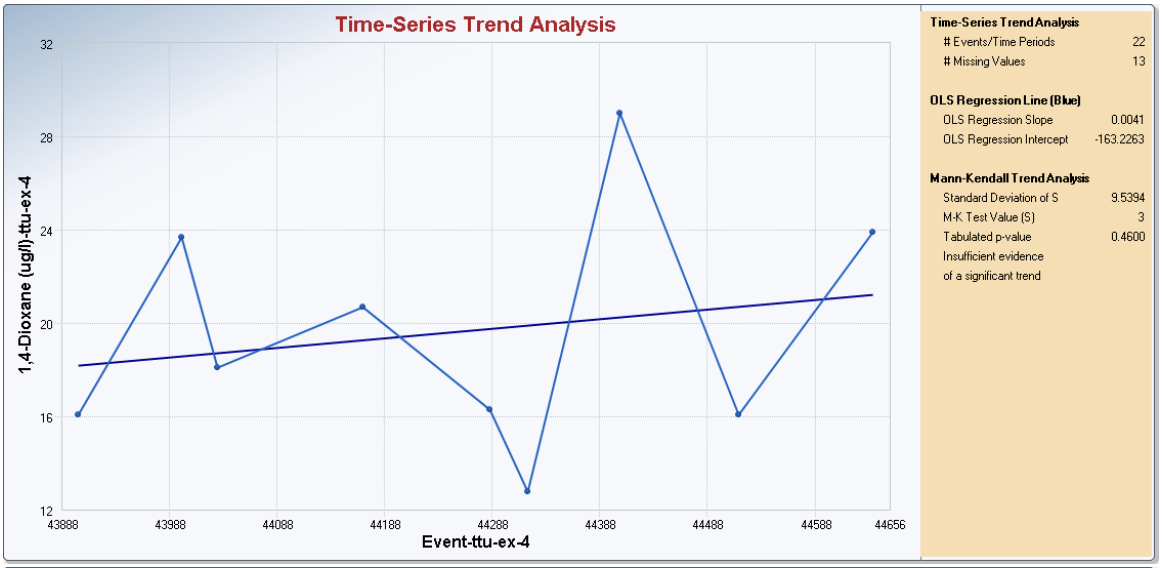
OLS Regression Slope	0.1934
OLS Regression Intercept	-8,265.4551

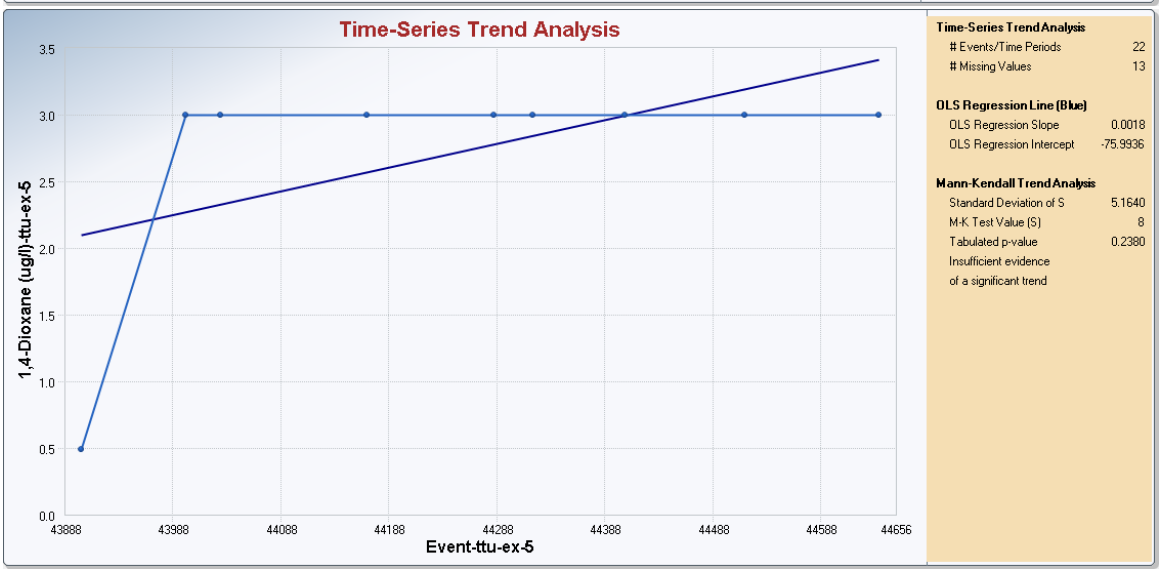
Mann-Kendall Trend Analysis

Standard Deviation of S	9.5917
M-K Test Value (S)	4
Tabulated p-value	0.3810
Insufficient evidence of a significant trend	


Time-Series Trend Analysis
1,4-Dioxane (ug/l)-ttu-ex-2
600
500
400
300
200
100
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-2
Time-Series Trend Analysis
Events/Time Periods 22
Missing Values 13
OLS Regression Line (Blue)
OLS Regression Slope -0.0483
OLS Regression Intercept 2,437.4306
Mann-Kendall Trend Analysis
Standard Deviation of S 9.5917
M-K Test Value (S) 0
Tabulated p-value 0.5400
Insufficient evidence
of a significant trend


Time-Series Trend Analysis
1,4-Dioxane (ug/l)-ttu-ex-3
1200
1000
800
600
400
200
0
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-3
Time-Series Trend Analysis
Events/Time Periods 22
Missing Values 13
OLS Regression Line (Blue)
OLS Regression Slope 0.7149
OLS Regression Intercept -30,916.1211
Mann-Kendall Trend Analysis
Standard Deviation of S 9.5917
M-K Test Value (S) 16
Tabulated p-value 0.0600
Insufficient evidence
of a significant trend


Time-Series Trend Analysis
1,4-Dioxane (ug/l)-ttu-ex-4
32
28
24
20
16
12
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-4
Time-Series Trend Analysis
Events/Time Periods 22
Missing Values 13
OLS Regression Line (Blue)
OLS Regression Slope 0.0041
OLS Regression Intercept -163.2263
Mann-Kendall Trend Analysis
Standard Deviation of S 9.5394
M-K Test Value (S) 3
Tabulated p-value 0.4600
Insufficient evidence
of a significant trend


Time-Series Trend Analysis
1,4-Dioxane (ug/l)-ttu-ex-5
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
43888
43988
44088
44188
44288
44388
44488
44588
44656
Event-ttu-ex-5
Time-Series Trend Analysis
Events/Time Periods 22
Missing Values 13
OLS Regression Line (Blue)
OLS Regression Slope 0.0018
OLS Regression Intercept -75.9936
Mann-Kendall Trend Analysis
Standard Deviation of S 5.1640
M-K Test Value (S) 8
Tabulated p-value 0.2380
Insufficient evidence
of a significant trend

Attachment 5 – Data Validation Memo

Pinyon Environmental, Inc.

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Memorandum

Date:	May 31, 2022
To:	Angel Soto, Nammo Defense Systems Inc.
From:	Mary G. Weiss
Subject:	Nammo Defense Systems (NDS) Inc. – Former Thermal Treatment Unit (TTU) First Quarter 2022 Groundwater Sampling Tier 1A Data Validation – Level II Data Deliverables, Pace Analytical Sample Delivery Groups (SDGs) L1474173, L1474972, L1476358, L1477519, L1488163

Introduction

Pinyon Environmental, Inc. (Pinyon), completed groundwater sampling activities for the Nammo Denfense Systems (NDS) Inc. Former Thermal Treatment Unit (TTU) Site in March of 2022. Subsequently, Pinyon performed a Tier 1A data validation of the groundwater samples collected during the sampling event as part of the NDS TTU First 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

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 QAPP.

Preliminary Review

Groundwater samples were submitted to Pace Analytical Laboratory (Pace), Mount Juliet, Tennessee 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)
- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- 1,4-Dioxane by EPA Method 8260B using selective ion monitoring (SIM) mode

Quarter 1 2022 – March 2022

A total of 23 primary samples, 6 duplicate samples, 4 trip blank samples, and 5 Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were collected between March 23 and April 29, 2022 (Table 1).

The samples were relinquished to a representative at the laboratory on March 23, March 24, March 29, April 1, and April 30, 2022. Samples arrived at the laboratory for analysis on March 26, March 27, March 28, March 29, March 30, March 31, April 1, April 2, April 3, April 4, April 5, May 2, May 10, and May 11, 2022. Upon arrival at the laboratory for analysis, the temperatures of the coolers were recorded. Sample temperatures ranged between 0.5°C and 4.0°C. The laboratory noted that four trip blanks were received and preserved with hydrochloric acid (HCl).

The collection times for the trip blanks and field duplicates were not recorded on the COC. The laboratory assigned the following dates and times to the trip blanks and field duplicate samples

- TRIP BLANK – 3/21/22 00:00
- TRIP BLANK – 3/26/22 00:00
- TRIP BLANK – 3/31/22 00:00
- TRIP BLANK – 4/29/22 00:00
- DUP-01 – 3/21/22 00:00
- DUP-02 – 3/21/22 00:00
- DUP-03 – 3/21/22 00:00
- DUP-04 – 3/26/22 00:00
- DUP-05 – 3/31/22 00:00
- DUP-06 – 4/29/22 00:00

The laboratory made note of "Insufficient sample volume to perform MS/MSD analyses per method QC requirements" for analysis of VOCs by 8260B for the following samples:

- L1474972-02 (TTU-EX-4-77-20220321)
- L1474972-03 (TTU-EX-4-77-20220321)
- L1474972-04 (TTU-EX-2-75-20220321)
- L1476358-02 (TTU-2-114-20220326)
- L1476358-03 (DUP-04)
- L1476358-04 (TRIP BLANK)
- L1488163-03 (TRIP BLANK)
- L1474972-21 (DUP-02)
- L1474972-22 (DUP-03)

The laboratory made note of "Insufficient sample volume to perform MS/MSD analyses per method QC requirements" for analysis of 1,4-Dioxane by 8260B SIM for the following samples:

- L1474972-01 (TTU-EX-5-80-20220321)
- L1474972-02 (TTU-EX-4-77-20220321)
- L1474972-03 (TTU-EX-4-77-20220321)
- L1474972-04 (TTU-EX-2-75-20220321)
- L1474972-05 (TTU-EX-1-69-20220321)
- L1474972-06 (TTU-17-80-20220321)
- L1474972-07 (TTU-15-75-20220321)
- L1474972-08 (TTU-16-80-20220321)
- L1474972-09 (TTU-5-110-20220321)
- L1474972-10 (TTU-9A-61-20220322)

Based on conversations with the laboratory, there was not sufficient sample volume for the MS/MSD run; however, there was sufficient volume to run the original sample. To satisfy laboratory quality control requirements batch MS/MSD samples were run, these are noted as "batch". The above items do not impact sample validity.

The laboratory utilized a subcontractor laboratory to analyze the laboratory sample L1474173-01 (PF-2) for perchlorate by EPA Method 6850. The sample was placed under Pace COC and submitted to Eurofins Scientific (Eurofins), Phoenix, Arizona. The sample was relinquished to a representative of the laboratory on March 23, 2022 and arrived at the laboratory for analysis on March 26, 2022. Upon arrival at the laboratory for analysis, the temperature of the cooler was recorded and noted as 2.2°C.

Perchlorate

Overall Assessment

The samples were analyzed for perchlorate by EPA Methods 314.0 and 6850 (Table 1). 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 11 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 seven method blanks (batches WG1839233, WG1839234, WG1839857, WG1841457, WG1839236, WG1860946, and 576168). Perchlorate was not detected in the method blank above the laboratory method reporting limit. Corresponding laboratory results were qualified as appropriate.

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 20 samples). Five sample MS/MSD sets were reported using samples PF-2, TTU-2, TTU-8, TTU-10, and TTU-12. Eight sample set specific MSs were reported using samples DUP-03, DUP-06, TTU-4, TTU-6, TTU-7, TTU-9A, and TTU-10.

The percent recovery (%R) and relative percent difference (RPD) results for the MS samples and MS/MSD samples 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 seven 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

Three laboratory duplicates were analyzed. The laboratory duplicates were analyzed using OS from Lab ID L1476358-03 (DUP-04), L1474972-09 (TTU-5), and L1474972-20 (DUP-02) for perchlorate. The RPD results were within the limits stated in the laboratory report or results were appropriately qualified.

Field Duplicate

A total of six field duplicates were collected and analyzed (Table 3). This meets the requirements of 1 per batch of 20 samples. The field duplicates match as follows:

- L1474972-20 (DUP-01) = L1474972-01 (TTU-EX-5)
- L1474972-21 (DUP-02) = L1474972-12 (TTU-14)
- L1474972-22 (DUP-03) = L1474972-15 (TTU-4)
- L1476358-03 (DUP-04) = L1476358-01 (TTU-1)
- L1477519-02 (DUP-05) = L1477519-01 (PF-2)
- L1488163-02 (DUP-06) = L1488163-01 (TTU-10)

For the samples and duplicates in the above list, perchlorate was detected in the original sample and not detected in the duplicate for laboratory samples L1474972-01 (TTU-EX-5) and 550-181268-1 (PF-2). The RPD was not calculated for those results.

The RPD was calculated, as follows, for the other duplicate results.

$$RPD = \frac{\left|Result_{Duplicate} - Result_{Original}\right|}{\frac{Result_{Duplicate} + Result_{Original}}{2}} \times 100$$

RPD for each pair was up to 25%. The RPD results were within acceptable precision limits as RPDs were less than or equal to 30% and were appropriately qualified. The results for perchlorate for L1474972-15 (TTU-4) and L1474972-22 (DUP-03) were qualified as M2 (the MS recovery was low, but the method control sample recovery was acceptable). The results for perchlorate for 550-181268-1 (PF-2) were qualified as R4 (MS/ MSD RPD exceeded the method control limit, but recovery met acceptance criteria). These qualifiers do not impact the validity of the results.

Equipment Blanks

Table 4 in the QAPP specifies that equipment blanks should be collected at a rate of one per day when non-dedicated equipment is used. Non-dedicated equipment was not used for the quarterly sampling event; therefore, equipment blanks were not collected.

Sensitivity

The samples were reported to method detection limits, and no elevated non-detect results were reported. The 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 (µg/L) in Table 2a of the QAPP.

VOCs

Overall Assessment

The samples were analyzed for VOCs by EPA Method 8260B (Table 1**Error! Reference source not found.**). 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 5 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 nine method blanks (batches WG1839284, WG1839557, WG1839702, WG1840141, WG1840599, WG1841562, WG1842601, WG1843079, and WG1857590).

VOCs were not detected in the method blanks above the laboratory method reporting limit with the following exceptions:

- Analytes n-buylbenzene, sec-butylbenzene, 1,3-dichlorobenzene, hexachloro-1,3-butadiene, p-isopropyltoluene, 1,2,3-trichlorobenzene, and 1,3,5-trimethylbnenzene were detected in the method blank R3777046-3 for batch WG1841562. Detected concentrations for these analytes were estimated and flagged by the laboratory with E4.

- Analytes n-buylbenzene, sec-butylbenzene, and 1,2,3-trichlorobenzene were detected in the method blank R3777838-3 for batch WG1843079. Detected concentrations for these analytes were estimated and flagged by the laboratory with E4.

Corresponding laboratory results were qualified as appropriate.

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 TTU-2, TTU-8, TTU-12.

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 nine 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.

Surrogates

The surrogate recoveries were within the limits stated in the laboratory reports for the sample delivery groups (SDGs).

Field Duplicate

A total of six field duplicates were collected and analyzed (Table 3). Of the six field duplicates, five were analyzed for VOCs. This meets the requirements of 1 per batch of 20 samples. The field duplicates match as follows:

L1474972-20 (DUP-01) = L1474972-01 (TTU-EX-5)

L1474972-21 (DUP-02) = L1474972-12 (TTU-14)

L1474972-22 (DUP-03) = L1474972-15 (TTU-4)

L1476358-03 (DUP-04) = L1476358-01 (TTU-1)

L1477519-02 (DUP-05) = L1477519-01 (PF-2)

For the samples and duplicates in the above list, the following analytes were detected in the duplicate and not detected in the original sample:

- 1,2-Dichloroethane detected in L1474972-21 (DUP-02)
- Methylcyclohexane detected in L1474972-21 (DUP-02)

The RPD was not calculated for those results.

For the samples and duplicates in the above list, cis-1,2-dichloroethene was detected in the original sample L1474972-01 (TTU-EX-5) and not detected in the duplicate L1474972-20 (DUP-01). The RPD was not calculated for these results.

The RPD was calculated, as follows, for the other duplicate results.

$$RPD = \frac{\left|Result_{Duplicate} - Result_{Original}\right|}{\frac{Result_{Duplicate} + Result_{Original}}{2}} \times 100$$

RPD for each pair was up to 8.6%. The results were estimated concentrations for 6 original sample analyte and duplicate analyte pairs (laboratory qualifier E4). The results for 1,1,2-trichloroethane for L1474972-21 (DUP-02) were qualified as L2 (the associated blank spike recovery was below laboratory acceptance limits). This does not impact the validity of the results. The laboratory results were appropriately qualified.

Trip Blank

Four trip blanks were collected during the sampling event. Trip blanks are a requirement of the QAPP. Carbon disulfide was detected in one trip blank (L1477519-03) above MDLs but below RDLs and is considered to be estimated values. This does not impact the validity of the results. Concentrations of VOCs were not detected above MDLs in the three other trip blanks. The laboratory results were appropriately qualified.

Equipment Blanks

Table 4 in the QAPP specifies that equipment blanks should be collected at a rate of one per day when non-dedicated equipment is used. Non-dedicated equipment was not used for the quarterly sampling event; therefore, equipment blanks were not collected.

Sensitivity

The samples were reported to MDLs. Elevated non-detect results were reported for samples L1474972-07 (TTU-15) and L1474972-08 (TTU-16) due to the dilutions analyzed. Undiluted MDLs and RDLs for trichloroethene and 1,1-dichloroethene met the respective AWQSs of 5.0 µg/L and 7.0 µg/L in Table 2a of the QAPP. Concentrations greater than the MDL and less than the RDL were flagged by the laboratory with E4 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.

Holding Times

Holding times (time between sample collection and analysis) for the samples ranged from 2 to 12 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 four method blanks (batches WG1838706, WG1838707, WG1840384, and WG1841205). Concentrations of 1,4-dioxane were not detected in the method blanks above the laboratory method reporting limit. Corresponding laboratory results were qualified as appropriate.

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). Four sample MS/MSD sets were reported using samples PF-2, TTU-2, TTU-8, and TTU-12.

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 four 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 six field duplicates were collected and analyzed (Table 3). Of the six field duplicates, five were analyzed for 1,4-dioxanes. This meets the requirements of 1 per batch of 20 samples. The field duplicates match as follows:

- L1474972-20 (DUP-01) = L1474972-01 (TTU-EX-5)
- L1474972-21 (DUP-02) = L1474972-12 (TTU-14)
- L1474972-22 (DUP-03) = L1474972-15 (TTU-4)
- L1476358-03 (DUP-04) = L1476358-01 (TTU-1)
- L1477519-02 (DUP-05) = L1477519-01 (PF-2)

For the samples and duplicates in the above list, 1,4-dioxane was detected in the duplicate sample L1474972-01 L1474972-12 (TTU-14) and not detected in the original sample L1474972-22 (DUP-03). The RPD was not calculated for these results.

The RPD was calculated, as follows, for the other duplicate results.

$$RPD = \frac{\left|Result_{Duplicate} - Result_{Original}\right|}{\frac{Result_{Duplicate} + Result_{Original}}{2}} \times 100$$

RPD for each pair was up to 2%. Qualifiers were applied to the field duplicates and corresponding sample results as appropriate.

Trip Blank

Four trip blanks were collected during the sampling event. Trip blanks are a requirement of the QAPP. One trip blank (L1477519-03) was analyzed for 1,4-Dioxane. Concentrations of VOCs were not detected above MDLs in the trip blank. The laboratory results were appropriately qualified.

Equipment Blanks

Table 4 in the QAPP specifies that equipment blanks should be collected at a rate of one per day when non-dedicated equipment is used. Non-dedicated equipment was not used for the quarterly sampling event; therefore, equipment blanks were not collected.

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 2a of the QAPP.

Tables:

Table 1. Sample Summary
Table 2. Analysis Summary
Table 3. Field Duplicates – Detections Only

Table 1
Sample Summary
Nammo Defense Systems
Former Thermal Treatment Unit
First Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Sample Depth (feet)	Sample Type	Matrix	Date Collected	Requested Analysis			
						VOCs 8260B	1,4-Dioxane 8260B SIM	Perchlorate 314.0 Mod	Perchlorate 6850
L1474972-01	TTU-EX-5	80	Normal	Water	3/21/2022	X	X	X	-
L1474972-02	TTU-EX-4	77	Normal	Water	3/21/2022	X	X	X	-
L1474972-03	TTU-EX-3	76	Normal	Water	3/21/2022	X	X	X	-
L1474972-04	TTU-EX-2	75	Normal	Water	3/21/2022	X	X	X	-
L1474972-05	TTU-EX-1	69	Normal	Water	3/21/2022	X	X	X	-
L1474972-06	TTU-17	80	Normal	Water	3/21/2022	X	X	X	-
L1474972-07	TTU-15	75	Normal	Water	3/21/2022	X	X	X	-
L1474972-08	TTU-16	80	Normal	Water	3/21/2022	X	X	X	-
L1474972-09	TTU-5	110	Normal	Water	3/21/2022	X	X	X	-
R3776422-7	TTU-5	NA	LAB_D	Water	NA	-	-	X	-
L1474972-10	TTU-9A	61	Normal	Water	3/22/2022	X	X	X	-
R3776425-5	TTU-9A	NA	MS	Water	NA	-	-	X	-
L1474972-11	TTU-13	51	Normal	Water	3/22/2022	X	X	X	-
L1474972-12	TTU-14	64	Normal	Water	3/22/2022	X	X	X	-
L1474972-13	TTU-12	82	Normal	Water	3/22/2022	X	X	X	-
R3774749-4	TTU-12	NA	MS	Water	NA	X	-	-	-
R3774749-5	TTU-12	NA	MS_D	Water	NA	X	-	-	-
R3775691-4	TTU-12	NA	MS	Water	NA	-	X	-	-
R3775691-5	TTU-12	NA	MS_D	Water	NA	-	X	-	-
R3776422-8	TTU-12	NA	MS	Water	NA	-	-	X	-
R3776422-9	TTU-12	NA	MS_D	Water	NA	-	-	X	-
L1474972-14	TTU-10	147	Normal	Water	3/22/2022	X	X	X	-
R3776425-6	TTU-10	NA	MS	Water	NA	-	-	X	-
L1474972-15	TTU-4	57	Normal	Water	3/22/2022	X	X	X	-
R3776425-7	TTU-4	NA	MS	Water	NA	-	-	X	-
L1474972-16	TTU-8	164	Normal	Water	3/22/2022	X	X	X	-
R3774749-6	TTU-8	NA	MS	Water	NA	X	-	-	-
R3774749-7	TTU-8	NA	MS_D	Water	NA	X	-	-	-
R3775691-6	TTU-8	NA	MS	Water	NA	-	X	-	-
R3775691-7	TTU-8	NA	MS_D	Water	NA	-	X	-	-
R3776425-3	TTU-8	NA	MS	Water	NA	-	-	X	-
R3776425-4	TTU-8	NA	MS_D	Water	NA	-	-	X	-
L1474972-17	TTU-7	345	Normal	Water	3/22/2022	X	X	X	-
R3776425-8	TTU-7	NA	MS	Water	NA	-	-	X	-
L1474972-18	TTU-6	143	Normal	Water	3/22/2022	X	X	X	-
R3776425-9	TTU-6	NA	MS	Water	NA	-	-	X	-
L1474972-19	TTU-3	108	Normal	Water	3/22/2022	X	X	X	-
L1474972-20	DUP-01	NR	Normal	Water	3/21/2022	X	X	X	-
R3776422-6	DUP-01	NA	LAB_D	Water	NA	-	-	X	-
L1474972-21	DUP-02	NR	Normal	Water	3/21/2022	X	X	X	-
L1474972-22	DUP-03	NR	Normal	Water	3/21/2022	X	X	X	-
R3775742-3	DUP-03	NA	MS	Water	NA	-	-	X	-
R3775742-10	DUP-03	NA	MS	Water	NA	-	-	X	-
L1474972-23	TRIP BLANK	NA	Normal	Water	3/21/2022	X	-	-	-
L1488163-01	TTU-10	157	Normal	Water	4/29/2022	-	-	X	-
R3790444-3	TTU-10	NA	MS	Water	NA	-	-	X	-
R3790444-4	TTU-10	NA	MS_D	Water	NA	-	-	X	-
L1488163-02	DUP-06	NR	Normal	Water	4/29/2022	-	-	X	-
R3790444-8	DUP-06	NA	MS	Water	NA	-	-	X	-
L1488163-03	TRIP BLANK	NA	Normal	Water	4/29/2022	X	-	-	-
L1477519-01	PF-2	400	Normal	Water	3/31/2022	X	X	-	-
R3776930-6	PF-2	NA	MS	Water	NA	-	X	-	-
R3776930-7	PF-2	NA	MS_D	Water	NA	-	X	-	-
L1477519-02	DUP-05	NR	Normal	Water	3/31/2022	X	X	-	-
L1477519-03	TRIP BLANK	NA	Normal	Water	3/31/2022	X	X	-	-
550-181268-1	PF-2	400	Normal	Water	3/22/2022	-	-	-	X
550-181268-1 MS	PF-2	NA	MS	Water	NA	-	-	-	X
550-181268-1 MSD	PF-2	NA	MS_D	Water	NA	-	-	-	X
L1476358-01	TTU-1	50	Normal	Water	3/26/2022	X	X	X	-
L1476358-02	TTU-2	114	Normal	Water	3/26/2022	X	X	X	-

Table 1

Sample Summary

Nammo Defense Systems

Former Thermal Treatment Unit

First Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Sample Depth (feet)	Sample Type	Matrix	Date Collected	Requested Analysis			
						VOCs 8260B	1,4-Dioxane 8260B SIM	Perchlorate 314.0 Mod	Perchlorate 6850
R3776659-10	TTU-2	NA	MS	Water	NA	-	-	X	-
R3776659-11	TTU-2	NA	MS_D	Water	NA	-	-	X	-
R3776930-4	TTU-2	NA	MS	Water	NA	-	X	-	-
R3776930-5	TTU-2	NA	MS_D	Water	NA	-	X	-	-
R3777046-4	TTU-2	NA	MS	Water	NA	X	-	-	-
R3777046-5	TTU-2	NA	MS_D	Water	NA	X	-	-	-
L1476358-03	DUP-04	NR	Normal	Water	3/26/2022	X	X	X	-
R3776659-9	DUP-04	NA	LAB_D	Water	NA	-	-	X	-
L1476358-04	TRIP BLANK	NA	Normal	Water	3/26/2022	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

- = Analysis not requested

X = Analysis requested

Table 2
Analysis Summary
Nammo Defense Systems
Former Thermal Treatment Unit
First Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Date Collected	Preparation Date	Date Analyzed	Analysis Batch	Holding Time (days)	Notes
Perchlorate by 314.0 Mod							
L1474972-01	TTU-EX-5-80-20220321	3/21/2022	3/30/2022	3/30/2022	WG1839233	9	
L1474972-02	TTU-EX-4-77-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-03	TTU-EX-3-76-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-04	TTU-EX-2-75-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-05	TTU-EX-1-69-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-06	TTU-17-80-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	
L1474972-07	TTU-15-75-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-08	TTU-16-80-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-09	TTU-5-110-20220321	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	Sample required dilution
L1474972-10	TTU-9A-61-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-11	TTU-13-51-20220322	3/22/2022	3/31/2022	3/31/2022	WG1839233	9	Sample required dilution
L1474972-12	TTU-14-64-20220322	3/22/2022	3/31/2022	3/31/2022	WG1839233	9	Sample required dilution
L1474972-13	TTU-12-82-20220322	3/22/2022	3/31/2022	3/31/2022	WG1839233	9	Sample required dilution
L1474972-14	TTU-10-147-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-15	TTU-4-57-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-16	TTU-8-164-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-17	TTU-7-345-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-18	TTU-6-143-20220322	3/22/2022	3/31/2022	3/31/2022	WG1841457	9	
L1474972-19	TTU-3-108-20220322	3/22/2022	3/31/2022	3/31/2022	WG1839233	9	Sample required dilution
L1474972-20	DUP-01	3/21/2022	3/31/2022	3/31/2022	WG1839233	10	
L1474972-21	DUP-02	3/21/2022	3/29/2022	3/29/2022	WG1839234	8	Sample required dilution
L1474972-22	DUP-03	3/21/2022	3/29/2022	3/29/2022	WG1839857	8	
L1476358-01	TTU-1-50-20220326	3/26/2022	4/1/2022	4/1/2022	WG1839236	6	Sample required dilution
L1476358-02	TTU-2-114-20220326	3/26/2022	4/1/2022	4/1/2022	WG1839236	6	Sample required dilution
L1476358-03	DUP-04	3/26/2022	4/1/2022	4/1/2022	WG1839236	6	Sample required dilution
L1488163-01	TTU-10-157-20220429	4/29/2022	5/10/2022	5/10/2022	WG1860946	11	
L1488163-02	DUP-06	4/29/2022	5/10/2022	5/10/2022	WG1860946	11	
Perchlorate by 6850							
550-181268-1	PF-2-400-20220322	3/22/2022	3/26/2022	3/28/2022	576168	6	Analysis completed by Eurofins.
VOCs by 8260B							
L1474972-01	TTU-EX-5-80-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
L1474972-02	TTU-EX-4-77-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
					WG1839557		Sample required dilution
L1474972-03	TTU-EX-3-76-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
					WG1839557		Sample required dilution
L1474972-04	TTU-EX-2-75-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
					WG1839557		Sample required dilution
L1474972-05	TTU-EX-1-69-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
L1474972-06	TTU-17-80-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
L1474972-07	TTU-15-75-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	Sample required dilution
L1474972-08	TTU-16-80-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	Sample required dilution
			3/30/2022	3/30/2022	WG1840599	9	Sample required dilution
L1474972-09	TTU-5-110-20220321	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
L1474972-10	TTU-9A-61-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
L1474972-11	TTU-13-51-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
L1474972-12	TTU-14-64-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	Sample required dilution
L1474972-13	TTU-12-82-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	Sample required dilution
L1474972-14	TTU-10-147-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	
L1474972-15	TTU-4-57-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	
L1474972-16	TTU-8-164-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	
L1474972-17	TTU-7-345-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
			3/30/2022	3/30/2022	WG1840599	8	
L1474972-18	TTU-6-143-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
L1474972-19	TTU-3-108-20220322	3/22/2022	3/28/2022	3/28/2022	WG1839284	6	
L1474972-20	DUP-01	3/21/2022	3/28/2022	3/28/2022	WG1839284	7	
L1474972-21	DUP-02	3/21/2022	3/28/2022	3/28/2022	WG1839702	7	
			3/29/2022	3/29/2022	WG1840141	8	Sample required dilution
L1474972-22	DUP-03	3/21/2022	3/28/2022	3/28/2022	WG1839702	7	
			3/29/2022	3/29/2022	WG1840141	8	
L1476358-01	TTU-1-50-20220326	3/26/2022	4/1/2022	4/1/2022	WG1841562	6	
L1476358-02	TTU-2-114-20220326	3/26/2022	4/1/2022	4/1/2022	WG1841562	6	
			4/4/2022	4/4/2022	WG1842601	9	Sample required dilution

Table 2
Analysis Summary
Nammo Defense Systems
Former Thermal Treatment Unit
First Quarter 2022 Groundwater Sampling

Laboratory Sample ID	Client Sample ID	Date Collected	Preparation Date	Date Analyzed	Analysis Batch	Holding Time (days)	Notes
VOCs by 8260B							
L1476358-03	DUP-04	3/26/2022	4/1/2022	4/1/2022	WG1841562	6	
			4/4/2022	4/4/2022	WG1842601	9	
L1477519-01	PF-2-400-20220331	3/31/2022	4/5/2022	4/5/2022	WG1843079	5	
L1477519-02	DUP-05	3/31/2022	4/5/2022	4/5/2022	WG1843079	5	
1,4-Dioxane by 8260B-SIM							
L1474972-01	TTU-EX-5-80-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-02	TTU-EX-4-77-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-03	TTU-EX-3-76-20220321	3/21/2022	4/2/2022	4/2/2022	WG1840384	12	Sample required dilution
L1474972-04	TTU-EX-2-75-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-05	TTU-EX-1-69-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-06	TTU-17-80-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-07	TTU-15-75-20220321	3/21/2022	3/26/2022	3/26/2022	WG1838706	5	
L1474972-08	TTU-16-80-20220321	3/21/2022	4/2/2022	4/2/2022	WG1840384	12	Sample required dilution
L1474972-09	TTU-5-110-20220321	3/21/2022	4/2/2022	4/2/2022	WG1840384	12	
L1474972-10	TTU-9A-61-20220322	3/22/2022	4/2/2022	4/2/2022	WG1840384	11	
L1474972-11	TTU-13-51-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-12	TTU-14-64-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-13	TTU-12-82-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-14	TTU-10-147-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-15	TTU-4-57-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-16	TTU-8-164-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-17	TTU-7-345-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-18	TTU-6-143-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-19	TTU-3-108-20220322	3/22/2022	3/27/2022	3/27/2022	WG1838707	5	
L1474972-20	DUP-01	3/21/2022	3/27/2022	3/27/2022	WG1838707	6	
L1474972-21	DUP-02	3/21/2022	3/27/2022	3/27/2022	WG1838707	6	
L1474972-22	DUP-03	3/21/2022	3/27/2022	3/27/2022	WG1838707	6	
L1476358-01	TTU-1-50-20220326	3/26/2022	4/2/2022	4/2/2022	WG1841205	7	
L1476358-02	TTU-2-114-20220326	3/26/2022	4/2/2022	4/2/2022	WG1841205	7	
L1476358-03	DUP-04	3/26/2022	4/2/2022	4/2/2022	WG1841205	7	
L1477519-01	PF-2-400-20220331	3/31/2022	4/2/2022	4/2/2022	WG1841205	2	
L1477519-02	DUP-05	3/31/2022	4/2/2022	4/2/2022	WG1841205	2	

Notes:

VOCs = Volatile Organic Compounds

SIM = Selected Ion Monitoring

Table 3

Field Duplicates - Detections Only

Nammo Defense Systems

Former Thermal Treatment Unit

First 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 (%)
Perchlorate	L1474972-01 (TTU-EX-5)	9.17		L1474972-20 (DUP-01)	<4.00		NC
cis-1,2-Dichloroethene	L1474972-01 (TTU-EX-5)	0.143	E4	L1474972-20 (DUP-01)	<1.00		NC
Trichloroethene	L1474972-01 (TTU-EX-5)	5.74		L1474972-20 (DUP-01)	5.98		1.0%
Perchlorate	L1474972-12 (TTU-14)	124,000		L1474972-21 (DUP-02)	178,000		8.9%
1,1,2-Trichloroethane	L1474972-12 (TTU-14)	2.19		L1474972-21 (DUP-02)	1.97	L2	2.6%
1,1-Dichloroethane	L1474972-12 (TTU-14)	1.34		L1474972-21 (DUP-02)	1.00		7.3%
1,1-Dichloroethene	L1474972-12 (TTU-14)	133		L1474972-21 (DUP-02)	95.8		8.1%
1,2-Dichloroethane	L1474972-12 (TTU-14)	<1.00		L1474972-21 (DUP-02)	0.189	E4	NC
Benzene	L1474972-12 (TTU-14)	1.86		L1474972-21 (DUP-02)	1.63		3.3%
Chloroform	L1474972-12 (TTU-14)	1.96	E4	L1474972-21 (DUP-02)	1.79	E4	2.3%
cis-1,2-Dichloroethene	L1474972-12 (TTU-14)	2.10		L1474972-21 (DUP-02)	1.99		1.3%
Methylcyclohexane	L1474972-12 (TTU-14)	<1.00		L1474972-21 (DUP-02)	0.741	E4	NC
Tetrachloroethene	L1474972-12 (TTU-14)	1.69		L1474972-21 (DUP-02)	1.49		3.1%
trans-1,2-Dichloroethene	L1474972-12 (TTU-14)	0.275	E4	L1474972-21 (DUP-02)	0.194	E4	8.6%
Trichloroethene	L1474972-12 (TTU-14)	908		L1474972-21 (DUP-02)	879		0.81%
1,4-Dioxane	L1474972-12 (TTU-14)	339		L1474972-21 (DUP-02)	321		1.4%
Perchlorate	L1474972-15 (TTU-4)	4.14	M2	L1474972-22 (DUP-03)	12.5	M2	25%
1,4-Dioxane	L1474972-15 (TTU-4)	<3.00		L1474972-22 (DUP-03)	2.59	E4	NC
Perchlorate	L1476358-01 (TTU-1)	15,100		L1476358-03 (DUP-04)	14,500		1.0%
1,1-Dichloroethene	L1476358-01 (TTU-1)	0.886	E4	L1476358-03 (DUP-04)	0.694	E4	6.1%
Trichloroethene	L1476358-01 (TTU-1)	3.72		L1476358-03 (DUP-04)	4.46		4.5%
1,4-Dioxane	L1476358-01 (TTU-1)	18.4		L1476358-03 (DUP-04)	19.9		2.0%
Perchlorate	550-181268-1 (PF-2)	0.59	R4	L1477519-02 (DUP-05)	NA		NC

Notes:

RPD = Relative Percent Difference

NA = Not Analyzed

NC = Not Calculated

µg/L = micrograms per liter

E4 = Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above method detection limit (MDL).

L2 = The associated blank spike recovery was below laboratory acceptance limits.

M2 = Matrix spike (MS) recovery was low, the method control sample recovery was acceptable.

R4 = MS/matrix spike duplicate (MSD) relative percent difference (RPD) exceeded the method control limit. Recovery met acceptance criteria.

< = Less than

% = Percent