Groundwater & Environmental Services, Inc.

234 Littleton Road, Suite 1F
Westford, MA 01886

T. 800.221.6119

January 13, 2023

Neponset Reservoir Reclamation Committee
Attention: Mr. Rick Lewis, PG
P.O. Box 430
Foxborough, MA 02035

Re: Storm Water Outfall Sampling and Reporting – December 2022
Neponset Reservoir
Foxborough, MA

Dear Mr. Lewis:

Groundwater & Environmental Services, Inc. (GES) is pleased to provide a copy of the laboratory analytical report for stormwater sampling conducted on December 16, 2022, at two stormwater filtration ("Jellyfish") locations, three outfall locations, and the dam associated with the Neponset Reservoir in Foxborough, Massachusetts. Light rain began at approximately 1:00am on December 16, 2022 and intensified between approximately 5:00am and 6:00am. The stormwater samples were collected between approximately 7:15am and 11:40am on December 16, 2022. Precipitation continued until December 17, 2022. Locations of each Jellyfish filtration sample, the stormwater outfall samples, and the dam sample are depicted on the attached Massachusetts Department of Environmental Protection (MassDEP) Bureau of Waste Site Cleanup Phase 1 Site Assessment Map, printed on January 5, 2023.

Prior to the collection of the stormwater samples, the stormwater at each location was monitored in the field for dissolved oxygen, pH, temperature, conductivity, turbidity, and oxidation reduction potential utilizing a calibrated YSI 6920 multi-parameter meter. Results of the field monitoring parameters are included in **Table 1** along with previous field monitoring data collected between 2019 and 2021.

Following field monitoring of each sample location, surface water grab samples were obtained. A total of six surface water samples were obtained from Jellyfish filtration locations # 3 and # 6, the reservoir dam, SW-3 and SW-6 outfalls, and SW-1 along Chestnut Street. Each of the six grab samples were submitted to Alpha Analytical (Alpha) of Westborough, Massachusetts for laboratory analysis of the following analytes: total petroleum hydrocarbons by Environmental Protection Agency (EPA) method 1664B, nitrate and nitrite by NECi Method N07-0003, total phosphorous and orthophosphate by Standard Method SM 21-23 4500 PE, total suspended solids by Standard Method 21-23 2540D, Escherichia Coli (E. Coli), Total Coliform, and Fecal Coliform by Standard Method 9223B.

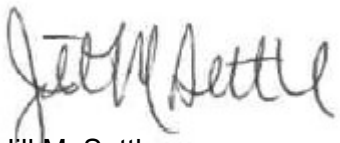
The stormwater sample laboratory analytical results are included as an attachment and are summarized in **Table 2**, where the current laboratory analytical results are compared to previous

laboratory analytical results dating back to August 2019. Upon reviewing the laboratory analytical reports, the GES project manager noticed that Total Suspended Solids was overlooked on the chain of custody (i.e. not submitted) and upon reaching out to the lab for subsequent analysis, the total suspended solids were not able to be analyzed due to insufficient sample volume. Turbidity data from each sample location is recorded on **Table 1** from the field monitoring results, and appears to be higher at each location than previous sampling events.

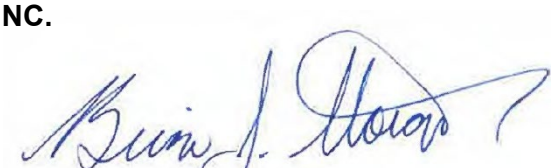
Should you have any questions regarding these results, please contact the undersigned at 800-220-6119.

Sincerely,

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.



Jill M. Settle
Project Manager



Brian J. Horan, LSP
Principal Environmental Scientist

Attachments

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

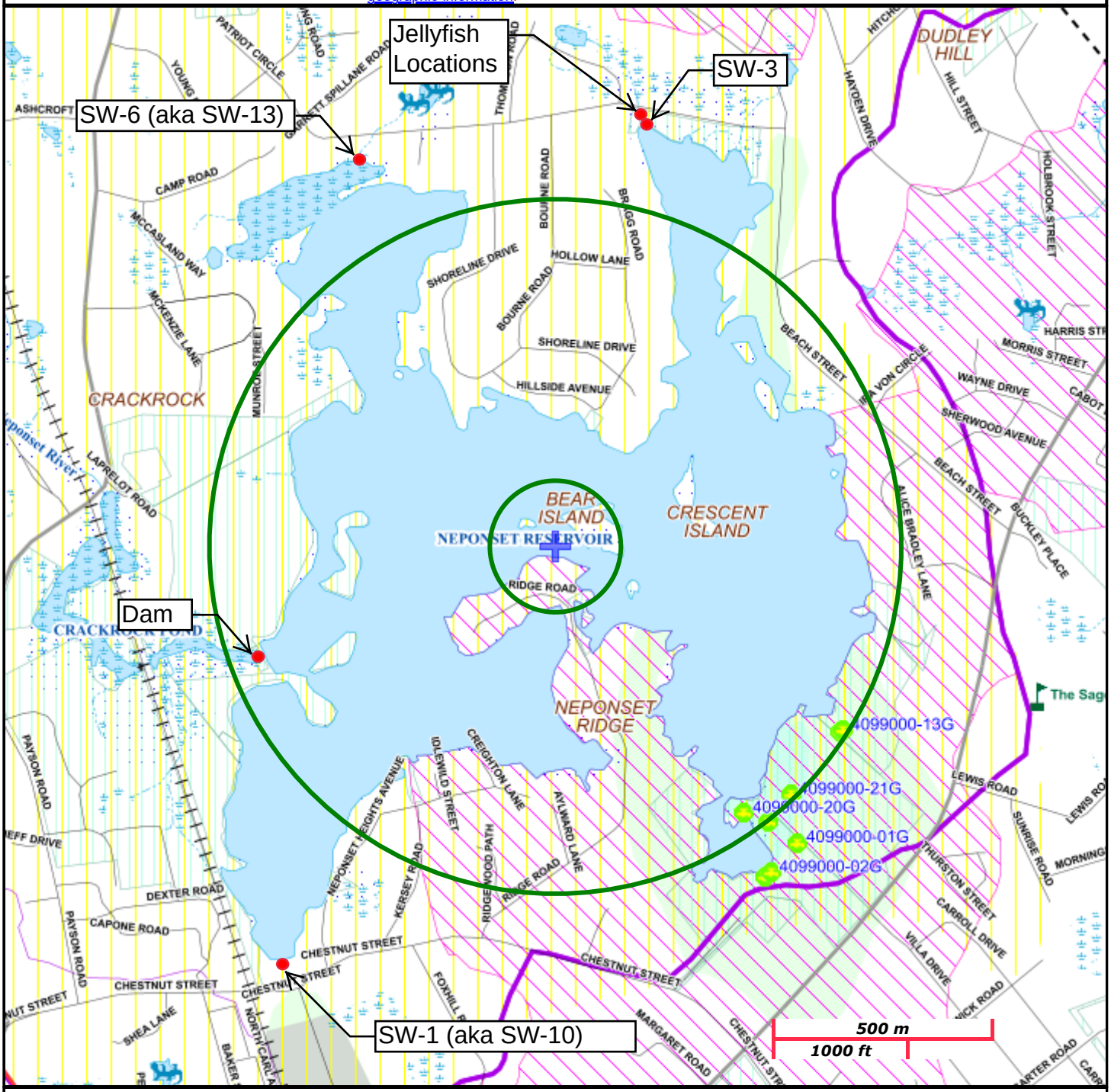
Site Information:

FOXBOROUGH, MA

NAD83 UTM Meters:
4661597mN , 314415mE (Zone: 19)
January 5, 2023

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

NHESP Pri-Hab of Rare Species; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Table 1

Summary of Field Parameters (2019-2022)

Neponset Reservoir
Foxoborough, Massachusetts

Well ID	Date	Dissolved Oxygen (mg/L)	pH (su)	Temperature (˚C)	Conductivity (µS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Comments
SW-1 (a/k/a SW-10 for Dec. 2022) (Chestnut St)	04/16/21 12/16/22	11.58 11.22	9.03 8.16	6.60 7.3	289 681	11.4 14.92	18.3 -61.1	NR NR
SW-2 (Beach St - North)	04/16/21	13.06	8.02	4.56	159	7.2	99.5	NR
SW-3 (f/k/a Outfall-1)	08/29/19 10/14/20 04/16/21 10/27/21 12/16/22	3.60 3.91 11.26 4.36 11.03	6.48 6.66 7.65 6.52 8.68	17.40 9.84 4.32 11.00 7.4	452 142 193 134 605	7.5 12.3 2.3 10.5 16.30	118.1 148.8 133.9 69.1 -58.5	Yellow Tint Clear NR NR NR
SW-4 (f/k/a Outfall-2)	08/29/19 10/14/20 04/16/21	4.09 4.15 11.39	6.22 6.54 7.56	17.06 9.84 4.26	284 266 184	6.2 37.6 1.9	99.2 157.3 127.8	Yellow Tint Turbid NR
SW-5 (Shoreline Dr - North)	04/16/21	NS	NS	NS	NS	NS	NS	NS
SW-6 (f/k/a Outfall-3) (aka SW-13 for Dec. 2022)	08/29/19 10/14/20 04/16/21 12/16/22	8.06 8.42 12.33 10.86	6.95 6.79 7.13 9.72	19.51 12.28 5.89 7.3	121 183 77 628	2.0 2.1 4.2 17.03	54.4 124.9 150.1 -52.8	Clear Clear NR NR
Dam	12/16/22	10.08	9.08	7.4	702	16.76	-69.4	NR
Beach St (Beach St - South)	04/16/21	11.46	8.43	8.23	242	4.6	68.9	NR
Kersey Point	04/16/21	NS	NS	NS	NS	NS	NS	NS
Shoreline Drive (Shoreline Dr - South)	04/16/21	12.52	7.41	5.10	110	3.0	133.9	NR
Jellyfish-3 (a/k/a SW-1 for Dec. 2022)	10/27/21 12/16/22	7.27 9.08	6.01 9.81	12.88 7.3	149 702	16.4 17.01	172.0 -49.5	NR NR
Jellyfish-6 (a/k/a SW-2 for Dec. 2022)	10/27/21 12/16/22	6.35 10.94	6.20 9.07	13.08 7.4	115 629	13.8 13.71	159.4 -56.7	NR NR

mg/L = milligrams per liter
su = Standard units
µS/cm = microsiemens per centimeter
C = Celsius
mv = millivolts
NTU = Nephelometric Turbidity Units
NS = not sampled (no flow)
NR = not recorded

Table 2

Summary of Laboratory Analytical Results (2019-2022)

Neponset Reservoir
Foxoborough, Massachusetts

Well ID	Date	TPH (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Nitrate + Nitrite (mg/L)	Total Phosphorous (mg/L)	Orthophosphate (mg/L)	Total Suspended Solids (mg/L)	E. Coli (MPN/100mL)	Fecal Coliform (CFU/100mL)	Total Coliform (MPN/100mL)
SW-1 (a/k/a SW-10 for Dec. 2022) (Chestnut St)	4/16/21* 12/16/22	1.0 J <4.0	0.67 0.85	<0.0030 <0.050	0.67 0.85	0.042 J 0.046	<0.019 0.006	4.4 NR	116.9 104.6	100 80	>2,419.6 15,967
SW-2 (Beach St - North)	4/16/21*	1.1 J	0.31	<0.0030	0.31	0.048 J	<0.019	<1.5	63.1	30	>2,149.6
SW-3 (f/k/a Outfall-1)	08/29/19 10/14/20 4/16/21* 10/27/21 12/16/22	<5.0 <5.0 <0.86 <2.8 <4.0	<0.11 <0.11 0.21 NR 1.2	<0.010 <0.010 <0.0030 NR <0.050	<0.10 <0.10 0.21 <0.050 1.2	<0.050 0.12 0.046 J 0.088 0.042	<0.050 <0.050 <0.019 <0.050 0.005	<4.0 12.4 <1.5 2.4 NR	1,565 1,732.9 770.1 550 109.51	1,500 1,210 500 310 52	24,196 >2,149.6 >2,419.6 >2,419.6 11,528
SW-4 (f/k/a Outfall-2)	08/29/19 10/14/20 4/16/21*	<5.0 <5.0 1.6 J	0.12 <0.11 0.30	<0.010 <0.010 <0.0030	<0.10 <0.10 0.30	<0.050 0.11 0.037 J	<0.050 0.091 <0.019	4.1 18.6 10.6	1,553 >2,419.6 228.2	1,140 4,200 390	13,540 >2,419.6 >2,419.6
SW-5 (Shoreline Dr - North)	04/16/21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW-6 (f/k/a Outfall-3) (aka SW-13 for Dec. 2022)	08/29/19 10/14/20 4/16/21* 12/16/22	<5.0 <5.0 1.1 J <4.0	0.83 0.89 <0.093 0.97	<0.010 <0.010 <0.0030 <0.050	0.83 0.89 <0.090 0.97	<0.050 <0.050 0.053 0.045	<0.050 <0.050 <0.019 0.005	<4.0 <4.0 <1.5 NR	146 2,419.6 60.5 117.76	370 3,000 70 60	31,300 >2,419.6 >2,419.6 23,822
Dam	12/16/22	<4.0	1.1	<0.050	1.1	0.039	0.005	NR	127.4	64	19,559
Beach St (Beach St - South)	4/16/21*	0.90 J	<0.093	<0.0030	<0.090	0.044 J	<0.019	5.2	1,732.9	590	>2,419.6
Kersey Point	04/16/21	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Shoreline Drive (Shoreline Dr - South)	4/16/21*	2.0 J	0.73	0.0046 J	0.73	0.33	<0.019	14.2	<1	<10	>2,419.6
Reservoir[(1)]	04/16/21	NS	NS	NS	NS	0.98	NS	NS	NS	NS	NS
Jellyfish-3 (a/k/a SW-1 for Dec. 2022)	10/27/21 12/16/22	5.2 <4.0	NR 1.0	NR <0.050	0.47 1.0	0.096 0.027	<0.050 0.006	5.2 NR	390 93.26	460 39	>2,419.6 13,135
Jellyfish-6 (a/k/a SW-2 for Dec. 2022)	10/27/21 12/16/22	<1.4 <4.0	NR 1.2	NR <0.050	0.28 1.2	0.072 0.023	<0.050 0.005	3.0 NR	140 107.12	86 38	>2,419.6 14,830

mg/L = milligrams per liter
MPN/100mL = Most Probable Number per 100 milliliters
CFU/100mL = Colony Forming Units per 100 milliliters
NS = not sampled for analyte
NR = not reported
(1) This sample was collected by the client and was analyzed for Total Phosphate only
* = results reported are laboratory Minimum Detection Limits (MDLs) instead of laboratory Reporting Limits (RLs)
J = laboratory result is greater than (or equal to) the MDL but less than the RL

ANALYTICAL REPORT

Lab Number:	L2271050
Client:	Groundwater & Environmental Services 234 Littleton Road Suite 1F Westford, MA 01886
ATTN:	Jill Settle
Phone:	(800) 221-6119
Project Name:	NEPONSET RESERVOIR RECLAMATION
Project Number:	1605680/08/160
Report Date:	01/03/23

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2271050-01	SW-1	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 07:15	12/16/22
L2271050-02	SW-2	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 08:05	12/16/22
L2271050-03	SW-3	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 09:00	12/16/22
L2271050-04	SW-10	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 10:05	12/16/22
L2271050-05	SW-13	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 10:50	12/16/22
L2271050-06	DAM	WATER	EDWARDS ROAD, FOXBOROUGH, MA	12/16/22 11:40	12/16/22

Project Name:	NEPONSET RESERVOIR RECLAMATION	**Lab Number:**	L2271050
Project Number:	1605680/08/160	**Report Date:**	01/03/23

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.

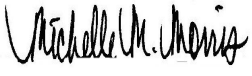
When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded 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.

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: 01/03/23

INORGANICS
&
MISCELLANEOUS

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-01
Client ID: SW-1
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water
Date Collected: 12/16/22 07:15
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	13135		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	39		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	93.26		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 03:54	44,353.2	KAF
Nitrogen, Nitrate	1.0		mg/l	0.10	--	1	-	12/17/22 03:54	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	1.0		mg/l	0.10	--	1	-	12/17/22 03:54	44,353.2	KAF
Phosphorus, Total	0.027		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:39	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.006		mg/l	0.005	--	1	-	12/17/22 09:02	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-02
Client ID: SW-2
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water

Date Collected: 12/16/22 08:05
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	14830		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	38		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	107.12		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 04:04	44,353.2	KAF
Nitrogen, Nitrate	1.2		mg/l	0.10	--	1	-	12/17/22 04:04	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	1.2		mg/l	0.10	--	1	-	12/17/22 04:04	44,353.2	KAF
Phosphorus, Total	0.023		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:43	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.005		mg/l	0.005	--	1	-	12/17/22 09:03	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-03
Client ID: SW-3
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water

Date Collected: 12/16/22 09:00
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	11528		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	52		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	109.51		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 04:06	44,353.2	KAF
Nitrogen, Nitrate	1.2		mg/l	0.10	--	1	-	12/17/22 04:06	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	1.2		mg/l	0.10	--	1	-	12/17/22 04:06	44,353.2	KAF
Phosphorus, Total	0.042		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:44	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.005		mg/l	0.005	--	1	-	12/17/22 09:03	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-04
Client ID: SW-10
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water

Date Collected: 12/16/22 10:05
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	15967		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	80		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	104.6		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 04:07	44,353.2	KAF
Nitrogen, Nitrate	0.85		mg/l	0.10	--	1	-	12/17/22 04:07	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	0.85		mg/l	0.10	--	1	-	12/17/22 04:07	44,353.2	KAF
Phosphorus, Total	0.046		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:45	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.006		mg/l	0.005	--	1	-	12/17/22 09:03	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-05
Client ID: SW-13
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water

Date Collected: 12/16/22 10:50
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	23822		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	60		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	117.76		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 04:08	44,353.2	KAF
Nitrogen, Nitrate	0.97		mg/l	0.10	--	1	-	12/17/22 04:08	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	0.97		mg/l	0.10	--	1	-	12/17/22 04:08	44,353.2	KAF
Phosphorus, Total	0.045		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:46	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.005		mg/l	0.005	--	1	-	12/17/22 09:04	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160
Lab Number: L2271050
Report Date: 01/03/23

SAMPLE RESULTS

Lab ID: L2271050-06
Client ID: DAM
Sample Location: EDWARDS ROAD, FOXBOROUGH, MA
Sample Depth:
Matrix: Water

Date Collected: 12/16/22 11:40
Date Received: 12/16/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	19559		MPN/100ml	100	NA	100	-	12/16/22 15:10	121,9223B	JT
Coliform, Fecal (MF)	64		col/100ml	2.0	NA	2	-	12/16/22 15:09	121,9222D	DRV
E. Coli (MPN)	127.4		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 04:10	44,353.2	KAF
Nitrogen, Nitrate	1.1		mg/l	0.10	--	1	-	12/17/22 04:10	44,353.2	KAF
Nitrogen, Nitrate/Nitrite	1.1		mg/l	0.10	--	1	-	12/17/22 04:10	44,353.2	KAF
Phosphorus, Total	0.039		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:47	121,4500P-E	AAA
Phosphorus, Orthophosphate	0.005		mg/l	0.005	--	1	-	12/17/22 09:04	121,4500P-E	KAF
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM

Project Name: NEPONSET RESERVOIR RECLAMATI **Lab Number:** L2271050

Project Number: 1605680/08/160 **Report Date:** 01/03/23

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-06 Batch: WG1724343-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
Microbiological Analysis - Westborough Lab for sample(s): 01-06 Batch: WG1724344-1										
Coliform, Total (MPN)	<1		MPN/100ml	1	NA	1	-	12/16/22 15:10	121,9223B	JT
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1724430-1										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	12/17/22 02:45	44,353.2	KAF
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1724433-1										
Nitrogen, Nitrate	ND		mg/l	0.10	--	1	-	12/17/22 02:51	44,353.2	KAF
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1724443-1										
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	12/17/22 02:51	44,353.2	KAF
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1724525-1										
Phosphorus, Orthophosphate	ND		mg/l	0.005	--	1	-	12/17/22 09:01	121,4500P-E	KAF
Microbiological Analysis - Westborough Lab for sample(s): 01-06 Batch: WG1725168-1										
Coliform, Fecal (MF)	ND		col/100ml	1.0	NA	1	-	12/16/22 15:09	121,9222D	DRV
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1729264-1										
TPH, SGT-HEM	ND		mg/l	4.00	--	1	01/02/23 15:00	01/02/23 16:52	140,1664B	JM
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1729378-1										
Phosphorus, Total	ND		mg/l	0.010	--	1	01/03/23 08:30	01/03/23 12:32	121,4500P-E	AAA

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1724430-2								
Nitrogen, Nitrite	100		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1724433-2								
Nitrogen, Nitrate	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1724443-2								
Nitrogen, Nitrate/Nitrite	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1724525-2								
Phosphorus, Orthophosphate	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1729264-2								
TPH	124		-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1729378-2								
Phosphorus, Total	101		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724430-4 QC Sample: L2271050-01 Client ID: SW-1												
Nitrogen, Nitrite	ND	4	4.2	105		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724433-4 QC Sample: L2271050-01 Client ID: SW-1												
Nitrogen, Nitrate	1.0	4	5.0	100		-	-		83-113	-		6
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724443-4 QC Sample: L2271050-01 Client ID: SW-1												
Nitrogen, Nitrate/Nitrite	1.0	4	5.0	100		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724525-4 QC Sample: L2271050-01 Client ID: SW-1												
Phosphorus, Orthophosphate	0.006	0.5	0.528	104		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1729264-4 QC Sample: L2266536-75 Client ID: MS Sample												
TPH	ND	18.9	12.6	66		-	-		64-132	-		34
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1729378-4 QC Sample: L2271153-01 Client ID: MS Sample												
Phosphorus, Total	0.093	0.5	0.581	98		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724430-3 QC Sample: L2271050-01 Client ID: SW-1						
Nitrogen, Nitrite	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724433-3 QC Sample: L2271050-01 Client ID: SW-1						
Nitrogen, Nitrate	1.0	1.0	mg/l	0		6
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724443-3 QC Sample: L2271050-01 Client ID: SW-1						
Nitrogen, Nitrate/Nitrite	1.0	1.0	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1724525-3 QC Sample: L2271050-01 Client ID: SW-1						
Phosphorus, Orthophosphate	0.006	0.006	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1729264-3 QC Sample: L2266536-74 Client ID: DUP Sample						
TPH	ND	ND	mg/l	NC		34
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1729378-3 QC Sample: L2271153-01 Client ID: DUP Sample						
Phosphorus, Total	0.093	0.104	mg/l	11		20

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271050-01A	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01B	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01C	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01D	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01E	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01F	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		E-COLI-QT(.33),F-COLI-MF(.33),T-COLI-QT(.33)
L2271050-01G	Plastic 250ml unpreserved	A	7	7	2.3	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-01H	Plastic 250ml H2SO4 preserved	A	<2	<2	2.3	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)
L2271050-01I	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-01J	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-02A	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02B	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02C	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02D	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02E	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02F	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-02G	Plastic 250ml unpreserved	A	7	7	2.3	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-02H	Plastic 250ml H2SO4 preserved	A	<2	<2	2.3	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)

*Values in parentheses indicate holding time in days

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271050-02I	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-02J	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-03A	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03B	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03C	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03D	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03E	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03F	Bacteria Cup Na2S2O3 preserved	A	NA		2.3	Y	Absent		F-COLI-MF(.33),E-COLI-QT(.33),T-COLI-QT(.33)
L2271050-03G	Plastic 250ml unpreserved	A	7	7	2.3	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-03H	Plastic 250ml H2SO4 preserved	A	<2	<2	2.3	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)
L2271050-03I	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-03J	Amber 1000ml HCl preserved	A	NA		2.3	Y	Absent		TPH-1664(28)
L2271050-04A	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04B	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04C	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04D	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04E	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04F	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-04G	Plastic 250ml unpreserved	B	7	7	2.5	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-04H	Plastic 250ml H2SO4 preserved	B	<2	<2	2.5	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)
L2271050-04I	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)
L2271050-04J	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)
L2271050-05A	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-05B	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)

*Values in parentheses indicate holding time in days

Project Name: NEPONSET RESERVOIR RECLAMATION
Project Number: 1605680/08/160

Lab Number: L2271050
Report Date: 01/03/23

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271050-05C	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-05D	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-05E	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-05F	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-05G	Plastic 250ml unpreserved	B	7	7	2.5	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-05H	Plastic 250ml H2SO4 preserved	B	<2	<2	2.5	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)
L2271050-05I	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)
L2271050-05J	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)
L2271050-06A	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06B	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06C	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06D	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06E	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06F	Bacteria Cup Na2S2O3 preserved	B	NA		2.5	Y	Absent		T-COLI-QT(.33),E-COLI-QT(.33),F-COLI-MF(.33)
L2271050-06G	Plastic 250ml unpreserved	B	7	7	2.5	Y	Absent		OPHOS-4500(2),NO2-353(2),NO3-353(2)
L2271050-06H	Plastic 250ml H2SO4 preserved	B	<2	<2	2.5	Y	Absent		NO3/NO2-353(28),TPHOS-4500(28)
L2271050-06I	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)
L2271050-06J	Amber 1000ml HCl preserved	B	NA		2.5	Y	Absent		TPH-1664(28)

*Values in parentheses indicate holding time in days

Project Name:	NEPONSET RESERVOIR RECLAMATION	**Lab Number:**	L2271050
Project Number:	1605680/08/160	**Report Date:**	01/03/23

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 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 method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NEPONSET RESERVOIR RECLAMATION	**Lab Number:**	L2271050
Project Number:	1605680/08/160	**Report Date:**	01/03/23

Footnotes

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, Benz(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.

B - 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).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - 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.

G - 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: Data Usability Report

Project Name:	NEPONSET RESERVOIR RECLAMATION	**Lab Number:**	L2271050
Project Number:	1605680/08/160	**Report Date:**	01/03/23

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.

V - 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: Data Usability Report

Project Name:	NEPONSET RESERVOIR RECLAMATION	**Lab Number:**	L2271050
Project Number:	1605680/08/160	**Report Date:**	01/03/23

REFERENCES

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.

140 Method 1664,Revision B: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-10-001, February 2010.

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.

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/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 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **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-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), **EPA 600/4-81-045**: PCB-Oil.
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 Hg.
SM2340B

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

L2271050

GES

CHAIN OF CUSTODY

Client: Neponset Reservoir Reclamation C

FED-EX Tracking #	Bottle Order Control #
Lab Quote # 20930	Lab Job #

CLIENT/REPORTING INFORMATION	PROJECT INFORMATION	BILLING INFORMATION
Groundwater & Environmental Services, Inc. 1 Park Drive, Westford, MA 01886 **Project Manager:** Jill Settle **Phone #:** 800-221-6119 Jsettle@gesonline.com fax 866-902-2187	**Project Name:** Neponset Reservoir Reclamation Committee (NRRC) **Project Address:** Edwards Road, Foxborough, MA **Project PSID #:**	Groundwater & Environmental Services, Inc. ges-invoices@gesonline.com ATTN: Accounts Payable **Invoice Instructions (Project #/ Phase / Task / Altorg)** 1605680 / 08 / 160

Sampler(s) Name: Van Sawyer

Sampler(s) Name:

Lab Sample #	Field ID / Point of Collection (Sys_loc_code)	Depth Interval (ft)	Date Sampled	Time Sampled	Sampler	Matrix	Total # Bottles	HCl	Na2S2O3	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Amber	TPH-1664	F-COLI-MF-T-COLI-01-G COLI-pac		NO3 ORTHO-4500 NO2	NO3/NO2 TPHOS-4500				LAB USE ONLY
	SW-1		12/16/22	0715	VS	SW	10	2	6		1	1					X	X		X	X				
	SW-2		12/16/22	0805	VS	SW	10	2	6		1	1					X	X		X	X				
	SW-3		12/16/22	0900	VS	SW	10	2	6		1	1					X	X		X	X				
	SW-10		12/16/22	1005	VS	SW	10	2	6		1	1					X	X		X	X				
	SW-13		12/16/22	1050	VS	SW	10	2	6		1	1					X	X		X	X				
	DAM		12/16/22	1140	VS	SW	10	2	6		1	1					X	X		X	X				

Turnaround Time (Business Days) Approved By (Lab PM) / Date

- ☐ Standard 14 Days ____________ /
- ☐ Expedited ____________ /
- ☐ Other ________ ____________ /

Laboratory Information

- **Lab:** Alpha Analytical Laboratory
- **Address:** 8 Walkup Drive, Westborough, MA 01581
- **Phone:** 508-898-9220
- **Lab PM:** Nathalie Lewis
- **Lab PM Email:** nlewis@alphalab.com

Data Deliverable Information

- ☐ Commercial 'A' (Level 1) = Results Only
- ☐ Commercial 'B' (Level 2) = Results + QC Summary
- ☐ FULLT1 (Level 3 & 4)
- ☐ NJ Reduced = Results + QC Summary + Partial Raw Data
- ☐ Commercial 'C'
- ☐ *NJ Data of Known Quality Protocol Reporting*
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☑ EDD Format
- ☐ Other ____________

Please Email the EQ EDD Package to ges@equisonline.com

EQEDD Name: NRRC - Neponset Reservoir - Foxboro, MA_LabReport#.22247.EQEDD.zip

Sample Custody must be documented below each time samples change possession, including courier.		
Relinquished By Sampler: 1 [signature]	Date / Time: 12/16/22 1325	Received By: 1 [signature] AAL
Relinquished By: 2	Date / Time: 2	Received By: 2
Relinquished By: 3	Date / Time: 3	Received By: 3
Custody Seal Number: ☐ Intact ☐ Not Intact	☐ Preserved where applicable ☐ On Ice	Cooler Temp ________

\\svrmt60-vm2\Westford-01\Dashboard\Planning\960661.xlsm