

6. Current permit coverage: yes no

- a) Has a prior NPDES permit (individual or general permit coverage) been granted for the discharge that is listed on the NOI? yes no If Yes, permit number MAG250279
- b) Is the facility covered by an individual NPDES permit for other discharges? yes no
If yes, Permit Number: _____
- c) Is there a pending NPDES application on file with EPA for this discharge? yes no
If yes, date of submittal: _____ and permit number, if available _____

7. Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water.

Map attached?

B. Discharge Information (attach additional sheets as needed):

1. Name of receiving water into which discharge will occur: Blackstone River
 Freshwater Marine Water ;
 State Water Quality Classification Class B
 Type of Receiving Water Body (e.g., stream, river, lake, reservoir, estuary, etc.) River

2. Attach a line drawing or flow schematic showing water flow through the facility including sources of intake water, operations contributing to flow, treatment units, outfalls, and receiving water(s).

Line drawing or flow diagram attached?

3. Describe the discharge activities for which the owner/applicant is seeking coverage (e.g., building cooling, process line cooling, etc.) Non-contact cooling water

4. Number of Outfalls 1 Latitude and Longitude to the nearest second for each Outfall. See EPA's siting tool at <https://www.epa.gov/toxics-release-inventory-tri-program/tri-data-and-tools>. Attach additional pages if necessary.

Outfall #	Latitude <u>42° 08' 22"</u>	Longitude <u>71° 38' 27"</u>
Outfall #	Latitude _____	Longitude _____
Outfall #	Latitude _____	Longitude _____

5. For each Outfall provide the following discharge information:

Outfall # 1

- a) Maximum Daily Flow 0.190 MGD Average Monthly Flow 0.154 MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
- b) Maximum Daily Temperature 81 °F Average Monthly Temperature 67 °F
- c) Maximum Monthly pH 6.71 s.u. Minimum Monthly pH 5.75 s.u.
- d) Outfall's discharge is: continuous intermittent seasonal

Outfall # _____

- a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD
NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.
- b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F
- c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.
- d) Outfall's discharge is: continuous intermittent seasonal

Outfall # _____

a) Maximum Daily Flow _____ MGD Average Monthly Flow _____ MGD

NOTE: EPA will use the flow reported here as the facility's permitted effluent flow limit.

b) Maximum Daily Temperature _____ °F Average Monthly Temperature _____ °F

c) Maximum Monthly pH _____ s.u. Minimum Monthly pH _____ s.u.

d) Outfall's discharge is: continuous intermittent seasonal

6. Is the source of the NCCW potable water? yes no

If yes, EPA will calculate a Total Residual Chlorine effluent limit for your facility.

7. Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water 29.084 MGD
Attach any calculation sheets used to support stream flow and/or dilution calculations.

8. For facilities that discharge to Massachusetts surface waters:

a) Submit the completed engineering calculation of the surface water temperature rise as shown in Attachment B of the General Permit. Calculation attached?

b) Does the discharge occur in an Area of Critical Environmental Concern (ACEC)? yes no

If yes, provide the name of ACEC _____

c) Does the discharge occur to an Outstanding Resource Water (ORW)? yes no

If yes, enclose antidegradation waiver approval provided by MassDEP.

Note: See Appendix 1 of the General Permit for more information on ACEC.

C. Chemical Additives

1. Are any non-toxic neutralization and/or dechlorination chemicals used in the discharge(s)? yes no

2. If yes, attach a list of each chemical used and include the chemical name and manufacturer; maximum and average daily quantity used on a monthly basis, as well as the maximum and average daily expected concentrations (mg/L) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC₅₀ in percent for typically acceptable aquatic organism).

3. Was this list submitted with the facility's 2014 NCCWGP NOI? yes no N/A

D. NCCW Source Water Information

1. State the source of the NCCW (e.g., municipal water supply, private well, surface water withdrawal, etc.).

Source Private Well Name of Source Water Overburden Well

2. Is the source water registered/permitted under MA Water Management Act or NHDES User Registration Rule (ENV WQ 2202)? yes no If yes, registration number 9P21221602

3. If the source water is groundwater (non-municipal well water), see Appendix 9 of the General Permit and submit effluent (and receiving water hardness) test results, as required in Part 5.4 of the General Permit.

Test results attached?

4. Does the facility use both a primary and backup source of NCCW? yes no If yes, **attach information** that identifies and describes the primary and backup sources of NCCW and how often any backup supply was used in the past five years.

E. Best Technology Available for Cooling Water Intake Structures (CWISs)

If the facility's non-contact cooling water discharge is covered by this General Permit and the facility **withdraws water from a surface water**, it is subject to the BTA requirements at Part 4.2 of the General Permit.

1. Are you subject to the BTA requirements of the General Permit? yes no
- a) If no, explain RMC withdraws NCCW from groundwater and skip to F.
- b) If yes, submit a facility-specific BTA description that accurately describes the facility's operations and practices, including, but not limited to, the measures described in Part 5.5 of the General Permit. For additional information and guidance, see Section IV of the Fact Sheet.

Include in your description:

- a) Measures to meet the General Permit Part 4.2.1 general BTA requirements, including documentation that describes the facility's monitoring program for impinged fish and/or invertebrates; or the required alternative monitoring plan frequency and/or protocol.
- b) The attributes of the current CWIS.
- c) The design measures of the CWIS.
- d) The operational measures of the CWIS.
- e) The historical occurrence of impinged fish for the past five years.
- f) If applicable, a demonstration that the facility's intake rate is commensurate with a closed-cycle recirculation system.
- g) Other components to reduce impingement and/or entrainment of aquatic life.

2. Provide the following information for each CWIS to support your attached facility-specific BTA description:

- a) The design capacity of the of the CWIS _____MGD
- b) Maximum monthly average intake of the CWIS during the previous five years _____MGD
- c) The month and year in which this flow reported in 2.b. occurred _____
- d) The maximum through-screen design intake velocity _____feet/second (fps)

3. For facilities where the CWIS is located on a freshwater river or stream, provide the following information:

- a) The source water's annual mean flow in MGD as available from USGS or other appropriate source _____MGD
- b) The design intake flow as a % of the source water's annual mean flow _____%
Attach calculations if equal to or less than 5% of annual mean flow.
- c) The source water's 7Q10 _____MGD
- d) The design intake flow as a percent of the source water's 7Q10 _____%

4. Provide a map showing the location of each cooling water intake structure; NCCW Outfall(s) and CWIS features referred to in the BTA description. **Map attached?**

F. Endangered Species Act Eligibility Information

If your facility is listed in Table A as one of the 37 facilities covered under the 2014 NCCW GP, check this box.

Your ESA consultation responsibilities have been satisfied by EPA. Proceed to Part G.

If your facility is not included as one of the 37 facilities covered under the 2014 NCCW GP, complete this Part.

Using the instructions in Appendix 2, Parts B(1) and B(2) of the NCCW GP, which of the following criteria apply to your facility?

United States Fish and Wildlife Service (USFWS) Criteria: A B C

National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) Criteria: A B C

1. If you selected USFWS criterion B, has consultation with the USFWS been completed? yes no
If you selected NOAA Fisheries criterion B, has consultation with NOAA Fisheries been completed?
yes no
2. If consultation with USFWS and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is "not likely to adversely affect" listed species or critical habitat received?
USFWS yes no N/A NOAA Fisheries yes no N/A
3. Attach documentation of ESA eligibility for USFWS and NOAA Fisheries as required at Appendix 2, Part C. of the General Permit. **Documentation attached?** USFWS NOAA Fisheries
4. Please indicate if your facility **directly intakes water for non-contact cooling from, or discharges any NCCW effluent to**, any of the following waterbodies:

- Merrimack River
- Connecticut River
- Westfield River
- Deerfield River
- Piscataqua River
- Salmon Falls River
- Cocheco River
- Taunton River

EPA will consult with NOAA Fisheries on any cooling water intakes or discharges covered under this permit in areas (in the above waterbodies) that overlap with the presence of shortnose sturgeon (endangered) and Atlantic sturgeon (threatened/endangered).

Please indicate if your facility **directly intakes water for non-contact cooling from, or discharges non-contact cooling water effluent to**, the Connecticut River Watershed. EPA will consult with the U.S Fish and Wildlife Service on cooling water intakes and discharges covered under this permit in areas of the Connecticut River Watershed that overlap with the presence of the dwarf wedgemussel (endangered).

yes no

G. National Historic Properties Act Eligibility

1. Are any historic properties listed or eligible for listing on the National Register of Historic Places located on the facility site or in proximity to the discharge? yes no
2. Have any State or Tribal Historic Preservation Officers been consulted in this determination? yes no
If yes, attach the results of the consultation(s).
3. Which of the three National Historic Preservation Act scenarios listed in Appendix 3, Section C has the facility met?
 1 2 3

H. Supplemental Information

Please provide any supplemental information, including antidegradation review information applicable to new or increased discharges. Attach any analytical data used to support the application. Attach any certification(s) required by the General Permit.

I. Signature Requirements

The NOI must be signed by the operator in accordance with the signatory requirements of 40 CFR§ 122.22 (see below) including the following certification:

I certify under penalty of law that (1) no biocides or other chemical additives except for those used for pH adjustment and/or dechlorination are used in the noncontact cooling water (NCCW) system; (2) the discharge consists solely of NCCW (to reduce temperature) and authorized pH adjustment and/or dechlorination chemicals; (3) the discharge does not come in contact with any raw materials, intermediate product, water product (other than heat) or finished product; (4) if the discharge of noncontact cooling water subsequently mixes with other wastewater (i.e. stormwater) prior to discharging to the receiving water, any monitoring provided under this permit will be only for noncontact cooling water; (5) where applicable, the facility has complied with the requirements of this permit specific to the Endangered Species Act and National Historic Preservation Act; and (6) this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

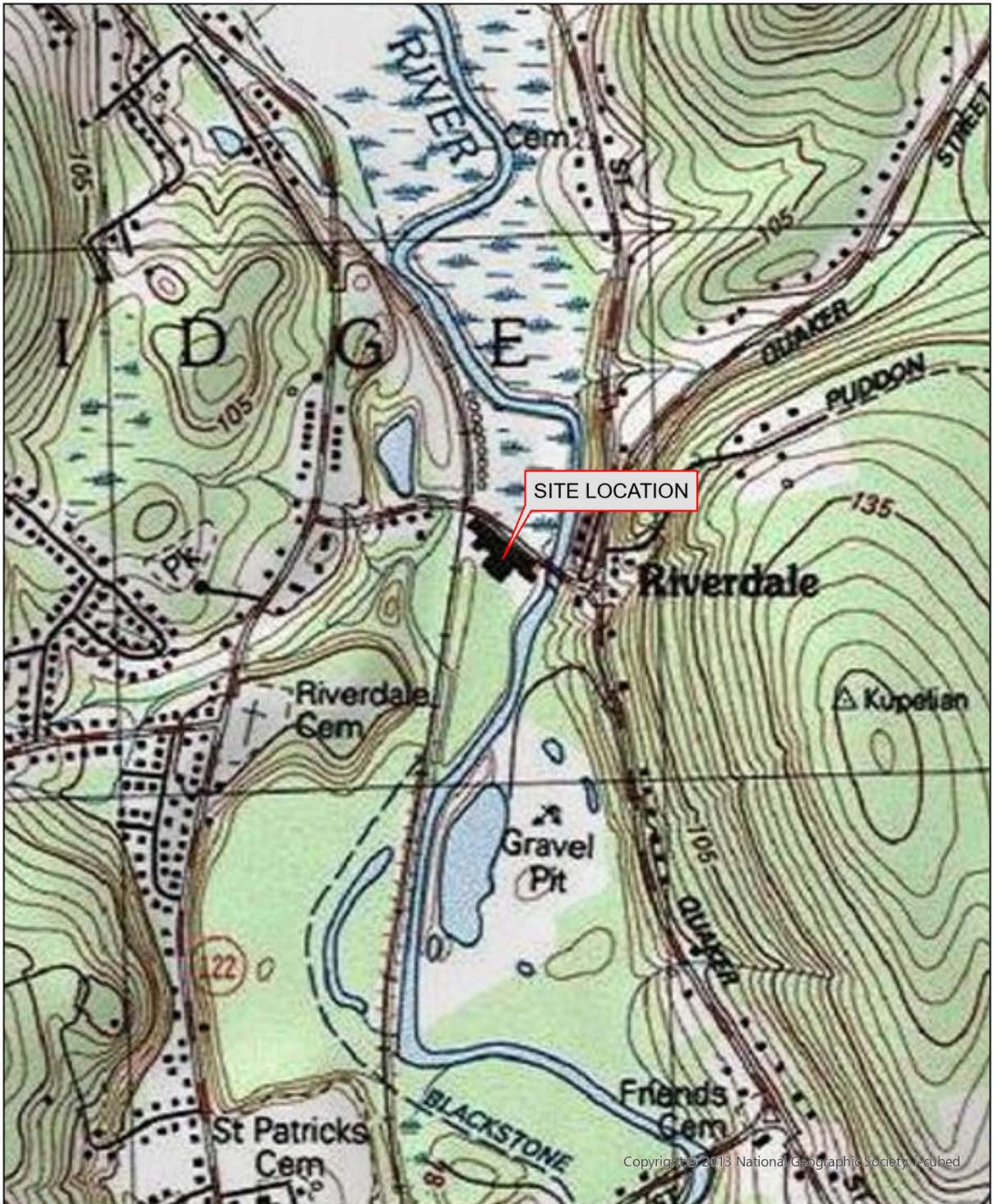
Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I certify that I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Signature  Date 6/14/2024

Printed Name and Title Debra Krikorian, CFO

Federal regulations require this application to be signed as follows:

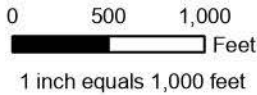
1. For a corporation, by a principal executive officer of at least the level of vice president;
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively, or,
3. For a municipality, State, Federal or other public facility, by either a principal executive officer or ranking elected official.



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100 Nickerson Road
Marlborough, MA 01752
508.786.2200
www.tetratech.com



Scale: 1:12,000



Basemap: USGS Topo

USGS Topo

Riverdale Mills
130 Riverdale Street,
Northbridge, MA

Figure
1



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N. Robinson, NCEAS, NLS, OS, NMA, Geodataswensen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Esri-Community Maps Contributors, MassGIS, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, MET/NASA, USGS, EPA, NPS, US Census Bureau, USDA, USFWS

Calculations

1. Receiving Water Temperature Calculation:

$$\Delta T_r = (m_p/m_r) * \Delta T_p$$

Where,

ΔT_r = change in river temperature in °F

m_p = Maximum daily volume of effluent in MGD

m_r = 7Q10 volume of river in MGD

ΔT_p = maximum change in temperature, effluent -influent in °F

At RMC:

$$\Delta T_p = 31^\circ\text{F}$$

$$m_p = 0.190 \text{ MGD}$$

$$m_r = 29.084 \text{ MGD}$$

Blackstone River at Riverdale Mills Corporation:

$$\Delta T_r = (0.190/29) * 31 = 0.20 \text{ }^\circ\text{F}$$

The estimated maximum temperature change in the receiving waters of the Blackstone River as a result of the non-contact cooling water discharge from Riverdale Mills Corporation is 0.20 degrees F.

2. Dilution Factor Calculation using the formula for when the water supply is from the drainage basin:

$$DF = (Q_R/Q_P) * 0.9$$

Where,

DF = Dilution Factor

Q_R = Estimated 7Q10 low flow in MGD

Q_P = Plant's maximum design flow in MGD

At RMC:

Q_R = 29.084 MGD (estimated 7Q10 in Blackstone River at Riverdale)

Q_P = 0.19 MGD (maximum daily discharge of non-contact cooling water over recent period of record)

$$DF = (29.084/0.19)*0.9$$

$$DF = 137.8$$

The dilution factor calculated using the 7Q10 flow in the Blackstone River at Riverdale Mills Corporation and the maximum recorded discharge of non-contact cooling water is 137.8.

3. Conversion from cubic feet per second to million gallons per day

$Q_R = 45 \text{ cfs}$ (estimated 7Q10 in Blackstone River at Riverdale)

$$Q_R = 45 \text{ ft}^3/\text{s} * 86,400 \text{ s/day} * 7.4805 \text{ gallons/ft}^3 = 29,084,184 \text{ gallons/day} = 29.084 \text{ MGD}$$



ANALYTICAL REPORT

Lab Number:	L2425454
Client:	Tetra Tech Rizzo Marlborough Technology Park 100 Nickerson Road Marlborough, MA 01752
ATTN:	Chris Nitchie
Phone:	(508) 786-2203
Project Name:	RIVERDALE
Project Number:	143-150417
Report Date:	06/05/24

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), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

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



Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2425454-01	NCCW	WATER	NORTHBRIDGE, MA	05/08/24 15:45	05/08/24

Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

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: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Case Narrative (continued)

Report Submission

June 05, 2024: This final report includes the results of all requested analyses.

May 15, 2024: This is a preliminary report.

The analyses of Hexavalent Chromium, Gross Alpha, RA226, RA228, and Uranium 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.

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:  Tiffani Morrissey

Title: Technical Director/Representative

Date: 06/05/24

METALS

Project Name: RIVERDALE

Lab Number: L2425454

Project Number: 143-150417

Report Date: 06/05/24

SAMPLE RESULTS

Lab ID: L2425454-01

Date Collected: 05/08/24 15:45

Client ID: NCCW

Date Received: 05/08/24

Sample Location: NORTHBRIDGE, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.00400	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Arsenic, Total	ND		mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Cadmium, Total	ND		mg/l	0.00020	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Chromium, Total	ND		mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Copper, Total	0.1099		mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Iron, Total	ND		mg/l	0.0500	--	1	05/14/24 09:47	05/14/24 15:33	EPA 3005A	19,200.7	DHL
Lead, Total	ND		mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Mercury, Total	ND		mg/l	0.00020	--	1	05/14/24 11:35	05/14/24 20:39	EPA 245.1	3,245.1	MJR
Nickel, Total	0.00258		mg/l	0.00200	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Silver, Total	ND		mg/l	0.00040	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Zinc, Total	0.01952		mg/l	0.00500	--	1	05/14/24 09:47	05/15/24 08:56	EPA 3005A	3,200.8	EJF
Total Hardness by SM 2340B - Mansfield Lab											
Hardness	41.1		mg/l	0.660	NA	1	05/14/24 09:47	05/14/24 15:33	EPA 3005A	19,200.7	DHL



Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1920770-1									
Antimony, Total	ND	mg/l	0.00400	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Arsenic, Total	ND	mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Cadmium, Total	ND	mg/l	0.00020	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Chromium, Total	ND	mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Copper, Total	ND	mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Lead, Total	ND	mg/l	0.00100	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Nickel, Total	ND	mg/l	0.00200	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Silver, Total	ND	mg/l	0.00040	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF
Zinc, Total	ND	mg/l	0.00500	--	1	05/14/24 09:47	05/15/24 08:47	3,200.8	EJF

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1920829-1									
Iron, Total	ND	mg/l	0.0500	--	1	05/14/24 09:47	05/14/24 15:26	19,200.7	DHL

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Mansfield Lab for sample(s): 01 Batch: WG1920829-1									
Hardness	ND	mg/l	0.660	NA	1	05/14/24 09:47	05/14/24 15:26	19,200.7	DHL

Prep Information

Digestion Method: EPA 3005A



Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1920843-1									
Mercury, Total	ND	mg/l	0.00020	--	1	05/14/24 11:35	05/14/24 20:32	3,245.1	MJR

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERDALE

Project Number: 143-150417

Lab Number: L2425454

Report Date: 06/05/24

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1920770-2								
Antimony, Total	95		-		85-115	-		
Arsenic, Total	92		-		85-115	-		
Cadmium, Total	99		-		85-115	-		
Chromium, Total	104		-		85-115	-		
Copper, Total	100		-		85-115	-		
Lead, Total	97		-		85-115	-		
Nickel, Total	103		-		85-115	-		
Silver, Total	101		-		85-115	-		
Zinc, Total	101		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1920829-2								
Iron, Total	105		-		85-115	-		
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 Batch: WG1920829-2								
Hardness	95		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1920843-2								
Mercury, Total	96		-		85-115	-		

Matrix Spike Analysis Batch Quality Control

Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920770-3 QC Sample: L2425454-01 Client ID: NCCW												
Antimony, Total	ND	0.5	0.4628	92	-	-	-	-	70-130	-	-	20
Arsenic, Total	ND	0.12	0.1175	98	-	-	-	-	70-130	-	-	20
Cadmium, Total	ND	0.053	0.05190	98	-	-	-	-	70-130	-	-	20
Chromium, Total	ND	0.2	0.2039	102	-	-	-	-	70-130	-	-	20
Copper, Total	0.1099	0.25	0.3571	99	-	-	-	-	70-130	-	-	20
Lead, Total	ND	0.53	0.5461	103	-	-	-	-	70-130	-	-	20
Nickel, Total	0.00258	0.5	0.4994	99	-	-	-	-	70-130	-	-	20
Silver, Total	ND	0.05	0.04926	98	-	-	-	-	70-130	-	-	20
Zinc, Total	0.01952	0.5	0.5091	98	-	-	-	-	70-130	-	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920829-3 QC Sample: L2425454-01 Client ID: NCCW												
Iron, Total	ND	1	1.04	104	-	-	-	-	75-125	-	-	20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920829-3 QC Sample: L2425454-01 Client ID: NCCW												
Hardness	41.1	66.2	106	98	-	-	-	-	75-125	-	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920843-3 QC Sample: L2425454-01 Client ID: NCCW												
Mercury, Total	ND	0.005	0.00467	93	-	-	-	-	70-130	-	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: RIVERDALE

Project Number: 143-150417

Lab Number: L2425454

Report Date: 06/05/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920770-4 QC Sample: L2425454-01 Client ID: NCCW						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Copper, Total	0.1099	0.1106	mg/l	1		20
Lead, Total	ND	ND	mg/l	NC		20
Nickel, Total	0.00258	0.00252	mg/l	2		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	0.01952	0.01886	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920829-4 QC Sample: L2425454-01 Client ID: NCCW						
Iron, Total	ND	ND	mg/l	NC		20
Total Hardness by SM 2340B - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920829-4 QC Sample: L2425454-01 Client ID: NCCW						
Hardness	41.1	42.3	mg/l	3		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1920843-4 QC Sample: L2425454-01 Client ID: NCCW						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS

Project Name: RIVERDALE

Project Number: 143-150417

Lab Number: L2425454

Report Date: 06/05/24

SAMPLE RESULTS

Lab ID: L2425454-01

Client ID: NCCW

Sample Location: NORTHBRIDGE, MA

Date Collected: 05/08/24 15:45

Date Received: 05/08/24

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.42		SU	-	NA	1	-	05/10/24 03:41	121,4500H+-B	CAR
Anions by Ion Chromatography - Westborough Lab										
Chloride	61.8		mg/l	5.00	--	10	-	05/10/24 18:36	44,300.0	CVN



Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Method Blank Analysis
Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chromatography - Westborough Lab for sample(s): 01 Batch: WG1919784-1									
Chloride	ND	mg/l	0.500	--	1	-	05/10/24 12:58	44,300.0	CVN

Lab Control Sample Analysis

Batch Quality Control

Project Name: RIVERDALE

Project Number: 143-150417

Lab Number: L2425454

Report Date: 06/05/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1919319-1								
pH	100		-		99-101	-		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 Batch: WG1919784-2								
Chloride	96		-		90-110	-		

Matrix Spike Analysis Batch Quality Control

Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1919784-3 QC Sample: L2425315-04 Client ID: MS Sample												
Chloride	175	20	184	44	Q	-	-		90-110	-		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: RIVERDALE

Project Number: 143-150417

Lab Number: L2425454

Report Date: 06/05/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1919319-2 QC Sample: L2425454-01 Client ID: NCCW						
pH (H)	6.42	6.44	SU	0		5
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1919784-4 QC Sample: L2425315-04 Client ID: DUP Sample						
Chloride	175	175	mg/l	6		18

Project Name: RIVERDALE**Lab Number:** L2425454**Project Number:** 143-150417**Report Date:** 06/05/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2425454-01A	Plastic 120ml unpreserved	A	7	7	4.4	Y	Absent		CL-300(28),PH-4500(.01)
L2425454-01B	Plastic 250ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		CD-2008T(180),NI-2008T(180),ZN-2008T(180),CU-2008T(180),FE-UI(180),HARDU(180),AG-2008T(180),HG-U(28),AS-2008T(180),SB-2008T(180),CR-2008T(180),PB-2008T(180)
L2425454-01C	Plastic 120ml Other preserved (sub-lab)	A	9	9	4.4	Y	Absent		SUB-HEXCR-218.7(14)
L2425454-01D	Plastic 500ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-URANIUM(180)
L2425454-01E	Plastic 950ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-RA228(180),SUB-ALPHA(180),SUB-RA226(180)
L2425454-01F	Plastic 950ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-RA228(180),SUB-ALPHA(180),SUB-RA226(180)
L2425454-01G	Plastic 950ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-RA228(180),SUB-ALPHA(180),SUB-RA226(180)
L2425454-01H	Plastic 950ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-RA228(180),SUB-ALPHA(180),SUB-RA226(180)
L2425454-01I	Plastic 950ml HNO3 preserved	A	<2	<2	4.4	Y	Absent		SUB-RA228(180),SUB-ALPHA(180),SUB-RA226(180)

Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

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.
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: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

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: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

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.
- 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.)

Project Name: RIVERDALE
Project Number: 143-150417

Lab Number: L2425454
Report Date: 06/05/24

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.



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; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

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

Nonpotable Water: EPA RSK-175 Dissolved Gases

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 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).

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, 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.



CHAIN OF CUSTODY

PAGE 1 OF 1

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 05/08/24

ALPHA Job #: 2425454

Project Information

Project Name: RIVERPOLE
Project Location: NORTHBRIDGE, MA
Project #: 143-150417
Project Manager: CHRIS NOTCHIE
ALPHA Quote #:

Report Information - Data Deliverables

ADEX EMAIL

Billing Information

Same as Client info PO #:

Client Information

Client: TETRA TECH
Address: 130 NICKERSH RD
MARLBOROUGH MA
Phone: 617-997-9452
Email: CHRIS.NOTCHIE@TETRATECH.COM

Regulatory Requirements & Project Information Requirements

Yes No MA MCP Analytical Methods Yes No CT RCP Analytical Methods
 Yes No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
 Yes No GW1 Standards (Info Required for Metals & EPH with Targets)
 Yes No NPDES RGP
 Other State /Fed Program EPA NPDES NEW GO Criteria SED GENERAL PERMIT

Turn-Around Time

Standard RUSH (only confirmed if pre-approved)
Date Due:

Additional Project Information:

METALS: ANTIMONY, ARSENIC, CADMIUM, CHROMIUM (TOTAL), CHROMIUM (VI), COPPER, IRON, LEAD, MERCURY, NICKEL, SEWER, ZINC, ~~ST~~

ANALYSIS		SAMPLE INFO	
VOC: <input type="checkbox"/> 8260 <input type="checkbox"/> 624 <input type="checkbox"/> 524.2	SVOC: <input type="checkbox"/> ABN <input type="checkbox"/> PAH	Filtration	<input type="checkbox"/> Field <input type="checkbox"/> Lab to do
METALS: <input type="checkbox"/> MCP 13 <input type="checkbox"/> MCP 14 <input type="checkbox"/> RCP 15	METALS: <input type="checkbox"/> RCRA5 <input type="checkbox"/> RCRA8	Preservation	<input type="checkbox"/> Lab to do
EPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	VPH: <input type="checkbox"/> Ranges & Targets <input type="checkbox"/> Ranges Only	PH	
PCB	TPH: <input type="checkbox"/> Quant Only <input type="checkbox"/> Fingerprint	HARDNESS	
CHLORIDE		RADIONUCLIDES -	
		CR-615 ALPHA	
		RADIUM 226	
		RADIUM 228	
		LEAD 210	
		LEAD 214	

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials	TOTAL # BOTTLES
		Date	Time			
25454-01	NCCW	5/8/24	1545	E	CKM	9

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₅
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type	P	P	P	P	P
Preservative	C	A	C	A	C

Relinquished By: *[Signature]* Date/Time: 5/8/24 1714

Received By: *[Signature]* Date/Time: 5/8/24 1714

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.
FORM NO: 01-01 (rev. 12-Mar-2012)



May 23, 2024

Melissa Gulli
Eight Walkup Drive

Westborough, MA

RE: Project: NCCW 5/8/24
Pace Project No.: 92730120

Dear Melissa Gulli:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2024. 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 - Asheville

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

Sincerely,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
612-473-6801
Project Manager

Enclosures

cc: Brenda Pirinelli, Alpha Analytical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: NCCW 5/8/24
Pace Project No.: 92730120

Pace Analytical Services Asheville

2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40

South Carolina Laboratory ID: 99030
South Carolina Certification #: 99030001
Virginia/VELAP Certification #: 460222

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: NCCW 5/8/24
Pace Project No.: 92730120

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92730120001	NCCW	EPA 218.7 Rev 1.0 2011	CDC	1	PASI-A

PASI-A = Pace Analytical Services - Asheville

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCCW 5/8/24
 Pace Project No.: 92730120

Sample: NCCW		Lab ID: 92730120001	Collected: 05/08/24 15:45	Received: 05/10/24 11:45	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
218.7 Chromium, Hexavalent		Analytical Method: EPA 218.7 Rev 1.0 2011 Pace Analytical Services - Asheville						
Chromium, Hexavalent	0.11	ug/L	0.025	1		05/11/24 11:57	18540-29-9	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: NCCW 5/8/24
 Pace Project No.: 92730120

QC Batch: 853886 Analysis Method: EPA 218.7 Rev 1.0 2011
 QC Batch Method: EPA 218.7 Rev 1.0 2011 Analysis Description: 218.7 Chromium, Hexavalent
 Laboratory: Pace Analytical Services - Asheville
 Associated Lab Samples: 92730120001

METHOD BLANK: 4406435 Matrix: Water
 Associated Lab Samples: 92730120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	ug/L	ND	0.025	05/11/24 10:25	

LABORATORY CONTROL SAMPLE: 4406436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	ug/L	0.1	0.11	113	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4406437 4406438

Parameter	Units	92730120001		4406438		MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Chromium, Hexavalent	ug/L	0.11	0.1	0.1	0.22	0.22	115	115	90-110	0 M1

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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QUALIFIERS

Project: NCCW 5/8/24
Pace Project No.: 92730120

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.
Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.
A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.
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) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCCW 5/8/24
Pace Project No.: 92730120

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92730120001	NCCW	EPA 218.7 Rev 1.0 2011	853886		

REPORT OF LABORATORY ANALYSIS

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DC#_Title: ENV-FRM-HUN1-0083 v03_Sample Condition Upon Receipt

Effective Date: 12/01/2023

Laboratory receiving samples:

Asheville Eden Greenwood Huntersville Raleigh Mechanicsville Atlanta Kernersville

Sample Condition Upon Receipt

Client Name:

Alpha Analytical

Project #:

WO#: 92730120

Courier: Fed Ex UPS USPS Client Commercial Pace Other:



Custody Seal Present? Yes No Seals Intact? Yes No N/A

Date/Initials Person Examining Contents 5-10-24 AR

Packing Material: Bubble Wrap Bubble Bags None Other

Biological Tissue Frozen?

Yes No N/A

Thermometer:

IR Gun ID: 937082

Type of Ice: Wet Blue None

Cooler Temp: 1.8 Correction Factor: Add/Subtract (°C) 0

Temp should be above freezing to 6°C

Samples out of temp criteria. Samples on ice, cooling process has begun

Cooler Temp Corrected (°C): 1.8

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

			Comments/Discrepancy:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Short Hold Time Analysis (<72 hr.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		3.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		4.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		6.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		7.
Dissolved analysis: Samples Field Filtered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		8.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Includes Date/Time/ID/Analysis Matrix: WT			
Headspace in VOA Vials (>5-6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		10.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? Yes No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted: Date/Time:

Project Manager SCURF Review: Date:

Project Manager SRF Review: Date:



DC#_Title: ENV-FRM-HUN1-0083 v03_Sample Condition Upon Receipt

Effective Date: 12/01/2023

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottles

***Check all unpreserved Nitrates for chlorine

Project #

WO# : 92730120

PM: EJH

Due Date: 05/24/24

CLIENT: 93-Alpha

Item #	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic Zn Acetate & NaOH (>9)	BP4B-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	DG94-40 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2SO3 (N/A)	VG9U-40 mL VOA Unpreserved (N/A)	DG9V-40 mL VOA H3PO4 (N/A)	KP7U-50 mL Plastic Unpreserved (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3R-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved (N/A) (Cl-)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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12	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

 <p>ALPHA ANALYTICAL World Class Chemistry</p>	<p>Subcontract Chain of Custody</p> <p>Pace Analytical - Asheville 2225 Riverside Dr Asheville, NC 28804</p>	<p>Alpha Job Number L2425454</p>
-----------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------	---------------------------------------------

Client Information	Project Information	Regulatory Requirements/Report Limits
Client: Alpha Analytical Labs Address: Eight Walkup Drive Westborough, MA 01581-1019 Phone: 716.427.5228 Email: Jennifer.Byrnes@pacelabs.com	Project Location: MA Project Manager: Jennifer Byrnes Turnaround & Deliverables Information Due Date: Deliverables:	State/Federal Program: Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2425454	Report to include Method Blank, LCS/LCSD:
Additional Comments: Invoices to: invoices@pacelabs.coupahost.com Reports to: west.subreports@pacelabs.com NPDES	

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	NCCW	05-08-24 15:45	WATER	Hexavalent Chromium 218.7	-001

W0# 9273 0120

1,800

Relinquished By: <i>C. Tebeau</i>	Date/Time: <i>5/9/24</i>	Received By: <i>A. Ruckew/PACE/AVL</i>	Date/Time: <i>5-10-24 1145</i>
Form No: AL_subcoc			



June 05, 2024

Melissa Gulli
Alpha Analytical
8 Walkup Drive
Westborough, MA 01581

RE: Project: L2425454
Pace Project No.: 30683299

Dear Melissa Gulli:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2024. 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
skyler.richmond@pacelabs.com
(724)850-5600
Project Manager

Enclosures

cc: Customer Service, Alpha Analytical



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: L2425454
 Pace Project No.: 30683299

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: L2425454
Pace Project No.: 30683299

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30683299001	NCCW	Water	05/08/24 15:45	05/10/24 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: L2425454
 Pace Project No.: 30683299

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30683299001	NCCW	EPA 900.0	REH1	1	PASI-PA
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		ASTM D5174-97	SLC	1	PASI-PA

PASI-PA = Pace Analytical Services - Greensburg

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: L2425454
 Pace Project No.: 30683299

Sample: NCCW **Lab ID: 30683299001** Collected: 05/08/24 15:45 Received: 05/10/24 10:15 Matrix: Water
 PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Gross Alpha	EPA 900.0	0.604 ± 0.953 (2.09) C:NA T:NA	pCi/L	05/24/24 08:03	12587-46-1	
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	0.189 ± 0.409 (0.755) C:NA T:81%	pCi/L	05/30/24 14:53	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	0.390 ± 0.308 (0.602) C:82% T:89%	pCi/L	05/29/24 14:37	15262-20-1	
	Pace Analytical Services - Greensburg					
Total Uranium	ASTM D5174-97	0.296 ± 0.008 (0.323) C:NA T:NA	ug/L	05/23/24 13:00	7440-61-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: L2425454
 Pace Project No.: 30683299

QC Batch: 668265	Analysis Method: EPA 900.0
QC Batch Method: EPA 900.0	Analysis Description: 900.0 Gross Alpha/Beta
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30683299001

METHOD BLANK: 3253935 Matrix: Water

Associated Lab Samples: 30683299001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Gross Alpha	-0.326 ± 0.446 (1.58) C:NA T:NA	pCi/L	05/24/24 08:00	

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: L2425454
 Pace Project No.: 30683299

QC Batch: 668296	Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1	Analysis Description: 903.1 Radium-226
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30683299001

METHOD BLANK: 3254028 Matrix: Water

Associated Lab Samples: 30683299001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0889 ± 0.203 (0.479) C:NA T:87%	pCi/L	05/30/24 14:38	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: L2425454
 Pace Project No.: 30683299

QC Batch: 669176	Analysis Method: ASTM D5174-97
QC Batch Method: ASTM D5174-97	Analysis Description: D5174.97 Total Uranium KPA
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30683299001

METHOD BLANK: 3258719 Matrix: Water

Associated Lab Samples: 30683299001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Total Uranium	0.013 ± 0.001 (0.323) C:NA T:NA	ug/L	05/23/24 12:13	

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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QUALITY CONTROL - RADIOCHEMISTRY

Project: L2425454
 Pace Project No.: 30683299

QC Batch: 668298	Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0	Analysis Description: 904.0 Radium 228
	Laboratory: Pace Analytical Services - Greensburg

Associated Lab Samples: 30683299001

METHOD BLANK: 3254031 Matrix: Water

Associated Lab Samples: 30683299001

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.333 ± 0.329 (0.675) C:81% T:89%	pCi/L	05/29/24 14:36	

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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QUALIFIERS

Project: L2425454
Pace Project No.: 30683299

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.

REPORT OF LABORATORY ANALYSIS

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Subcontract Chain of

Pace Analytical
1638 Roseytown Rd, Suite 2
Greensburg, PA 15601

WO# : 30683299



30683299

Alpha Job Number

L2425454

Client Information

Client: Alpha Analytical Labs
Address: Eight Walkup Drive
Westborough, MA 01581-1019

Phone: 716.427.5228
Email: Jennifer.Byrnes@pacelabs.com

Project Information

Project Location: MA
Project Manager: Jennifer Byrnes

Turnaround & Deliverables Information

Due Date:
Deliverables:

Regulatory Requirements/Report Limits

State/Federal Program:

Regulatory Criteria:

Project Specific Requirements and/or Report Requirements

Reference following Alpha Job Number on final report/deliverables: L2425454

Report to include Method Blank, LCS/LCSD:

Additional Comments: Invoices to: invoices@pacelabs.couphost.com Reports to: west.subreports@pacelabs.com NPDES

Lab ID	Client ID	Collection Date/Time	Sample Matrix	Analysis	Batch QC
	NCCW	05-08-24 15:45	WATER	Gross Alpha; Radium 226; Radium 228; Uranium by EPA 200.8	00/

Received by Pace Greensburg
Therm ID Corr Factor +/-
Receipt Temp
Corrected Temp
Correct Preservation Y/N

Relinquished By:

C. Selvan

Date/Time:

5/9/24

Received By:

[Signature]

Date/Time:

5-10-24 1015

Form No: AL_subcoc

ENV-FRM-GBUR-0088 v07_Sample Condition Upon Receipt

Effective Date: 01/04/2024

WO#: 30683299

PM: SCR

Due Date: 06/03/24

CLIENT: ALPHA ANALYT

Client Name:

Alpha Analytical

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking Number: 1Z E30 654 01 9100 5550

Initial / Date

Examined By: *EF* 5-10-24

Labeled By: *EF* 5-10-24

Temped By: -

Custody Seal on Cooler/Box Present: Yes No

Seals Intact: Yes No

Thermometer Used: - Type of Ice: Wet Blue None

Cooler Temperature: Observed Temp - °C Correction Factor: - °C Final Temp: - °C

Temp should be above freezing to 6°C

pH paper Lot# 10D2931
D.P.D. Residual Chlorine Lot # -

Comments:	Yes	No	NA	pH paper Lot#	D.P.D. Residual Chlorine Lot #
Chain of Custody Present	/			10D2931	-
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: WT	/				
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:			/		
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:	/			PH < 2	
				Initial when completed <i>EF</i>	Date/Time of Preservation
				Lot# of added Preservative	
8260C/D: Headspace in VOA Vials (> 6mm)			/		
624.1: Headspace in VOA Vials (0mm)			/		
Radon: Headspace in RAD Vials (0mm)			/		
Trip Blank Present:			/		Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	/			Initial when completed <i>BR</i>	Date: 5-10-24 Survey Meter SN: 25014800
Comments:					

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.

Client **Alpha Analytical**
 Site **L2425454**

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Profile/EZ Login Number **7088**

Notes _____

Sample Line Item	Matrix	Amber Glass					Plastic						Vials					Other													
		AG1H	AG3S	AG3U	AG5U	AG5T	BP1N	BP1U	BP2S	BP2U	BP3B	BP3N	BP3S	BP3U	DG9S	VG9H	VG9T	VG9U	VOAK	WGFU	WGKU	ZPLC	GCUB	GJN	12GN	AG1U	BG1U	BP2N			
001	WT																														/

Container Codes

GJN	1 Gallon Jug with HNO3	DG9S	40mL amber VOA vial H2SO4
AG5U	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 HCl	WGFU	4oz wide jar unpreserved
AG1T	1L amber glass NA Thiosulfate	BG2U	500mL clear glass unpreserved
BG1U	1L clear glass unpreserved	AG2U	500mL amber glass unpreserved
AG3S	250mL amber glass H2SO4	WGKU	8oz wide jar unpreserved
AG3U	250mL amber glass unpreserved	GN	General

GCUB	1 gallon cubitainer
12GN	1/2
SP5T	120
BP1N	1L
BP1U	1L
BP3S	250
BP3N	250mL plastic HNO3
BP3U	250mL plastic unpreserved
BP3B	250mL plastic NAOH
BP2S	500mL plastic H2SO4
BP2U	500mL plastic unpreserved

WO# : 30683299
 PM: SCR Due Date: 06/03/24
 CLIENT: ALPHA ANALYT

SL	Solid
OL	Non-Aq Liquid
WP	Wipe