



April 3, 2024

Water Supply and Environmental Consulting

Mr. Claude Curley, P.E.
District Engineer
New York State Department of Health
317 Washington Street
Watertown, NY 13601

re: Well Construction and 72-hour Pumping Test Report

Tank Site Well

Town of LeRay, New York

Dear Mr. Curley:

Northeast Geoscience, Inc. (NGI) has prepared the following report on the installation and testing of the Tank Site Well for the Town of LeRay, New York. The Tank Site was identified during a 6-inch diameter test well drilling program conducted at several sites in 2022. The purpose of this report is to document the 8-inch diameter production well construction, and the results of a 72-hour constant rate pumping test on the new production well.

#### 1.0 TANK SITE WELL DESCRIPTION

The location of the Tank Well Site is shown on Figure 1 - Locus Map, and a site plan showing the well location is presented on Figure 2. The site is located in the West Creek Sub-basin of the Indian River Watershed, but is within several hundred feet of the drainage divide with the Black River Basin. The site is located on Gracey Farm on a 2.06 acre parcel (Parcel 75.09-1-29.2) just southeast of the intersection of Country Route 283 and Five Corners Road. Most of the site is a surface of low relief at approximately elevation 570 feet. There is a valley just north of the well that flows to a culvert beneath Route 283, and is a tributary to West Creek and then the Indian River.

#### 2.0 TANK SITE GEOLOGY

Figure 3 is a Bedrock Geologic Map of the site. The site is underlain by dark grey limestone of the Middle to Upper Ordovician Age Black River Group. There are some units of shale within the limestone and fossils are common. At the site, the rocks are nearly horizontally bedded where they outcrop along Route 283. In 2020, NGI conducted a limited fracture trace analysis, and the Tank Site is on an identified lineament. The lineaments are interpreted surface expressions of nearly vertical fractures in bedrock and provide aquifer recharge and well yield. The Tank Site was selected for drilling as it was on a parcel already owned by the Town for the elevated new water storage tank. Bedrock on site is at or near ground surface, and there are no overburden deposits.

#### 3.0 6-INCH DIAMETER TEST WELL INSTALLATION

In September, 2022 Keller's Well Drilling installed a 6-inch diameter test well at the location shown on Figure 2. Bedrock was encountered at a depth of four feet. 20 feet of schedule 40 6-inch diameter steel well casing was installed with a carbide steel drive shoe driven into rock. The well was then advanced to a depth of 200 feet. Water bearing fractures were encountered at 30 ft, 100 ft, 120 ft, 130 ft and at 170 ft. The well was terminated in the Black River Limestone.

The well was initially rated at 75 gpm using air lift methods. A test pump was installed in the well, and the well was pumped at a flow rate of 100 gpm for 2-hours with limited water level drawdown in the pumping well. Water level data for this test indicated a yield of 100 gpm. The test well had water cascading into the well from the fracture at 30 feet. NGI recommended casing off this shallow fracture during construction of the production well to limit shallow water influence on the well. NGI also recommended abandoning the 6-inch test well by placing a grout plug at a depth of 40 feet, and tremie grouting the well to the surface as the casing was removed to seal off this shallow fracture. Keller's Well Drilling abandoned the 6-inch test well in this manner on November 2, 2023.

#### 4.0 8-INCH PRODUCTION WELL

On November 6, 2023 Keller's Well Drilling advanced a 12-inch diameter pilot hole into bedrock for the production well. 8-inch diameter schedule 40 steel well casing fitted with a carbide steel drive shoe was installed in the 12-inch pilot hole. The casing was percussion driven into the bedrock at the bottom of the pilot hole, and the annular space between the 8-inch steel casing and 12-inch pilot hole was tremie grouted to ground surface. The grout contained 5% bentonite by weight, and was allowed to cure overnight.

8-inch diameter open hole was then advanced to a depth of 200 feet using air-rotary drilling methods. Rock encountered was described as hard grey to greenish-white limestone, which turned softer at 190-200 ft. Water bearing fractures were encountered at depths of 42 ft, 150-152 ft, and 190 ft. The well was initially rated at 100 gpm using air lift methods.

#### 5.0 STEP-DRAWDOWN PUMPING TEST

Keller's Well Drilling installed a 25 h.p. submersible pump and motor in the well with the pump intake at a depth of 190 ft. A 1-inch diameter stilling well was installed in the well to 190 feet to facilitate data logger installation and accurate water level measurement. The discharge line was fitted with a gate valve to control flow, two sample taps to allow for representative water quality sampling and microscopic particulate analysis testing (MPA). The discharge line was run through 10 feet of 2-inch horizontal PVC pipe with a Blue-White Rotometer Type flow installed in a vertical position. Three-inch diameter lay-flat discharge line was then run approximately 380 feet to the west of the well to an existing drainage swale along Route 283 as shown on Figure 2. From there, discharged water flowed to the main branch of the tributary to West Creek that passes beneath Route 283 in a culvert.

On December 3, 2023 Keller's Well Drilling did a step-drawdown test at three progressively increasing flow rates. The static water level in the well prior to pumping was 49.93 feet below the stilling well or approximately 46 feet below ground. A log of the step-drawdown test is included in Appendix B and a graph of the data is presented on Figure 4.

The well was pumped at 150 gpm for 95 minutes and the maximum recorded depth to water was 82.19 feet. The flow rate was increased to 200 gpm until 153 minutes of pumping and then to 250 gpm until the test was terminated at 220 minutes or 3.6 hours. Based on the results of the step drawdown test NGI recommended a flow rate of 200 gpm for the 72-hour pumping test.

#### 6.0 72-HOUR PUMPING TEST

After the pumping equipment was installed in the well, a Hobo U-20 data logger was installed in the stilling well in the Tank Site Well to record water levels at 5 minute intervals through the antecedent period, step-drawdown test, 72-hour test and recovery period. Figure 5 is a linear graph of water level elevation data recorded prior to the 72-hour pumping test. This data set includes the step-drawdown

test conducted on December 3, 2023. As can be seen from Figure 5 the water level in the Tank Site Well was not changing significantly prior to the test. The data set also shows no significant water level fluctuations associated with other withdrawals in the area.

Keller's Well Drilling initiated a constant rate pumping test on the Tank Site Well on December 4, 2023 at 9:00 AM. Figure 6 is a linear graph of water level data recorded during the test, and Figure 7 is a semilog graph of the same data. The flow rate was initially 210 gpm but dropped to 190 gpm after 4 hours of pumping as the depth to water in the well increased to about 150 feet (106 feet of drawdown). The water level in the pumping well stabilized around a depth of 150 feet after 10 hours of pumping until shutdown of the test. At maximum drawdown approximately 40 feet of water remaining above the pump intake and was considered a normal and reliable operating condition for this well. The flow rate remained at 190 gpm for the duration of the test. No precipitation was received during the test except in the form of snow, and temperatures remained below freezing during the test. The pumping well recovered 100% 11.3 hours after shutdown of a 72-hour test.

NGI analyzed Figure 7 to evaluate the water level stability criteria and the results of the pumping test. The projected water level after pumping 190 gpm for 180 days is 110 feet of drawdown. This leaves 36 feet of water (or 24% of the total water column) remaining above the pump and meets the water level stability criteria.

#### 7.0 WATER QUALITY

NGI collected water quality samples from the Tank Site Well for field parameters and general chemical parameters on December 4, December 6, and just before shutdown on December 7, 2023. Samples were also analyzed for field parameters at these times. Samples for Full Part 5 analyses were collected just prior to shutdown of the pumping test. Samples were collected in containers provided by the laboratory with appropriate preservatives and placed in a cooler on ice to be delivered to the laboratory under a chain of custody. A sample for microscopic particulate analysis (MPA) was collected from the well by filtering water at a flow rate of approximately 1.0 gpm for the last 24 hours of the pumping test. The filter was shipped to CH Diagnostics for MPA analyses. All other samples were delivered to Converse Laboratories in Watertown, NY for analysis. Laboratory certificates of analysis are included in Appendix C and summarized on Table 1.

As can be seen from Table 1, the water from the Tank Site Well is characterized by high hardness, alkalinity and total dissolved solids. This is not surprising in a limestone well, and these concentrations will likely go down over time as the well is pumped. The water also has elevated concentrations of sodium and chloride that exceed secondary standards. Slight hydrogen sulfide gas smell was noted during testing. Other than those issues, the water meets all applicable drinking water standards. There is low risk of surface water influence and iron concentrations were below detection limits. Manganese was detected at concentrations ranging from 0.0153 mg/l to 0.0187 mg/l which are below the secondary MCL of 0.05 mg/l.

The elevated sodium and chloride concentrations are interpreted by NGI to be a result of road salt applications on Route 283 and Five Corners Road.

#### 8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented herein, NGI derives the following conclusions:

1. The Town of LeRay, NY Tank Site Well is located in the Indian River Watershed, near the divide with the Black River Watershed.

- 2. The Tank Site Well is an 8-inch diameter bedrock well with 40 feet of steel casing tremie grouted into the rock to form a sanitary seal, and was drilled to a depth of 200 feet.
- 3. The yield of the Tank Site Well is 190 gpm under normal conditions.
- 4. Water from the Tank Site Well has elevated hardness, alkalinity, sodium and chloride. The sodium and chloride are most likely a result of road salt applications on Route 283 and Five Corners Road.

NGI makes the following recommendations:

- 1. The Tank Site well should be fitted with a pitless adaptor, and a pump capable of producing 190 gpm should be set in the well at a depth of 190 feet.
- 2. The well should be equipped with a pressure transducer in a stilling well to monitor water levels and well performance following activation.

Based on information collected herein, NGI respectfully requests NYDOH approval of the Tank Site Well as a Public Water Supply for the Town of LeRay, NY. If you need any additional information regarding this matter please feel free to contact me.

Sincerely,

NORTHEAST GEOSCIENCE, INC.

Jay Billings, NYPG #001212

Hydrogeologist

cc: Mr. Leland Carpenter - Supervisor, Town of LeRay, NY

Mr. Tim Barber, The BCA Group

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Figure 3 - Bedrock Geologic Map

Figure 4 - Linear Graph of Step Drawdown Test Water Level Data

Figure 5 - Linear Graph of Antecedent Water Level Data

Figure 6 - Linear Graph of Water Level Drawdown Data Recorded During 72-hour Test

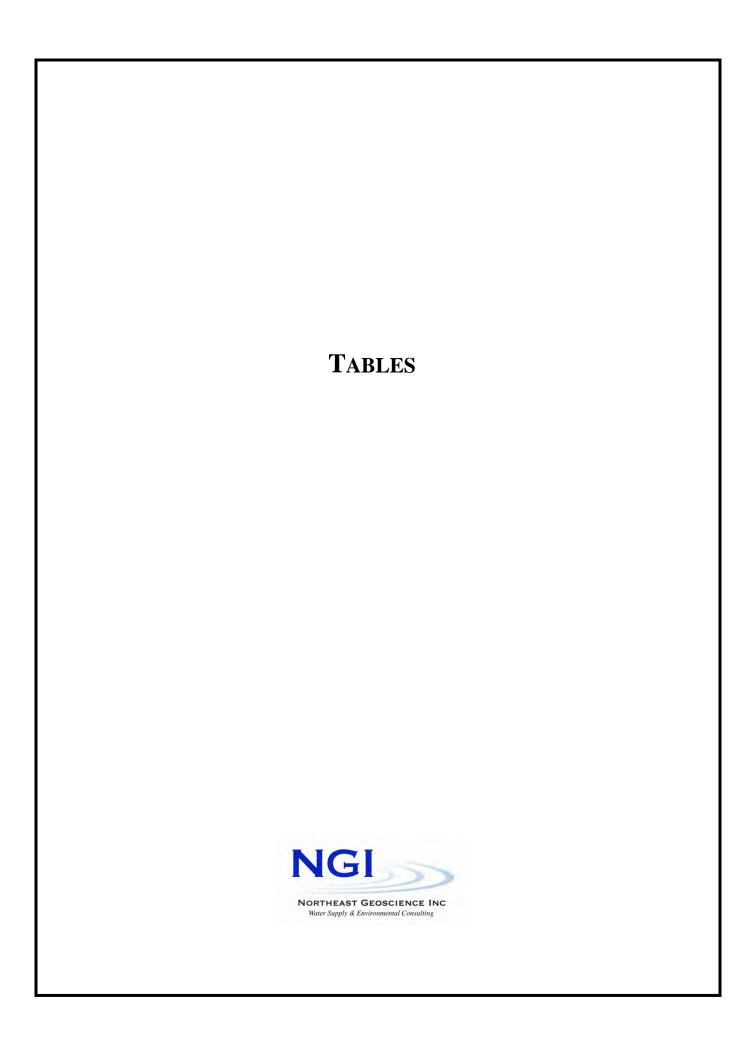
Figure 7 - Semi-log Graph of Water Level Drawdown Data Recorded During 72-hour Test

LIST OF APPENDICES

Appendix A - Well Log

Appendix B - Pumping Test Data

Appendix C - Water Quality Data



#### Table 1 Laboratory Results for Tank Site Well LeRay, New York

		Startup		End	
Parameter	Units	12/4/23	12/6/23	12/7/23	Standard
рН	S.U.	7.52	7.38	7.48	NCS
Temperature	Deg. C	9.6	9.7	9.9	NCS
Specific Conductance	us/cm	2,112	2,004	2,039	NCS
Odor	TON	<1	<1	<1	3
Total Dissolved Solids	mg/l	1,500	1,300	1,900	500
Apparent Color	Apparent C	<5	<5	<5	15
Turbidity	NTU	NS	NS	<2	NCS
Chloride	mg/l	472	392	389	250
Fluoride	mg/l	NS	NS	0.53	4
Sulfate	mg/l	334	298.0	272.0	250
Alkalinity (as CaCO3)	mg/l	205	203	205.00	NCS
Antimony	mg/l	NS	NS	<0.0040	0.006
Arsenic	mg/l	NS	NS	< 0.0010	0.01
Barium	mg/l	NS	NS	0.0717	2
Beryllium	mg/l	NS	NS	<0.0010	0.004
Cadmiun	mg/l	NS	NS	<0.0002	0.005
Calcium	mg/l	172	138	139	NCS
Chromium	mg/l	NS	NS	<0.0010	0.1
Iron	mg/l	<0.050	<0.050	<0.050	0.3
Lead	mg/l	NS	NS	<0.001	0.015
Magnesium	mg/l	38.0	35.1	35.3	NCS
Manganese	mg/l	0.0187	0.0153	0.0163	0.05
Mercury	mg/l	NS	NS	<0.0002	0.002
Nickel	mg/l	NS	NS	0.0088	0.1
Potassium	mg/l	7.02	6.14	6.57	NCS
Selenium	mg/l	NS	NS	<0.0050	0.05
Silver	mg/l	<0.0004	<0.0004	<0.0004	NCS
Sodium	mg/l	232	205	223	250
Thallium	mg/l	NS	NS	<0.0010	0.002
Zinc	mg/l	NS	NS	0.0552	NCS
Total Hardness	mg/l	586	485	493	180
Aluminum	mg/l	<0.010	<0.010	<0.010	0.05
Copper	mg/l	0.0024	0.0032	0.0012	1
Nitrate	mg/l	NS	NS	0.925	10
Nitrite	mg/l	NS	NS	<0.050	1
Cyanide	mg/l	NS NS	NS NS	<0.005	0.2
Volatile Organic Compounds	ug/l	NS NS	NS NS	ND	various
Total PFAS		NS NS	NS NS	<2.02	10
	ng/l				_
Synthetic Organic Compounds  1,4-Dioxane	ug/l ug/l	NS NS	NS NS	ND <0.150	various 1
•		NS NS	NS NS		10
MPA Test	Risk Points			1	
Perchlorate	ug/l	NS	NS NC	<0.3	2
Gross Alpha	pCi/l	NS NS	NS NC	0.805	15
Uranium	Pci/l	NS	NS	0.860	30
Radium 226	pCi/l	NS	NS	0.377	5
Radium 228	pCi/l	NS	NS	0.659	5

#### Notes:

S.U. - Standard Units

TON - Threshold Odor Number

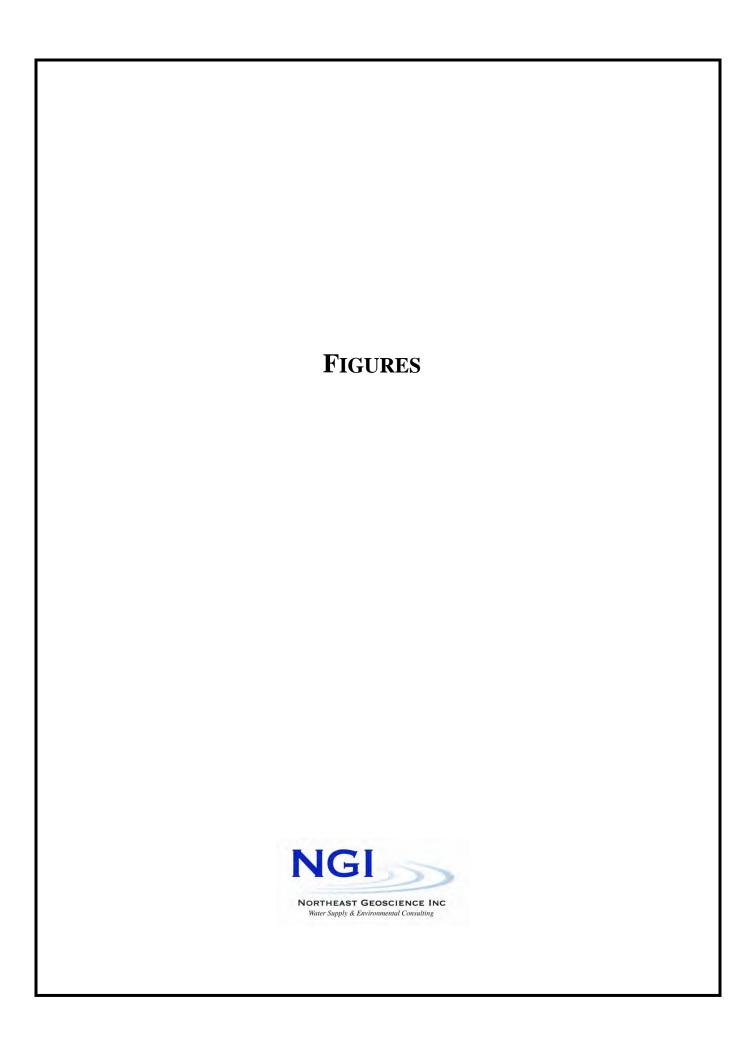
NTU - Nephrlometric Turbidity Units

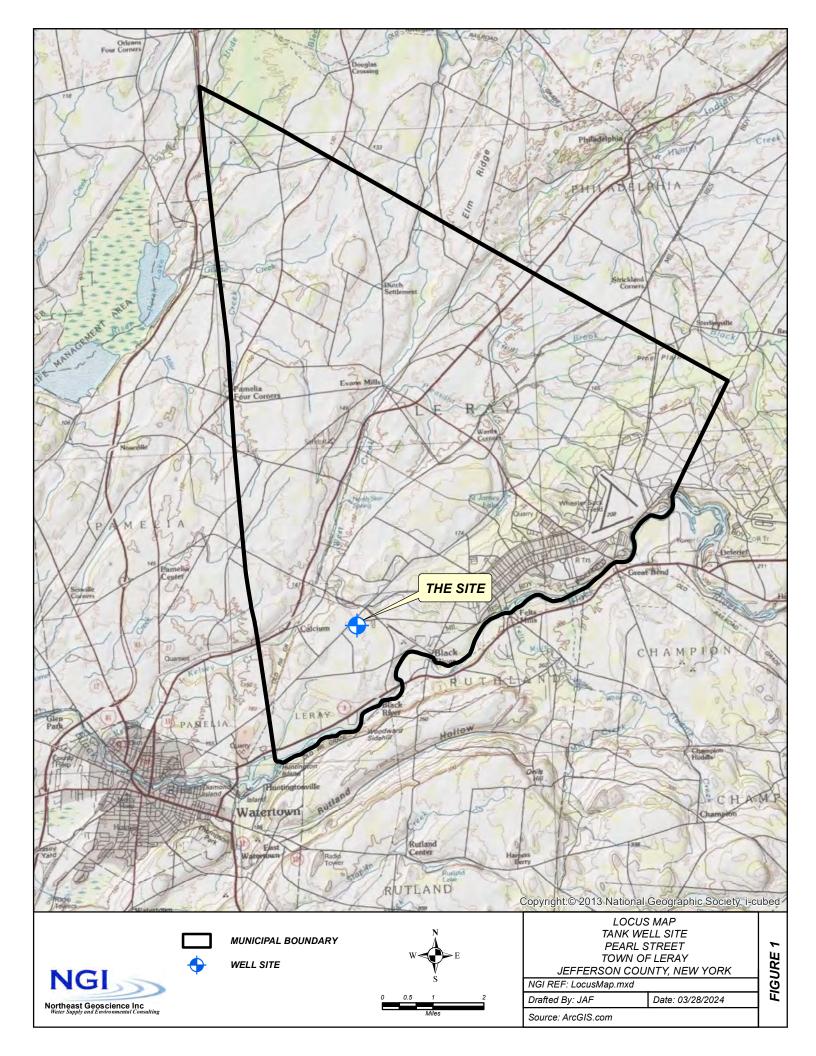
mg/l - milligrams per liter

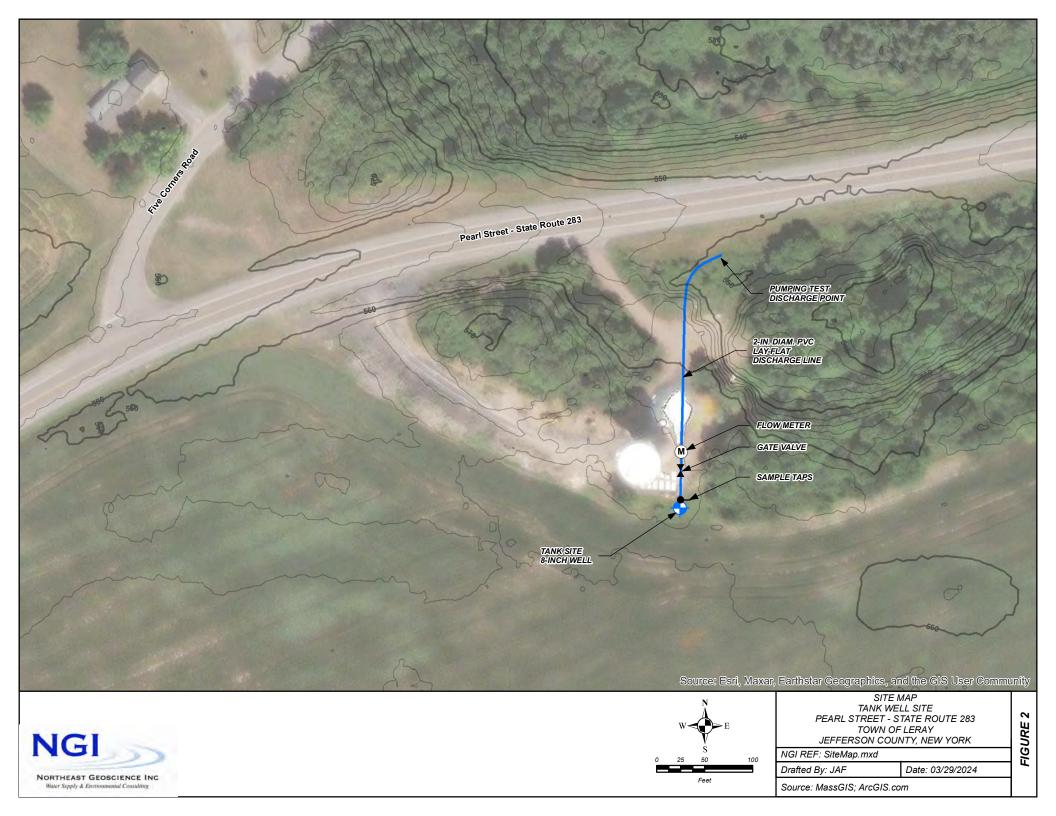
NCS - No concentration set

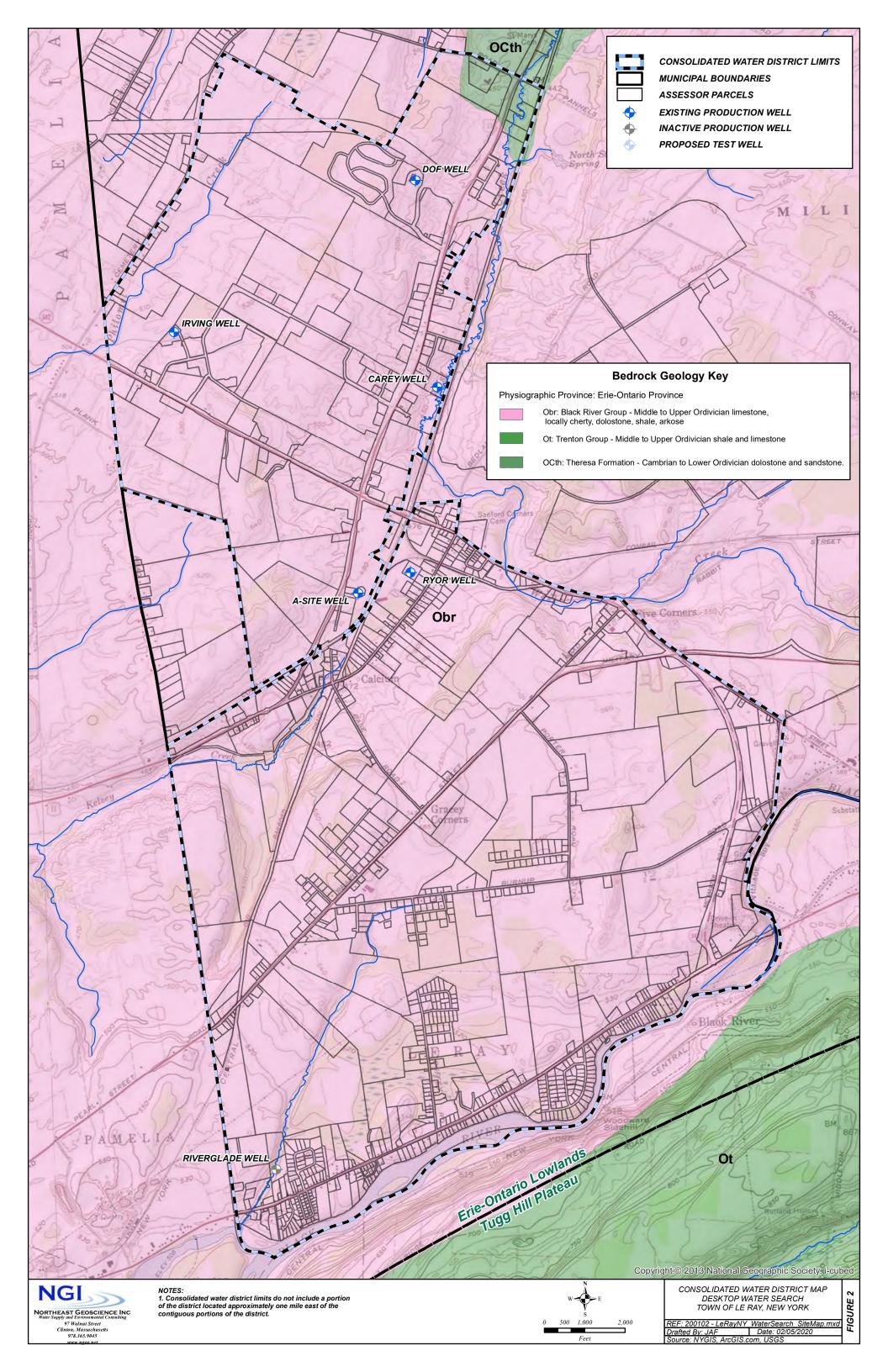
NS - Not Sampled

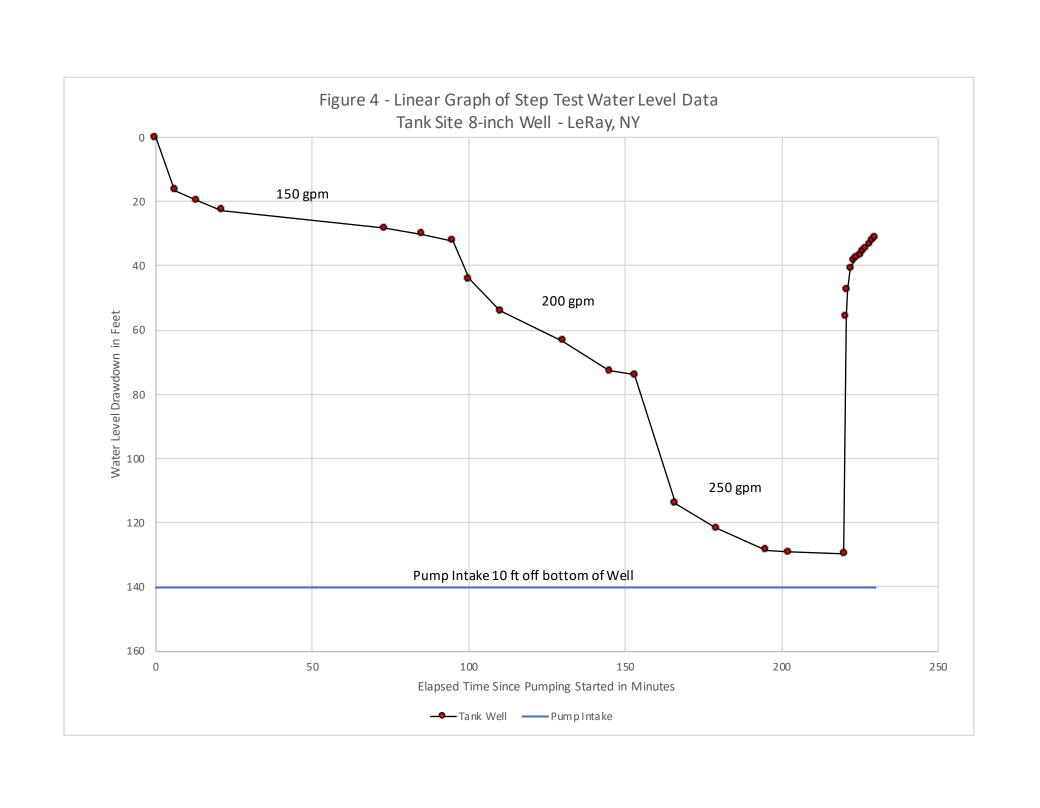
Risk Points - EPA Consensus Method Risk Factor Points

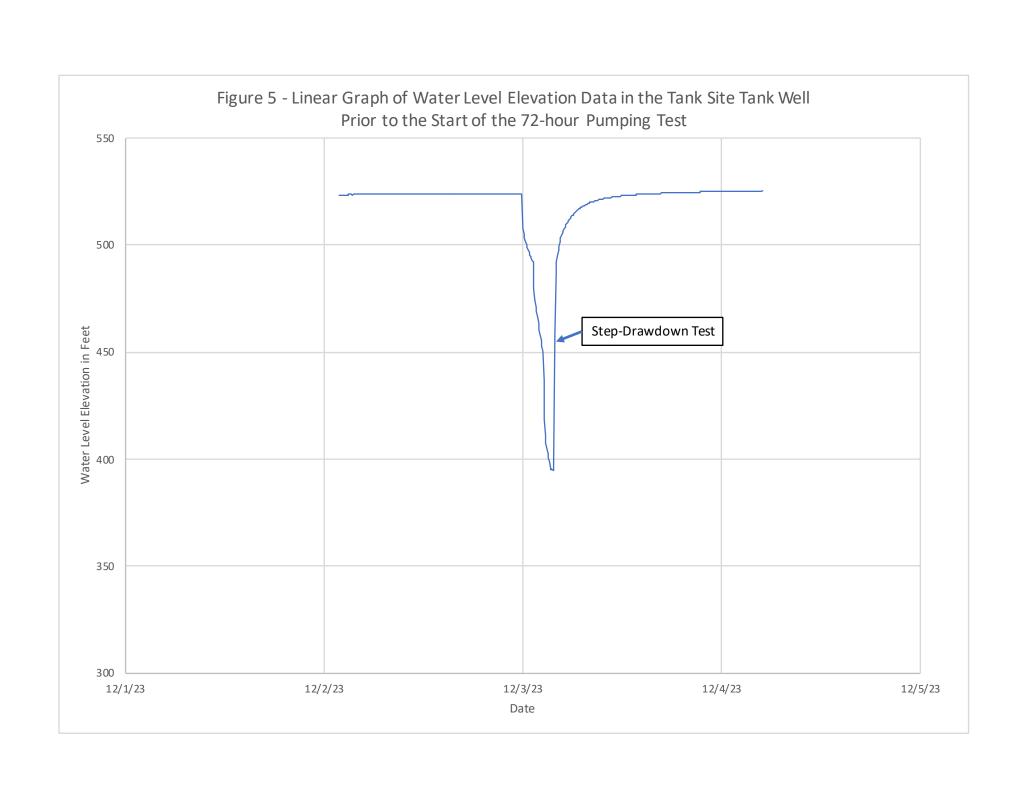


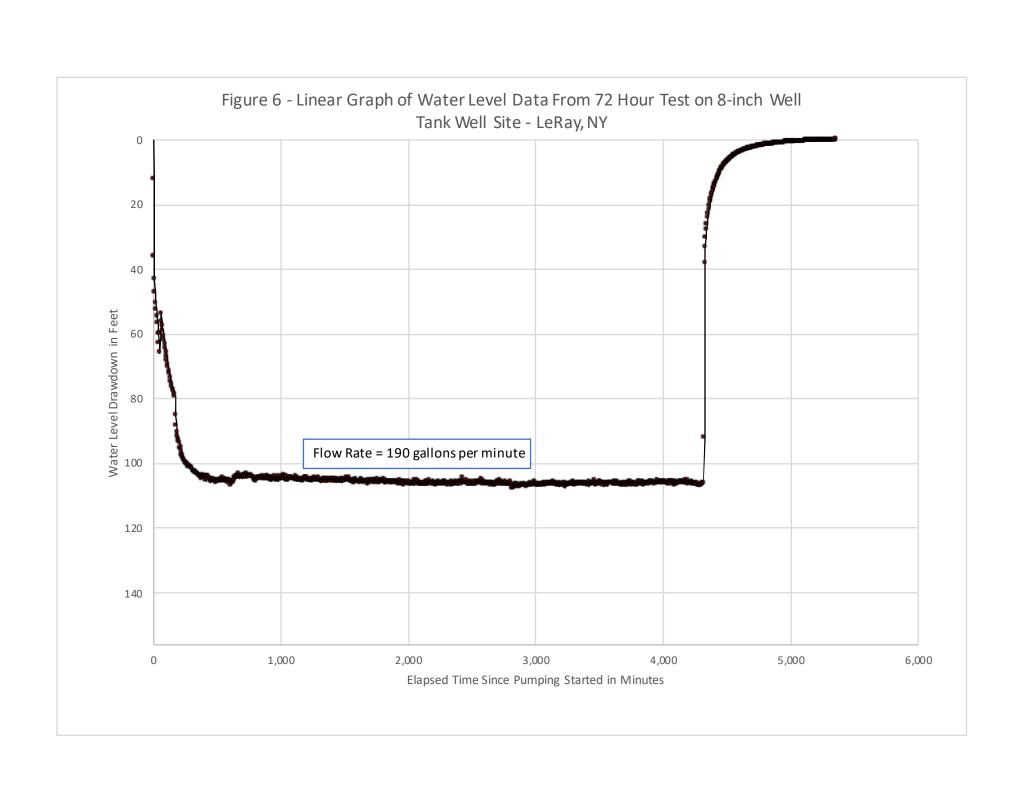


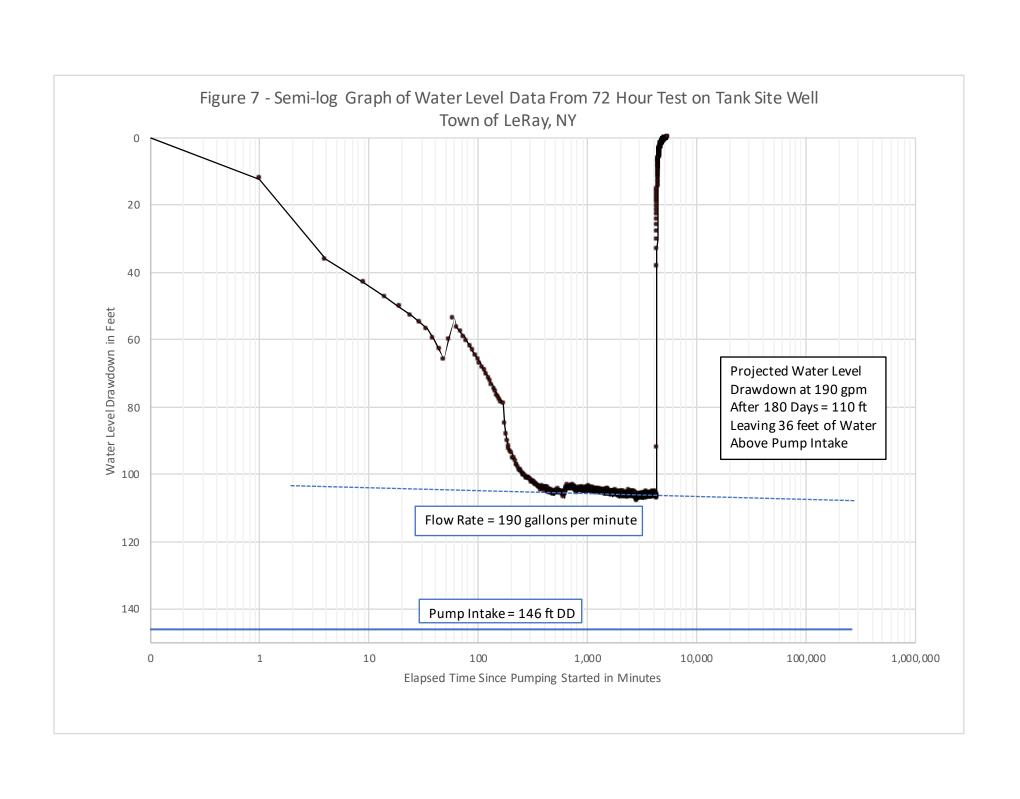


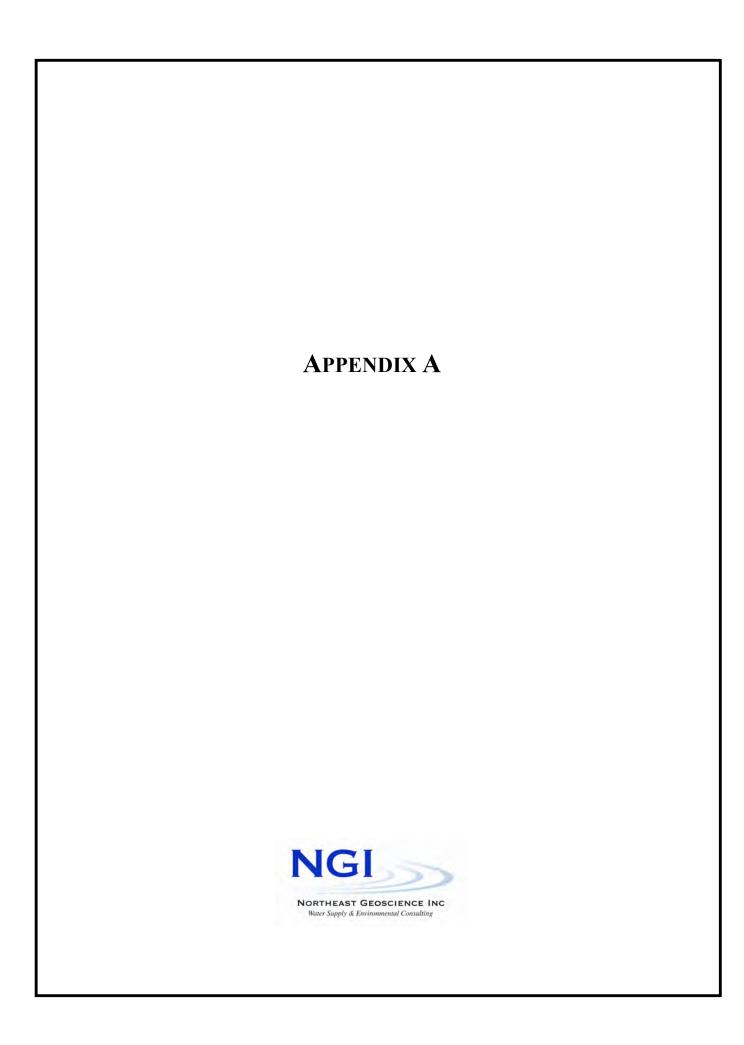






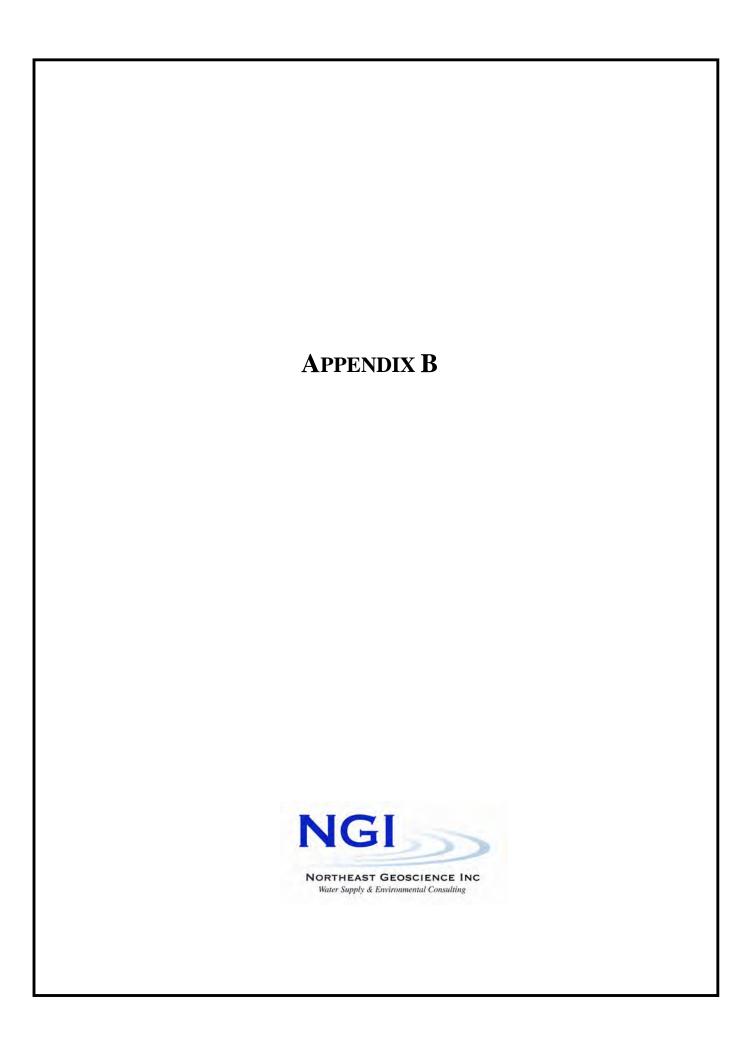






NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (3) DEC Well Number (2) TOWN LERAY WATER WELL COMPLETION REPORT (4) OWNER (45) WELL LOG Depth to Bedrock (5) ADDRESS (ft. below land surface) 2 54 MAIL Ground Elevation (6) LOCATION OF WELL (See Instructions On Reverse) (Check here if address is same as above) sea level) (7) LATITUDE/LONGTIUDE AND METHOD USED Top of Casing \_\_\_\_ (ft. above (+) or (8) TAX MAP NO. Ges | Map44.02 136 below (-) land surface) 75.82352 (9) DEPTH OF WELL BELOW (10) DEPTH TO GROUNDWATER DATE MEASURED LAND SURFACE (feet) BELOW LAND SURFACE (feet) TOP OF WELL 11/20/22 CASINGS (11) DIAMETER HEAVY REKMIN 8 in. (12) LENGTH ft. ft. ft. in. ( Tout (13) GROUT TYPE / SEALING (14) GROUT / SEALING INTERVAL DRIVE Shoe GROW FROM\_ (feet) SCREENS (15) MAKE & MATERIAL (16) OPENINGS 30 206PM (17) DIAMETER in. DRIVE 40 in. in. in. 400 (18) LENGTH 64 ft. ft. ft. 26PM (19) DEPTH TO TOP OF SCREEN, FROM TOP OF CASING (Feet) YIELD TEST (20) DATE (21) DURATION OF TEST 72hes (23) STABILIZED DISCHARGE (GPM) (22) LIFT METHOD ☐ Air Lift ☐ Bailer Pump (24) STATIC LEVEL PRIOR TO TEST (25) MAXIMUM DRAWDOWN (Stabilized) (feet/inches below top of casing) (feet/inches below top of casing) (27) Was the water produced during the test 100 24 hes discharged away from immediate area? OPM **PUMP INSTALLATION** (28) PUMP INSTALLED? BROKEN (29) DATE (30) PUMP INSTALLER BIACK -imesta (31) TYPE (32) MAKE (33) MODEL Layer (34) MAXIMUM CAPACITY (GPM) (35) PUMP INSTALLATION LEVEL FROM TOP OF CASING (Feet) DRILLER INFORMATION (36) METHOD OF DRILLING (37) USE OF WATER (See instructions for choices) Village Supply Rotary ☐ Cable Tool (38) DATE DRILLING WORK STARTED (39) DATE DRILLING WORK COMPLETED 16/12 (40) DATE REPORT FILED (41) REGISTERED COMPANY (42) DEC REGISTRATION NO. NYRD 1003 (43) CERTIFIED DRILLER (Print name) (44) CERTIFIED DRILLER SIGNATURE Kellen \* By signing this document I hereby affirm that: (1) I am certified to supervise water well drilling activities as defined by Environmental Conservation Law 15-1502; (2) this water well was constructed in accordance with **BOTTOM OF HOLE** water well standards promulgated by the New York State Department of Health; (3) under the penalty of perjury the information provided in this Well Completion Report is true, accurate and complete, and I understand that any false statement made herein is punishable as a Class A Misdemeanor under Penal Law §210.45. OWNER LOCATION SKETCH - Indicate north Shut of 20 GPM at 30 Foot 150 Ft FRACTURE PRODUCED POLL SIZED Chips 190 Ft FRACTURE PRODUCED Chips the Size Vator

INCh + lat layered chips



# Tank Site Step-Drawdown Test Log Town of LeRay, NY

Date	Time	ET (min)	DTW (ft)	DD (ft)	Q (gpm)	Comments
12/3/23	9:00	0	49.93	0.00	0	Static water level, 40 Deg. F and raining
	9:36	6	66.33	16.40	150	
	9:43	13	69.61	19.68	150	
	9:51	21	72.70	22.77	150	
	10:13	73	78.15	28.22	150	
	10:25	85	80.14	30.21	150	
	10:35	95	82.19	32.26	150	
	10:40	100	93.90	43.97	200	
	10:50	110	103.92	53.99	200	
	11:10	130	113.22	63.29	200	
	11:25	145	122.53	72.60	200	
	11:33	153	123.87	73.94	200	
	11:46	166	163.91	113.98	250	
	11:59	179	171.51	121.58	250	
	12:15	195	178.41	128.48	250	
	12:22	202	179.10	129.17	250	
	12:40	220	179.58	129.65	250	Shutdown
	12:40:30	220.5	105.70	55.77	0	
	12:41	221	97.30	47.37	0	
	12:42	222	90.70	40.77	0	
	12:43	223	88.48	38.55	0	
	12:44	224	87.32	37.39	0	
	12:45	225	86.70	36.77	0	
	12:46	226	85.42	35.49	0	
	12:47	227	84.41	34.48	0	
	12:48	228	83.50	33.57	0	
	12:49	229	82.10	32.17	0	
	12:50	230	81.40	31.47	0	

Notes: Water levels recorded from top of stilling well 4.79 feet above ground surface

## Pumping Test Log for 8-inch Production Well at Tank Site Town of LeRay, NY

	T			(4)		1-
Date	Time	ET (min)	DTW (ft)	DD (ft)	Q (gpm)	Comments  Static measurements to ten stilling well
12/4/23	9:00 9:01	0	48.10 62.38	0.00 14.28	0 210	Static, measurements to top stilling well
	9:02	2	69.32	21.22	210	
	9:03	3	75.21	27.11		
	9:04	4	78.85	30.75	210	
	9:05	5	82.10	34.00	210	
	9:06	6	84.30	36.20		
	9:07	7	86.02	37.92		
	9:08	8	87.82	39.72		
	9:09	9	89.04	40.94		
	9:10	10	90.32	42.22		
	9:15	15	94.35	46.25		
	9:20	20	97.78	49.68		
	9:30	30	102.29	54.19		
	9:40	40	102.23	58.85		
	9:50	50	112.62	64.52		
	10:00	60	101.09	52.99	240	
	10:10	70	105.71	57.61	210	
	10:20	80	108.82	60.72	210	
	10:30	90	111.15	63.05		
	10:40	100	113.55	65.45		
	11:00	120	118.55	70.45	210	
	11:10	130	120.19	72.09	210	
	11:20	140	121.99	73.89		
	11:30	150	123.65	75.55		
	11:50	170	128.99	80.89		
	12:00	180	134.45	86.35		
	12:10	190	136.75	88.65	200	
	12:50	230	143.41	95.31	200	
	13:00	240	145.10	97.00	200	Sample collected, T=10.1, pH=7.87, Cond.=1,961
	13:30	270	145.27	97.17	190	Sumple concetted, 1–10.1, pn–7.07, cond.–1,501
	14:00	300	147.03	98.93	190	
	14:30	330	148.35	100.25	190	
	15:00	360	148.81	100.71	150	
	15:30	390	148.10	100.00		
	16:00	420	149.00	100.90	190	
	18:00	540	148.64	100.54	190	light snow
	20:00	660	149.10	101.00	190	ingrit show
12/5/23	0:00	900	150.10	102.00	190	
	4:00	1020	150.27	102.17	190	
	6:00	1140	150.41	102.31	190	light snow
	8:00	1380	150.75	102.65	190	
	10:00	1500	151.62	103.52	190	
	12:00	1620	151.81	103.71	190	
	14:00	1740	149.70	101.60	190	
	16:00	1860	150.50	102.40	190	
	18:00	1980	152.13	104.03	190	
	20:00	2100	152.10	104.00	190	
	22:00	2220	152.02	103.92	190	
12/16/23	0:00	2340	152.66	104.56	190	
, ==, ==	6:00	2700	152.41	104.31	190	24 Deg F, light snow
	8:00	2820	154.02	105.92	190	Set up MPA Filter
	10:00	2940	151.61	103.51	190	
	12:00	3060	152.73	104.63	190	Mike Tracey DOH visited site
	14:00	3180	153.22	105.12	190	,
	16:00	3300	151.03	102.93	190	
	18:00	3420	152.82	104.72	190	19 Deg. F, partly cloudy
	20:00	3540	151.34	103.24	190	, , , , , , , , , , , , , , , , , , ,
12/17/23	0:00	3780	152.23	104.13	190	
	6:00	4140	152.71	104.61		24 Deg. F, overcast
	8:00	4260	152.80	104.70	190	Full Part 5 Samples collected
	9:00	4320	152.75	104.65	190	·
	9:01	4321	107.20	59.10	0	
	9:02	4322	100.55	52.45	0	
	9:03	4323	95.35	47.25	0	
	9:04	4324	89.90	41.80	0	
	9:05	4325	86.10	38.00	0	
	9:06	4326	84.40	36.30	0	
	9:07	4327	83.20	35.10	0	
	9:08	4328	82.55	34.45	0	
	9:09	4329	81.80	33.70	0	
	9:10	4330	81.13	33.03	0	
			78.35	30.25	0	
	9:15	4550				
	9:15 9:20	4335 4340	75.25	27.15	0	



#### **Converse Laboratories Inc.**

800 Starbuck Ave. Suite B101

Watertown, NY 13601 - Phone: 315 788-8388

NYS Approved ELAP ID# 10708

**USPH** Certified

ID# 36144

Client:

NGI

Report Date:

97 Walnut Street

12/12/2023

Clinton, MA 01510

## **Laboratory Report**

T. Leray

Sample ID:

2315183

Sample Type:

Finished, Monitoring

Sample Date/Time:

12/4/2023 1300

Sample Site:

8-Inch Tank Site

Date/Time Received: 12/4/2023 1413

Sampler:

JΒ

Analysis	Result	Units	Method Code	Lab ID	Date/Time/Tech Tested
Solid, Dissolved	1500	mg/l	SM 21-2540C	10708	12/6/2023 1400 TLE
Hydrogen Ion (PH)	7.52	**	SM-21-4500-H+B	10708	12/4/2023 1450 KMB

Reviewed by/Supervisor:

Kathlum Bon

Key: ntu - Nephelometric Turbidity unit

mg/l - milligrams per liter

E - Estimated

The information in this report is accurate to the best of our knowledge and capability. In no event shall our liability exceed the cost of these services. I certify that these results confirm to NYS Department of Health Standard and requirements (10 NYDDR Subpart 55-2). Sample results are based on samples as they are received, unless sampled by CLI. This report shall not be reproduced, except in full, without written approval from CLI.

<sup>\*\*</sup> Report Comment: Sample(s) received past EPA recommended holding time of 15 minutes for pH. pH is not included in NYS DOH ELAP Certification program.

Project Name: NORTHEAST GEOSCIENCE

**Project Number:** AL23-1421

Lab Number:

L2371534

AL20-1421

Report Date:

12/12/23

SAMPLE RESULTS

Lab ID:

L2371534-01

Client ID:

8-INCH TANK WELL

Date Collected:
Date Received:

12/04/23 13:00 12/05/23

Sample Location:

Not Specified

Field Prep:

Not Specified

Sample Depth:

Matrix:

Dw

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab										
Aluminum, Total	ND		mg/l	0.0100		1	12/06/23 21:0	0 12/07/23 20:28	EPA 3005A	3,200.8	WKP
Calcium, Total	172.		mg/l	0.100		1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF
Copper, Total	0.0024	,,,,	mg/l	0.0010		1	12/06/23 21:0	0 12/07/23 20:28	EPA 3005A	3,200.8	WKP
Iron, Total	ND	******************************	mg/l	0.0500		1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF
Magnesium, Total	38.0		mg/l	0.100		1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF
Manganese, Total	0.0187		mg/l	0.0010		1	12/06/23 21:0	0 12/07/23 20:28	EPA 3005A	3,200.8	WKP
Potassium, Total	7.02		mg/l	2.50		1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF
Silver, Total	ND		mg/l	0.0004		1	12/06/23 21:0	0 12/07/23 20:28	EPA 3005A	3,200.8	WKP
Sodium, Total	232.		mg/l	2.00		1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF
Total Hardness by	SM 2340E	3 - Mansfiel	d Lab								
Hardness	586.		mg/l	0.660	NA	1	12/06/23 21:0	0 12/07/23 08:43	EPA 3005A	19,200.7	JMF



Project Name:

NORTHEAST GEOSCIENCE

Lab Number:

L2371534

Project Number:

AL23-1421

Report Date:

12/12/23

### **SAMPLE RESULTS**

Lab ID:

L2371534-01

Client ID:

8-INCH TANK WELL

12/04/23 13:00

Sample Location:

Date Collected: Date Received:

12/05/23

Not Specified

Field Prep:

Not Specified

Sample Depth:

Matrix:

Dw

Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - W	estborough Lab					2.27			
Odor @ 60 C	NO ODOR	TON	1	***	1	=	12/06/23 12:45	121,2150B	JBB
Color, Apparent	ND	A.P.C.U.	5.0		1	•	12/06/23 12:40	121,2120B	JBB
Alkalinity, Total	205.	mg CaCO3/L	2.00	NA	1	•	12/09/23 09:20	121,2320B	MRM
Alkalinity, Bicarbonate	205.	mg CaCO3/L	2.00	NA	1	-	12/09/23 09:20	121,2320B	MRM
Anions by Ion Chromate	ography - West	borough Lab							7
Chloride	472.	mg/l	5.00		10	en a consecuente anno esta di Albabia e de Albabia di A	12/09/23 12:55	44,300.0	CVN
Sulfate	334.	mg/l	10.0		10	-	12/09/23 12:55	44,300.0	CVN



CONVERSE LABORATORIES, IN

800 Starbuck Ave., Suite B101, Watertown, NY 13601

J

Chain of Custody

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Page_

(315) 788-8388 w	ww.conversel	abs.com					
∥.Ω	ence Client Project ID / PO# : T. Leray	Client Project ID T. Leray	/ PO#:	Matrix Codes  DW= Drinking Water		Sample Information: Finished Raw	ation:
Client Address: 97 Walnut Street		But to Town of	なっな	GW=Ground Water WW=Wastewater	ewater [	Chlorinated UV	
Clinton, MA 01510	0	Largy, N.		SL=Sludge SW=Surface Water SO=Soil	30=Soil	OTHER:	
Phone #: 978-771-7369	Cell#		9/	Preservative Codes		DW RESULTS WILL BE FORWARDED TO NYS DOH	DED TO NYS DOH.
E-Mail address: jbillings@ngeo.net	net		oqe	$1 = Na_2 S_2 O_3$ $2 = HCl$ $3 = H_2 SO_4$ 4 = HNO. $5 = NaOH$ $6 = Asorbic Acid 7 = NaOH$	Acid 7= <b>Z</b>	Ž	DRATORY
Contact/Report to: Jay Billings			səpi		100000000000000000000000000000000000000	Normal TAT	
Sampler: Jest Billings			၀၁ ခခ		pətəs	Rush TAT	a.m. / p.m.
			Grab trix - s orine	List Preservative Code Below	Selow Selow	ANALYSIS / TEST	SAMPLE ID #
d Collected	Sample Identification	ication	Mai	1 2 3 4 5 6	7 8 5	REQUESTED	
13:00	8-inch Teak Well	nk well	G Dw 6		Z -	pH/TDS	5183
> 20	· MANGAGA		0 MA 9			Color/Odor	Sub
			49 Alifondaria			Alkalinity/BiCarbonate Alk.	
	The survey of th				×	Chloride/Sulfate	
	dare tasku dar Bullud da		of a section of the s	7-	<u> </u>	Ca,Mg,Na,Fe,Ag,Al,Cu,Mn,K	
- Company	Con well-produced starting				<u>×</u>	Hardness	
			C				
				(ED and 134/38)			
					Time	ICED?	AUTHORIZED RECIPIENTS &
Relinquished by:	Date	Time	Received by:	red by:	ЭШП		
an	12-4-23. M	14:13	2000	CELHOI & 92-12	1413	(7). Yes)(No	
			· .	2		SAMPLE(S) AS RECEIVE STANI	SAMPLE(S) AS RECEIVED CONFORM TO NELAC STANDARDS
						(ES) IF NO, SEE ATT	(ES) NO IF NO, SEE ATTACHED SHEET
Doc. # 357 7/10/2018	Amt. Due:			Amt. Paid:		Initial Review: Office Transcript of Box :	12/4/33
Rev. # 117	7		Chock#	ပ္ပ		I ranscriptual Rev.: Final Review:	

Check#

Cash

Page 1 of 1 Rev. # 117

CONVERSE LABORATORIES, IN:
\$ 800 Starbuck Ave., Suite B101, Watertown, NY 13601

(315) 788-8388 www.converselabs.com

Chain of Custody

Page 1 of 1

Client Name: Northeast Geoscience		Client Project ID / PO#:	Matrix Codes		Sample Information:	ion:
		ı. Leray	UW= Drinking Water	Finished	Raw 	
Client Address: 97 Wainut Street		Bill to Town of	GW=Ground Water WW=Wastewater	ter Chlorinated	≥ □	
Clinton, MA 01510		LaRay, NY	SL=Sludge SW=Surface Water SO=Soil	Soil OTHER:		
Phone #: 978-771-7369	Cell #	ALTERNA DE	Preservative Codes	DW RESU	DW RESULTS WILL BE FORWARDED TO NYS DOH.	ED TO NYS DOH.
E-Mail address: jbillings@ngeo.net	geo.net	PROJECTION.	1= Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 2= HCl 3= H <sub>2</sub> SO <sub>4</sub>	N	NOTES TO LABORATORY	RATORY
Contact/Report to: Jay Billings	SDU	səp	4= HNO <sub>3</sub>	/=   >   Normal TAT	×	
Sampler: Jay Billings	195	၀၁ ခခ		Rush TAT	Date Needed:	a.m. / p.m.
Date Time Collected Collected	Sample Identification	2 = Grab S = Grab Matrix - s	List Preservative Code Below	stingoduć	ANALYSIS/TEST REGILESTED	SAMPLE ID # (lab use only)
	8-inch Tank Well	G Dw		N	H/TDS	5183
, against and the second secon		G DW 0		1 <b>Y</b> Co	Color/Odor	dus
				1 Y Alkalinity/E	Alkalinity/BiCarbonate Alk.	
				X Y Chlor	Chloride/Sulfate	
			1	Y Ca,Mg,Na,F	Ca,Mg,Na,Fe,Ag,AI,Cu,Mn,K	
		7   T   T		H X	Hardness	
		SANIDI	SANIPLE Ph WAS <2.0			
		CHECKED	KED DANGERALDS			
Relinquished by:	Date	Time Receiv	Received by: Date T	Rec'd IG	IGED? AUTHOR	AUTHORIZED RECIPIENTS & CONTACT INFO
90%	12-4-23 14	1413 Stations	E61461 4		Xes) No	
		·	<b>S</b>	SAMI	PLE(S) AS RECEIVED CON	SAMPLE(S) AS RECEIVED CONFORM TO NELAC STANDARDS
				349	KES) NO IF NO, SEE ATTACHED SHEET	NO CHED SHEET
Doc. # 357 7/10/2018	Amt. Due:		Amt. Paid:	Initial	Initial Review: Oun	12/4/33
Rev. # 117 Page 1 of 1	Cash	Check#	ဗ	Transcriptual Rev.: Final Review:	criptual Rev.: Unt	क्रांक



#### ANALYTICAL REPORT

Lab Number:

L2371534

Client:

Converse Laboratories, Inc.

800 Starbuck Ave

Suite B101

Watertown, NY 13601

ATTN:

**Dave Converse** 

Phone:

(315) 788-8388

Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1421

Report Date:

12/12/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1421

Lab Number: Report Date:

L2371534 12/12/23

Alpha Sample ID

Client ID

Matrix

Sample Location Collection Date/Time

Receive Date

L2371534-01

8-INCH TANK WELL

DW

Not Specified

12/04/23 13:00

12/05/23

Project Name: Project Number:

NORTHEAST GEOSCIENCE

AL23-1421

Lab Number:

L2371534

Report Date:

12/12/23

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2371534

12/12/23

**Project Number:** 

AL23-1421

Report Date:

#### **Case Narrative (continued)**

#### Report Submission

Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at www.alphalab.com and building a Data Usability table (format 11) in our Data Merger tool.

#### **Total Metals**

The WG1860483-3 MS recoveries for calcium (70%) and sodium (70%), performed on L2371534-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

Odor @ 60 C

L2371534-01: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Cattlin Wallet Caitlin Walukevich

Authorized Signature:

Title: Technical Director/Representative

Date: 12/12/23



## **METALS**



# INORGANICS & MISCELLANEOUS



**Lab Number:** L2371534 **Report Date:** 12/12/23

Project Name:

NORTHEAST GEOSCIENCE

Project Number: AL23-1421

#### Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
Α	Absent
В	Absent
С	Absent
D	Absent
Е	Absent

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L2371534-01A	Plastic 950ml HNO3 preserved	В	<2	<2	4.3	Υ	Absent		AL-2008T(180),MN-2008T(180),CA-UI(180),K- UI(180),MG-UI(180),CU-2008T(180),FE- UI(180),HARDU(180),AG-2008T(180),NA- UI(180)
L2371534-01B	Plastic 1000ml unpreserved/No Headspace	В	NA		4.3	Υ	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L2371534-01C	Plastic 950ml unpreserved	В	7	7	4.3	Υ	Absent		SO4-300(28),CL-300(28)
L2371534-01D	Amber 950ml unpreserved	В	7	7	4.3	Υ	Absent		COLOR-A-2120(2),ODOR-2150(1)



**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2371534

**Project Number:** 

AL23-1421

Report Date:

12/12/23

#### **GLOSSARY**

#### Acronyms

DL

- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL

- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** 

- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

**EPA** 

Environmental Protection Agency.

LCS

- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD

Laboratory Control Sample Duplicate: Refer to LCS.

LFB

- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ

- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDL

- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS

- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD

- Matrix Spike Sample Duplicate: Refer to MS.

NA

Not Applicable.

NC

- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI

- Not Ignitable.

NP

- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR

- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL

- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP

- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF

- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ

- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

DU Report - No QC Report Format:



Project Name: NORTHEA

NORTHEAST GEOSCIENCE

Lab Number:

L2371534

AL23-1421

Report Date:

12/12/23

#### Footnotes

**Project Number:** 

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benza(b)fluoranthene, Benza(j)+(k)fluoranthene, Benza(e)pyrene, Benza(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benza(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a "Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to "Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- ${\bf E} \qquad \text{-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.}$
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: DU Report - No QC



Project Name:NORTHEAST GEOSCIENCELab Number:L2371534Project Number:AL23-1421Report Date:12/12/23

#### Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

**RE** - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report - No QC



**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2371534

**Project Number:** 

AL23-1421

Report Date:

12/12/23

#### **REFERENCES**

- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

#### **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Serial No:12122314:06

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 20

Published Date: 6/16/2023 4:52:28 PM

Page 1 of 1

# **Certification Information**

# The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-

Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

# **Mansfield Facility**

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

# The following analytes are included in our Massachusetts DEP Scope of Accreditation

### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-B, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

# **Mansfield Facility:**

#### Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

# Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: AI, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form

Pre-Qualtrax Document ID: 08-113

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Westborough, MA 01581 8 Walkup Dr.	Mansfield, MA 02048 320 Forbes Blvd	Project Information					Deliverables	ables					Billing Information
TEL: 508-898-9220	TEL: 508-822-9300	Project Name:	NORTHEAS	NORTHEAST GEOSCIENCE	뜽			ASP-A			ASP-B		Same as Client Info
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# Converse Laboratories Inc.

800 Starbuck Ave. Suite B101

Watertown, NY 13601 - Phone: 315 788-8388

NYS Approved ELAP ID# 10708

**USPH** Certified

ID# 36144

Client:

NGI

Report Date:

97 Walnut Street

12/12/2023

Clinton, MA 01510

# **Laboratory Report**

T. Leray

Sample ID:

2315379

Sample Type:

Finished, Monitoring

Sample Date/Time:

12/6/2023 1400

Sample Site:

8-Inch Tank Site

Date/Time Received: 12/6/2023 1436

Sampler:

Client

Analysis	Result	Units	Method Code	Lab ID	Date/Time/Tech Tested
Solid, Dissolved	1300	mg/l	SM 21-2540C	10708	12/6/2023 1600 TLE
Hydrogen Ion (PH)	7.38	**	SM-21-4500-H+B	10708	12/6/2023 1511 TLE

Reviewed by/Supervisor:

Kathle M. Bonny

Key: ntu - Nephelometric Turbidity unit

mg/l - milligrams per liter

E - Estimated

The information in this report is accurate to the best of our knowledge and capability. In no event shall our liability exceed the cost of these services. I certify that these results confirm to NYS Department of Health Standard and requirements (10 NYDDR Subpart 55-2). Sample results are based on samples as they are received, unless sampled by CLI. This report shall not be reproduced, except in full, without written approval from CLI.

<sup>\*\*</sup> Report Comment: Sample(s) received past EPA recommended holding time of 15 minutes for pH. pH is not included in NYS DOH ELAP Certification program.

**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2372476

**Project Number:** 

AL23-1438

Report Date:

12/14/23

Lab ID:

Date Collected:

12/06/23 14:00

Client ID:

L2372476-01

8 INCH TANK SITE T. LERAY

Date Received:

12/07/23

Sample Location:

Not Specified

Field Prep:

Not Specified

Sample Depth:

Matrix:

Dw

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mar	nsfield Lab							No.			
Aluminum, Total	ND		mg/l	0.0100		1	12/10/23 04:00	) 12/11/23 07:47	EPA 3005A	3,200.8	EJF
Calcium, Total	136.		mg/l	0.100		1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL
Copper, Total	0.0032		mg/l	0.0010	eter .	1	12/10/23 04:00	) 12/11/23 07:47	EPA 3005A	3,200.8	EJF
iron, Total	ND		mg/l	0.0500		1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL
Magnesium, Total	35.1		mg/l	0.100		1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL
Manganese, Total	0.0153		mg/l	0.0010		1	12/10/23 04:00	) 12/11/23 07:47	EPA 3005A	3,200.8	EJF
Potassium, Total	6.14		mg/l	2.50		1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL
Silver, Total	ND		mg/l	0.0004		1	12/10/23 04:00	) 12/11/23 07:47	EPA 3005A	3,200.8	EJF
Sodium, Total	205.	,,,,	mg/l	2.00		1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL
Total Hardness by	/ SM 2340E	s - Mansfiel	ld Lab						The Market State of the State o		
Hardness	485.	0.000 (1.	mg/l	0.660	NA	1	12/10/23 04:00	) 12/11/23 10:41	EPA 3005A	19,200.7	DHL

**SAMPLE RESULTS** 



**Project Name:** 

NORTHEAST GEOSCIENCE

Project Number: AL23-1438 Lab Number:

L2372476

Report Date:

12/14/23

# **SAMPLE RESULTS**

Lab ID:

L2372476-01

Client ID:

8 INCH TANK SITE T. LERAY

Sample Location:

Not Specified

Date Collected:

12/06/23 14:00

Date Received:

12/07/23

Field Prep:

Not Specified

Sample Depth: Matrix:

Dw

Maurx.	DW				D.U (1	D-4-	5.4	A l 4! l	
Parameter	Result	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab	)					and the control of th	reports and rest of the rest o	
Odor @ 60 C	NO ODOR	TON	1		1	-	12/08/23 11:43	121,2150B	JBB
Color, Apparent	ND	A.P.C.U.	5.0		1	-	12/08/23 09:10	121,2120B	JBB
Alkalinity, Total	203.	mg CaCO3/L	2.00	NA	1	-	12/14/23 11:27	121,2320B	MRW
Alkalinity, Bicarbonate	203.	mg CaCO3/L	2.00	NA	1	-	12/14/23 11:27	121,2320B	MRW
Anions by Ion Chroma	atography - West	borough Lab	75.02						
Chloride	392.	mg/l	5.00		10	-	12/12/23 03:09	44,300.0	CVN
Sulfate	298.	mg/l	10.0		10	=	12/12/23 03:09	44,300.0	CVN

CONVERSE LABORATORIES, IN

> 800 Starbuck Ave., Suite B101, Watertown, NY 13601

Chain of Custody

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Page

CH TANK STE NAME CHECKED LAND C	Initial Review: Transcriptual Rev.: Final Review:	SAMPLE(S)	1436 D.C (AB)/NO	Rec'd ICED?			X Y Hardness	Y Ca,Mg,Na,Fe,Ag,Al,Cu,Mn,K	X Y Chloride/Sulfate	1 Y Alkalinity/BiCarbonate Alk.	1 Y Color/Odor	1 N. pH/TDS	elow S ANALYSIS/TEST REQUESTED.	Rush TAT	Normal TAT 🔯	1	DW RESULTS WILL BE FORWARDED TO NYS DOH	O=Soil OTHER:	water Chlorinated	Sample Information: Finished Raw	Page
Date  2-6-23 19	Amt. Paid:Check#	O	esterent + Isla	Received by:	CHECKED (UNIT LINE)	V							List Preservative Code B	00 88 0 = 0	des NH <sub>4</sub> CL 8= Unpres.	2 2= HCl 3=	a/	SL=Sludge SW=Surface Water SO=Soil	GW=Ground Water WW=Wastewater	#0d	
Client Name: Northeast Ge Client Address: 97 Walnut S Client Address: 97 Walnut S Contact/Report to: Jay Bil Sampler:  Collected: Collected:  Collected:	Amt. Due:			. Date		*	-								Contact/Report to: Jay Billings	E-Mail address: jbillings@ngeo.net		Clinton, MA 01510	Client Address: 97 Walnut Street	Client Name: Northeast Geoscience   Client Pro	(315) 788-8388 www.converselabs.com



# ANALYTICAL REPORT

Lab Number:

L2372476

Client:

Converse Laboratories, Inc.

800 Starbuck Ave

Suite B101

Watertown, NY 13601

ATTN:

Dave Converse

Phone:

(315) 788-8388

Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1438

Report Date:

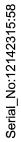
12/14/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com





L2372476 12/14/23

Lab Number: Report Date:

NORTHEAST GEOSCIENCE Project Name:

AL23-1438 Project Number:

Client ID 8 INCH TANK SITE T. LERAY L2372476-01 Alpha Sample ID

Matrix M

Not Specified Sample Location

Collection Date/Time

**Receive Date** 

12/07/23 12/06/23 14:00

Project Name:

NORTHEAST GEOSCIENCE

Project Number: AL23-1438

Lab Number:

L2372476

Report Date:

12/14/23

# **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2372476

**Project Number:** 

AL23-1438

Report Date:

12/14/23

# **Case Narrative (continued)**

# Report Submission

Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at www.alphalab.com and building a Data Usability table (format 11) in our Data Merger tool.

# Sample Receipt

L2372476-01: Headspace was noted in the sample container submitted for Total Alkalinity - SM 2320 and Bicarbonate Alkalinity - SM 2320.

Odor @ 60 C

L2372476-01: The sample was analyzed with the method required holding time exceeded.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

Michelle M. Morris

Title: Technical Director/Representative

Date: 12/14/23



# **METALS**



# INORGANICS & MISCELLANEOUS



Lab Number: L2372476

Report Date: 12/14/23

# Sample Receipt and Container Information

YES

Were project specific reporting limits specified?

NORTHEAST GEOSCIENCE

Project Number: AL23-1438

Project Name:

**Custody Seal** Cooler Information Cooler

Absent

Absent

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•	deg C Pres Seal Date/Time Analysis(*)	4.0 Y Absent AL-2008T(180),CA-UI(180),MN-2008T(180),K-UI(180),HARDU(180),MG-UI(180),CU-2008T(180),FE-UI(180),AG-2008T(180),NA-UI(180)	4.0 Y Absent ALK-T-2320(14),ALK-HCO3-2320(14)	4.0 Y Absent SO4-300(28), CL-300(28)	4.0 Y Absent SO4-300(28),CL-300(28)	3.6 Y Absent COLOR-A-2120(2),0DOR-2150(1)	4.0 Y Absent SO4-300(28), CL-300(28)
Final Temp	ph Hq	4	4	7	7	7 3	7
Initial	Н	75	A A	7	7	7	7
	Cooler	O	O	O	O	∢	O
rmation	Container ID Container Type	Plastic 250ml HNO3 preserved	Plastic 1000ml unpreserved/No Headspace	Plastic 950ml unpreserved	Plastic 950ml unpreserved	Amber 500ml unpreserved	Plastic 2 liter container
Container Information	Container ID	L2372476-01A	L2372476-01B	L2372476-01C	L2372476-01D	L2372476-01E	L2372476-01F



Project Name: NORTHEAST GEOSCIENCE Lab Number: L2372476

Project Number: AL23-1438 Report Date: 12/14/23

# **GLOSSARY**

Acronyms

Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated

values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The

LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any

adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated

using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile

Organic TIC only requests.

RL Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the

precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the mothed and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

**Project Name:** 

NORTHEAST GEOSCIENCE

CIENCE Lab Number:

L2372476

Project Number: AL2

AL23-1438

Report Date:

12/14/23

#### Footnotes

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

#### Data Qualifiers

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.



**Project Name:** 

NORTHEAST GEOSCIENCE

Lab Number:

L2372476

**Project Number:** 

AL23-1438

**Report Date:** 

12/14/23

#### Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- **R** Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- ${\bf S}$  Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)



**Project Name:** 

NORTHEAST GEOSCIENCE

Project Number:

AL23-1438

Lab Number:

L2372476

Report Date:

12/14/23

# REFERENCES

Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.

- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

# **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 20

Published Date: 6/16/2023 4:52:28 PM

<u>Page 1 of 1</u>

# **Certification Information**

# The following analytes are not included in our Primary NELAP Scope of Accreditation:

#### Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; 4-Ethyltoluene, Azobenzene; 5-Ethyltoluene, Azobenzene, 5-Ethyltoluene, Azobenzene, 5-Ethyltoluene, Azobenzene, 5-Ethyltoluene, Azobenzene, 5-Ethyltoluene, 5-Ethylt

Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

# Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

# The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-B, E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

# Mansfield Facility:

# Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

### Non-Potable Water

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Ha

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form Pre-Qualtrax Document ID: 08-113

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O = Other													TERMS & CONDITIONS.	
Form No: 01-25 (rev. 30-Sept-2013)	pt-2013)													_

CONVERSE LABORATORIES, IN

800 Starbuck Ave., Suite B101, Watertown, NY 13601

www.converselabs.com

(315) 788-8388

Chain of Custody

AL23-1438

Page \_

a.m. / p.m. S) AS RECEIVED CONFORM TO NELAC. SAMPLE ID # (lab use only) 30 **AUTHORIZED RECIPIENTS &** DW RESULTS WILL BE FORWARDED TO NYS DOH. CONTACT INFO. (YES)
P-YO, SEE ATTACHED SHEET **NOTES TO LABORATORY** Sample Information: STANDARDS Ca,Mg,Na,Fe,Ag,Al,Cu,Mn,K Date Needed: Alkalinity/BiCarbonate Alk. **ANALYSIS/TEST** REQUESTED Chloride/Sulfate Initial Review: (Yes)/ No Color/Odor pH/TDS Transcriptual Rev.: Hardness ICED? Chlorinated Finished Normal TAT OTHER: **Rush TAT** Rec'd D.C Subcontracted z `**>**-> >-1436 >-· > Time SL=Sludge SW=Surface Water SO=Soil 1= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 2= HCl 3= H<sub>2</sub>SO<sub>4</sub> 4= HNO<sub>3</sub> 5= NaOH 6= Asorbic Acid 7= List Preservative Code Below GW=Ground Water WW=Wastewater Preservative Codes DW= Drinking Water ြယ Matrix Codes Date 12 July 23 5 4= HNO<sub>3</sub> 5= 176. ... CI 8= Unpres. Amt. Paid: က ASAMPIE PHWAS 42.0 7 Received by: Chlorine Residual Matrix - see codes above 2 Client Project ID / PO#  $\Theta = Grab C = Composite$ 8-INCH TANK STE 19:36 Time Sample Identification 12-2-23 Amt. Due: Date Client Name: Northeast Geoscience E-Mail address: jbillings@ngeo.net Clinton, MA 01510 Client Address: 97 Walnut Street Contact/Report to: Jay Billings Relinquished by: Collected 12-6-23 14:00 Time hone #: 978-771-7369 Collected Sampler: Date Doc. # 357

7/10/2018

Page 1 of 1 Rev. # 117

Final Review:

Check#

Cash

# Converse Laboratories Inc.

800 Starbuck Ave. Suite B101

Watertown, NY 13601 - Phone: 315 788-8388

NYS Approved ELAP ID# 10708

USPH Certified ID# 36144

Client:

NorthEast Geoscience

97 Walnut St.

Clinton, MA 01510

Report Date:

12/14/2023

# Laboratory Report

Sample ID:

2315407

Sample Type:

Finished, Monitoring

Sample Date/Time:

12/7/2023 0800

Date/Time Received: 12/7/2023 0845

Sample Site:

Tank Well

Sampler:

Client

Danipic Dicci	runt rrun			Dannpierr	- unarre
Analysis	Result	Units	Method Code	Lab ID	Date/Time/Tech Tested
Solid, Dissolved	1900	mg/l	SM 21-2540C	10708	12/8/2023 1400 TLE
Hydrogen Ion (pH)	7.48	**	SM 21-4500-H+B	10708	12/7/2023 0850 TLE
Temperature	10.9	°C	SM-18 2550B	10708	12/7/2023 0850 TLE
Turbidity	<2.0	ntu	EPA 180.1	10708	12/8/2023 1130 TLE
		ms/cm @25 Deg.			-
Conductivity	2039	С	SM 21-2510B	10708	- 12/7/2023 0910 TLE

Reviewed by/Supervisor:

Kathler M. Bonny

Key: ntu - Nephelometric Turbidity unit

mg/l - milligrams per liter

E - Estimated

<sup>\*\*</sup> Report Comment: Sample(s) received past EPA recommended holding time of 15 minutes for pH. Temperature and pH are not included in NYS DOH ELAP Certification program.

(315) 788-8388 www.converselabs.com

CONVERSE LABORATORIES, IN:

800 Starbuck Ave., Suite B101, Watertown, NY 13601

Chain of Custody

١	
٦	
7	
Pag	

Client Name: NorthEast Geoscience	Client Project ID / PO#:	Matrix Codes	
Client Address: 97 Walnut Stroet		GW-Ground Water WW=Wasterwater	Chlorinated
Clinton, MA 01510		SL=Sludge SW=Surface Water SO=Soil	
Phone #: 978-771-7369 Cell #	35500 3500 3500 3500 3500 3500 3500 350	Preservative Codes	DW RESULTS WILL BE FORWARDED TO NYS DOH.
E-Mail address: jbillings@ngeo.net		1= Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 2= HCl 3= H <sub>2</sub> SO <sub>4</sub>	NOTES TO LABORATORY
Contact/Report to: Jay Billings	sap	4=HNO <sub>3</sub> S=N3OH 6=Asorbic Acid 7= NH <sub>4</sub> CL 8=Unpres. 9=	Normal TAT 🔯
Sampler:	02 88		Rush TAT
Date Time Sample identification	tification 6 = Grab Matrix - st Chloring b	List Preservative Code Below	ANALYSIS/TEST SAMPLE GODESTED (10b uso
12-7-23 8:00 TANK WELL	oma 9 TIS		See Attached Parameters 5407
	SAMP_E Ph WAS <2.0	WAS <2.0	
	CHECKED	ŧδ	
- Relinquistiediby - Date	Time	Received by: Date Time	Read Read AUTHORIZEDIRECIPIENTS 8 - CONTACT INFO
J. P. 12-23	8:45	942 Lacet 12/13 12845	5 (2,3 Feb. No.
			SAMPLES AS RECEIVED CONFORM FOINEURCH
			(AES) NO NO NEED TO NO NEED TO
Doc. # 357 7/10/2018 Amt. Due:	:0:	Amt. Paid:	Initial Review: CMP 1971/93
Rev. # 117 Page 1 of 1	sh Check#	8	Transcriptual Rev.: (100 - 1919)

FUFFILED - KMS

LeRay, New York

		Startup		End		
Parameter	Units	11/27/23	11/29/23	11/30/23	Standard	#
pHi object	S.U.	X	X	X	NCS	3
Temperature -	Deg. C	Field	Field	Field	NCS	0
Specific Conductance	us/cm	X	X	X	NCS	3
Odor	TON	X	X	X	3	3
Cotal Dissolved Solids	mg/l	х	X	X	500	3
Apparent Color	Apparent C	Х	X	Х	15	3
Turbidity #	NTU	х	X	Х	NCS	3
Chloride	mg/l	х	X	Х	250	3
Fluoride	mg/l	NS	NS	Х	4	1
Sulfate	mg/l	X	X	X	250	3
Alkalinity (as CaCO3)	mg/l	X	X	X	NCS	3
Antimony	mg/l	NS	NS	X	0.006	1
Arsenic	mg/l	NS	NS	X	0.01	1
Barium	mg/l	NS	NS	X	2	1
Beryllium	mg/l	NS	NS	Х	0.004	1
Cadmiun	mg/l	NS	NS	X	0.005	1
Calcium	mg/l	X	х	X	NCS	3
Chromium	mg/l	NS	NS	X	0.1	1
Iron	mg/l	X	х	X	0.3	3
Lead	mg/l	NS	NS	X	0.015	1
Magnesium	mg/l	X	х	X	NCS	3
Manganese	mg/l	X	х	X	0.05	3
Mercury	mg/l	NS	NS	X	0.002	1
Nickel	mg/l	NS	NS	X	0.1	1
Potassium	mg/l	NS	NS	X	NCS	1
Selenium	mg/l	NS	NS	X	0.05	1
Silver	mg/l	NS	NS	X	NCS	1
Sodium	mg/l	NS	NS	X	250	1
Thallium	mg/l	NS	NS	×	0.002	1
Zinc	mg/l	X	X	X	NCS	3
Total Hardness	mg/l	X	X	X	NCS	3
Aluminum	mg/l	×	X	×	0.05	3
Copper	mg/I	х	X	X	1	3
Nitrate	mg/l	NS	NS	X	10	1
Nitrite	mg/l	NS	NS	×	1	1
Cyanide	mg/l	NS	NS	X	0.2	1
Total Editorm Bacteria	col/100 ml	NS	NS	X	0	1
Volatile Organic Compounds	ug/I	NS	NS	X	various	1
Total PFAS	ng/l	NS	NS	X	10	1
Synthetic Organic Compounds	ug/l	NS	NS	X	various	1
1,4-Dioxane	ug/l	NS	NS	X	1	1
MPA Test	Risk Points	NS	NS	X	10	1
Gross Alpha	pCi/I	NS	NS	Х	15	1
Uranium	Pci/I	NS	NS	Х	30	1
Radium 226	pG/I	NS	NS	X	5	1
Radium 228	pGi/I	NS	NS	X	5	1
Perchlorate	ug/l	NS	NS	X	0.8	1

# Notes:

S.U. - Standard Units

TON - Threshold Odor Number

NTU - Nephrlometric Turbidity Units

mg/l - milligrams per liter

NCS - No concentration set

NS - Not Sampled

Risk Points - EPA Consensus Method Risk Factor Points

Project Name:

NORTHEAST GEOSCIENCE

Lab Number:

L2372477

Project Number:

AL23-1439

Report Date:

12/22/23

Lab ID:

SAMPLE RESULTS

Date Collected:

12/07/23 08:00

Client ID:

L2372477-01

8 INCH TANK SITE T. LERAY

Date Received:

12/07/23

Sample Location:

Not Specified

Field Prep:

Not Specified

Sample Depth:

Matrix:

Dw

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Ma	nsfield Lab										
Aluminum, Total	ND		mg/l	0.0100	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Antimony, Total	ND		mg/l	0.0040	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Arsenic, Total	ND		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Barium, Total	0.0717		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Beryllium, Total	ND		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Cadmium, Total	ND		mg/l	0.0002	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Calcium, Total	139.		mg/l	0.100	-	1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW
Chromium, Total	ND		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Copper, Total	0.0012		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Iron, Total	ND		mg/l	0.0500	-	. 1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW
Lead, Total	ND		mg/l	0.0010		1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Magnesium, Total	35.5		mg/l	0.100	-	1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW
Manganese, Total	0.0163		mg/l	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Mercury, Total	ND		mg/l	0.0002	-	1	12/20/23 04:00	12/21/23 12:51	EPA 245.1	3,245.1	GMG
Nickel, Total	0.0088		mg/l	0.0020	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Potassium, Total	6.57		mg/l	2.50	-	- 1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW
Selenium, Total	ND		mg/l	0.0050	-	- 1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Silver, Total	ND		mg/l	0.0004	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Sodium, Total	223.		mg/l	2.00	_	1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW
Thallium, Total	ND		mg/t	0.0010	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Zinc, Total	0.0552		mg/l	0.0050	-	1	12/20/23 03:00	12/21/23 11:37	EPA 3005A	3,200.8	NTB
Total Hardness by	SM 2340B	- Mansfiel	d Lab								16.5
Hardness	493.		mg/l	0.660	NA	1	12/20/23 03:00	12/20/23 14:02	EPA 3005A	19,200.7	AMW



Project Name:

NORTHEAST GEOSCIENCE

Lab Number:

L2372477

Project Number: AL23-1439

Report Date:

12/22/23

# SAMPLE RESULTS

Lab ID:

L2372477-01

Client ID:

8 INCH TANK SITE T. LERAY

Date Received:

12/07/23 08:00

Date Collected:

12/07/23

Sample Location:

Not Specified

Field Prep:

Not Specified

Sample Depth:

Matrix:

Dw

Widu IA.	DW										
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst	
General Chemistry	- Westborough La	ab		FIZE	7053 O.S.						
Odor @ 60 C	NO ODOR	1	TON	1	-	1	-	12/08/23 07:40	121,2150B	JBB	
Color, Apparent	ND	1	LP.C.U.	5.0	-	1	-	12/08/23 09:10	121,2120B	JBB	
Alkalinity, Total	205.	mg	CaCO3/L	2.00	NA	1		12/20/23 08:57	121,2320B	MKT	
Cyanide, Total	ND		mg/l	0.005	-	1	12/19/23 19:20	12/20/23 14:36	121,4500CN-CE	JER	
Fluoride	0.53		mg/l	0.20	-	1		12/14/23 12:30	121,4500F-C	DTH	
Nitrogen, Nitrite	ND		mg/l	0.050	-	1		12/08/23 10:25	44,353.2	KAF	
Nitrogen, Nitrate	0.925		mg/l	0.100	-	1		12/08/23 10:25	121,4500NO3-F	KAF	
Anions by Ion Chro	matography - Wes	stborough L	ab	E SHOW	ate y last					3347	
Chloride	389.		mg/l	5.00	-	10	-	12/20/23 17:38	44,300.0	CVN	
Sulfate	272.		mg/l	10.0	-	10		12/20/23 17:38	44,300.0	CVN	



# ANALYTICAL REPORT

Lab Number:

L2372477

Client:

Converse Laboratories, Inc.

800 Starbuck Ave

Suite B101

Watertown, NY 13601

ATTN:

Dave Converse

Phone:

(315) 788-8388

Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1439

Report Date:

12/22/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Lab Number:

L2372477 12/22/23

Receive Date 12/07/23 Report Date: 12/07/23 08:00 Collection Date/Time Not Specified Sample Location Matrix ě NORTHEAST GEOSCIENCE 8 INCH TANK SITE T. LERAY AL23-1439 Client ID Project Number: Project Name: L2372477-01 Alpha Sample ID

Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1439

Lab Number:

L2372477

Report Date:

12/22/23

# Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



Project Name:

NORTHEAST GEOSCIENCE

Project Number:

AL23-1439

Lab Number:

L2372477

Report Date:

12/22/23

# Case Narrative (continued)

# Report Submission

Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at www.alphalab.com and building a Data Usability table (format 11) in our Data Merger tool.

# Sample Receipt

L2372477-01: Sample containers for VOCs and 522 analyses were received for the "8 INCH TANK SITE T. LERAY" sample, but were not listed on the chain of custody. At the client's request, the analyses were performed. The results will be issued under separate cover.

# Total Metals

The WG1865984-3 MS recoveries for calcium (190%) and sodium (240%), performed on L2372477-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1865984-3 MS recovery, performed on L2372477-01, is outside the acceptance criteria for magnesium (70%). A post digestion spike was performed and yielded an unacceptable recovery for magnesium (60%). The serial dilution recovery was acceptable; therefore, the matrix test passed for the sample matrix.

# Anions by Ion Chromatography

The WG1866528-3 MS recovery, performed on L2372477-01, is outside the acceptance criteria for chloride (77%); however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Melissa Sturgis Melissa Sturgis

Authorized Signature:

Title: Technical Director/Representative

Date: 12/22/23



# **METALS**



# INORGANICS & MISCELLANEOUS



NORTHEAST GEOSCIENCE Project Name:

Project Number: AL23-1439

Serial\_No:12222309:18

Lab Number: L2372477 Report Date: 12/22/23

# Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

							me Analysis(")	HOLD-8280(14)	HOLD-8280(14)	HOLD-8280(14)	ALK-T-2320(14)	SCA-300(28),F-4500(28),CL-300(28),NO2-353(2),NO3-4500(2)	CD-2008T(180),AL-2008T(180),MN- 2008T(180),CA-UI(180),NN-2008T(180),BE- 2008T(180),CH-UI(180),ZN- 2008T(180),CU-2008T(180),EE-UI(180),MG- UI(180),CU-2008T(180),SE-2008T(180),AG- 2008T(180),AS-2008T(180),HG-UI(28),NA- UI(180),BA-2008T(180),BS-2008T(180),CR- 2008T(180),PB-2008T(180)	TCN-4500(14)	HOLD-522(28)	HOLD-522(28)	SO4-300(28),F-4500(28),CL-300(28),NO2-353(2),NO3-4500(2)	SO4-300(28),F-4500(28),CL-300(28),NO2-353(2),NO3-4500(2)	SO4-300(28),F-4500(28),CL-300(28),NO2-353(2),NO3-4500(2)	SO4-300(28), F-4500(28), CL-300(28), NO2-363(2), NO3-4500(2)	COLOR-A-2120(2),ODOR-2150(1)
						Frozen	Date/Time														
							Sea/	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent
							Pres	>	>	>	۲	>	>	>	>	>	>	>	>	>	>
						Temp	deg C	4.0	4.0	4.0	4.0	4,0	0,4	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
						Final	Н					7	4	>12	\$	\$	4	^	^	۲-	4
						Initial	Н	ş	ž	ş	¥	4	8	>12	\$	\$	4	^	4	7	7
							Cooler	0	o	0	0	o	o	o	o	0	o	o	o	o	o
ation	Custody Seal	Absent	Absent	Absent	Absent	ormation	Container Type	Vial HCl preserved	Vial HCl preserved	Vial HCI preserved	Plastic 250ml unpreserved/No Headspace	Plastic 250ml unpreserved	Plastic 250ml HNO3 preserved	Plastic 250ml NaOH preserved	Amber 500ml NaSulfle/NaHSO4 preserved	Amber 500ml NaSulfte/NaHSO4 preserved	Plastic 950ml unpreserved	Plastic 950ml unpreserved	Plastic 950ml unpreserved	Plastic 950ml unpreserved	Amber 950ml unpreserved
Cooler Information	Cooler	٨	8	o	a	Container Information	Container ID	L2372477-01A	L2372477-01B	L2372477-01C	L2372477-01D	L2372477-01E	L2372477-01F	L2372477-01G	L2372477-01H	L2372477-011	L2372477-01J	L2372477-01K	L2372477-01L	L2372477-01M	L2372477-01N



Project Name:

NORTHEAST GEOSCIENCE

Lab Number:

L2372477

Project Number:

AL23-1439

Report Date:

12/22/23

# GLOSSARY

#### Acronyms

DL.

 Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL

Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC

 Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA

Environmental Protection Agency.

LCS

- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD

Laboratory Control Sample Duplicate: Refer to LCS.

LFB

 Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ

 Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDL

 Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS

 Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD

- Matrix Spike Sample Duplicate: Refer to MS.

NA

Not Applicable.

NC

Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

NDPA/DPA · N-Nitrosodiphenylamine/Diphenylamine.

NI

Not Ignitable.

NP

Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR

- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volutile or Semivolatile Organic TIC only requests.

RL

 Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable

RPD

· Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM

 Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP

Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF

Toxic Equivalency Factors: The values assigned to each dicxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO

 Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.



Project Name:

NORTHEAST GEOSCIENCE

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L2372477 12/22/23

Project Number:

AL23-1439

Report Date:

#### Footnotes

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Waterpreserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benzo(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-od)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a "Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to "Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A Spectra identified as "Aldol Condensates" are bypeoducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.



Serial\_No:12222309:18

Project Name:

NORTHEAST GEOSCIENCE

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L2372477

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AL23-1439

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12/22/23

#### Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits.
   (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report - No QC



Serial\_No:12222309:18

Project Name:

NORTHEAST GEOSCIENCE

Project Number: AL23-1439

Lab Number:

L2372477

Report Date:

12/22/23

### REFERENCES

- 3 Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- 19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WEF. Standard Methods Online.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Serial\_No:12222309:18

Alpha Analytical, Inc.
Facility: Company-wide

Department: Quality Assurance Published Da
Title: Certificate/Approval Program Summary

ID No.:17873 Revision 20

Published Date: 6/16/2023 4:52:28 PM

Page 1 of 1

### Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-

Ethyltoluene.

EPÁ 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility SM 2540D: TSS.

EPA TO-15: Halothane, 2.4.4-Trimethyl-2-pentene, 2.4.4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colliert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahi-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chiloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan sulfate, Endrin, Endrin, Endrin, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Coillert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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Page 16 of 16

B 0 -- -and completely. Samples can turnaround time clock will not start until any ambiguities are TO BE BOUND BY ALPHA'S HAS READ AND AGREES Please print clearly, legibly resolved. BY EXECUTING TERMS & CONDITIONS. THIS COC, THE CLIENT Please identify below location of ample Specific Comments Same as Client Info Disposal Site Information applicable disposal facilities. Please Specify below) Disposal Facility. ž not be logged in and Sample Filtration Billing Information ALPHA Job# Lab to do Lab to do Preservation Other Done ₹ 8 EQUIS (4 File) PERCHLORATE Date/Time NY Part 375 NY CP-51 MUINASIU ☐ ASP-8 Other 8SS/8SS GAR O. GROSS ALPHA ũ. NYC Sewer Discharge NY Unrestricted Use NY Restricted Use EQuIS (1 File) Regulatory Requirent 1-4 DIOXVINE AWQ Standards ⋖ Date Rec'd \$ 30C SUITE ≰ in Lab NY TOGS ASP-A Deliverables Other Received By ANALYSIS T. PFAS BY 537 0. 524.2 œ Container Type Preservative Sampler's Initials CLIENT 9 Page 1 Sample Matrix Date/Time ě NORTHEAST GEOSCIENCE 12/7/2023 1600 Due Date # of Days: PLEASE REPORT NITRATE AND NITRITE SEPERATELY SOC SUITE 525, 515, 531, 505, 504 Time 0800A Collection Brenda Pirinelli anda, NY 14150: 275 Cooper Ave, Suite 105 AL23-1439 12/7/2023 Date Westboro: Certification No: MA935 Mansfield: Certification No: MA015 Aahwah, NJ 07430; 35 Whitney Rd, Suite 5 (Use Project name as Project #) METALS\* Sb,As,Ba,Be,Cd,Ca,Cr,Fe,Pb,Mg,Mn,Hg,Ni,K,Se,Ag,Na,Ti,Zn,Al,Cu, Standard > Relinquished By: Albamy, NY 12205: 14 Walker Way Rush (only if pre approved) Project Information Tum-Around Time Project Manager: ALPHAQuote #: Project Location Service Centers Project Name: BONNEY These samples have been previously analyzed by Alpha Project # 8 INCH TANK SITE T. LERAY Sample ID Other project specific requirements/comments: customerservice2@conver Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-6300 NEW YORK FAX: 508-822-3288 CHAIN OF CUSTODY 800 Starbuck Ave Ste B101 A = Amber Glass Converse Laboratories Inc B = Bacteria Cup E = Encore D = BOD Bottle Container Code C = Cube O = Other P = Plastic G = Glass Form No: 01-25 (rev. 30-Sept-2013) V = VialPlease specify Metals or TAL 315-788-8388 315-788-9258 Watertown, NY 13601 Westborough, MA 01581 Client Information UPPAIL SDID Se Orly TEL: 508-898-9220 FAX: 508-898-9193 8 Walkup Dr. servative Code: K/E = Zn Ac/NaOH **DLPHA** G = NaHSO<sub>4</sub> H=Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> MeOH D=H-30 C= HNO, E = NaOH Address: 0 = Other A = None Client Phone: B=HC Email: Fax

CONVERSE LABORATORIES, IN

800 Starbuck Ave., Suite B101, Watertown, NY 13601

www.converselabs.com

(315) 788-8388

Sampler:

Chain of Custody

PK23-1439

5 Page\_\_\_

a.m. / p.m. AUTHORIZED RECIPIENTS & (lab use only) SAMPLE ID# 5407 CONTACT INFO. DW RESULTS WILL BE FORWARDED TO NYS DOH. NOTES TO LABORATORY Sample Information: Raw Ware ≥ See Attached Parameters Date Needed: ANALYSIS / TEST REQUESTED Mes No ICED? KO 🗆 Chlorinated ] | H Normal TAT ☐ Finished Rush TAT Temp Rec'd 53 N (A )paysequooqng Time 9 4 Jacob 127 123 10845 8 SL=Sludge SW=Surface Water SO=Soil List Preservative Code Below 6= Asorbic Acid 7= GW=Ground Water WW=Wastewater 5 8 7 Preservative Codes DW= Drinking Water Matrix Codes 1= Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 2= HCl 3= H<sub>2</sub>SO<sub>4</sub> 4= HNO<sub>3</sub> 5= NaOH 6= Asor 0000 CHECKED JUNE TOTAL 1 8= Unpres. SAMPLE Ph WAS 42.0 2 Received by: 0 Chlorine Residual Matrix - see codes above Client Project ID / PO# : O G = Grab C = Composite Time 8,45 Sample Identification TANK WELL Date 12-7-23 E-Mail address: jbillings@ngeo.net Clinton, MA 01510 Contact/Report to: Jay Billings Client Name: NorthEast Geoscience 97 Walnut Street Collected Collected Relinquished by: Time 12-7-23 8:00 hone #: 978-771-7389 Client Address:

Doc. # 357 7/10/2018

SAMPLE(3) AS RECEIVED CONFORM TO NELAC STANDARDS

NO NO SEE ATTACHED SHEET

Initial Review: (DM

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Page 1 of 1 Rev. # 117

estore 12/42 - KMB

Proposed Laboratory Tests for 72-hour T

Proposed Laboratory Tests for 72-hour Test on Tank Site 8-inch Bedrock Production Well LeRay, New York

		Startup		End		
Parameter	Units	11/27/23	11/29/23	11/30/23	Standard	#
pH	S.U.	X	X	X	NCS	3
Temperature	Deg. C	Field	Field	Field	NCS	0
Specific Conductance	us/cm	X	X	X	NCS	3
Odos-	TON	X	X	X	3	3
Total Dissolved Solids	mg/l	X	X	X	500	3
Apparent Coloc	Apparent C	X	X	Х	15 .	3
Turbidity	NTU	X	X	X	NCS	3
Chloride	mg/l	×	×	X	250	3
Pluoride.	mg/l	NS	NS	X	4	1
Sulfate	mg/l	X	×	X	250	3
Afkallnity (as CaCO3)	mg/l	X	X	X	NCS	3
Antimony	mg/l	NS	NS	X	0.006	1
Arsmie	mg/l	NS	NS	X	0.01	1
Barriero.	mg/l	NS	NS	Х	2	1
Berylium	mg/l	NS	NS	X	0.004	1
Cadmitun	mg/l	NS	NS	×	0.005	1
Calclom	mg/l	×	X	×	NCS	3
Chromium	mg/l	NS	NS	×	0.1	1
Tron	mg/l	X	X	X	0.3	3
Lead	mg/l	NS	NS	×	0.015	1
Magnesium	mg/l	X	X	X	NCS	3
Manganese	mg/l	X	X	×	0.05	3
Mercury-	mg/l	NS	NS	X	0.002	1
Nickel	mg/l	NS	NS	X	0.1	1
Potassium	mg/l	NS	NS	X	NCS	1
Selanium	mg/l	NS	NS	X	0.05	1
Silver	mg/l	NS	NS	X	NCS	1
Sodium		NS	NS	X	250	1
Thallium	mg/l mg/l	NS	NS	X	0.002	1
		X	X	x	NCS	3
Zinc	mg/l	X	X	X	NCS	3
Total Hardness	mg/l	X	x	x	0.05	3
Aluminum-	mg/l	X	X	x	1	3
Copper—	mg/l	NS NS	NS	X	10	1
Nitrate	mg/l	NS NS	NS NS	X	1	1
Nitrite-	mg/l		NS NS	X	0.2	+i
Cyanide	mg/l	NS	NS NS	X	0.2	H;
Total Coliform Bacteria	col/100 ml	NS	110			-
Volatile Organic Compounds	ug/I	NS NS	NS	X	various	1
Total PFAS	ng/l	NS	NS	X	10	1
Synthetic Organic Compounds	ug/l	NS	NS	X	various	/1
2;4-Dioxane	ug/i	NS	NS	X	1	1
MPA-Test-	Risk Points	NS	NS	X	10	1
Gross Alpha	pCi/I	NS	NS	X	15	1-3
Uranium	Pci/I	NS.	NS	X	30	1
Radium 226	pCi/I	NS	NS	X	5	1.3
Rädium 228	pCi/I	NS	NS	X.	5	1
Perchiorate	ug/l	NS	NS	×	0.8	1

14 Jack

## Notes:

S.U. - Standard Units

TON - Threshold Odor Number

NTU - Nephrlometric Turbidity Units

mg/l - milligrams per liter

NCS - No concentration set

NS - Not Sampled

Risk Points - EPA Consensus Method Risk Factor Points



## ANALYTICAL REPORT

Lab Number:

L2372479

Client:

Converse Laboratories, Inc.

800 Starbuck Ave

Suite B101

Watertown, NY 13601

ATTN:

**Dave Converse** 

Phone:

(315) 788-8388

Project Name:
Project Number:

Not Specified

•

AL23-1439

Report Date:

01/12/24

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OH (CL108), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930).

Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Not Specified AL23-1439 Project Number: Project Name:

Client ID

TANK WELL

L2372479-01

Alpha Sample ID

**Matrix** DW

Sample Location

Not Specified

Collection Date/Time

12/07/23

12/07/23 08:00

Receive Date

Lab Number:

L2372479 01/12/24

Report Date:

Page 2 of 62

Project Name:

Not Specified

Lab Number:

L2372479

Project Number: AL23-1439

Report Date:

01/12/24

#### **Case Narrative**

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.



Project Name: Project Number: Not Specified

AL23-1439

Lab Number:

L2372479

Report Date:

01/12/24

## **Case Narrative (continued)**

## Report Submission

January 12, 2024: This final report includes the results of all requested analyses.

January 12, 2024: This is a preliminary report.

Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at www.alphalab.com and building a Data Usability table (format 11) in our Data Merger tool.

The analyses of Perchlorate, Radiologicals, and SOCs, were subcontracted. Copies of the laboratory reports are included as an addendum. Please note: This data is only available in PDF format and is not available on Data Merger.

## Sample Receipt

L2372479-01: The sample was received in an inappropriate container for the PFAAs via EPA 537.1 analysis. An aliquot was taken from an unpreserved container and preserved appropriately.

L2372479-01: The sample was received above the appropriate pH for the Subcontract - Radium 228, Subcontract - Gross Alpha, Subcontract - Radium 226, and Subcontract - Uranium by EPA 200.8 analysis.

The laboratory added additional HNO3 to a pH <2.

L2372479-01: The sample was received in an inappropriate container for the Subcontract Perchlorate by 331 analysis. An aliquot was taken from an unpreserved container and preserved appropriately.

## Perfluorinated Alkyl Acids by EPA 537.1

L2372479-01: The sample was received without preservation. During sample preparation, Trizma was added to meet the acceptable pH range for the method.

WG1866634-1R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.



**Project Name:** 

Not Specified

Lab Number:

L2372479

**Project Number:** AL23-1439 Report Date:

01/12/24

## **Case Narrative (continued)**

The WG1866634-2 LCS recovery, associated with L2372479-01, is above the acceptance criteria for perfluorotetradecanoic acid (pfta) (131%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

The WG1866634-2 LCS recoveries, associated with L2372479-01, were outside the acceptance criteria for perfluorotetradecanoic acid (pfta) (131%); however, these compounds are not reported in the associated sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Carolin Walker Cristin Walker

Authorized Signature:

Title: Technical Director/Representative

Date: 01/12/24



# **VOLATILES**



**Project Name:** Not Specified

Lab Number: L2372479

**Project Number:** 

AL23-1439

Report Date:

01/12/24

Lab ID:

Client ID:

L2372479-01 TANK WELL

Date Collected:

12/07/23 08:00

Sample Location:

Not Specified

Date Received:

Field Prep:

12/07/23 Not Specified

Sample Depth:

Matrix:

Dw

Analytical Method:

16,524.2

Analytical Date:

12/14/23 10:37

Analyst:

**GMT** 

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Dichlorodifluoromethane	ND		ug/l	0.50		1
Chloromethane	ND		ug/l	0.50		1
Vinyl chloride	ND		ug/l	0.50		1
Bromomethane	ND		ug/l	0.50		1
Chloroethane	ND		ug/l	0.50		1
Trichlorofluoromethane	ND		ug/l	0.50		1
1,1-Dichloroethene	ND		ug/l	0.50		1
Methylene chloride	ND		ug/l	0.50		1
Methyl tert butyl ether	ND		ug/l	0.50		1
trans-1,2-Dichloroethene	ND		ug/l	0.50		1
1,1-Dichloroethane	ND		ug/l	0.50		1
2,2-Dichloropropane	ND		ug/l	0.50		1
cis-1,2-Dichloroethene	ND		ug/l	0.50		1
Chloroform	ND	. (	ug/l	0.50		1
Bromochloromethane	ND		ug/l	0.50		1
1,1,1-Trichloroethane	ND		ug/l	0.50		1
1,1-Dichloropropene	ND		ug/l	0.50		1
Carbon tetrachloride	ND		ug/l	0.50		1
1,2-Dichloroethane	ND		ug/l	0.50	***	1
Benzene	ND	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ug/l	0.50		1
Trichloroethene	ND		ug/l	0.50	M-98	1
1,2-Dichloropropane	ND		ug/l	0.50		1
Bromodichloromethane	ND		ug/l	0.50		1
Dibromomethane	ND		ug/l	0.50		1
cis-1,3-Dichloropropene	ND		ug/l	0.50		1
Toluene	ND		ug/l	0.50		1
trans-1,3-Dichloropropene	ND		ug/l	0.50		1
1,1,2-Trichloroethane	ND		ug/l	0.50		1

**SAMPLE RESULTS** 



**Project Name:** 

Not Specified

Lab Number:

L2372479

**Project Number:** 

AL23-1439

Report Date:

01/12/24

Lab ID:

L2372479-01

L2312419-01

Date Collected:

12/07/23 08:00

Client ID: Sample Location: TANK WELL Not Specified Date Received: Field Prep:

12/07/23 Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab			27 (and 1		
1,3-Dichloropropane	ND		ug/l	0.50	***	1
Tetrachloroethene	ND		ug/l	0.50		1
Dibromochloromethane	ND		ug/l	0.50		1
1,2-Dibromoethane	ND		ug/l	0.50		1
Chlorobenzene	ND		ug/l	0.50	•••	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50		1
Ethylbenzene	ND		ug/i	0.50		1
p/m-Xylene	ND		ug/l	0.50		1
o-Xylene	ND		ug/l	0.50		1
Styrene	ND		ug/l	0.50		1
Isopropylbenzene	ND		ug/l	0.50		1
Bromoform	ND		ug/i	0.50		1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50		1
Xylenes, Total¹	ND		ug/l	0.50		1
1,2,3-Trichloropropane	ND		ug/l	0.50		1
n-Propylbenzene	ND		ug/l	0.50		1
Bromobenzene	ND		ug/l	0.50		1
1,3,5-Trimethylbenzene	ND		ug/l	0.50		1
o-Chlorotoluene	ND		ug/l	0.50		1
p-Chlorotoluene	ND		ug/l	0.50		1
tert-Butylbenzene	ND		ug/i	0.50		1
1,2,4-Trimethylbenzene	ND		ug/l	0.50		1
sec-Butylbenzene	ND		ug/l	0.50		1
p-IsopropyItoluene	ND		ug/l	0.50		1
1,3-Dichlorobenzene	ND		ug/i	0.50		1
1,4-Dichlorobenzene	ND		ug/l	0.50		1
n-Butylbenzene	ND		ug/l	0.50		1
1,2-Dichlorobenzene	ND		ug/l	0.50		1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50		1
1,2,4-Trichlorobenzene	ND		ug/l	0.50		1
Hexachlorobutadiene	ND		ug/l	0.50		1
Naphthalene	ND		ug/l	0.50		1

ND

**SAMPLE RESULTS** 



1

0.50

ug/l

1,2,3-Trichlorobenzene

**Project Name:** Not Specified Lab Number:

L2372479

**Project Number:** 

Report Date:

01/12/24

Lab ID:

AL23-1439

**SAMPLE RESULTS** 

Date Collected:

12/07/23 08:00

Client ID:

L2372479-01 TANK WELL

Date Received:

12/07/23

Sample Location:

Not Specified

Field Prep:

Not Specified

Sample Depth:

Parameter

Result

Qualifier

Units

RL

MDL

**Dilution Factor** 

Volatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria	***************************************
1,2-Dichlorobenzene-d4	104		80-120	
4-Bromofluorobenzene	89		80-120	



## **SEMIVOLATILES**



Project Name:

Not Specified

Lab Number:

L2372479

**Project Number:** 

AL23-1439

Report Date:

01/12/24

Lab ID:

SAMPLE RESULTS

Date Collected:

12/07/23 08:00

Client ID:

L2372479-01 TANK WELL Not Specified

Date Received: Field Prep:

12/07/23 Not Specified

Sample Depth:

Sample Location:

Matrix:

Dw

120,522

Analytical Method: Analytical Date:

01/04/24 15:41

Analyst:

AMV

Extraction Method: EPA 522

Extraction Date: 01/03/24 15:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by EPA 522 - Mans	field Lab					
1,4-Dioxane	ND		ug/l	0.150		1
Surrogate			% Recovery	Qualifier	Accep Crite	
1,4-Dioxane-d8			94		70	-130



Project Name:

Not Specified

Lab Number:

L2372479

**Project Number:** 

AL23-1439

Report Date:

01/12/24

Lab ID:

L2372479-01

Date Collected:

12/07/23 08:00

Client ID:

TANK WELL

Date Received:

**Extraction Date:** 

2.02

2.02

ng/l

ng/l

Extraction Method: EPA 537.1

12/07/23 Not Specified

12/21/23 02:02

Sample Location:

Not Specified

Field Prep:

Sample Depth:

Matrix:

Dw

Analytical Method:

133,537.1

Analytical Date:

12/22/23 18:39

Analyst:

CAP

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 -	Mansfield Lal	)				
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.02		1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.02		1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.02		1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.02		1
Perfluorohexanesulfonic Acid (PFHxS)	ND	ann eilean e	ng/l	2.02		1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.02		1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.02	****	1
Perfluorononanoic Acid (PFNA)	ND	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ng/l	2.02		1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.02		1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.02		1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9CI-PF3ONS)	ND	and the state of t	ng/l	2.02		1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.02		1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.02		1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.02		1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.02		1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.02		1
D. fl	ND		/I	2.02		1

**SAMPLE RESULTS** 

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	112		70-130	
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		70-130	
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	114		70-130	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102		70-130	

ND

ND



1

1

Perfluorotridecanoic Acid (PFTrDA)

Perfluorotetradecanoic Acid (PFTA)

Lab Number: L2372479

Report Date: 01/12/24

Sample Receipt and Container Information

YES

Were project specific reporting limits specified?

Not Specified

Project Name:

Project Number: AL23-1439

Cooler Information Cooler

Custody Seal

Absent

ပ

	Analysis(*)	SUB-504.1(14)	SUB-504.1(14)	SUB-531.1(28)	SUB-531.1(28)	SUB-505(7)	SUB-505(7)	SUB-515.3(14)	SUB-525.3(14)	SUB-525.3(14)	524.2(14)	524.2(14)	524.2(14)	A2-537.1(14)	SUB-PERC-331(28)	A2-14DIOXANE-522(28)	A2-14DIOXANE-522(28)	SUB-RA228(180),SUB-URANIUM(180),SUB- ALPHA(180),SUB-RA226(180)	SUB-RA228(180),SUB-URANIUM(180),SUB- ALPHA(180),SUB-RA226(180)	SUB-RA228(180),SUB-URANIUM(180),SUB- ALPHA(180),SUB-RA226(180)
	me	SUB	SUB	BNS	SUB	SUB	SUB	SUB	SUB	BNS	524.	524.	524.	A2-6	BNS	A2-1	A2-1	SUB	SUB	SUE
Frozen	Date/Time																			
	Seal	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent	Absent						
	Pres	>	>	>	>	>	>	>	>	>	>	>	>	>	, <b>&gt;</b>	>	>	z	Z	z
Temp	deg C	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Final	Н	Ϋ́	Ą	Ą	¥	¥	¥	¥	Ā	Ą						<u>^</u>	^ 4	%	7	7
Initial	Н	Ą	A	Ą	Ą	Ą	Ą	Ą	Ą	Ą	A	Ą	A	A	Ą	4	4	7	7	7
	Cooler	O	ပ	ပ	O	ပ	ပ	O	ပ	ပ	O	ပ	O	O	ပ	O	O	ပ	O	υ
ormation	Container Type	Vial Na2S2O3 preserved	Amber 250ml Na2S2O3 preserved	Amber 1000ml Ascorbic Acid	Amber 1000ml Ascorbic Acid	Vial HCl preserved	Vial HCl preserved	Vial HCl preserved	Plastic 250ml unpreserved split	Plastic 250ml unpreserved split	Amber 500ml NaSulfite/NaHSO4 preserved	Amber 500ml NaSulfite/NaHSO4 preserved	Plastic 950ml HNO3 preserved	Plastic 950ml HNO3 preserved	Plastic 950ml HNO3 preserved					
Container Information	Container ID	L2372479-01A	L2372479-01B	L2372479-01C	L2372479-01D	L2372479-01E	L2372479-01F	L2372479-01G	L2372479-01H	L2372479-01I	L2372479-01J	L2372479-01K	L2372479-01L	L2372479-01M	L2372479-01N	L2372479-010	L2372479-01P	L2372479-01Q	L2372479-01R	L2372479-01S



Serial\_No:01122417:32 **Lab Number:** L2372

L2372479

Report Date:

01/12/24

## **PFAS PARAMETER SUMMARY**

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA/PFTeDA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS/PFDoS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
Perfluoropropanesulfonic Acid	PFPrS	423-41-6
FLUOROTELOMERS  1H,1H,2H,2H-Perfluorododecanesulfonic Acid  1H,1H,2H,2H-Perfluorodecanesulfonic Acid  1H,1H,2H,2H-Perfluorooctanesulfonic Acid  1H,1H,2H,2H-Perfluorohexanesulfonic Acid	10:2FTS 8:2FTS 6:2FTS 4:2FTS	120226-60-0 39108-34-4 27619-97-2 757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA/PFOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11CI-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxannuecane-1-Sulfonic Acid	9CI-PF3ONS	756426-58-1
		730420-30-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
하는 하는 것 때 발생님들은 한 가게 하는 것이 하는 것이 하면 되었다. 그 하는 것 같은 사람들이 되었다. 그 가게 되었다.	PFMPA	377-73-1
Perfluoro-3-Methoxypropanoic Acid	PFMBA	
Perfluoro-4-Methoxybutanoic Acid		863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6



Project Name:

Project Number: AL23-1439

Not Specified

Lab Number:

L2372479

Report Date:

01/12/24

PFAS PARAMETER SUMMARY

Not Specified

Project Name:

Project Number: AL23-1439

Parameter	Acronym	CAS Number
FLUOROTELOMER CARBOXYLIC ACIDS (FTCAs)		
3-Perfluoroheptyl Propanoic Acid	7:3FTCA	812-70-4
2H,2H,3H,3H-Perfluorooctanoic Acid	5:3FTCA	914637-49-3
3-Perfluoropropyl Propanoic Acid	3:3FTCA	356-02-5

**Project Name:** Lab Number: Not Specified L2372479 **Project Number:** AL23-1439 Report Date: 01/12/24

## **GLOSSARY**

Acronyms

DL

- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL

- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case

estimate of the concentration.

**EPA** Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD Laboratory Control Sample Duplicate: Refer to LCS.

- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of LFB

analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a LOD specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated MDL

values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated

using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile NR

Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the SRM

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF TEO

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound

list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

DU Report - No QC Report Format:



Project Name:

**Project Number:** 

Not Specified

Lab Number:

L2372479 01/12/24

AL23-1439

Report Date:

#### Footnotes

 The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

#### Terms

1

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'. Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benza(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

### Data Qualifiers

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
  of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: DU Report - No QC



Project Name: Not Specified Project Number: AL23-1439

Lab Number: Report Date:

L2372479

01/12/24

#### Data Qualifiers

- ND Not detected at the reporting limit (RL) for the sample.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- ${f P}$  The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- ${\bf R} \qquad$  Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report - No QC



**Project Name: Project Number:** 

Not Specified

AL23-1439

Lab Number:

L2372479

Report Date:

01/12/24

#### **REFERENCES**

- 16 Methods for the Determination of Organic Compounds in Drinking Water - Supplement II. EPA/600/R-92/129, August 1992.
- 120 Determination of 1,4-Dioxane in Drinking Water by Solid Phase Extraction (SPE) and Gas Chromatography/Mass Spectrometry (GC/MS) with Selected Ion Monitoring (SIM). EPA Method 522, EPA/600/R-08/101. Version 1.0, September 2008.
- Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water 133 by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-18/352. Version 1.0, November 2018.

## **LIMITATION OF LIABILITIES**

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 20

Published Date: 6/16/2023 4:52:28 PM

Page 1 of 1

## **Certification Information**

#### The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; 4-

Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

**Mansfield Facility** SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

#### The following analytes are included in our Massachusetts DEP Scope of Accreditation

#### Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-B, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: SM9223B-Collert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.

## **Mansfield Facility:**

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. EPA 200.8: Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. EPA 245.1 Hg. EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

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1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

December 29, 2023

Melissa Gulli Alpha Analytical 8 Walkup Drive Westborough, MA 01581

RE:

Project: L2372479

Pace Project No.: 30647362

Dear Melissa Gulli:

Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

• Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Skyler C. Richmond

Richard

skyler.richmond@pacelabs.com (724)850-5600

Project Manager

**Enclosures** 

cc: Customer Service, Alpha Analytical







1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

#### **CERTIFICATIONS**

Project:

L2372479

Pace Project No.:

30647362

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

ANAB DOD-ELAP Rad Accreditation #: L2417

ANABISO/IEC 17025:2017 Rad Cert#: L24170

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 2950

Colorado Certification #: PA01547

Connecticut Certification #: PH-0694

EPA Region 4 DW Rad

Florida/TNI Certification #: E87683

Georgia Certification #: C040

**Guam Certification** 

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas Certification #: E-10358

Kentucky Certification #: KY90133

KY WW Permit #: KY0098221

KY WW Permit #: KY0000221

Louisiana DHH/TNI Certification #: LA010

Louisiana DEQ/TNI Certification #: 04086 Maine Certification #: 2023021

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification #: 9991

Missouri Certification #: 235

Montana Certification #: Cert0082

Nebraska Certification #: NE-OS-29-14

Nevada Certification #: PA014572023-03

New Hampshire/TNI Certification #: 297622

New Jersey/TNI Certification #: PA051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Ohio EPA Rad Approval: #41249

Oregon/TNI Certification #: PA200002-015

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN02867

Texas/TNI Certification #: T104704188-22-18

Utah/TNI Certification #: PA014572223-14

USDA Soil Permit #: 525-23-67-77263

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C Wisconsin Approve List for Rad



Pace

1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

## **SAMPLE SUMMARY**

Project:

L2372479

Pace Project No.:

30647362

Lab ID

Sample ID

Matrix

**Date Collected** 

**Date Received** 

30647362001

TANK WELL

Drinking Water

12/07/23 08:00

12/13/23 09:45

**REPORT OF LABORATORY ANALYSIS** 





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## **SAMPLE ANALYTE COUNT**

Project:

L2372479

Pace Project No.:

30647362

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30647362001	TANK WELL	SM 7110C-1996	REH1	1	PASI-PA
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		ASTM D5174-97	SLC	1	PASI-PA
		AOTM DOTT TO	······		

PASI-PA = Pace Analytical Services - Greensburg



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## **ANALYTICAL RESULTS - RADIOCHEMISTRY**

Project:

L2372479

Pace Project No.:

30647362

Sample: TANK WELL PWS:	Lab ID: 30647 Site ID:	<b>362001</b> Collected: 12/07/23 08:00 Sample Type:	Received:	12/13/23 09:45	Matrix: Drinking	Water
Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical S	Services - Greensburg				
Gross Alpha	SM 7110C-1996	0.805 ± 1.08 (2.34) C:NA T:NA	pCi/L	12/27/23 08:3	3 12587-46-1	
	Pace Analytical S	Services - Greensburg				
Radium-226	EPA 903.1	0.377 ± 0.570 (0.941) C:NA T:85%	pCi/L	12/29/23 12:5	3 13982-63-3	
	Pace Analytical S	Services - Greensburg				
Radium-228	EPA 904.0	0.659 ± 0.370 (0.699) C:80% T:79%	pCi/L	12/27/23 16:1	1 15262-20-1	
	Pace Analytical S	Services - Greensburg				
Total Uranium	ASTM D5174-97	0.860 ± 0.014 (0.323) C:NA T:NA	ug/L	12/29/23 11:56	7440-61-1	

## **REPORT OF LABORATORY ANALYSIS**



Serial\_No:01122417:32
Pace Analytical Services, LLC

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## **QUALITY CONTROL - RADIOCHEMISTRY**

Project:

L2372479

Pace Project No.:

30647362

QC Batch:

637855

Analysis Method:

SM 7110C-1996

QC Batch Method:

SM 7110C-1996

Analysis Description:

7110C Gross Alpha, DW

Laboratory:

Pace Analytical Services - Greensburg

Associated Lab Samples:

30647362001

Matrix: Drinking Water

METHOD BLANK: 3111194
Associated Lab Samples: :

b Samples: 30647362001

Parameter

Act ± Unc (MDC) Carr Trac

Units

Analyzed

Qualifiers

Gross Alpha

0.578 ± 1.08 (2.48) C:NA T:NA

pCi/L

12/27/23 08:32

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



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## **QUALITY CONTROL - RADIOCHEMISTRY**

Project:

L2372479

Pace Project No.:

QC Batch Method:

30647362

QC Batch:

636753

Analysis Method:

EPA 903.1

EPA 903.1

Analysis Description:

903.1 Radium-226, DW

Laboratory:

Pace Analytical Services - Greensburg

Associated Lab Samples:

30647362001

Matrix: Drinking Water

Associated Lab Samples:

METHOD BLANK: 3105735

Parameter

30647362001

Act ± Unc (MDC) Carr Trac

Units

Analyzed

Qualifiers

Radium-226

 $0.192 \pm 0.266$  (0.446) C:NA T:89%

pCi/L

12/29/23 12:27

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## **REPORT OF LABORATORY ANALYSIS**



Serial\_No:01122417:32

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### **QUALITY CONTROL - RADIOCHEMISTRY**

Project:

L2372479

Pace Project No.:

30647362

QC Batch:

636754

----

Analysis Method:

EPA 904.0

QC Batch Method: EPA 904.0

Analysis Description:

904.0 Radium 228, DW

Laboratory:

Pace Analytical Services - Greensburg

Associated Lab Samples:

30647362001

Matrix: Drinking Water

METHOD BLANK: 3105736

Associated Lab Samples: 30647362001

Parameter

Act ± Unc (MDC) Carr Trac

Units

Analyzed

Qualifiers

Radium-228

 $0.636 \pm 0.365$  (0.702) C:81% T:83%

pCi/L

12/27/23 16:08

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

### **QUALITY CONTROL - RADIOCHEMISTRY**

Project:

L2372479

Pace Project No.:

QC Batch Method:

30647362

QC Batch:

638403

ASTM D5174-97

Analysis Method:

ASTM D5174-97

Analysis Description:

Laboratory:

D5174.97 Total Uranium KPA, DW Pace Analytical Services - Greensburg

Associated Lab Samples:

30647362001

METHOD BLANK: 3113643

Matrix: Drinking Water

Associated Lab Samples: 30647362001

Parameter

Act ± Unc (MDC) Carr Trac

Units ug/L

Analyzed

Qualifiers

Total Uranium

0.022 ± 0.001 (0.323) C:NA T:NA

12/29/23 10:15

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Serial\_No:01122417:32
Page Analytical Services, LLC

1638 Roseytown Road - Suites 2,3,4 Greensburg, PA 15601 (724)850-5600

### **QUALIFIERS**

Project:

L2372479

Pace Project No.:

30647362

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: For Safe Drinking Water Act (SDWA) analyses, the reported Unc. Is the calculated Count Uncertainty (95% confidence interval) using a coverage factor of 1.96. For all other matrices (non-SDWA), the reported Unc. is the calculated Expanded Uncertainty (aka Combined Standard Uncertainty, CSU), reported at the 95% confidence interval using a coverage factor of 1.96.

Gamma Spec: The Unc. reported for all gamma-spectroscopy analyses (EPA 901.1), is the calculated Expanded Uncertainty (CSU) at the 95.4% confidence interval, using a coverage factor of 2.0.

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Number	mits						Batch	8	Serial_No:01	1224	17:32 S	
Alpha Job Number L2372479	nts/Report Li				/LCSD:				S Greensburg T Factor +1.	Date/Time:	13/13/33	
	Regulatory Requirements/Report Limits	State/Federal Program: Regulatory Criteria:			Report to include Method Blank, LCS/LCSD:			ium by EPA 200.8	Received by Pace Greensburg Them ID — Corr Factor +1. Receipt Temp Corrected Temp Corrected Temp	Received By:	ay laca	
<b>-</b>		State		quirements	Report to it		ysis	ıdıum 228; Uran		Receiv	A	
Subcontract Chain of Custody see Analytical 38 Roseytown Rd, Suite 2 eensburg, PA 15601	ormation	ct Location; NY ct Manager: Brenda Pirinelli Turnaround & Deliverables Information		Project Specific Requirements and/or Report Requirements	L2372479	s a Converse job.	Analysis	Gross Alpha; Radium 226; Radium 228; Uranium by EPA 200.8		Date/Time:	12/12/23	
Subcontract Chain of Pace Analytical 1638 Roseytown Rd, Suite 2 Greensburg, PA 15601	Project Information	NY Brenda Pirir d & Delive		Requireme	deliverables:	.com This is	Sample Matrix	MQ				
Pace (1638)		Project Location: NY Project Manager: Brenda Pirinelli Turnaround & Deliverab	Due Date: Deliverables:	Project Specific	mber on final report/o	subreports@alphalab	Collection Date/Time	12-07-23 08:00		     		
	Client Information	cal Labs Drive 1, MA 01581-1019	5 shalab.com		Reference following Alpha Job Number on final report/deliverables: L2372479	Additional Comments: Send all results/reports to subreports@alphalab.com This is a Converse job.	Client ID	TANK WELL		Relinquished B		
MO#:30647362	Client In	Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019	Phone: 716.427.5225 Email: bpirinelli@alphalab.com		Refer	Additional Comments	Lab ID					Form No: AL_subcoc

Trip Blank Present:  Trip blank custody seal present? YES or NO  Rad Samples Screened <.05 mrem/hr.  Initial when completed S Date: 13 123 Survey Meter SN: 2 5014 380	DC#_Title: ENV-FRM-	GBU	₹-008	8 v0	6_Sample Condition Upon Receipt-
Client Name: Alpha  Courier:   Feet & Des   Usps   Usps   Client   Commercial   Page   Initial / Date    Tracking Number:   Z E 3	Pittsburgh				-647067
Client Name: Alpha  Courier:   Feet & Des   Usps   Usps   Client   Commercial   Page   Initial / Date    Tracking Number:   Z E 3	Bana				Unt · 2064/304
Courier:   Fed Ex					
Courier:   Fed Ex   UPS   USS   Client   Commercial   Page   Freshold   Page   Containers   Commercial   Page   Containers   Page			***************************************	PM: SCR	
Courier:   Fed Ex   UPS   USS   Client   Commercial   Page   Francising Number:   E 20 654   O 1 9 U   V 5 3   State   Examined By:   O 1 15 10 3   Custody Seal on Cooler/Box Present:   Yes   Discovery Francising Number:   Yes   Yes   Discovery Francising Number:   Yes   Yes	HIPhoc				GLIENT: ALPHA HUBE.
Tracking Number: 12 E 3 654 01 9414 533  Custody Seal on Cooler/Box Present: 179e 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temp 160: Wet Blue North Common Search Temperature: Observed Temperature: Observed Temperature: Observed Temperature: Occurrent Search Temperature: Occurrent Search Common Search Temperature: Occurrent Occurrent Search Common Search Common Search Temperature: Occurrent Search Common Search Searc	Courier:   Fed Ev MIPS   I USPS   Client	Com	merci:	ы Пр	
Custody Seal on Cooler/Box Present:	Tracking Number: 17 F20 654 (	110	au.	<u>ጎ</u> ጟ፟፟	
Cooler Temperature: Observed Temp C Correction Factor:c C Final Temp:c C Temp should be above freezing to 6+C  Temp should be above freezing to 6+C    Temp should be above freezing to 6+C	Tracking Number: 1000 to	<u> </u>	-	10	
Cooler Temperature: Observed Temp C Correction Factor:c C Final Temp:c C Temp should be above freezing to 6+C  Temp should be above freezing to 6+C    Temp should be above freezing to 6+C					Intact: Yes Wo Labeled By: 05 12/15/2 \$
Temp should be above freezing to 6-C  Comments:  Chain of Custody Present  Chain of Custody Present  Chain of Custody Relinquished  -Were client corrections present on COC  Chain of Custody Relinquished  Sampler Name & Signature on COC:  Sample Labels match COC:  -Includes date/time/ID  Matrix:  Samples Arrived within Hold Time:  Short Hold Time Analysis (<72hr  remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used:  -Pace Containers Used:  -Pace Containers Used:  Orthophosphate field filtered:  Orthophosphate field of dissolved tests:  All containers checked for deshorination  Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation:  15:  All containers meet method preservation:  16:  17:  18:  Trip blank custody seal present? YES or NO  Infiled when Completed  Trip blank custody seal present? YES or NO  Infiled when Completed  Survey Mebles, So 14:  Sourcey Mebles, So 14:  To Date:  Timp blank custody seal present? YES or NO  Infiled when Completed  Survey Mebles, So 14:  To Date:  Timp blank custody seal present? YES or NO  Infiled when Completed  The Date:  The	Thermometer Used: Typ	e of lo	e: W	et Bl	lue None Temped By;
Comments:   Yes   No   NA   NA   NA   NA   NA   NA   NA		-	ĕС	Corre	ection Factor:•C Final Temp:•C
Chain of Custody Present Chain of Custody Filled Out:Were client corrections present on COC Chain of Custody Relinquished Sampler Name & Signature on COC: Sample Labels match COC: -Includes date/time/ID Matrix: OW Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining): Rush Turn Around Time Requested: Sufficient Volume: Correct Containers Used:Pace Containers	Temp should be above freezing to 6°C				
Chain of Custody Present Chain of Custody Filled Out: -Were client corrections present on COC Chain of Custody Relinquished Sampler Name & Signature on COC: -All of Custody Relinquished Sampler Name & Signature on COC: -All of Custody Relinquished Sample Labels match COC: -Includes date/time/ID Matrix:  Samples Arrived within Hold Time: -Includes date/time/ID -Includes date/time/				·	pH paper Lot# D.P.D. Residual Chlorine Lot #
Chain of Custody Filled Out:    -Were client corrections present on COC Chain of Custody Relinquished Sampler Name & Signature on COC:    -Includes date/time/ID Matrix:  Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining):    -Rush Turn Around Time Requested:    -Pace Containers Used:    -Pace Containers		Yes	No	NA	1000134
-Were client corrections present on COC Chain of Custody Relinquished Sampler Name & Signature on COC: 4. Sample Labels match COC: -Includes date/time/ID Matrix: OW Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining): Rush Turn Around Time Requested: Sufficient Volume: 9. Correct Containers Used: -Pace Containers Used: -Pace Containers Used: Orthophosphate field filtered: Hex Cr Aqueous samples field filtered: 11. Orthophosphate field filtered: Hex Cr Aqueous samples checked for dechlorination Filtered volume received for dissolved tests: All containers Hook of represervation: exceptions: VOA, coliform, TOC, O&6, Phenolics, Radon, non-aqueous matrix All containers meet method preservation requirements:  12.  13.  14.  15.  16.  27.  28.  38.  38.  39.  40.  41.  41.  41.  41.  41.  41.  41					
Chain of Custody Relinquished  Sampler Name & Signature on COC:  Sample Labels match COC: -Includes date/time/ID Matrix:  Samples Arrived within Hold Time:  Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers	t ·	-			2.
Sampler Name & Signature on COC:  Sample Labels match COC: -Includes date/time/ID Matrix:  Samples Arrived within Hold Time:  Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers Used: -P					
Sample Labels match COC: -Includes date/time/ID Matrix:  Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested: Sufficient Volume: Correct Containers Used: -Pace Containers Used Containers Intact: Orthophosphate field filtered: Organic Samples Checked for desolved tests: All containers checked for desolved tests: All containers word of the Solved tests: All containers meet method preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix All containers meet method preservation requirements:    Date/Time of Preservation   Date/			· ·		
Includes date/time/ID Matrix:  Samples Arrived within Hold Time:  Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used:  Pace Containers Used:  Pace Containers Used:  10.  Pace Containers Intact:  Orthophosphate field filtered:  It.  Orthophosphate field filtered:  It.  Organic Samples checked for dechlorination  Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation  requirements:    Initial when   O			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Matrix:  Samples Arrived within Hold Time: Short Hold Time Analysis (<72hr remaining): Rush Turn Around Time Requested: Sufficient Volume:  Correct Containers Used: -Pace Containers Used Containers Intact: Orthophosphate filed filtered: Hex Cr Aqueous samples filed filtered: Organic Samples checked for dechlorination Filtered volume received for dissolved tests: All containers Checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix All containers meet method preservation requirements:  8260C/D: Headspace in VOA Vials (>6mm) 17. 624.1: Headspace in VOA Vials (Omm) 18.  Trip Blank Present: Rad Samples Screened <.05 mrem/hr.    Completed   C	•		<u> </u>	<u> </u>	5.
Samples Arrived within Hold Time:  Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers Used  Containers Intact:  Orthophosphate filed filtered: Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination Filtered volume received for dissolved tests:  All containers checked for preservation: exceptions: VOA, coliform, TOC, O.8.G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  8260C/D: Headspace in VOA Vials (> 6mm)  17.  18.  Trip Blank Present:  Trip blank custody seal present? YES or NO  Rad Samples Screened <.05 mrem/hr.  18.  Survey Meles S			N. V	<del></del>	
Short Hold Time Analysis (<72hr remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers Used  Containers Intact:  Orthophosphate filed filtered:  Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination Filtered volume received for dissolved tests:  All containers checked for preservation: exceptions: VOA, coliform, TOC, O.8.G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  10.  11.  12.  13.  15:  All containers checked for preservation: exceptions: VOA, coliform, TOC, O.8.G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  16.  17.  18.  17.  18.  19.  19.  19.  10.  10.  10.  11.  12.  13.  15:  16.  16.  16.  17.  18.  18.  19.  10.  10.  11.  11.  11.  12.  13.  14:  15:  16.  16.  16.  16.  17.  18.  17.  18.  18.  19.  19.  10.  10.  10.  10.  10.  10		<u> </u>	שע		
remaining):  Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers Used:	The state of the s	Seemen			
Rush Turn Around Time Requested:  Sufficient Volume:  Correct Containers Used: -Pace Containers Used  Onthophosphate field filtered:  Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination Filtered volume received for dissolved tests:  All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  Initial when Completed Preservative  8.  8.  10.  11.  11.  12.  14.  15:  All containers checked for deschlorination 16.  Exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  Initial when D Date/Time of Preservation Preservative  8260C/D: Headspace in VOA Vials (> 6mm)  17.  624.1: Headspace in VOA Vials (0mm)  Trip Blank Present:  Trip blank custody seal present? YES or NO  Rad Samples Screened < .05 mrem/hr.  Initial when C Date: Initi					
Sufficient Volume:  Correct Containers Used:					0
Correct Containers Used: -Pace Containers Used  Containers Intact:  Orthophosphate field filtered:  Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination Filtered volume received for dissolved tests:  All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Date/Time of			-		
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Orthophosphate field filtered:  Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination  Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:  Initial when Completed Preservation Completed Preservation Preservation 17.  624.1: Headspace in VOA Vials (Omm)  Trip Blank Present:  Rad Samples Screened <.05 mrem/hr.  Initial when Completed Preservation Initial when Completed Preservation  Trip blank custody seal present? YES or NO  Initial when Completed Page 13.  Date: 14.  Date					11
Hex Cr Aqueous samples field filtered:  Organic Samples checked for dechlorination  Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when					
Organic Samples checked for dechlorination Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when					
Filtered volume received for dissolved tests:  All containers checked for preservation:  exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when					and the second s
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when completed   Date/Time of Preservation   Preservation   Preservative   P					
Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when completed   Date/Time of Preservation   Completed   Preservation   Preservatio	All containers checked for preservation:				16
Phenolics, Radon, non-aqueous matrix  All containers meet method preservation requirements:    Initial when completed   Date/Time of Preservation	exceptions: VOA. coliform, TOC, O&G.				0. 0
requirements:    Completed   Preservation					PHCO
requirements:    Loft of added   Preservative	All containers meet method preservation		_		
Preservative  8260C/D: Headspace in VOA Vials (> 6mm)  17.  624.1: Headspace in VOA Vials (0mm)  18.  Trip Blank Present:  Rad Samples Screened <.05 mrem/hr.  Preservative  17.  18.  Trip blank custody seal present? YES or NO  Initial when completed   5   Date: N: 25014380	requirements:	A CONTRACTOR OF THE PARTY OF TH			completed • Lieseration
18.  Trip Blank Present:  Trip blank custody seal present? YES or NO  Rad Samples Screened <.05 mrem/hr.  Initial when completed   Date: 13   23   Survey Meter SN: 25014380					" ·
Trip Blank Present:  Trip blank custody seal present? YES or NO  Rad Samples Screened <.05 mrem/hr.  Initial when completed S Date: 13 123 Survey Meter SN: 2 5014 380	8260C/D: Headspace in VOA Vials (> 6mm)				17.
Rad Samples Screened <.05 mrem/hr.  / Initial when completed S   Date: 13123   Survey Meter SN: 25014380	624.1: Headspace in VOA Vials (0mm)			_	18.
Rad Samples Screened <.05 mrem/hr.  Initial when completed PS Date: N2   13   123 Survey Meter SN: 2   50   14   380 Comments:	Trip Blank Present:				Trip blank custody seal present? YES or NO
Comments:	Rad Samples Screened <.05 mrem/hr.	/			Initial when PS Date: 1213123 Survey Meters 014380
	Comments:		J.		1 101010

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office. PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Qualtrax ID: 55680

Serial\_No:01122417:32

Kit Volatile Solid Non-Aq Liquid Wipe/Swab ZPI C Siploc Bag 5g Encore Water Solid Wipe VOAK Due Date: 01/05/24 Plastic/Misc. 0#:30647362 120mL coliform Na Thiosulfate SOUNL plastic HZSO4 500mL plastic unpreserved CLIENT: ALPHA ANALYT 1/2 gallon cubitainer 1 gallon cubitainer PM: SCR GCUB 12GN BP1N BP1 BP3 BP3 BP3 BP2S BP2U SP5T

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280L

Profile Number

DC#\_Title: ENV-FRM-GBUR-0072 v02\_Sample Container Count Offshore Projects Effective Date: 1/11/2023

Notes

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Page

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Page 34 of 62

Sample Line Item

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		Glass	•
GJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4
AGSU	100mL amber glass unpreserved	VG9U	40mL clear VOA vial
AG5T	100mL amber glass Na Thiosulfate	VG9T	40mL clear VOA vial Na Thiosulfate
GJN	1 Gallon Jug	VG9H	40mL clear VOA vial HCl
AG1S	1L amber glass H2SO4	JGFU	4oz amber wide jar
AG1H	1L amber glass HCI	WGFU	4oz wide jar unpreserved
AG1T	1L amber glass NA Thiosulfate	BG2U	500mL clear glass unpreserved
BG1U	1L clear glass unpreserved	AGZU	500mL amber glass unpreserved
AG3S	250mL amber glass H2SO4	WGKU	8oz wide jar unpreserved
AG3U	250mL amber glass unpreserved	GN .	General
Page 13 of 13	Qualtrax ID: 55678		Pace® Analytical Service

Container Codes

Pace® Analytical Services, LLC

Page 1 of 1





December 22, 2023

Reports Alpha Analytical 8 Walkup Drive Westborough, MA 01581

RE:

Project: L2372479

Pace Project No.: 70280773

Dear Reports:

Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - Melville

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Matthew T. Nemeth matthew.nemeth@pacelabs.com 516-370-6042 Project Manager

**Enclosures** 





Serial\_No:01122417 575 Broad Hollow Road Melville, NY 11747 516-370-6000

### **CERTIFICATIONS**

Project:

L2372479

Pace Project No.:

70280773

Pace Analytical Services Long Island

575 Broad Hollow Rd, Melville, NY 11747 Connecticut Certification #: PH-0435 Delaware Certification # NY 10478 Maryland Certification #: 208

Massachusetts Certification #: M-NY026

New Hampshire Certification #: 2987

New Jersey Certification #: NY158

New York Certification #: 10478 Primary Accrediting Body

Pennsylvania Certification #: 68-00350 Rhode Island Certification #: LAO00340

Virginia Certification # 460302



**ANALYTICAL RESULTS** 

Project:

L2372479

Pace Project No.: 70280773

Sample: TANK WELL	Lab ID: 702	80773001	Collected: 12/07/2	3 08:00	Received: 12	/13/23 10:05 N	latrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
505 GCS Pesticides/PCBs	Analytical Met	hod: EPA 50	5 Preparation Metho	od: EPA	505			
	Pace Analytica	al Services -	Melville					
Alachlor	<0.20	ug/L	0.20	1	12/14/23 16:30	12/14/23 23:51	15972-60-8	
Aldrin	<0.025	ug/L	0.025	1		12/14/23 23:51		
gamma-BHC (Lindane)	<0.020	ug/L	0.020	1	12/14/23 16:30	12/14/23 23:51	58-89-9	
Chlordane (Technical)	<0.20	ug/L	0.20	1	12/14/23 16:30	12/14/23 23:51	57-74-9	
Dieldrin	<0.050	ug/L	0.050	1	12/14/23 16:30	12/14/23 23:51	60-57-1	
Endrin	<0.010	ug/L	0.010	1	12/14/23 16:30	12/14/23 23:51	72-20-8	
Heptachlor	<0.025	ug/L	0.025	1	12/14/23 16:30	12/14/23 23:51	76-44-8	
Heptachlor epoxide	<0.020	ug/L	0.020	1	12/14/23 16:30	12/14/23 23:51	1024-57-3	
Hexachlorobenzene	<0.10	ug/L	0.10	1	12/14/23 16:30	12/14/23 23:51	118-74-1	
Hexachlorocyclopentadiene	<0.10	ug/L	0.10	1	12/14/23 16:30	12/14/23 23:51	77-47-4	
Methoxychlor	<0.10	ug/L	0.10	1	12/14/23 16:30	12/14/23 23:51	72-43-5	
PCB Screen	<0.40	ug/L	0.40	1	12/14/23 16:30	12/14/23 23:51		
Toxaphene	<1.0	ug/L	1.0	1	12/14/23 16:30	12/14/23 23:51	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	119	%	56-149	1	12/14/23 16:30	12/14/23 23:51	877-09-8	
Decachlorobiphenyl (S)	101	%	60-151	1	12/14/23 16:30	12/14/23 23:51	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Met	hod: FPA 51	5.3 Preparation Met	hod: EF	PA 515.3			
5 10.0 Omormated Herbiciaes	Pace Analytica		•		7.010.0			
245	<0.10		0.10	1	10/17/02 00:11	12/18/23 23:16	04.75.7	
2,4-D	<0.70	ug/L ug/L	0.70	1		12/18/23 23:16		
Dalapon	<0.70 <1.0	Ū		1		12/18/23 23:16		
Dicamba Dinoseb	<0.20	ug/L ug/L	1.0 0.20	1		12/18/23 23:16		
Pentachlorophenol	<0.040	ug/L ug/L	0.040	1		12/18/23 23:16		
Picloram	<0.10	ug/L ug/L	0.10	1	12/17/23 09:11			
2,4,5-TP (Silvex)	<0.10	ug/L	0.13	1		12/18/23 23:16		
Surrogates	70.13	ug/L	0.13	•	12/11/25 05.11	12/10/23 23.10	30-72-1	
2,4-DCAA (S)	75	%	70-130	1	12/17/23 09:11	12/18/23 23:16	19719-28-9	
531,2 HPLC Carbamates	Analytical Met	hod: FPA 53	11.2					
331,2111 LO Garbamates	Pace Analytica							
· · · · · · · · · · · · · · · · · · ·								
Aldicarb	<0.50	ug/L	0.50	1		12/19/23 06:21		
Aldicarb sulfone	<0.80	ug/L	0.80	1		12/19/23 06:21		
Aldicarb sulfoxide	<0.50	ug/L	0.50	1		12/19/23 06:21		
Carbofuran	<0.90	ug/L	0.90	1		12/19/23 06:21		
3-Hydroxycarbofuran	<1.0	ug/L	1.0	1		12/19/23 06:21		
Methomyl	<1.0	ug/L	1.0	1		12/19/23 06:21		
Oxamyl	<1.0	ug/L	1.0	1		12/19/23 06:21		
Carbaryl	<1.0	ug/L	1.0	1		12/19/23 06:21	63-25-2	
Surrogates	96	%	70-130	1		12/19/23 06:21		
BDMC (S)	96	%	70-130	1		12/19/23 06:21		
525.3 Base Neutral Extractable	Analytical Met	hod: EPA 52	5.3 Preparation Met	hod: EF	PA 525.3			
	Pace Analytica	al Services -	Melville					
Atrazine	<0.10	ug/L	0.10	1	12/14/23 11:11	12/16/23 06:02	1912-24-9	
Benzo(a)pyrene	<0.020	ug/L	0.020	1	12/14/23 11:11	40/40/00 00:00	E0 00 0	



### **ANALYTICAL RESULTS**

Project:

L2372479

Complet TANK ME	-1 1
Pace Project No.:	70280773

Sample: TANK WELL	Lab ID: 70	280773001	Collected:	12/07/2	23 08:00	Received: 12	2/13/23 10:05	Matrix: Drinking	Water
Parameters	Results	Units	Repor	rt Limit	DF	Prepared	Analyzed	CAS No.	Qual
525.3 Base Neutral Extractable	Analytical Me	thod: EPA 52	25.3 Prepara	ation Met	thod: EP	A 525.3			
	Pace Analytic	al Services -	Melville						
Butachlor	<0.20	ug/L		0.20	1	12/14/23 11:11	12/16/23 06:02	2 23184-66-9	
bis(2-Ethylhexyl)adipate	<0.60	ug/L		0.60	1	12/14/23 11:11	12/16/23 06:02	2 103-23-1	
bis(2-Ethylhexyl)phthalate	<0.60	ug/L		0.60	1	12/14/23 11:11	12/16/23 06:02	2 117-81-7	
Metolachlor	<0.10	ug/L		0.10	- 1	12/14/23 11:11	12/16/23 06:02	2 51218-45-2	
Metribuzin	<0.50	ug/L		0.50	1	12/14/23 11:11	12/16/23 06:02	2 21087-64-9	
Propachlor	<0.10	ug/L		0.10	1	12/14/23 11:11	12/16/23 06:02	2 1918-16-7	
Simazine	<0.070	ug/L		0.070	1	12/14/23 11:11	12/16/23 06:02	2 122-34-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	82	%		70-130	1	12/14/23 11:11	12/16/23 06:02	2 81209	
Benzo(a)pyrene-d12 (S)	70	%		70-130	1	12/14/23 11:11	12/16/23 06:02	2	
Triphenylphosphate (S)	100	%		70-130	, 1	12/14/23 11:11	12/16/23 06:0	2 115-86-6	
524.3 MSV SIM	Analytical Me	thod: EPA 52	24.3						
	Pace Analytic	al Services -	Melville						
1,2,3-Trichloropropane	<0.010	ug/L		0.010	1		12/18/23 22:11	1 96-18-4	
1,2-Dibromoethane (EDB)	<0.010	ug/L		0.010	. 1		12/18/23 22:1	1 106-93-4	
1,2-Dibromo-3-chloropropane	<0.010	ug/L		0.010	1		12/18/23 22:1	1 96-12-8	
Surrogates	103	%		70-130	1		12/18/23 22:1	1 2199-69-1	
1,2-Dichlorobenzene-d4 (S)	103	% %		70-130	1		12/18/23 22:1		
tert Butyl Methyl-d3 Ether (S)					1		12/18/23 22:1		
4-Bromofluorobenzene (S)	92	%		70-130	1		12/10/23 22:1	1 400-00-4	



**QUALITY CONTROL DATA** 

Project:

L2372479

Pace Project No.:

70280773

QC Batch:

331041

Analysis Method:

EPA 531.2

QC Batch Method: EPA 531.2 Analysis Description:

531.2 HPLC Carbamate

Laboratory:

Pace Analytical Services - Melville

Associated Lab Samples:

70280773001

Matrix: Water

METHOD BLANK: 1695817

Associated Lab Samples: 70280773001

Parameter         Units         Result         Limit         Analyzed         Qualifiers           3-Hydroxycarbofuran         ug/L         <1.0         1.0         12/18/23 19:10         12/18/23 19:10           Aldicarb         ug/L         <0.50         0.50         12/18/23 19:10         12/18/23 19:10           Aldicarb sulfoxide         ug/L         <0.50         0.50         12/18/23 19:10           Carbaryl         ug/L         <1.0         1.0         12/18/23 19:10           Carbofuran         ug/L         <0.90         0.90         12/18/23 19:10           Methomyl         ug/L         <1.0         1.0         12/18/23 19:10			Blank	Reporting		
Aldicarb       ug/L       <0.50	Parameter	Units	Result	Limit	Analyzed	Qualifiers
Aldicarb sulfone       ug/L       <0.80	3-Hydroxycarbofuran	ug/L	<1.0	1.0	12/18/23 19:10	
Aldicarb sulfoxide ug/L <0.50 0.50 12/18/23 19:10 Carbaryl ug/L <1.0 1.0 12/18/23 19:10 Carbofuran ug/L <0.90 0.90 12/18/23 19:10	Aldicarb	ug/L	<0.50	0.50	12/18/23 19:10	
Carbaryl         ug/L         <1.0         1.0         12/18/23 19:10           Carbofuran         ug/L         <0.90	Aldicarb sulfone	ug/L	<0.80	0.80	12/18/23 19:10	
Carbofuran ug/L <0.90 0.90 12/18/23 19:10	Aldicarb sulfoxide	ug/L	<0.50	0.50	12/18/23 19:10	
	Carbaryl	ug/L	<1.0	1.0	12/18/23 19:10	
Methomyl ug/L <1.0 1.0 12/18/23 19:10	Carbofuran	ug/L	< 0.90	0.90	12/18/23 19:10	
	Methomyl	ug/L	<1.0	1.0	12/18/23 19:10	
Oxamyl ug/L <1.0 1.0 12/18/23 19:10	Oxamyl	ug/L	<1.0	1.0	12/18/23 19:10	
BDMC (S) % 97 70-130 12/18/23 19:10	BDMC (S)	%	97	70-130	12/18/23 19:10	

LABORATORY CONTROL SAMPLE:	1695818					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
3-Hydroxycarbofuran	ug/L		2.3	113	70-130	
Aldicarb	ug/L	2	2.2	112	70-130	
Aldicarb sulfone	ug/L	2	2.4	121	70-130	
Aldicarb sulfoxide	ug/L	2	2.3	114	70-130	
Carbaryl	ug/L	2	2.4	119	70-130	
Carbofuran	ug/L	2	2.0	99	70-130	
Methomyl	ug/L	2	2.2	108	70-130	
Oxamyl	ug/L	2	2.3	114	70-130	
BDMC (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SI	PIKE DUPLICAT	E: 16958	19		1695820						
Parameter	702 Units	280492001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
3-Hydroxycarbofuran	ug/L	<1.0	2	2	2.3	2.2	115	110	70-130	4	
Aldicarb	ug/L	< 0.50	2	2	2.3	2.2	114	109	70-130	5	
Aldicarb sulfone	ug/L	<0.80	2	2	2.4	2.3	121	117	70-130	4	
Aldicarb sulfoxide	ug/L	< 0.50	2	2	2.3	2.2	115	111	70-130	4	
Carbaryl	ug/L	<1.0	2	2	2.4	2.3	122	116	70-130	5	
Carbofuran	ug/L	< 0.90	2	2	2.2	2.1	112	106	70-130	6	
Methomyl	ug/L	<1.0	2	2	2.3	2.2	113	108	70-130	4	
Oxamyl	ug/L	<1.0	2	2	2.3	2.2	116	112	70-130	4	
BDMC (S)	%						104	95	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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Date: 12/22/2023 04:06 PM





### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.:

70280773

QC Batch:

331178

Analysis Method:

EPA 524.3

QC Batch Method:

EPA 524.3

Analysis Description:

524.3 MSV

Laboratory:

Pace Analytical Services - Melville

Associated Lab Samples:

70280773001

Associated Lab Samples:

METHOD BLANK: 1696942

70280773001

Matrix: Water

, 1000014104	Lub	Camp	 102001	7 000 1

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,3-Trichloropropane	ug/L	<0.010	0.010	12/18/23 14:26	-
1,2-Dibromo-3-chloropropane	ug/L	< 0.010	0.010	12/18/23 14:26	
1,2-Dibromoethane (EDB)	ug/L	<0.010	0.010	12/18/23 14:26	
1,2-Dichlorobenzene-d4 (S)	%	103	70-130	12/18/23 14:26	
4-Bromofluorobenzene (S)	%	91	70-130	12/18/23 14:26	
tert Butyl Methyl-d3 Ether (S)	%	98	70-130	12/18/23 14:26	

MATRIX SPIKE & MATRIX SPIKE	E DUPLICAT	E: 16971	80		1697181						
	70280568001			MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
1,2,3-Trichloropropane	ug/L	<0.010	0.05	0.05	0.062	0.064	125	128	70-130		
1,2-Dibromo-3-chloropropane	ug/L	<0.010	0.05	0.05	0.051	0.053	101	105	70-130	4	
1,2-Dibromoethane (EDB)	ug/L	<0.010	0.05	0.05	0.048	0.048	95	95	70-130	0	
1,2-Dichlorobenzene-d4 (S)	%						104	103	70-130		
4-Bromofluorobenzene (S)	%						89	. 88	70-130		
tert Butvl Methyl-d3 Ether (S)	%						102	102	70-130		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Melville, NY 11747 516-370-6000

### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.:

70280773

QC Batch:

330791

EDA 505

Analysis Method:

EPA 505

QC Batch Method: EP

EPA 505

Analysis Description:

505 GCS Pesticides

Laboratory:

Pace Analytical Services - Melville

Associated Lab Samples:

70280773001

METHOD BLANK: 1694484

694484

Matrix: Water

Associated Lab Samples: 70280773001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alachlor	ug/L	<0.20	0.20	12/14/23 17:51	<u></u>
Aldrin	ug/L	<0.025	0.025	12/14/23 17:51	
Chlordane (Technical)	ug/L	<0.20	0.20	12/14/23 17:51	
Dieldrin	ug/L	< 0.050	0.050	12/14/23 17:51	
Endrin	ug/L	<0.010	0.010	12/14/23 17:51	
gamma-BHC (Lindane)	ug/L	<0.020	0.020	12/14/23 17:51	
Heptachlor	ug/L	<0.025	0.025	12/14/23 17:51	
Heptachlor epoxide	ug/L	<0.020	0.020	12/14/23 17:51	
Hexachlorobenzene	ug/L	<0.10	0.10	12/14/23 17:51	
Hexachlorocyclopentadiene	ug/L	<0.10	0.10	12/14/23 17:51	
Methoxychlor	ug/L	<0.10	0.10	12/14/23 17:51	
PCB Screen	ug/L	<0.40	0.40	12/14/23 17:51	
Toxaphene	ug/L	<1.0	1.0	12/14/23 17:51	
Decachlorobiphenyl (S)	%	112	60-151	12/14/23 17:51	
Tetrachloro-m-xylene (S)	%	115	56-149	12/14/23 17:51	

LABORATORY CONTROL SAMPLE	: 1694485					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alachlor	ug/L	0.29	0.23	81	70-130	
Aldrin	ug/L	0.029	0.026	89	70-130	
Dieldrin	ug/L	0.029	<0.050	81	70-130	
Endrin	ug/L	0.029	0.025	89	70-130	
gamma-BHC (Lindane)	ug/L	0.029	0.024	84	70-130	
Heptachlor	ug/L	0.029	< 0.025	86	70-130	
Heptachlor epoxide	ug/L	0.029	0.027	96	70-130	
Hexachlorobenzene	ug/L	0.029	<0.10	96	70-130	
Hexachlorocyclopentadiene	ug/L	0.029	<0.10	94	70-130	
Methoxychlor	ug/L	0.14	0.13	90	70-130	
Decachlorobiphenyl (S)	%			111	60-151	
Tetrachloro-m-xylene (S)	%			108	56-149	

LABORATORY CONTROL SAMPLE:	1694486					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Alachlor	ug/L	0.057	<0.20	79	70-130	
Aldrin	ug/L	0.0057	<0.025	94	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.:

70280773

LABORATORY CONTROL SAMPLE:	1694486							
		Spike	LC		LCS	% Rec		
Parameter	Units	Conc.	Result		% Rec	Limits	Qualifiers	
Dieldrin	ug/L	0.0057		<0.050	81 70-130			
Endrin	ug/L	0.0057		<0.010	83	70-130		
gamma-BHC (Lindane)	ug/L	0.0057		<0.020	82	70-130		
Heptachlor	ug/L	0.0057		<0.025	90	70-130		
Heptachlor epoxide	ug/L	0.0057		<0.020	103	70-130		
Hexachlorobenzene	ug/L	0.0057		<0.10	99	70-130		
Hexachlorocyclopentadiene	ug/L	0.0057		<0.10	130	70-130		
Methoxychlor	ug/L	0.029		<0.10	73	70-130		
Decachlorobiphenyl (S)	%				117	60-151		
Tetrachloro-m-xylene (S)	%				109	56-149		
LABORATORY CONTROL SAMPLE:	1694487	i						
		Spike	LC	s	LCS	% Rec		
Parameter	Units	Conc.	Res	ult	% Rec	Limits	Qualifiers	
Toxaphene	ug/L	5.7		6.1	107	70-130		
Decachlorobiphenyl (S)	%	0.,		0.1	124	60-151		
Tetrachloro-m-xylene (S)	%				114	56-149		
roudomore in Aylone (e)	,,					00 110		
MATRIX SPIKE SAMPLE:	1694494		***************************************					
		70280671		Spike	MS	MS	% Rec	
Parameter	Units	Result		Conc.	Result	% Rec	Limits	Qualifier
Alachlor	ug/L		<0.20	0.57	0.46	80	65-135	
Aldrin	ug/L		0.025	0.057	0.057	99	65-135	
Dieldrin	ug/L		0.050	0.057	<0.050	83	65-135	
Endrin	ug/L		0.010	0.057	0.051	89	65-135	
gamma-BHC (Lindane)	ug/L		0.020	0.057	0.048	. 85	65-135	
Heptachlor	ug/L		0.025	0.057	0.060	105		
Heptachlor epoxide	ug/L		0.020	0.057	0.052	92	65-135	
Hexachlorobenzene	ug/L		<0.10	0.057	<0.10	120		
Hexachlorocyclopentadiene	ug/L		<0.10	0.057	<0.10	135	A Committee of the Comm	
Methoxychlor	ug/L		<0.10	0.29	0.32	111		
Decachlorobiphenyl (S)	%					123		
Tetrachloro-m-xylene (S)	%					110	56-149	
MATRIX SPIKE SAMPLE:	1696650							
		70280773	001	Spike	MS	MS	% Rec	
Parameter	Units	Result		Conc.	Result	% Rec	Limits	Qualifier
Alachlor	ug/L		<0.20	0.57	0.39	68	65-135	
Aldrin	ug/L	<	0.025	0.057	0.047	82	65-135	
Chlordane (Technical)	ug/L		<0.20		0.58			
Dieldrin	ug/L	<	0.050	0.057	<0.050	69	65-135	
Endrin	ug/L		0.010	0.057	0.043	75	65-135	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### **REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.



### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.: 70280773

MATRIX SPIKE SAMPLE:	1696650						
		70280773001	Spike	MS	MS	% Rec	0 115
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
gamma-BHC (Lindane)	ug/L	<0.020	0.057	0.043	75	65-135	
Heptachlor	ug/L	<0.025	0.057	0.047	83	65-135	
Heptachlor epoxide	ug/L	<0.020	0.057	0.043	75	65-135	
Hexachlorobenzene	ug/L	<0.10	0.057	<0.10	96	65-135	
-lexachlorocyclopentadiene	ug/L	<0.10	0.057	<0.10	119	65-135	
Methoxychlor	ug/L	<0.10	0.29	0.25	. 88	65-135	
PCB Screen	ug/L	<0.40		< 0.40			
Toxaphene	ug/L	<1.0		<1.0			
Decachlorobiphenyl (S)	%			+	90	60-151	
Tetrachloro-m-xylene (S)	%				104	56-149	

		70280671002	Dup			
Parameter	Units	Result	Result	RPD	Qualifiers	
Alachlor	ug/L	<0.20	<0.20			
Aldrin	ug/L	<0.025	<0.025			
Chlordane (Technical)	ug/L	<0.20	<0.20			
Dieldrin	ug/L	< 0.050	<0.050			
Endrin	ug/L	<0.010	< 0.010			
gamma-BHC (Lindane)	ug/L	<0.020	<0.020			
Heptachlor	ug/L	<0.025	< 0.025			
Heptachlor epoxide	ug/L	<0.020	<0.020			
Hexachlorobenzene	ug/L	<0.10	<0.10			
Hexachlorocyclopentadiene	ug/L	<0.10	<0.10			
Methoxychlor	ug/L	<0.10	<0.10			
PCB Screen	ug/L	< 0.40	< 0.40			
Toxaphene	ug/L	<1.0	<1.0			
Decachlorobiphenyl (S)	%	113	105			
Tetrachloro-m-xylene (S)	%	115	121			

SAMPLE DUPLICATE: 1695824		70280748001	Dup		
Parameter	Units	Result	Result	RPD	Qualifiers
Alachlor	ug/L	<0.20	<0.20		
Aldrin	ug/L	<0.025	<0.025		
Chlordane (Technical)	ug/L	<0.20	<0.20		
Dieldrin	ug/L	<0.050	<0.050		
Endrin	ug/L	<0.010	<0.010		
gamma-BHC (Lindane)	ug/L	<0.020	<0.020		
Heptachlor	ug/L	<0.025	<0.025		
Heptachlor epoxide	ug/L	<0.020	0.021		
Hexachlorobenzene	ug/L	<0.10	<0.10		
Hexachlorocyclopentadiene	ug/L	<0.10	<0.10		
Methoxychlor	ug/L	<0.10	<0.10		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Melville, NY 11747 516-370-6000



### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.: 70280773

SAMPLE DUPLICATE: 1695824					
Parameter	Units	70280748001 Result	Dup Result	RPD	Qualifiers
PCB Screen	ug/L	<0.40	<0.40		
Toxaphene	ug/L	<1.0	<1.0		
Decachlorobiphenyl (S)	%	104	103		
Tetrachloro-m-xylene (S)	%	105	111		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



**QUALITY CONTROL DATA** 

Project:

L2372479

Pace Project No.:

70280773

QC Batch:

331080

Analysis Method:

EPA 515.3

QC Batch Method:

EPA 515.3

Analysis Description:

5153 GCS Herbicides

Laboratory:

Pace Analytical Services - Melville

Associated Lab Samples:

70280773001

METHOD BLANK: 1696456

090430

Matrix: Water

Associated Lab Samples: 70280773001

	Blank	Reporting		
Units	Result	Limit	Analyzed	Qualifiers
ug/L	<0.13	0.13	12/18/23 12:41	
ug/L	<0.10	0.10	12/18/23 12:41	
ug/L	<0.70	0.70	12/18/23 12:41	
ug/L	<1.0	1.0	12/18/23 12:41	
ug/L	<0.20	0.20	12/18/23 12:41	
ug/L	< 0.040	0.040	12/18/23 12:41	
ug/L	<0.10	0.10	12/18/23 12:41	
%	87	70-130	12/18/23 12:41	
	ug/L ug/L ug/L ug/L ug/L ug/L	Units         Result           ug/L         <0.13	Units         Result         Limit           ug/L         <0.13	Units         Result         Limit         Analyzed           ug/L         <0.13

LABORATORY CONTROL SAMPLE:	1696457		*			
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	ug/L	0.2	0.17	84	70-130	,
2,4-D	ug/L	0.2	0.18	91	70-130	
Dalapon	ug/L	2.2	2.1	94	70-130	
Dicamba	ug/L	0.2	<1.0	89	70-130	
Dinoseb	ug/L	0.2	<0.20	94	70-130	
Pentachlorophenol	ug/L	0.2	0.17	87	70-130	
Picloram	ug/L	0.2	0.24	118	70-130	
2,4-DCAA (S)	%			81	70-130	

MATRIX SPIKE & MATRIX SPI	KE DUPLICATE	: 16964	74		1696475						
	7028	30671001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	Qual
2,4,5-TP (Silvex)	ug/L	<0.13	0.2	0.2	0.15	0.15	73	76	70-130	5	
2,4-D	ug/L	<0.10	0.2	0.2	0.21	0.25	106	123	70-130	15	
Dalapon	ug/L	<0.70	2.2	2.2	2.2	2.2	101	99	70-130	2	
Dicamba	ug/L	<1.0	0.2	0.2	<1.0	<1.0	88	87	70-130		
Dinoseb	ug/L	<0.20	0.2	0.2	<0.20	<0.20	93	93	70-130		
Pentachlorophenol	ug/L	< 0.040	0.2	0.2	0.17	0.17	87	87	70-130	0	
Picloram	ug/L	<0.10	0.2	0.2	0.24	0.26	122	129	70-130	5	
2,4-DCAA (S)	%						75	75	70-130		

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**QUALITY CONTROL DATA** 

Project:

L2372479

Pace Project No.: 70280773

	700	280020001	MS	MSD	МС	MCD	MC	MCD	9/ Doo		
Parameter	Units	280930001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qua
2,4,5-TP (Silvex)	ug/L	<0.13	0.2	0.2	<0.13	0.14	53	72	70-130	M1	
2,4-D	ug/L	<0.10	0.2	0.2	0.19	0.21	93	104	70-130	12	
Dalapon	ug/L	<0.70	2.2	2.2	1.6	2.0	73	92	70-130	23 R1	
Dicamba	ug/L	<1.0	0.2	0.2	<1.0	<1.0	68	93	70-130	M1	
Dinoseb	ug/L	<0.20	0.2	0.2	< 0.20	<0.20	69	93	70-130	M1	
Pentachlorophenol	ug/L	< 0.040	0.2	0.2	0.11	0.17	56	86	70-130	41 M1,	,R1
Picloram	ug/L	<0.10	0.2	0.2	0.16	0.29	82	146	70-130	57 M1,	,R1
2,4-DCAA (S)	%						56	78	70-130	S0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



### **QUALITY CONTROL DATA**

Project:

L2372479

Pace Project No.:

70280773

QC Batch:

330768

Analysis Method:

EPA 525.3

QC Batch Method:

EPA 525.3

Analysis Description:

525.3 Base Neutral Extractables

Laboratory:

Pace Analytical Services - Melville

Associated Lab Samples:

70280773001

Matrix: Water

METHOD BLANK: 1694437

Associated Lab Samples: 70280773001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Atrazine	ug/L	ND	0.10	12/15/23 17:21	
Benzo(a)pyrene	ug/L	ND	0.020	12/15/23 17:21	
bis(2-Ethylhexyl)adipate	ug/L	ND	0.60	12/15/23 17:21	
bis(2-Ethylhexyl)phthalate	ug/L	ND	0.60	12/15/23 17:21	
Butachlor	ug/L	ND	0.20	12/15/23 17:21	
Metolachlor	ug/L	ND	0.10	12/15/23 17:21	
Metribuzin	ug/L	ND	0.50	12/15/23 17:21	
Propachlor	ug/L	ND	0.10	12/15/23 17:21	
Simazine	ug/L	ND	0.070	12/15/23 17:21	
1,3-Dimethyl-2-nitrobenzene(S)	%	91	70-130	12/15/23 17:21	
Benzo(a)pyrene-d12 (S)	%	72	70-130	12/15/23 17:21	
Triphenylphosphate (S)	%	98	70-130	12/15/23 17:21	

LABORATORY CONTROL SAMPLE:	1694438					
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzo(a)pyrene	ug/L	0.02	<0.020	81	70-130	
Simazine	ug/L	0.02	< 0.070	88	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			88	70-130	
Benzo(a)pyrene-d12 (S)	%			70	70-130	
Triphenylphosphate (S)	.%			100	70-130	

LABORATORY CONTROL SAMPLE:	: 1694439					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Atrazine	ug/L	0.1	<0.10	84	70-130	
Butachlor	ug/L	0.1	<0.20	86	70-130	
Metolachlor	ug/L	0.1	<0.10	91	70-130	
Metribuzin	ug/L	0.1	< 0.50	74	70-130	
Propachlor	ug/L	0.1	<0.10	87	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			89	70-130	
Benzo(a)pyrene-d12 (S)	%			72	70-130	
Triphenylphosphate (S)	%			96	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



**QUALITY CONTROL DATA** 

Project:

L2372479

Pace Project No.: 70280773

Triphenylphosphate (S)

LABORATORY CONTROL SAMPLE	: 1694440					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
bis(2-Ethylhexyl)adipate	ug/L	0.5	<0.60	83	70-130	
bis(2-Ethylhexyl)phthalate	ug/L	0.5	< 0.60	75	70-130	
1,3-Dimethyl-2-nitrobenzene(S)	%			89	70-130	
Benzo(a)pyrene-d12 (S)	%			75	70-130	
Triphenylphosphate (S)	%			97	70-130	

MATRIX SPIKE SAMPLE:	1694441							
		70280492001	Spike	MS	MS	% Rec		
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers	
Atrazine	ug/L	<0.10	0.1	<0.10	82	70-130		
Benzo(a)pyrene	ug/L	<0.020	0.1	0.075	75	70-130		
bis(2-Ethylhexyl)adipate	ug/L	<0.60	0.1	< 0.60	78	70-130		
bis(2-Ethylhexyl)phthalate	ug/L	<0.60	0.1	< 0.60	87	70-130		
Butachlor	ug/L	<0.20	0.1	<0.20	89	70-130		
Metolachlor	ug/L	<0.10	0.1	< 0.10	93	70-130		
Metribuzin	ug/L	<0.50	0.1	< 0.50	78	70-130		
Propachlor	ug/L	<0.10	0.1	<0.10	9.1	70-130		
Simazine	ug/L	<0.070	0.1	0.078	78	70-130	* .	
1,3-Dimethyl-2-nitrobenzene(S)	%				88	70-130		
Benzo(a)pyrene-d12 (S)	%				71	70-130		
Triphenylphosphate (S)	%	*			98	70-130	•	

Parameter	Units	70280773001 Result	Dup Result	RPD	Qualifiers
Atrazine	ug/L	<0.10	<0.10		
Benzo(a)pyrene	ug/L	<0.020	<0.020		
ois(2-Ethylhexyl)adipate	ug/L	<0.60	<0.60		
ois(2-Ethylhexyl)phthalate	ug/L	<0.60	< 0.60		
Butachlor	ug/L	<0.20	<0.20		
Metolachlor	ug/L	<0.10	<0.10		
Metribuzin	ug/L	<0.50	<0.50		
Propachlor	ug/L	<0.10	<0.10		
Simazine	ug/L	<0.070	< 0.070		
I,3-Dimethyl-2-nitrobenzene(S)	%	82	90		
Benzo(a)pyrene-d12 (S)	%	70	70		
Friphenylphosphate (S)	%	100	98		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Melville, NY 11747 516-370-6000

### **QUALIFIERS**

Project:

1 2372479 70280773

Pace Project No.:

### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### **ANALYTE QUALIFIERS**

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recover	M1	Matrix spike recovery exceeded QC li	imits. Batch acce	epted based on laboratory co	ontrol sample (LCS) recover
--	----	--------------------------------------	-------------------	------------------------------	-----------------------------

R1 RPD value was outside control limits.

S0 Surrogate recovery outside laboratory control limits.





**QUALITY CONTROL DATA CROSS REFERENCE TABLE** 

Project:

L2372479

Pace Project No.: 70280773

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70280773001	TANK WELL	EPA 505	330791	EPA 505	330879
70280773001	TANK WELL	EPA 515.3	331080	EPA 515.3	331091
70280773001	TANK WELL	EPA 531.2	331041		
70280773001	TANK WELL	EPA 525.3	330768	EPA 525.3	330991
70280773001	TANK WELL	EPA 524.3	331178		

1 f 1 .	•	M. 19. A	ı !	1 1	1	Serial_No:011	122417:32
Alpha Job Number L2372479 Regulatory Requirements/Report Limits	State/Federal Program: Regulatory Criteria:		Report to include Method Blank, LCS/LCSD:		Batch	515.3; Pesticides - EPA 525.3;	Date/Jime:   Date/Jime:
Regu	State/Federal Progr Regulatory Criteria:	nents	t to include			or. Acids - EPA	Received By
Subcontract Chain of Custody Pace Analytical (Melville) 575 Broad Hollow Road Melville, NY 11747 Project Information	l Location: NY I Manager: Brenda Pirinelli Turnaround & Deliverables Information	c Requirements and/or Report Requirements	Vdeliverables: L2372479 Reported Report		Sample Matrix Analysis	DW EPA 504.1; PCB/PEST - EPA 505; Chlor. Acids - EPA 515.3; Pesticides - EPA 525.3; Carbamates - EPA 531.1	Date/Time: 19/19 22:00
St. Pace, 575 B Melvill	Project Location: NY Project Manager: Brenda Pirinelli Turnaround & Delivera	Due Date: Deliverables: Project Specific	nber on final report/de ubreports@alphalab.o		Collection Date/Time	12-07-23 08:00	12/12/23
AO#: 70280773	Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019	Phone: 716.427.5225 Email: bpirinelli@alphalab.com	Reference following Alpha Job Number on final report Additional Comments: Send all results/reports to subreports@alphala		Cilent ID	TANK WELL	Relinquished By AL_subcoc
# # # # # # # # # # # # # # # # # # #	Client Alg Address: Eig We	Phone: 71 Email: bp	Additional	A*	Lab ID		Form No: AL

DC#\_Title: ENV-FRM-MELV-0024 v04\_SCUR Effective Date: 10/13/2023 WO#:70280773 Due Date: 12/22/23 MN2 Project # Client Name: CLIENT: ALPHA Courier: Fed Ex UPS USPS Clien Commercial Pace Other Tracking #: Custody Seal on Cooler/Box Present: 

Yes No Seals Intact: Yes No Temperature Blank Present: 

Yes No Packing Material: ☐ Bubble Wrap☐ Bubble Bags☐ Ziplo☐ Non☐ Other Type of Ice: Wel Blue None ☐ Samples on ice, cooling process has begun Thermometer Used: THCII Correction Factor: → O. Ч Cooler Temperature Corrected(°C): Z. V Date/Time 5035A kits placed in freezer Cooler Temperature(°C): \\_\_\_ Temp should be above freezing to 6,0°C USDA Regulated Soil ( / N/A, water sample) Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)?□ Ye□ No Did samples orignate from a foreign source including Hawaii and Puerto Rico)? ☐ Yes☐ No If Yes to either question, fill out a Regulated Soil Checklist (ENV-FRM-MELV-0076) and include with SCUR/COC paperwork. Date and Initials of person examining contents: COMMENTS: dYes πNo Chain of Custody Present: gYes ΠNo Chain of Custody Filled Out: μΎes Chain of Custody Relinquished: ΠNo DN/A ΠNο Sampler Name & Signature on COC: ื⊟Yes Samples Arrived within Hold Time: \_eYes □No DNO Short Hold Time Analysis (<72hr): □Yes Rush Turn Around Time Requested □Yes ciplo -eYes αNo 8. Sufficient Volume: (Triple volume provided for MS/MSD) -dYes ΠNο Correct Containers Used: -Pace Containers Used: pyes ωNo 10 □No **DYES** Containers Intact: Note: if sediment is visible in the dissolved container. пNο AMI'S. 11. □Yes Filtered volume received for Dissolved tests □Yes ellio 12.524.3 rials received Sample Labels match COC: WT OIL OTHER -Includes date/time/ID/Analysis Matrix: SL Date and Initials of person checking preservation: 13/23 □ HNO<sub>3</sub> □ H<sub>2</sub>SO<sub>4</sub> □ NaOH All containers needing preservation 13. oN/A □No have been pH paper Lot # 211821A Sample All containers needing preservation are found to be in compliance with method recommendation? (HNO<sub>3</sub>, H<sub>2</sub>SO<sub>4</sub>, HCl, NaOH>9 Sulfide, aYes □No □N/A NAOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, Lot # of added Date/Time preservative added: Initial when completed: DRO/8015 (water). preservative: Per Method, VOA pH is checked after analysis Samples checked for dechlorination: pYes □N/A KI starch test strips Lot # Residual chlorine strips Lot # 1 いいりりかん Positive for Res. Chlorine? MALE SM 4500 CN samples checked for sul a Yes 15. Positive for Sulfide? Y N Lead Acetate Strips Lot # AMA Mo 16. Headspace in VOA Vials ( >6mm); □Yes

Trip Blank Present:

Person Contacted: Comments/ Resolution:

Trip Blank Custody Seals Present

Client Notification/ Resolution:

Date/Time:

JaN/A

DIMA

/ aNo

пNo

□Yes

□Yes

<sup>\*</sup> PM (Project Manager) review is documented electronically in LIMS,



### Pace Analytical® ANALYTICAL REPORT

Revised Report

### Pace Analytical (Alpha) - Westborough, MA

Sample Delivery Group:

L1687616

Samples Received:

12/13/2023

Project Number:

L2372479

Description:

Report To:

Susan O'Neil

8 Walkup Drive

Westborough, MA 01581

ˈSs

Cn

'Sr

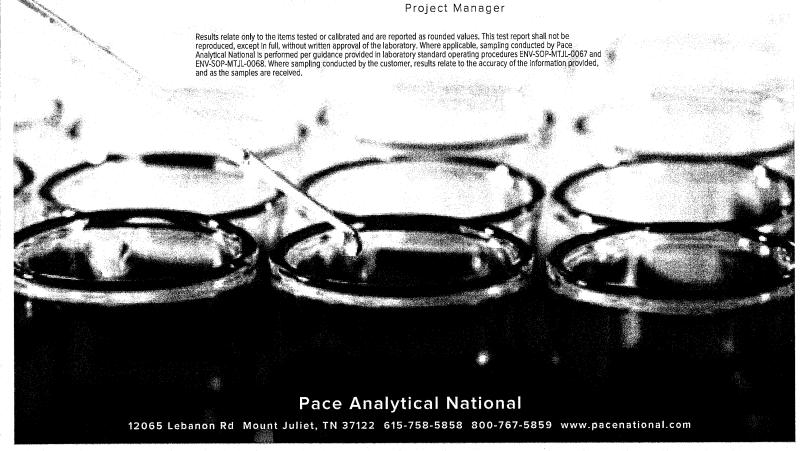
Qc

GI

ΆI

Sc

Entire Report Reviewed By: Hally Torrence Haley Torrence



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GI: Glossary of Terms	8
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### SAMPLE SUMMARY

Batch

WG2190836

Dilution

### Serial\_No:01122417:32

Collected by

Preparation

01/07/24 14:38

date/time

Collected date/time Received date/time

12/07/23 08:00

Analysis

date/time

01/07/24 14:38

12/13/23 10:30

Location

Mt. Juliet, TN

Analyst

JEA





















TANK WELL L1687616-01 DW

Wet Chemistry by Method 314.0 Mod

Method

### 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.





















Haley Torrence Project Manager

Report Revision History

Haley Tomence

Level II Report - Version 1: 01/09/24 16:04

Project Narrative

Pace Analytical (Alpha) - Westborough, MA

TANK WELL

### SAMPLE RESULTS - 01

Serial\_No:01122417:32

Collected date/time: 12/07/23 08:00

Wet Chemistry by Method 314.0 Mod

	,							
	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch	
Analyte	ug/l		ug/l	ug/l		date / time		
Perchlorate	U	J6	0.300	4.00	1	01/07/2024 14:38	WG2190836	AND AND AND AND AND AND AND AND AND AND





















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## QUALITY CONTROL SUMMARY

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pot
Meth

WG2190836 Wet Chemistry by Method 314.0 Mod

THE PROPERTY OF THE PROPERTY O				
		MB RDL	l/gu	4.00
			1/6n  /6i	1.300 4.00
		MB Qualifier MB MDL MB RDL		0.300 4.00
	(MB) R4021309-1 01/07/24 01:22		l/6n	Perchlorate U 0.300 4.00

### Method Blank (MB)

		Analyte ug/l	
	MB RDL	ug/l	4.00
	MB MDL	l/gn	0.300
	MB Qualifier		
(MB) R4021309-2 01/07/24 01:51	MB Result	l/gu	Π
(MB) R4021309-		Analyte	Perchlorate

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# L1687016-18 Original Sample (OS) • Duplicate (DUP)

	DUP Qualifier Limits	%	15
/07/24 16:18	Dilution DUP RPD	%	1 0.000
JP) R4021309-4 01	Original Result DUP Result		
J1/07/24 10:22 • (DI	Original Re	l/6n	n
(OS) L1687016-18 01/07/24 10:22 • (DUP) R4021309-4 01/07/24 16:18		Analyte ug/l ug/	Perchlorate

# L1687591-01 Original Sample (OS) • Duplicate (DUP)

	DUP RPD Limits	%	15
	DUP Qualifier		
:45	DUP RPD	% I/ɓn	3.56
1/07/24 17	Dilution		-
4021309-7 0	il Result DUP Result Dilution DUP RPD	l/gn	20.2
/07/24 11:19 • (DUP) R	Original Result		
(OS) L1687591-01 01/07/24 11:19 • (DUP) R4021309-7 01/07/24 17:45		Analyte ug/l	Perchlorate

### Laboratory Control Sample (LCS)

THE THE PROPERTY OF THE PROPER	
%	90.0-110
%	93.2
l/gn	9.32
l/gn	10.0
Analyte	Perchlorate
	% //ɓn //ɓn

# L1687016-18 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

		CALL COLUMN AND THE CALL C	
	RPD Limits	%	15
	MSD Qualifier RPD	% %	0.386
	MS Qualifier		
	Dilution Rec. Limits	%	1 80.0-120
24 17:17	MSD Rec.	%	103
021309-6 01/07/	MS Rec.	%	104
· (MSD) R4021	MSD Result	l/gn	10.3
01/07/24 16:48	Spike Amount Original Result MS Result	/gn	10.0 U 10.4 10.3
R4021309-5	t Original Re	l/gn	n
(OS) L1687016-18 01/07/24 10:22 • (MS) R4021309-5 01/07/24 16:48 • (MSD) R4021309-6 01/07/24 17:17	Spike Amoun	l/gn	10.0
(OS) L1687016-18 0			Perchlorate

DATE/TIME:	01/12/24 15:36
SDG:	L1687616
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PROJEC	L237247
	<b>⊲</b> 1
ACCOUNT:	Pace Analytical (Alpha) - Westborough,M/
Page 58 of 62	
**	•

PAGE: 6 of 10

Serial\_No:01122417:32

QUALITY CONTROL SUMMARY

WG2190836 Wet Chemistry by Method 314.0 Mod

L1687616-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1687616-01 (	OS) L1687616-01 01/07/24 14:38 • (MS) R4021309-10 01/08/24 21:48	4021309-10 01	/08/24 21:48	<ul> <li>(MSD) R4021309-11 01/08/24 22:17</li> </ul>	109-11 01/08/2	4 22:17						
	Spike Amount	Spike Amount Original Result MS Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Dilution Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	l/gu	l/gn	l/gn	l/gn	%	%		%			%	%
Perchlorate	10.0	1	7.90	8.02	79.0	80.2	-	80.0-120	96		1.52	15

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Sample Narrative:

MS: within RPD of passing MSD

Pace Analytical (Alpha) - Westborough, MA Page 59 of 62

PROJECT: L2372479

SDG: L1687616

DATE/TIME: 01/12/2415:36

7 of 10

### 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.

Ss

Cn

Sr

Qc

GI

Sc

### Abbreviations and Definitions

Limits

Qualifier

Result

Original Sample

Case Narrative (Cn)

Quality Control Summary (Qc)

Sample Chain of

Sample Results (Sr)

Custody (Sc)

J6

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Unai de la la la la la la la la la la la la la	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.

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 Dilution result reported has already been corrected for this factor.

> 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.

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.

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.

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 Confidence level of 2 sigma. (Radiochemistry)

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.

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.

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.

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.

This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and Sample Summary (Ss) times of preparation and/or analysis.

Qualifier Description

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

### **ACCREDITATIONS & LOCATIONS**

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
onnecticut	PH-0197	North Carolina	Env375
lorida	E87487	North Carolina 1	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
ieorgia <sup>1</sup>	923	North Dakota	R-140
daho	TN00003	OhioVAP	CL0069
linois	200008	Oklahoma	9915
ndiana	C-TN-01	Oregon	TN200002
DWa .	364	Pennsylvania	68-02979
ansas	E-10277	Rhode Island	LAO00356
Centucky 1 6	KY90010	South Carolina	84004002
entucky <sup>2</sup>	16	South Dakota	n/a
ouisiana	Al30792	Tennessee 1 4	2006
ouisiana	LA018	Texas	T104704245-20-18
laine	TN00003	Texas <sup>5</sup>	LAB0152
/aryland	324	Utah	TN000032021-11
lassachusetts	M-TN003	Vermont	VT2006
lichigan	9958	Virginia	110033
/linnesota	047-999-395	Washington	C847
1ississippi	TN00003	West Virginia	233
1issouri	340	Wisconsin	998093910
Iontana	CERT0086	Wyoming	A2LA
2LA - ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234



<sup>\*</sup> Not all certifications held by the laboratory are applicable to the results reported in the attached report.

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EPA-Crypto

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

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				/		7 91918917		
Client In	Client Information	d S	Project Information	rmation	Regul	Regulatory Requirements/Report Limits	:s/Report Limits	
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019	al Labs Drive MA 01581-1019	Project Location: NY Project Manager: Brenda Pirinelli Turnaround & Deliveral	IY Brenda Pirine d & Deliver	n: NY er: Brenda Pirinelli ound & Deliverables Information	State/Federal Program: Regulatory Criteria:	al Program: Sriteria:		
Phone: 716,427,5225 Email: bpirinelli@alphalab.com	ialab.com	Due Date: Deliverables:						
		Project Specific R	Requiremen	fic Requirements and/or Report Requirements	uirements			
Referen	Reference following Alpha Job Number on final report/deliverables: L2372479	nber on final report/de	liverables:⁴L	_2372479	Report to include N	Report to include Method Blank, LCS/LCSD:	SD:	
Additional Comments:	Additional Comments: Send all results/reports to subreports@alphal	ubreports@alphalab.c	om This is a	lab.com This is a Converse job.				
Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	sis		Batch	<del>ا</del> ر ک
	TANK WELL	12-07-23 08:00	MQ.	Subcontract Perchlorate by 331				
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Form No: AL_subcoc								

### **ANALYSIS FOR WATERBORNE PARTICULATES**

Invoice 20230412

CH Diagnostic and Consulting Service, Inc. 512 5th Street, Berthoud, CO 80513 P: (970) 532-2078 F: (970) 532-3358

Laboratory Information

Federal Express; 12/8/2023; 1000 Hrs; 5.4°C; Wound

Results submitted by:

Clinton, MA: 01510 PWSID# 4240006

Northeast Geoscience, Inc. 97 Walnut Street

Customer 20142070

Sample Identification: LeRay, New York, 8-Inch Well Tank Site

Sample Information: SOURCE: Drilled Well; 200' deep; 1000' from surface water; Unchlorinated; pH 7.23 -> pH 7.15;

8.6°C -- 8.7°C; 0 NTU -- 0 NTU

Sample Date & Time: 12/6/2023 08:00 AM —» 12/7/2023 08:00 AM Sampler: Jay Billings

Amount: 3936.4 L (1040 gal) Filter Color: Off white Filter Type: Polypropylene wound cartridge

Date/Time Eluted: 12/9/2023 12:00 AM Centrifugate: 0.0127 mL/100 L

**RESULTS OF MICROSCOPIC PARTICULATE ANALYSIS** 

ND

Amount of sample assayed: 240 L

Amorphous Debris clay (1-2 µm), silt (2-50 µm), sand (50-2000 µm)

ND Algae Diatoms ND Plant debris ND Rotifers 3/100 Gal Nematodes 6/100 Gal Pollen (pine) 3/100 Gal Ameba ND Ciliates ND Colorless Flagellates ND Crustaceans ND Other Arthropods ND

Other

Giardia and Coccidia are none detected (ND) by MPA unless reported under "Other".

This sample was analyzed for particulates following the Environmental Protection Agency Consensus Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA). 1992. USEPA, Port Orchard, WA, EPA 910/9-92-029. All limitations stated in the methods apply. If HV capsule or foam filter was received, method was modified by filtering sample through a Pall Envirochek™ HV capsule or IDEXX Filta-Max™ filter at the sample site. If Giardia and Cryptosporidium Analysis was also performed, particulate extraction was modified.

COMMENTS: Score: 1-Low Risk per EPA Consensus Method referenced above.

### Ground Water Risk Factor Table

From: E.P.A. Consensuses Method for Determining Groundwaters Under the Direct Influence of Surface Water Using Microscopic Particulate Analysis (MPA)

Table 1. Numerical range of each primary bio-indicator (Particulate) counted per 100 gallons water.

Indicators of surface water <sup>1</sup>	EH <sup>3</sup>	н	М	R	NS
Giardia 2	>30	16-30	6-15	1-5	<1
Coccidia 2	>30	16-30	6-15	1-5	<1
Diatoms 4	>150	41-149	11-40	1-10	<1
Other Algae 4	>300	96-299	21-95	1-20	<1
Insects/Larvae	>100	31-99	16-30	1-15	<1
Rotifers	>150	61-149	21-60	1-20	<1
Plant Debris 4	>200	71-200	26-70	1-25	<1

- 1. According to EPA "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources", March, 1991 ed.
- If Giardia cysts or coccidian are found in any sample, irrespective of volume, score as above.
- 3. Key= EH extremely heavy M moderate NS not significant H heavy R rare
- 4. Chlorophyll containing

Table 2. Relative surface water risk factors associated with scoring of primary bio-indicators (particulate) present during MPA of subsurface water sources.

Indicators of	Relative Risk Factor <sup>3</sup>						
surface water 1	EH 2	н	M	R	NS		
Giardia	40	30	25	20	0		
Coccidia	35	30	25	20	0		
Diatoms	16	13	11	6	0		
Other Algae	14	12	9	4	0		
Insects/Larvae	9	7	5	3	0		
Rotifers	4	3	2	1	0		
Plant Debris	3	2	1	0	0		

- 1. According to EPA "Guidance Manual for Compliance with the Filtration and Disinfection Requirements for Public Water Systems Using Surface Water Sources", March, 1991 ed.
- 2. Refer to Table 1 for range of indicators counted per 100 gallons.

  Key= EH extremely heavy M moderate NS not significant H heavy R rare
- Risk of surface water contamination
   ≥20 high risk
   10-19 moderate risk
   ≤9 low risk