Environmental Services

Engineering Services

Notice of Intent for Coverage Under Remediation General Permit MAG910000

Nouria Station #4030 (Shell®)

719 Southbridge Street
Worcester, Massachusetts

June 24, 2021

Prepared for:

Mr. Thomas Healey, P.E.
Nouria Energy Corporation
326 Clark Street
Worcester, MA 01606

Prepared by:

CMG Environmental, Inc.
CMG ID 2018-104

67 Hall Road
Sturbridge, MA 01566
Phone (774) 241-0901
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New Britain, CT 06051
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PREPARERS' CERTIFICATION

The undersigned employees of CMG Environmental, Inc. (CMG) prepared and reviewed this report. Please direct any requests for additional information regarding the content of this document to these individuals.

C. Ryan Goad
Hydrogeologist

6/24/21
Date

Benson R. Gould, LSP, LEP
Licensed Site Professional #9923

Jun 24, 2021
Date

Gary E. Magnuson
Principal

6.24.2021
Date

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1.0 INTRODUCTION

CMG Environmental, Inc. (CMG) has prepared the attached Notice of Intent (NOI) for the National Pollutant Discharge Elimination System (NPDES) General Permit for Remediation Activity Discharges (RGP) for the Commonwealth of Massachusetts (MAG910000) and State of New Hampshire (NHG910000). **Attachment A** provides a copy of the NOI.

1.1 PURPOSE & BACKGROUND

1.1.1 PURPOSE OF SUBMITTAL

The purpose of this submittal is to obtain authorization to temporarily discharge treated groundwater extracted during underground storage tank (UST) installation activities at 719 Southbridge Street in Worcester, Massachusetts (the 'Site'). Figure 1 (Site Location Map) depicts the Site in relation to streets and other topographic features.

1.1.2 HISTORICAL & ENVIRONMENTAL BACKGROUND

The Site has been a gasoline filling station since the early 1970s. It underwent renovation circa 1984, and its current operator (Nouria Energy Corporation) plans to demolish and replace existing structures during 2021. This includes the subject dewatering discharge for placement of new motor fuel underground storage tanks (USTs).

The USTs currently in use are within the northwestern portion of the Site whereas the planned replacement USTs will be in the southeasterly corner. There is one active Release Tracking Number (RTN), 2-20518, that identified a threat of release of fuel to the subsurface (specifically, evidence of a loss of product from the inner piping wall to the outer containment wall). Subsequent investigation identified limited soil impact beneath a fuel dispenser in the northeasterly portion of the Site, which Nouria remediated. CMG plans additional assessment of the piping runs during construction activities later this year.

CMG has not identified groundwater contamination attributable to RTN 2-20518 to date. Site subsurface materials consist of sand and gravel fluvial deposits owing to its location near the present Middle River channel.

The Site has a number of previous RTNs, all of which achieved either a Class A-1 Response Action Outcome Statement or Permanent Solution. These consist of releases to the ground surface and stormwater system due to overfills rather than impacts due to leaking UST system components or otherwise (e.g., Historic Fill as defined at 310 CMR 40.0006).

1.2 SITE LOCATION & IDENTIFICATION

The Site postal address is 719 Southbridge Street, Worcester MA 01610-2914. It is on the northwesterly corner of the intersection of Southbridge Street and Crompton Street. The Site is at 42º14'32" north latitude (42.24229 °N), 71º48'43" west longitude (-71.81207 °E). The UTM (Universal Transverse Mercator) coordinates in the middle of the Site are 4,680,510 meters north and 267,990 meters east in Zone 19. Worcester Assessor's Map 7 identifies the Site as Block 36, Lot 1, which consists of 22,445 square feet (approximately 0.52 acres) of land.

1.3 PARTY SEEKING COVERAGE

Name: Nouria Energy Corporation

Address: 326 Clark Street
Worcester, MA 01606-1214

Contact: Mr. Thomas Healey, P.E.,
Vice President of Technical Services
(508) 762-3727, Tom.Healey@nouriaenergy.com

2.0 PRE-DISCHARGE CHARACTERIZATION

2.1 SITE GROUNDWATER CHARACTERIZATION

CMG collected samples of Site groundwater on April 26 & June 9, 2021 from existing monitoring well MW-2 (located immediately downgradient of the current UST field and within the planned replacement UST field).

CMG submitted the samples to Phoenix Environmental Laboratories, Inc. (Phoenix) of Manchester, Connecticut (a Massachusetts-certified and NELAC-accredited environmental laboratory) for analysis of the following parameters:

- Gasoline target volatile organic compounds (VOCs, specifically benzene, ethylbenzene, toluene, xylenes [BTEX], and methyl tertiary butyl ether [MTBE]), acetone, ethanol, tert amyl methyl ether (TAME), and tert-butyl alcohol (TBA) by EPA Method 624.1;
- 1,4-Dioxane by EPA Method 8270D SIM (reporting limit 0.20 µg/L);
- Group I & II polynuclear aromatic hydrocarbons (PAHs) by EPA Method 625.1 with Selected Ion Monitoring (SIM);
- Oil & grease by EPA Method 1664A;
- Total silver, arsenic, cadmium, chromium, copper, iron, nickel, lead, antimony, selenium & zinc by EPA Method 200.7;
- Hexavalent chromium by Standard Method (SM) Part 3500-Cr B;
- Total mercury by EPA Method 245.1;
- Chloride by SM Part 4500-Cl E;
- Total cyanide by EPA Method 335.4R1;
- Total suspended solids by SM Part 2540 D; and
- Ammonia as nitrogen by EPA Method 350.1.

CMG recorded the results of our analyses in the NOI in **Attachment A**, which also includes laboratory certificates of analyses (following the NOI).

Phoenix did not identify any fuels parameters in Site groundwater. They identified low concentrations of the metals iron (Fe) and nickel (Ni).

2.2 RECEIVING WATER BODY CHARACTERIZATION

The receiving water body for this discharge is Middle River (segment MA51-02), located approximately 200' southeast. The river enters a culvert on the western side of Southbridge Street

and runs undergound for approximately 1,400' beneath the Interstate 290 right-of-way before emerging on the eastern side of McKeon Road at municipal parkland.

The Middle River is a Class B warm water fishery, with a number of impairments listed in the most recently approved (2016) Massachusetts Integrated List of Waters [prepared pursuant to Sections 305(b), 314 and 303(d) of the Clean Water Act.] That document lists Middle River as a Category 5 water that requires a Total Maximum Daily Load (TMDL) for one or more contaminants. Impairments consist of metals, *e. coli*, trash & debris, benthic macroinvertebrates, and channel physical alteration/structures (i.e., human modifications), nutrients/biological indicators, and turbidity. The Massachusetts Department of Environmental Protection (DEP) prepared a draft TMDL for pathogens for this segment of Middle River.

2.2.1 WATER QUALITY

CMG collected a sample of Middle River water upstream of the culvert entrance on June 9, 2021 and submitted it to Phoenix for analysis of the following:

- Total hardness (as $CaCO_3$) by EPA Method 200.7;
- Ammonia as nitrogen by EPA Method 350.1;
- Total antimony, arsenic, cadmium, chromium, copper, iron, lead, nickel, selenium, silver & zinc by EPA Method 200.7;
- Hexavalent chromium by SM 3500 CRB-11; and
- Total mercury by EPA Method 245.1.

CMG performed field monitoring of pH and temperature using a calibrated meter in accordance with EPA Method 150.2 and SM 2550B, respectively. The table below summarizes the results of surface water quality monitoring.

RECEIVING WATER BODY QUALITY
SAMPLE 'M-RIVER-UP' (LAB ID GCI51792)

PARAMETER	RESULT	PARAMETER	RESULT
pH	7.71 S.U.	Copper	*BRL<0.005 mg/L*
Hardness	55.9 mg/L $CaCO_3$	Iron	0.940 mg/L
Ammonia as N	0.11 mg/L	Lead	0.003 mg/L
Total Metals:		Mercury	*BRL<0.0002 mg/L*
Antimony	*BRL<0.005 mg/L*	Nickel	0.002 mg/L
Arsenic	0.007 mg/L	Selenium	*BRL<0.010 mg/L*
Cadmium	*BRL<0.001 mg/L*	Silver	*BRL<0.001 mg/L*
Total Chromium	*BRL<0.001 mg/L*	Zinc	0.005 mg/L
Hexavalent Cr	*BRL<0.01 mg/L*		

BRL = BELOW LABORATORY REPORTING LIMIT

2.2.2 OUTFALL LOCATION & FLOW

CMG plans to discharge to an on-Site drainage manhole that discharges to the Worcester Municipal Separate Storm Sewer System (MS4). This MS4 discharges to the Middle River approximately 200' south of the Site at 42°14'27.2" north latitude, 71°48'46.1" west longitude (42.24089°N; 71.81281°W) based on MassGIS mapping. CMG did not observe this outfall (i.e., it

is within the river culvert; the Worcester Department of Public Works [DPW] confirmed this portion of their MS4 discharges to Middle River).

CMG used the USGS StreamStats online application (https://streamstats.usgs.gov/ss) to determine low-flow characteristics for Middle River upstream of the culvert entrance. CMG determined the following:

- The portion of Middle River's drainage basin that drains to this point is 49.9 square miles;
- The basin's mean annual precipitation (1971-2000) is 48.8", and
- The 7-day, 10-year low flow (7Q10) is 2.08 ft^3/s (~934 gpm, 1.34 MGD).

Attachment B provides the StreamStats report CMG created for the Site.

2.2.3 MASSACHUSETTS DILUTION FACTOR & WATER QUALITY-BASED EFFLUENT LIMITATIONS

CMG used the 7Q10 flow from StreamStats to determine the dilution factor for the planned Site discharge. CMG estimates the planned discharge to be approximately 50 gpm (0.072 MGD). RGP Appendix V, Section I.B., provides an equation for calculating dilution factor as:

$$\frac{Q_s + Q_d}{Q_d}$$

Where: Q_s = 7Q10 in MGD

Q_d = (Permitted) discharge flow in MGD

Using this equation, CMG determined a dilution factor of 19.6 (to 3 significant figures).

CMG forwarded our findings to Catherine Vakalopoulos and Kathleen Keohane of DEP for review of our calculations. They concurred with our findings and the 19.6 dilution factor. A copy of their concurrence email is included with the StreamStats report in **Attachment B**.

3.0 DISCHARGE TREATMENT

3.1 TREATMENT SYSTEM PARAMETERS & DESIGN

Nouria's contractor will prepare a drain sump with a perforated pipe dewatering well. They will wrap the pipe with filter fabric and backfill the sump with stone. The stone and filter fabric will provide the first measure of filtration. Water pumped from the well will then pass through the following additional treatment:

- A 21,000-gallon fractionation (frac) tank to allow for gravity settling of solids upon loss of velocity;
- A 50 gallon-per-minute (gpm) pump connected after the frac tank will discharge water through the rest of the system;
- After the pump, water will pass through two 10 µm bag filters connected in parallel to capture additional suspended solids; and

- Two 1,000-pound granular activated carbon reaction vessels connected in series to remove any organic contaminants that may be drawn in (CMG notes there is no currently-identified groundwater impact attributable to RTN 2-20518).

Flow will pass through a flow meter totalizer after treatment to record discharge rate and overall volume, and will discharge to an on-Site drainage (i.e., stormwater) manhole. The Site stormwater system discharges to the MS4 beneath Crompton and Southbridge Streets, with final discharge to the Middle River approximately 200' south of the Site.

As noted above, there is no current documented groundwater impact due to RTN 2-20518. However, we cannot discount potential for groundwater impacts in the southeastern portion of the Site due to past, documented surface releases (some of which entered Site catchbasins, but all of which achieved either a Class A-1 RAO or PS). We thus plan to utilize carbon treatment as a precautionary measure prior to discharge.

Figure 2 depicts discharge flow path and Figure 3 provides a treatment system diagram for the Site discharge.

CMG requested DPW's permission to discharge treated effluent to their MS4 via the on-Site drainage manhole. Mr. Nicholas Lyford of DPW indicated by email that the discharge required no city permitting and could proceed as planned. **Attachment C** provides a copy of that email.

3.2 MONITORING REQUIREMENTS

3.2.1 RGP MONITORING REQUIREMENTS

CMG will prepare and implement a Best Management Practices Plan (BMPP) prior to initiating the discharge. We will perform monitoring in accordance with Section 4.0 and Appendix IV of the RGP. The anticipated discharge duration is approximately 14 days (possibly less), and thus constitutes a "short-term discharge" subject to Section 4.4 of the RGP. We will perform monitoring either in accordance with Section 4.4.2 ("Short-Term Discharges Other than Those from Dewatering of Pipelines and Tanks").

If the discharge runs longer than anticipated, we will continue monitoring in accordance with Section 4.4.2.c.

CMG will prepare Discharge Monitoring Reports for electronic submittal to EPA Region 1 in accordance with Section 4.6.1.b (NetDMR submittal is not required for this discharge).

3.2.2 MCP MONITORING REQUIREMENTS

As an M.G.L. c. 21E 'disposal site,' the requirements of 310 CMR 40.0040 ("Management Procedures for Remedial Wastewater and Remedial Additives") apply to the Site discharge. CMG and McClure Engineering (of Charlton, Massachusetts) will construct the on-Site treatment works in a manner adequate to protect health, safety, public welfare, and the environment, and in compliance with M.G.L. c. 21E and the MCP. Furthermore, 40.0041(9) mandates a Grade 2 or higher Wastewater Treatment Plan Operator be engaged to ensure the proper operation and maintenance of the treatment works. CMG will engage **Mr. Christopher P. McClure, P.E. Grade 2-M, License #8325** to ensure proper operation and maintenance of the treatment works.

CMG will inspect the discharge treatment system in accordance with 310 CMR 40.0041(6)(b) and document these activities within a treatment log containing the following information:

- The name and affiliation of the person performing the inspection;
- The date and time of the inspection;
- The total volume of remedial wastewater treated since the previous inspection;
- The average flow rate of the system at the time of the inspection;
- The total volume of any non-aqueous phase oil or hazardous materials recovered since the previous inspection (CMG has not observed any at the Site);
- A description of any maintenance activities performed during the inspection or to be scheduled as a result of the inspection; and
- A description of any problems or potential problems observed during the inspection.

CMG will maintain this treatment log on-Site.

4.0 ENDANGERED SPECIES & HISTORIC PROPERTIES

4.1 ENDANGERED OR THREATENED SPECIES AND HABITAT

CMG consulted the U.S. Fish & Wildlife Service's Information, Planning and Conservation System (IPaC) at http://ecos.fws.gov/ipac to determine if protected species are present in the 'action area' of the discharge. We included the MS4 route and the Middle River downstream of the discharge to a distance approximately 200' downstream of its emergence from the culvert (a total of approximately 1,600' of river channel).

There is no 'critical habitat' in the planned discharge area. The only listing for the Site vicinity is the Northern long-eared bat (threatened due to population decline from white nose syndrome). This bat utilizes trees during summer months and hibernates in caves or mines during wintertime (i.e., at present). There are no nearby hibernacula in this urban area, nor any roosting/maternity trees within the discharge route.

The USFWS New England Field Office's "Endangered Species Consultation" procedures (https://www.fws.gov/newengland/EndangeredSpec-Consultation_Project_Review.htm) provide a step-by-step guide to determining whether or not an activity is likely to affect protected species. USFWS determined the planned discharge is consistent with their January 5, 2016 "Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions." FWS Criterion B thus applies to the discharge **Attachment D** provides a copy of the May 28, 2021 USFWS concurrence letter.

The subject discharge does not occur in one of the fisheries or potential habitats listed in the RGP or its appendices and is unlikely to affect marine species.

4.2 HISTORIC PROPERTIES

CMG reviewed the Massachusetts Historical Commisssion's 'Massachusetts Cultural Resource Information System' (MACRIS) webpage (http://mhc-macris.net) to identify nearby historic properties. MACRIS listed the Riley Coker ATEC Industrial Plant (Inventory #WOR.2227) and Wachusett Threat Company (#WOR.1405) at 15 & 19 McKeon Road, respectively, as historically significant industrial properties. However, these are not within Middle River in the Action Area. CMG therefore concludes Criterion A applies to this discharge with respect to historic properties.

FIGURES

CITY LOCATION - WORCESTER, MA

FIGURE 1: SITE LOCATION

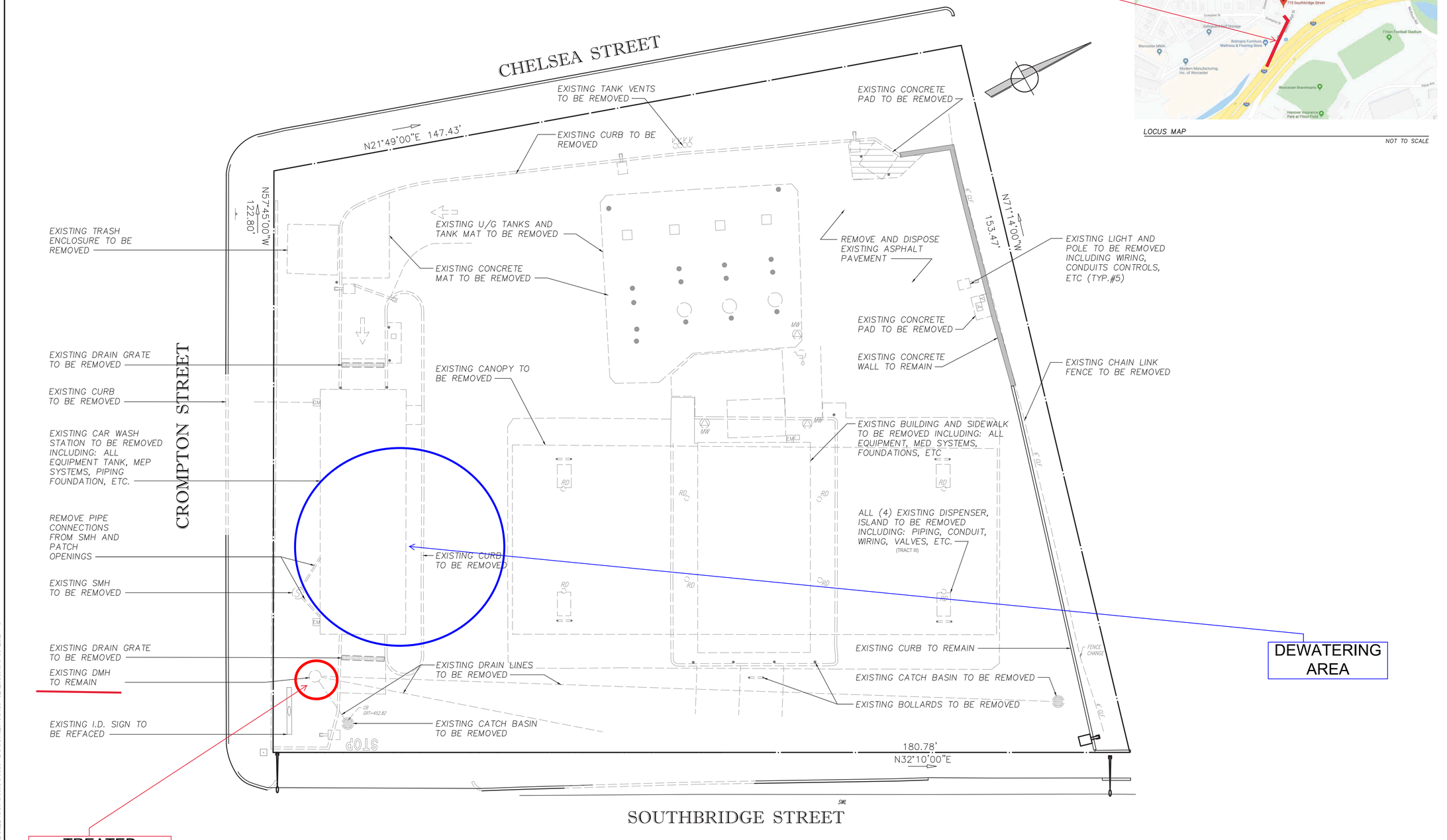
719 SOUTHBRIDGE ST.
WORCESTER, MA 01610
CMG ID 2018-104

SCALE 1:25,000

2000 FT 0 2000 FT

ENVIRONMENTAL SERVICES CMG EST. 2002 ENGINEERING SERVICES

67 HALL ROAD. STURBRIDGE MA 01566



FLOW PATH TO RIVER

LOCUS MAP

NOT TO SCALE

10 0 10 20

GRAPHIC SCALE

REFERENCE:

PROPERTY LINES AND OTHER TOPOGRAPHIC INFORMATION SHOWN ON THIS DRAWING WERE TAKEN FROM A PLAN ENTITLED:

BOUNDARY & TOPOGRAPHIC SURVEY PLAN NOURIA ENERGY CORP. 719 SOUTHBRIDGE ST MAP 7,BLOCK 36, LOT 1 CITY OF WORCESTER DATE:11-12-18 SCALE:1"=20' PREPARED BY: CONTROL POINT ASSOCIATES, INC. 352 TURNPIKE ROAD SOUTHBOROUGH, MA 01772 PHONE:508.948.3000

COMMONWEALTH OF MASSACHUSETTS PAUL J. SYLVIA, JR. NO. 30405 REGISTERED PROFESSIONAL ENGINEER

REVISIONS

REV	PER	DATE	DESCRIPTION	BY

AYOUB ENGINEERING
ENGINEERS & ARCHITECTS
ADDRESS:
414 BENEFIT STREET
PAWTUCKET, RHODE ISLAND 02861
401-728-5533

PREPARED FOR
NOURIA ENERGY CORP
326 CLARK STREET
WORCESTER, MA 01606
(866) 903-6321

PROJECT ADDRESS
WORCESTER, MA
719 SOUTHBRIDGE STREET

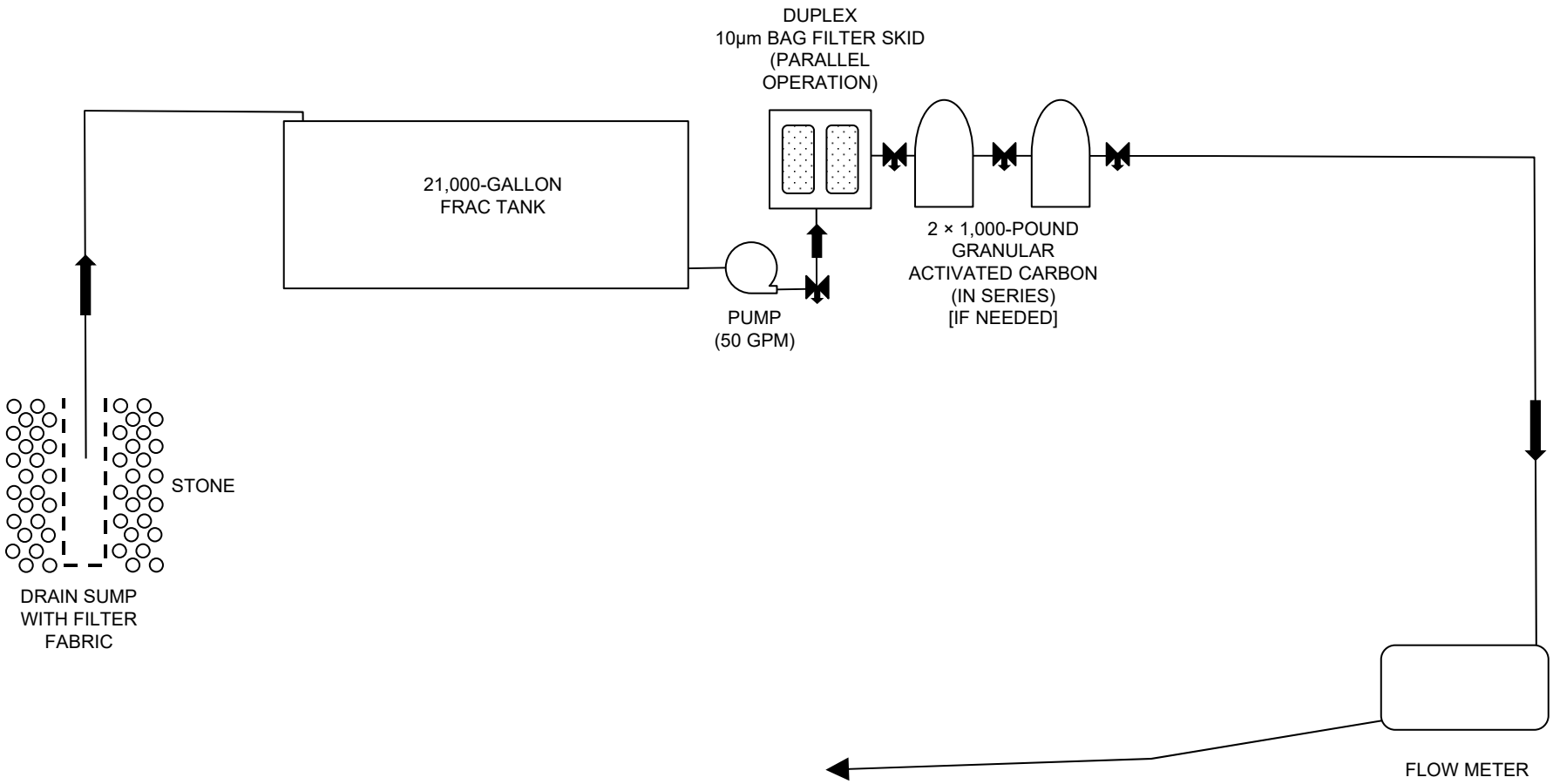
SHEET DESCRIPTION
SITE DEMOLITION PLAN

PROJECT NO.	2031.118
SCALE:	1"=10'
DRAWN BY:	JWS
DATE:	09/15/20

SHEET NO.
D-1

NOT FOR CONSTRUCTION

F:\2031 WORCESTER, MA\2018 REBUILDS\CONSTRUCTION DOCUMENTS\DEMOLITION\2031DMP1.DWG



NOT TO SCALE

TREATMENT SYSTEM DIAGRAM

719 SOUTHBRIDGE STREET, WORCESTER MA

CMG ID 2018-104

ENVIRONMENTAL SERVICES CMG ENGINEERING SERVICES
EST. 2002
67 HALL ROAD, STURBRIDGE MA 01566

ATTACHMENT A

RGP NOTICE OF INTENT & SUPPORTING LABORATORY DATA

II. Suggested Format for the Remediation General Permit Notice of Intent (NOI)

A. General site information:

<table>
<tr><td rowspan="2">1. Name of site:
Nouria #4030 (Shell Station)</td><td colspan="3">Site address: 719 Southbridge Street
Street:</td></tr>
<tr><td>City: Worcester</td><td>State: MA</td><td>Zip: 01610</td></tr>
<tr><td rowspan="4">2. Site owner
Getty MA/NH Leasing, Inc.
c/o Getty Realty Corporation
2 Jericho Plaza, Wing C, Suite 110
Jericho, NY 11753

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Brad Fisher</td></tr>
<tr><td colspan="2">Telephone: 646-349-0573</td><td>Email: bfisher@gettyrealty.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: Getty Realty Corporation
292 Madison Ave, 9th Floor</td></tr>
<tr><td>City: New York</td><td>State: NY</td><td>Zip: 10017</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Nouria Energy Corporation
326 Clark Street
Worcester, MA 01606</td><td colspan="3">Contact Person: Thomas Healey, P.E., VP of Technical Services</td></tr>
<tr><td colspan="2">Telephone: 508-762-3727</td><td>Email: Tom.Healey@nouriaenergy.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 326 Clark Street</td></tr>
<tr><td>City: Worcester</td><td>State: MA</td><td>Zip: 01606</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s):
2-20518
☐ NH Groundwater Management Permit or Groundwater Release Detection Permit:
☐ CERCLA
☐ UIC Program
☐ POTW Pretreatment
☐ CWA Section 404</td></tr>
</table>

B. Receiving water information:

1. Name of receiving water(s):	Waterbody identification of receiving water(s):	Classification of receiving water(s):
Middle River	MA51-02	B Warm Water

Receiving water is (check any that apply): ☐ Outstanding Resource Water ☐ Ocean Sanctuary ☐ territorial sea ☐ Wild and Scenic River

2. Has the operator attached a location map in accordance with the instructions in B, above? (check one): ■ Yes ☐ No

Are sensitive receptors present near the site? (check one): ☐ Yes ■ No
If yes, specify:

3. Indicate if the receiving water(s) is listed in the State's Integrated List of Waters (i.e., CWA Section 303(d)). Include which designated uses are impaired, and any pollutants indicated. Also, indicate if a final TMDL is available for any of the indicated pollutants. For more information, contact the appropriate State as noted in Part 4.6 of the RGP. Y-Cat 5; impaired for prim/sec contact rec, aesthetic, fish/other aquatic wildlife. Benthic macrioinv., e. coli, metals, turb., nutrients, trash. Needs TMDLs

4. Indicate the seven day-ten-year low flow (7Q10) of the receiving water determined in accordance with the instructions in Appendix V for sites located in Massachusetts and Appendix VI for sites located in New Hampshire.	2.08cfs/1.34 MGD
5. Indicate the requested dilution factor for the calculation of water quality-based effluent limitations (WQBELs) determined in accordance with the instructions in Appendix V for sites in Massachusetts and Appendix VI for sites in New Hampshire.	19.6

6. Has the operator received confirmation from the appropriate State for the 7Q10and dilution factor indicated? (check one): ■ Yes ☐ No
If yes, indicate date confirmation received: 6/17/2021

7. Has the operator attached a summary of receiving water sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No

C. Source water information:

1. Source water(s) is (check any that apply):

■ Contaminated groundwater Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ■ Yes ☐ No	☐ Contaminated surface water Has the operator attached a summary of influent sampling results as required in Part 4.2 of the RGP in accordance with the instruction in Appendix VIII? (check one): ☐ Yes ☐ No	☐ The receiving water ☐ A surface water other than the receiving water; if so, indicate waterbody:	☐ Potable water; if so, indicate municipality or origin: ☐ Other; if so, specify:

2. Source water contaminants: None identified - site is a gasoline station with potential for petroleum impacts, but none identified by analyses.	
a. For source waters that are contaminated groundwater or contaminated surface water, indicate are any contaminants present that are not included in the RGP? (check one): ☐ Yes ■ No If yes, indicate the contaminant(s) and the maximum concentration present in accordance with the instructions in Appendix VIII.	b. For a source water that is a surface water other than the receiving water, potable water or other, indicate any contaminants present at the maximum concentration in accordance with the instructions in Appendix VIII? (check one): ☐ Yes ☐ No
3. Has the source water been previously chlorinated or otherwise contains residual chlorine? (check one): ☐ Yes ■ No	

D. Discharge information

1.The discharge(s) is a(n) (check any that apply): ☐ Existing discharge ■ New discharge ☐ New source	
Outfall(s): Municipal MS4 discharge to Middle River beneath Southbridge Street/Interstate 290 overpass (river enters a culvert in that area).	Outfall location(s): (Latitude, Longitude) 42.24089; -71.81281
Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ■ Indirect discharge, if so, specify: ☐ A private storm sewer system ■ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ■ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ■ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

<table>
<tr><td>2. Activity Category: (check all that apply)</td><td colspan="2">3. Contamination Type Category: (check all that apply)</td></tr>
<tr><td rowspan="5">☐ I – Petroleum-Related Site Remediation
☐ II – Non-Petroleum-Related Site Remediation
■ III – Contaminated Site Dewatering
☐ IV – Dewatering of Pipelines and Tanks
☐ V – Aquifer Pump Testing
☐ VI – Well Development/Rehabilitation
☐ VII – Collection Structure Dewatering/Remediation
☐ VIII – Dredge-Related Dewatering</td><td colspan="2">a. If Activity Category I or II: (check all that apply)

☐ A. Inorganics
☐ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
☐ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
☐ F. Fuels Parameters</td></tr>
<tr><td colspan="2">b. If Activity Category III, IV, V, VI, VII or VIII: (check either G or H)</td></tr>
<tr><td>■ G. Sites with Known Contamination</td><td>☐ H. Sites with Unknown Contamination</td></tr>
<tr><td>c. If Category III-G, IV-G, V-G, VI-G, VII-G or VIII-G: (check all that apply)

■ A. Inorganics
■ B. Non-Halogenated Volatile Organic Compounds
☐ C. Halogenated Volatile Organic Compounds
■ D. Non-Halogenated Semi-Volatile Organic Compounds
☐ E. Halogenated Semi-Volatile Organic Compounds
■ F. Fuels Parameters</td><td>d. If Category III-H, IV-H, V-H, VI-H, VII-H or VIII-H Contamination Type Categories A through F apply</td></tr>
</table>

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia	✔		1	350.1	50	0	0	Report mg/L	---
Chloride		✔	1	SM4500	15,000	411,000	411,000	Report µg/l	---
Total Residual Chlorine	✔		0	No Cl GW		0	0	0.2 mg/L	
Total Suspended Solids	✔		1	SM2540	5,000	0	0	30 mg/L	---
Antimony	✔		1	200.7	5	0	0	206 µg/L	
Arsenic	✔		1	200.7	4	0	0	104 µg/L	
Cadmium	✔		1	200.7	1	0	0	10.2 µg/L	
Chromium III	✔		1	200.7	1	0	0	323 µg/L	
Chromium VI	✔		1	200.7	10	0	0	323 µg/L	
Copper	✔		1	200.7	5	0	0	242 µg/L	
Iron		✔	1	200.7	10	108	108	5,000 µg/L	
Lead	✔		1	200.7	2	0	0	160 µg/L	
Mercury	✔		1	245.1	0.2	0	0	0.739 µg/L	
Nickel		✔	1	200.7	1	8	8	1,450 µg/L	
Selenium	✔		1	200.7	10	0	0	235.8 µg/L	
Silver	✔		1	200.7	1	0	0	35.1 µg/L	
Zinc	✔		1	200.7	4	0	0	420 µg/L	
Cyanide	✔		1	335.4R1	10	0	0	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX	✔		1	624.1	0.50	0	0	100 µg/L	---
Benzene	✔		1	624.1	0.50	0	0	5.0 µg/L	---
1,4 Dioxane	✔		1	8270SIM	0.20	0	0	200 µg/L	---
Acetone	✔		1	624.1	5.0	0	0	7.97 mg/L	---
Phenol	✔		1	625.1SIM	5.5	0	0	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✔		0					4.4 µg/L	
1,2 Dichlorobenzene	✔		0					600 µg/L	---
1,3 Dichlorobenzene	✔		0					320 µg/L	---
1,4 Dichlorobenzene	✔		0					5.0 µg/L	---
Total dichlorobenzene	✔		0					763 µg/L in NH	---
1,1 Dichloroethane	✔		0					70 µg/L	---
1,2 Dichloroethane	✔		0					5.0 µg/L	---
1,1 Dichloroethylene	✔		0					3.2 µg/L	---
Ethylene Dibromide	✔		0					0.05 µg/L	---
Methylene Chloride	✔		0					4.6 µg/L	---
1,1,1 Trichloroethane	✔		0					200 µg/L	---
1,1,2 Trichloroethane	✔		0					5.0 µg/L	---
Trichloroethylene	✔		0					5.0 µg/L	---
Tetrachloroethylene	✔		0					5.0 µg/L	
cis-1,2 Dichloroethylene	✔		0					70 µg/L	---
Vinyl Chloride	✔		0					2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✔		0			0	0	190 µg/L	
Diethylhexyl phthalate	✔		0			0	0	101 µg/L	
Total Group I PAHs	✔		1	625.1SIM	0.06	0	0	1.0 µg/L	---
Benzo(a)anthracene	✔		1	625.1SIM	0.04	0	0	As Total PAHs	
Benzo(a)pyrene	✔		1	625.1SIM	0.06	0	0		
Benzo(b)fluoranthene	✔		1	625.1SIM	0.06	0	0		
Benzo(k)fluoranthene	✔		1	625.1SIM	0.06	0	0		
Chrysene	✔		1	625.1SIM	0.06	0	0		
Dibenzo(a,h)anthracene	✔		1	625.1SIM	0.02	0	0		
Indeno(1,2,3-cd)pyrene	✔		1	625.1SIM	0.06	0	0		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✔		1	625.1SIM	5.5	0	0	100 µg/L	---
Naphthalene	✔		1	625.1SIM	5.5	0	0	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✔		0			0	0	0.000064 µg/L	---
Pentachlorophenol	✔		0			0	0	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons	✔		1	1664A	1,400	0	0	5.0 mg/L	---
Ethanol	✔		1	624.1	400	0	0	Report mg/L	---
Methyl-tert-Butyl Ether	✔		1	624.1	1.0	0	0	70 µg/L	
tert-Butyl Alcohol	✔		1	8260	50	0	0	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✔		1	624.1	1.0	0	0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									
Hardness		✔	1	200.7	100	120,000	120,000		
pH		✔	1	150.2	-	6.78SU	6.78SU		
Temperature		✔	1	SM2550B	-	16.9C	16.9C		

E. Treatment system information

1. Indicate the type(s) of treatment that will be applied to effluent prior to discharge: (check all that apply)

☐ Adsorption/Absorption ☐ Advanced Oxidation Processes ☐ Air Stripping ■ Granulated Activated Carbon ("GAC")/Liquid Phase Carbon Adsorption
☐ Ion Exchange ☐ Precipitation/Coagulation/Flocculation ■ Separation/Filtration ☐ Other; if so, specify:

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.

Stone drainage sump, filter fabric wrap around recovery well, discharge to frac tank for settling, pump intake above bottom settling layer in tank with discharge through 10 micron bag filter, granular activated carbon, and totalizer. We have not identified petroleum impacts in site groundwater downgradient of the current USTs. However, given the nature of site operations, we believe carbon treatment is prudent as a preventive measure.

Identify each major treatment component (check any that apply):
■ Fractionation tanks☐ Equalization tank ☐ Oil/water separator ☐ Mechanical filter ■ Media filter
☐ Chemical feed tank ☐ Air stripping unit ■ Bag filter ■ Other; if so, specify: granular activated carbon treatment

Indicate if either of the following will occur (check any that apply):
☐ Chlorination ☐ De-chlorination

3. Provide the **design flow capacity** in gallons per minute (gpm) of the most limiting component. Indicate the most limiting component: Pump capacity Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	45
If Activity Category IV applies, indicate the estimated total volume of water that will be discharged:	

4. Has the operator attached a schematic of flow in accordance with the instructions in E, above? (check one): ■ Yes ☐ No

F. Chemical and additive information

1. Indicate the type(s) of chemical or additive that will be applied to effluent prior to discharge or that may otherwise be present in the discharge(s): (check all that apply)

☐ Algaecides/biocides ☐ Antifoams ☐ Coagulants ☐ Corrosion/scale inhibitors ☐ Disinfectants ☐ Flocculants ☐ Neutralizing agents ☐ Oxidants ☐ Oxygen ☐ scavengers ☐ pH conditioners ☐ Bioremedial agents, including microbes ☐ Chlorine or chemicals containing chlorine ☐ Other; if so, specify:

2. Provide the following information for each chemical/additive, using attachments, if necessary:

a. Product name, chemical formula, and manufacturer of the chemical/additive;
b. Purpose or use of the chemical/additive or remedial agent;
c. Material Safety Data Sheet (MSDS) and Chemical Abstracts Service (CAS) Registry number for each chemical/additive;
d. The frequency (hourly, daily, etc.), duration (hours, days), quantity (maximum and average), and method of application for the chemical/additive;
e. Any material compatibility risks for storage and/or use including the control measures used to minimize such risks; and
f. If available, the vendor's reported aquatic toxicity (NOAEL and/or LC50 in percent for aquatic organism(s)).

3. Has the operator attached an explanation which demonstrates that the addition of such chemicals/additives may be authorized under this general permit in accordance with the instructions in F, above? (check one): ☐ Yes ☐ No; if no, has the operator attached data that demonstrates each of the 126 priority pollutants in CWA Section 307(a) and 40 CFR Part 423.15(j)(1) are non-detect in discharges with the addition of the proposed chemical/additive? (check one): ☐ Yes ☐ No

G. Endangered Species Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

☐ **FWS Criterion A**: No endangered or threatened species or critical habitat are in proximity to the discharges or related activities or come in contact with the "action area".

■ **FWS Criterion B**: Formal or informal consultation with the FWS under section 7 of the ESA resulted in either a no jeopardy opinion (formal consultation) or a written concurrence by FWS on a finding that the discharges and related activities are "not likely to adversely affect" listed species or critical habitat (informal consultation). Has the operator completed consultation with FWS? (check one): ■ Yes ☐ No; if no, is consultation underway? (check one): ☐ Yes ☐ No

☐ **FWS Criterion C**: Using the best scientific and commercial data available, the effect of the discharges and related activities on listed species and critical habitat have been evaluated. Based on those evaluations, a determination is made by EPA, or by the operator and affirmed by EPA, that the discharges and related activities will have "no effect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the FWS. This determination was made by: (check one) ☐ the operator ☐ EPA ☐ Other; if so, specify:

■ **NMFS Criterion**: A determination made by EPA is affirmed by the operator that the discharges and related activities will have "no effect" or are "not likely to adversely affect" any federally threatened or endangered listed species or critical habitat under the jurisdiction of NMFS and will not result in any take of listed species. Has the operator previously completed consultation with NMFS? (check one): ■ Yes ☐ No

2. Has the operator attached supporting documentation of ESA eligibility in accordance with the instructions in Appendix I, and G, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written concurrence or finding provided by the Services? (check one): ■ Yes ☐ No; if yes, attach.

H. National Historic Preservation Act eligibility determination

1. Indicate under which criterion the discharge(s) is eligible for coverage under this general permit:

■ **Criterion A**: No historic properties are present. The discharges and discharge-related activities (e.g., BMPs) do not have the potential to cause effects on historic properties.

☐ **Criterion B**: Historic properties are present. Discharges and discharge related activities do not have the potential to cause effects on historic properties.

☐ **Criterion C**: Historic properties are present. The discharges and discharge-related activities have the potential to have an effect or will have an adverse effect on historic properties.

2. Has the operator attached supporting documentation of NHPA eligibility in accordance with the instructions in H, above? (check one): ■ Yes ☐ No

Does the supporting documentation include any written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the operator will carry out to mitigate or prevent any adverse effects on historic properties? (check one): ☐ Yes ■ No

I. Supplemental information

Describe any supplemental information being provided with the NOI. Include attachments if required or otherwise necessary.

Dewatering of non-contaminated groundwater to facilitate installation of new fuel underground storage tanks for retail sales. Only background metals and general chemistry parameters (e.g., ammonia, pH, chloride, hardness) identified.

Has the operator attached data, including any laboratory case narrative and chain of custody used to support the application? (check one): ■ Yes ☐ No

Has the operator attached the certification requirement for the Best Management Practices Plan (BMPP)? (check one): ■ Yes ☐ No

J. Certification requirement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

BMPP certification statement: A BMPP meeting the requirements of this general permit will be prepared and implemented prior to discharge initiation.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐ NA ☐
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ■ No ☐ NA ☐
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature: 	Date: 6/18/21
Print Name and Title: Thomas Healey, P.E., VP of Technical Services, Nouria Energy Corp.	

Enter number values in green boxes based on the instructions to the right

Enter values in the units specified

↓		
1.34	Q_R = Enter upstream flow in **MGD**	Freshwater: leave 0 unless 7Q10 or alternate Q_R AND a dilution factor >1 approved by the State; Saltwater (estuarine and marine): leave 0 unless QR approved by the State
0.072	Q_P = Enter discharge flow in **MGD**	Enter the design flow or 1 MGD, whichever is less (100 gpm design flow = 0.144 MGD and is entered by default)
0	Downstream 7Q10	Leave 0 unless Q_R approved by the State

Enter a dilution factor for saltwater receiving water (this box does not apply to freshwater receiving waters)

↓	
0	Freshwater: leave 0 Saltwater (estuarine and marine): leave 0 unless DF approved by the State

Enter values in the units specified

↓		
120	C_d = Enter influent hardness in **mg/L** $CaCO_3$	Applies to freshwater receiving waters only
55.9	C_s = Enter receiving water hardness in **mg/L** $CaCO_3$	

Enter **receiving water** concentrations in the units specified

↓		Impaired for metals?	pH, temperature, and ammonia required for all discharges
7.71	pH in **Standard Units**	↓	Hardness required for freshwater
26.7	Temperature in ^{o}**C**		Salinity required for saltwater (estuarine and marine)
0.11	Ammonia in **mg/L**		Metals required for all discharges if detected in the influent and if dilution factor approved by State
55.9	Hardness in **mg/L** $CaCO_3$		Enter 0 if non-detect or testing not required
0	Salinity in **ppt**		If receiving water is not listed as impaired for metals in State 303(d) List, change to "no" using dropdown
0	Antimony in **µg/L**	no	
7	Arsenic in **µg/L**	no	
0	Cadmium in **µg/L**	yes	
0	Chromium III in **µg/L**	yes	
0	Chromium VI in **µg/L**	yes	
0	Copper in **µg/L**	yes	
940	Iron in **µg/L**	yes	
3	Lead in **µg/L**	yes	
0	Mercury in **µg/L**	yes	
2	Nickel in **µg/L**	yes	
0	Selenium in **µg/L**	yes	
0	Silver in **µg/L**	yes	

Notes: Revised 1-24-20

5	Zinc in **µg/L**	yes

Enter **influent** concentrations in the units specified

if >1 sample, enter maximum influent measurement
if >10 samples, may enter 95th percentile of influent measurements using
EPA's *Technical Support Document for Water Quality-based Toxics Control*
Enter 0 if non-detect or testing not required

↓	
0	TRC in **µg/L**
0	Ammonia in **mg/L**
0	Antimony in **µg/L**
0	Arsenic in **µg/L**
0	Cadmium in **µg/L**
0	Chromium III in **µg/L**
0	Chromium VI in **µg/L**
0	Copper in **µg/L**
108	Iron in **µg/L**
0	Lead in **µg/L**
0	Mercury in **µg/L**
8	Nickel in **µg/L**
0	Selenium in **µg/L**
0	Silver in **µg/L**
0	Zinc in **µg/L**
0	Cyanide in **µg/L**
0	Phenol in **µg/L**
0	Carbon Tetrachloride in **µg/L**
0	Tetrachloroethylene in **µg/L**
0	Total Phthalates in **µg/L**
0	Diethylhexylphthalate in **µg/L**
0	Benzo(a)anthracene in **µg/L**
0	Benzo(a)pyrene in **µg/L**
0	Benzo(b)fluoranthene in **µg/L**
0	Benzo(k)fluoranthene in **µg/L**
0	Chrysene in **µg/L**
0	Dibenzo(a,h)anthracene in **µg/L**
0	Indeno(1,2,3-cd)pyrene in **µg/L**
0	Methyl-tert butyl ether in **µg/L**

PHOENIX
Environmental Laboratories, Inc.

Monday, May 03, 2021

Attn: Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Project ID: 2018-104
SDG ID: GCI15383
Sample ID#s: CI15383

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

May 03, 2021

SDG I.D.: GCI15383

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

May 03, 2021

SDG I.D.: GCI15383

Project ID: 2018-104

Client Id	Lab Id	Matrix
MW-2	CI15383	GW DISCHARGE

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

May 03, 2021

FOR: Attn: Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Sample Information		Custody Information		Date	Time
Matrix:	GW DISCHARGE	Collected by:	SV	04/26/21	10:30
Location Code:	CMGENV	Received by:	SW	04/26/21	13:45
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	WORCESTER				

Laboratory Data

SDG ID: GCI15383
Phoenix ID: CI15383

Project ID: 2018-104
Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
O&G, Non-polar Material	< 1.4	1.4	mg/L	1	04/27/21	MSF	E1664A
Semi-Volatile Extraction	Completed				04/26/21	A/CG	E625.1
Volatiles							
Benzene	ND	0.50	ug/L	1	04/26/21	HM	E624.1
Ethylbenzene	ND	0.50	ug/L	1	04/26/21	HM	E624.1
m&p-Xylene	ND	0.50	ug/L	1	04/26/21	HM	E624.1
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	1	04/26/21	HM	E624.1
o-Xylene	ND	0.50	ug/L	1	04/26/21	HM	E624.1
Toluene	ND	0.50	ug/L	1	04/26/21	HM	E624.1
Total BTEX	ND	0.50	ug/L	1	04/26/21	HM	E624.1
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	04/26/21	HM	70 - 130 %
% Bromofluorobenzene	99		%	1	04/26/21	HM	70 - 130 %
% Dibromofluoromethane	99		%	1	04/26/21	HM	70 - 130 %
% Toluene-d8	98		%	1	04/26/21	HM	70 - 130 %
Acetone	ND	5.0	ug/L	1	04/26/21	MH	E624.1/SW8260C
Ethanol	ND	400	ug/L	1	04/26/21	MH	E624.1
Tert amyl methyl ether	ND	1.0	ug/L	1	04/26/21	MH	E624.1
Tert-butyl alcohol	ND	50	ug/L	1	04/26/21	MH	SW8260C
Semivolatiles by (SIM)							
Benzo(a)anthracene	ND	0.04	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Benzo(a)pyrene	ND	0.06	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Benzo(b)fluoranthene	ND	0.06	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Benzo(k)fluoranthene	ND	0.06	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Chrysene	ND	0.06	ug/L	1	04/28/21	WB	E625.1/E625.1SIM

Project ID: 2018-104
Client ID: MW-2

Phoenix I.D.: CI15383

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Indeno(1,2,3-c,d)pyrene	ND	0.06	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
QA/QC Surrogates							
% 2,4,6-Tribromophenol	87		%	1	04/28/21	WB	15 - 110 %
% 2-Fluorobiphenyl	69		%	1	04/28/21	WB	40 - 140 %
% 2-Fluorophenol	68		%	1	04/28/21	WB	15 - 110 %
% Nitrobenzene-d5	70		%	1	04/28/21	WB	40 - 140 %
% Phenol-d5	65		%	1	04/28/21	WB	15 - 110 %
% Terphenyl-d14	76		%	1	04/28/21	WB	40 - 140 %
Semivolatiles							
Acenaphthene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Acenaphthylene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Anthracene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Benzo(g,h,i)perylene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Fluoranthene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Fluorene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Naphthalene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Phenanthrene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Phenol	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Pyrene	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
Total Group II PAHs	ND	5.5	ug/L	1	04/28/21	WB	E625.1/E625.1SIM
QA/QC Surrogates							
% 2,4,6-Tribromophenol	94		%	1	04/28/21	WB	15 - 130 %
% 2-Fluorobiphenyl	75		%	1	04/28/21	WB	30 - 130 %
% 2-Fluorophenol	66		%	1	04/28/21	WB	10 - 130 %
% Nitrobenzene-d5	82		%	1	04/28/21	WB	15 - 130 %
% Phenol-d5	73		%	1	04/28/21	WB	10 - 130 %
% Terphenyl-d14	89		%	1	04/28/21	WB	30 - 130 %

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Per 1.4.6 of EPA method 8270D, 1,2-Diphenylhydrazine is unstable and readily converts to Azobenzene. Azobenzene is used for the calibration of 1,2-Diphenylhydrazine.

The regulatory hold time for Chlorine is immediately. This Chlorine was performed in the laboratory and may be considered outside of hold-time.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

May 03, 2021

Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 03, 2021

QA/QC Data

SDG I.D.: GCI15383

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 572726 (mg/L), QC Sample No: CI15132 (CI15383)													
O&G, Non-polar Material	BRL	1.4				95.0	92.0	3.2				85 - 115	20
Comment:													
A Blank spike was performed instead of a matrix spike													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 572686 (mg/L), QC Sample No: CI15461 (CI15383)													
Chromium, Hexavalent	BRL	0.01	<0.01	<0.01	NC	98.0			88.5			90 - 110	30
Comment:													
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.													
QA/QC Batch 572687 (mg/L), QC Sample No: CI15177 (CI15383)													
Chlorine Residual	BRL	0.02	<0.01	<0.02	NC	94.5							

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

May 03, 2021

QA/QC Data

SDG I.D.: GCI15383

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 572662 (ug/L), QC Sample No: CI14862 (CI15383)										
Semivolatiles (SIM)										
Benz(a)anthracene	ND	0.50	113	112	0.9				42 - 133	53
Benzo(a)pyrene	ND	0.50	109	107	1.9				32 - 148	72
Benzo(b)fluoranthene	ND	0.50	112	111	0.9				42 - 140	71
Benzo(k)fluoranthene	ND	0.50	111	108	2.7				25 - 146	63
Chrysene	ND	0.50	97	97	0.0				44 - 140	87
Dibenz(a,h)anthracene	ND	0.50	112	109	2.7				10 - 200	126
Indeno(1,2,3-cd)pyrene	ND	0.50	111	109	1.8				10 - 151	99
% 2,4,6-Tribromophenol	89	%	112	110	1.8				15 - 130	20
% 2-Fluorobiphenyl	82	%	95	94	1.1				30 - 130	20
% 2-Fluorophenol	71	%	71	84	16.8				10 - 130	20
% Nitrobenzene-d5	71	%	80	87	8.4				15 - 130	20
% Phenol-d5	70	%	73	86	16.4				10 - 130	20
% Terphenyl-d14	88	%	107	101	5.8				30 - 130	20
QA/QC Batch 572773 (ug/L), QC Sample No: CI15300 (CI15383)										
Volatiles										
Acetone	ND	5.0	106	115	8.1	107	115	7.2	70 - 130	30
Benzene	ND	0.70	99	99	0.0	95	96	1.0	65 - 135	20
Ethylbenzene	ND	1.0	100	100	0.0	95	95	0.0	60 - 140	20
m&p-Xylene	ND	1.0	99	100	1.0	95	96	1.0	70 - 130	30
Methyl t-butyl ether (MTBE)	ND	1.0	107	110	2.8	105	111	5.6	70 - 130	30
o-Xylene	ND	1.0	99	101	2.0	96	97	1.0	70 - 130	30
Toluene	ND	1.0	98	99	1.0	94	95	1.1	70 - 130	20
% 1,2-dichlorobenzene-d4	100	%	101	102	1.0	99	101	2.0	70 - 130	30
% Bromofluorobenzene	98	%	101	99	2.0	99	100	1.0	70 - 130	30
% Dibromofluoromethane	99	%	102	102	0.0	100	101	1.0	70 - 130	30
% Toluene-d8	99	%	100	100	0.0	99	100	1.0	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this batch.

Additional VOA Criteria: The 624 recovery criteria for the MS is different than the LCS, which is reported above.

QA/QC Batch 572782 (ug/L), QC Sample No: CI15383 (CI15383)

Oxygenates

Ethanol	ND	200	101	110	8.5	90	114	23.5	70 - 130	30
tert-amyl methyl ether	ND	10	104	106	1.9	103	105	1.9	70 - 130	30
tert-butyl alcohol	ND	25	95	98	3.1	99	83	17.6	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this batch.

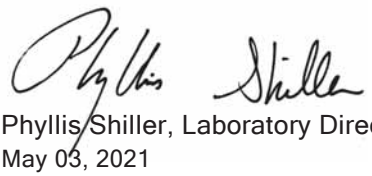
QA/QC Data

SDG I.D.: GCI15383

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference



Phyllis Shiller, Laboratory Director
May 03, 2021

Monday, May 03, 2021

Criteria: MA: CAM, GW1

State: MA

Sample Criteria Exceedances Report

GCI15383 - CMGENV

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 2018-104 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CI15383

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: GW DISCH

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	☑ Yes ☐ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Rashmi Makol

Date: Monday, May 03, 2021

Printed Name: Rashmi Makol

Position: Project Manager

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

May 03, 2021

SDG I.D.: GCI15383

SDG Comments

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

The client requested site specific volatiles by 624 and semi-volatiles by 625. The RCP narrative is provided at the request of the client.

SVOA 625

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM07 04/28/21-1 Wes Bryon, Chemist 04/28/21

CI15383 (1X)

Initial Calibration Evaluation (CHEM07/7_SPLIT_0428):
100% of target compounds met criteria.
The following compounds had %RSDs >35%: None.
The following compounds did not meet a minimum response factors: % 2,4,6-Tribromophenol 0.049 (0.05)

Continuing Calibration Verification (CHEM07/0428_15-7_SPLIT_0428) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 572662 (CI14862)

CI15383

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional SVOA Criteria: The 625 recovery criteria for the MS is different than the LCS, which is reported above.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 04/28/21-1 Wes Bryon, Chemist 04/28/21

CI15383 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0427):

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

May 03, 2021

SDG I.D.: GCI15383

SVOASIM Narration

100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0428_03-27_SIM18_0427) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA-624

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM23 04/26/21-1 Michael Hahn, Chemist 04/26/21

CI15383 (1X)

Initial Calibration Evaluation (CHEM23/VOA23_042621):
100% of target compounds met criteria.
The following compounds had %RSDs >35%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM23/0426_23-VOA23_042621):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 572773 (CI15300) CHEM23 4/26/2021-1

CI15383(1X)

All LCS recoveries were within critiera with the following exceptions: None.
All LCSD recoveries were within critiera with the following exceptions: None.
All LCS/LCSD RPDs were within criteria with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.
Additional VOA Criteria: The 624 recovery criteria for the MS is different than the LCS, which is reported above.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for

PHOENIX

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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

May 03, 2021

SDG I.D.: GCI15383

VOA-624

obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA-OXY Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM23 04/26/21-1 Michael Hahn, Chemist 04/26/21

CI15383 (1X)

Initial Calibration Evaluation (CHEM23/OXY042621):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM23/0426_23-OXY042621) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 572782 (CI15383) CHEM23 4/26/2021-1

CI15383(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 2.3 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[ ] Email: GMagnuson@cmgenv.com

Customer: CMG Environmental Inc.
Address: 67 Hall Road
Sturbridge MA 01566

Project: 2018-104
Report to: CMG
Invoice to: CMG
QUOTE #

Project P.O: Worcester

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: SV Date: 4/26/21

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	TPH by 1664	SVOC by 625	VOC by 624	VOC by 524.2	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container [ ] oz	GL Soil container [ ] oz	40 ml VOA Vial [ ] As is [X] HCL	GL Amber 1000ml [X] As is [X] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250 ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
15383	MW-2	GW	4/26/21	1030	X	X	X	X						6	2		✓	1	1		

Relinquished by:	Accepted by:	Date:	Time:
Stephen Vasilakos		4/26/21	12:55
		4/26	1345

Comments, Special Requirements or Regulations:

**MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.*

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[ ] 3 Days*
[X] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certification
[X] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

To be included w/ COC's for 2018-104 Worcester

Parameter	Chemical Abstracts Service (CAS) Number(s)	Inorganic Test Methods				
		ICP/AES[1] 200.7	ICP/MS[2] 200.8	GFAA[3] 200.9	Other	Notes Digestion
a. Inorganics						
Ammonia					SM[4] 4500 B and D (0.1 mg/L) 350.1 (0.01 mg/L)	
Chloride	16887006				300.0, SM[4] 4110 B (0.1 mg/L)	
Total Residual Chlorine	7782-50-5				SM[4] 4500-Cl D (200 µg/L) SM[4] 4500-Cl G (50 µg/L) SM[4] 4500-Cl E	
Total Suspended Solids					160.2 SM[4] 2540D (5 mg/L)	
Antimony	7440360	20 µg/L	0.5 µg/L	3 µg/L		200
Arsenic	7440382	20 µg/L	1 µg/L	3 µg/L		206.5
Cadmium	7440439	10 µg/L	0.2 µg/L	0.5 µg/L		200
Chromium III	7440473	20 µg/L	1 µg/L	1 µg/L		200
Chromium VI	18540299				7196 A (10 µg/L) 218.6, 1636 (1 µg/L)	
Copper	7440508	20 µg/L	0.2 µg/L	3 µg/L		200
Iron	7439896	40 µg/L	55 µg/L			200
Lead	7439921	20 µg/L	0.2 µg/L	3 µg/L		200
Mercury	7439976				245.1, 7470 A (0.2 µg/L) 245.7, 1631 (0.001 µg/L)	3112 B
Nickel	7440020	20 µg/L	0.2 µg/L	5 µg/L		200
Selenium	7782492	40 µg/L	1 µg/L	5 µg/L		200
Silver	7440224	10 µg/L	0.2 µg/L	5 µg/L		200
Zinc	7440566	15 µg/L	2 µg/L			200
Cyanide	57125				335.4 (5 µg/L)	4500-CN OIA-1677 (5 µg/L)

Parameter	CAS Number(s)	Organic Test Methods				
		GC[5]	GC/MS[6]	HPLC[7]	State Methods[8]	Other[9]
b. Non-Habgenated Volatile OrganicCompounds						
Total BTEX	71-43-2 + 108-88-3 + 100-41-4 + 106-42-3 + 95-47-6 + 330-20-7	602 (0.5 µg/L)	624 (1-2 µg/L) 1624 (2-4 µg/L)		MA VPH (5 µg/L)	8260 (2 µg/L) 524.2 (0.5 µg/L)
Benzene	71-43-2	602 (0.5 µg/L)	624, 1624 (2 µg/L)		MA VPH (5 µg/L)	8260 (2 µg/L) 524.2 (0.5 µg/L)
1,4 Dioxane	123-91-1		1624 (50 µg/L)			8260 (5 µg/L) 522(0.1 µg/L)
Acetone	67-64-1		1624 (50 µg/L)			8260 (50 µg/L) 524.2 (10 µg/L)
Phenol	108-95-2		625 (2.5 µg/L)			8270 (5 µg/L) 420.1, 420.2 (2 µg/L) 420.4 (50 µg/L)
c. Halogenated Volatile Organic Compounds						
Carbon Tetrachloride	56-23-5	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,2 Dichlorobenzene	95-50-1	601, 602 (0.5 µg/L)	624 (2.5 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,3 Dichlorobenzene	541-73-1	601, 602 (0.5 µg/L)	624 (2.5 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,4 Dichlorobenzene	106-46-7	601, 602 (0.5 µg/L)	624 (2.5 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
Total dichlorobenzene	95-50-1 + 541-73-1 + 106-46-7	601, 602 (0.5 µg/L)	624 (2.5 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,1 Dichloroethane	75-34-3	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)

Parameter	CAS Number(s)	Organic Test Methods				
		GC[5]	GC/MS[6]	HPLC[7]	State Methods[8]	Other[9]
1,2 Dichloroethane	107-06-2	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,1 Dichloroethylene	75-35-4	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
Ethylene Dibromide[17]	106-93-4	8011, 504.1 (0.01 µg/L) 618 (1 µg/L)	SIM[10] (0.1 µgL)			524.2 (1 µg/L) 8260 (10 µg/L)
Methylene Chloride	75-09-2	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,1,1 Trichloroethane	71-55-6	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
1,1,2 Trichloroethane	79-00-5	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
Trichloroethylene	79-01-6	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
Tetrachloroethylene	127-18-4	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
cis-1,2 Dichloroethylene	156-59-2	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
Vinyl Chloride	75-01-4	601 (0.5 µg/L)	624 (1 µg/L)			8260 (5 µg/L) 524.2 (0.5 µg/L)
d. Non-Halogenated Semi-Volatile Organic Compounds						
Total Phthalates	85-68-7 + 84-742 + 117-84-0 + 84-66-2 + 131-11-3 + 117-81-7	606 (10 µg/L)	625 (2.5 µg/L) 1625 (5 µg/L)			8270 (5 µg/L) 525.2 (0.5 µg/L)
Diethylhexyl phthalate	117-81-7	606 (10 µg/L)	625 (2.5 µg/L) 1625 (5 µg/L)			8270 (5 µg/L) 525.2 (0.5 µg/L)

Parameter	CAS Number(s)	Organic Test Methods				
		GC[5]	GC/MS[6]	HPLC[7]	State Methods[8]	Other[9]
Total Group I Polycyclic Aromatic Hydrocarbons	56-55-3 + 50-32-8 + 205-99-2 + 207-08-9 + 218-01-9 + 53-70-3 + 193-39-5	610 (5 µg/L)	625 (0.5 µg/L) 1625 (10-20 µg/L)	610 (0.5-2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Benzo(a)anthracene	56-55-3	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Benzo(a)pyrene	50-32-8	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Benzo(b)fluoranthene	205-99-2	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Benzo(k)fluoranthene	207-08-9	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Chrysene	218-01-9	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Dibenzo(a,h)anthracene	53-70-3	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)
Indeno(1,2,3-cd)pyrene	193-39-5	610 (5 µg/L)	625 (0.5 µg/L)	610 (0.5 µg/L)	MA EPH (5 µg/L)	827) (5 µg/L) SIM[1] (0.1 µg/L) 525.2 (0.5 µg/L)

Parameter	CAS Number(s)	Organic Test Methods				
		GC[5]	GC/MS[6]	HPLC[7]	State Methods[8]	Other[9]
Total Group II Polycyclic Aromatic Hydrocarbons	83-32-9 + 208-96-8 + 120-12-7 + 191-24-2 + 206-44-0 + 86-73-7 + 91-20-3 + 85-01-8 + 129-00-0	610 (5 µg/L)	625 (0.5-2.5 µg/L)	610 (0.5-2 µg/L)	MA EPH (5 µg/L)	8270 (5 µg/L) SIM[11] (0.1 µg/L) 525.2 (0.5 µg/L)
Naphthalene	91-20-3	610 (5 µg/L)	625 (0.5 µg/L)	610 (2 µg/L)	MA VPH (5 µg/L) MA EPH (5 µg/L)	8270 (5 µg/L) SIM[11] (0.1 µg/L) 524.2 (0.5 µg/L) 8260 (2 µg/L)
e. Halogenated Semi-Volatile Organic Compounds						
Total Polychlorinated Biphenyls	1336-36-3A	608 (0.5 µg/L)				8082 (0.5 µg/L) 668B (0.00005 µg/L)
Pentachlorophenol	87-86-5	604 (10 µg/L)	625 (5 µg/L)			8270 525 (5 µg/L)
f. Fuels Parameters						
Total Petroleum Hydrocarbons					1664A (5 mg/L)	
Ethanol	64-17-5					1666/ 671/D3695
Methyl-tert-Butyl Ether	1634-04-4		524.2 (10 µg/L)		MA VPH (5 µg/L)	8260 (10 µg/L)
tert-Butyl Alcohol	75-65-0		524.2 (10 µg/L)			624, 8260 (10 µg/L)
tert-Amyl Methyl Ether	994-05-08		524.2 (10 µg/L)			624, 8260 (10 µg/L)

GCI 15383

Shannon Wilhelm

From: Stephen Van Wormer <stephenvanwormer@yahoo.com>
Sent: Tuesday, April 27, 2021 08:59 AM
To: Shannon Wilhelm
Cc: Gary Magnuson
Subject: 719 Southbridge Street Worcester

Good Morning Shannon,

Just following up on an email from yesterday. Please run all analyses on the paper. My fault, I though the VOC, SVOC and TPH analyses included all those parameters.

Thanks
Steve

Sent from my iPhone

PHOENIX
Environmental Laboratories, Inc.

Wednesday, June 16, 2021

Attn: Mr. Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Project ID: 2018-104
SDG ID: GCI51795
Sample ID#s: CI51795

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

June 16, 2021

SDG I.D.: GCI51795

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

June 16, 2021

SDG I.D.: GCI51795

Project ID: 2018-104

Client Id	Lab Id	Matrix
MW-2	CI51795	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 16, 2021

FOR: Attn: Mr. Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		06/09/21	14:35
Location Code:	CMGENV	Received by:	CP	06/10/21	12:31
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	719 SOUTHBRIDGE				

Laboratory Data

SDG ID: GCI51795
Phoenix ID: CI51795

Project ID: 2018-104
Client ID: MW-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Arsenic	< 0.004	0.004	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Cadmium	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Chromium	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Copper	< 0.005	0.005	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Iron	0.108	0.010	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Hardness (CaCO3)	120	0.1	mg/L	1	06/14/21		E200.7	
Mercury	< 0.0002	0.0002	mg/L	1	06/11/21	AT	SW7470/E245.1	
Nickel	0.008	0.001	mg/L	1	06/14/21	EK	SW6010D/E200.7	B*
Lead	< 0.002	0.002	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Antimony	< 0.005	0.005	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Selenium	< 0.010	0.010	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Trivalent Chromium	< 0.001	0.001	mg/L	1	06/12/21		Calculation	
Zinc	< 0.004	0.004	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Chloride	411	15.0	mg/L	5	06/11/21	AP	SM4500CLE-11	
Chromium, Hexavalent	< 0.01	0.01	mg/L	1	06/10/21 13:59	ARG	SM3500CRB-11	
Ammonia as Nitrogen	< 0.05	0.05	mg/L	1	06/11/21	KDB	E350.1	
Total Cyanide	< 0.010	0.010	mg/L	1	06/14/21	A/B/G	E335.4R1	
Total Suspended Solids	< 5.0	5.0	mg/L	1	06/11/21	LCB/QH	SM 2540D-11	
Mercury Digestion	Completed				06/11/21	AB/CG	SW7470/245.1	
Total Metals Digestion	Completed				06/10/21	AG		
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	06/14/21	AW	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	81		%	1	06/14/21	AW	70 - 130 %	
Extraction for 1,4-Dioxane	Completed				06/11/21	G/G		

Ver 1

Project ID: 2018-104
Client ID: MW-2

Phoenix I.D.: CI51795

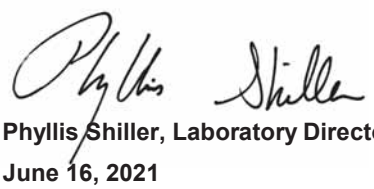
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

June 16, 2021

Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 16, 2021

QA/QC Data

SDG I.D.: GCI51795

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 579026 (mg/L), QC Sample No: CI51673 (CI51795)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	99.9			97.9			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 578915 (mg/L), QC Sample No: CI49668 (CI51795)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	<0.005	<0.005	NC	104	100	3.9	100			80 - 120	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	104	101	2.9	102			80 - 120	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	102	99.1	2.9	98.7			80 - 120	20
Chromium	BRL	0.001	<0.001	<0.001	NC	102	98.5	3.5	99.3			80 - 120	20
Copper	BRL	0.005	<0.005	<0.005	NC	101	95.9	5.2	98.6			80 - 120	20
Iron	BRL	0.010	0.145	0.134	7.90	100	96.9	3.1	98.6			80 - 120	20
Lead	BRL	0.002	<0.002	<0.002	NC	102	98.7	3.3	100			80 - 120	20
Nickel	0.006	0.001	<0.001	<0.001	NC	100	96.8	3.3	98.0			80 - 120	20
Selenium	BRL	0.010	<0.010	<0.010	NC	102	97.7	4.3	97.0			80 - 120	20
Silver	BRL	0.001	<0.001	<0.001	NC	97.8	93.3	4.7	94.6			80 - 120	20
Zinc	BRL	0.004	<0.004	<0.004	NC	101	97.0	4.0	96.9			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

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QA/QC Report

June 16, 2021

QA/QC Data

SDG I.D.: GCI51795

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 579213 (mg/L), QC Sample No: CI45906 (CI51795)													
Total Cyanide	BRL	0.010	<0.010	<0.010	NC	95.4			102			90 - 110	30
Comment:													
Additional soil criteria LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 579042 (mg/L), QC Sample No: CI51795 (CI51795)													
Total Suspended Solids	BRL	2.5	<5.0	<3.3	NC	91.0						85 - 115	
QA/QC Batch 578871 (mg/L), QC Sample No: CI51792 (CI51795)													
Chromium, Hexavalent	BRL	0.01	<0.01	<0.01	NC	99.9			108			90 - 110	30
Comment:													
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.													
QA/QC Batch 579194 (mg/L), QC Sample No: CI51099 (CI51795)													
Chloride	BRL	3.0	<3.0	<3.0	NC	102			109			90 - 110	20
QA/QC Batch 578896 (mg/L), QC Sample No: CI43778 (CI51795)													
Ammonia as Nitrogen	BRL	0.05	14.5	14.3	1.40	100			102			90 - 110	20

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QA/QC Report

June 16, 2021

QA/QC Data

SDG I.D.: GCI51795

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 579089 (ug/l), QC Sample No: CI51305 (CI51795)										
1,4dioxane - Water										
1,4-dioxane	ND	0.20	74	86	15.0	78			70 - 130	20
% 1,4-dioxane-d8	79	%	73	85	15.2	77			70 - 130	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
June 16, 2021

Wednesday, June 16, 2021

Criteria: MA: CAM

State: MA

Sample Criteria Exceedances Report

GCI51795 - CMGENV

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 2018-104 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CI51795

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☑	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: ICP Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Rashmi Makol

Date: Wednesday, June 16, 2021

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

June 16, 2021

SDG I.D.: GCI51795

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list.

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

522 - DIOXANE

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM34 06/14/21-2 Adam Werner, Chemist 06/14/21

CI51795 (1X)

Initial Calibration Evaluation (CHEM34/DIOX_0507):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM34/0614_40-DIOX_0507) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 579089 (CI51305)

CI51795

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Cyanide Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 06/14/21-1 Allan Caffyn, Greg Danielewski, Chemist 06/14/21

CI51795

The samples were distilled in accordance with the method.
The initial calibration met criteria.

Environmental Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

June 16, 2021

SDG I.D.: GCI51795

Cyanide Narration

The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.

The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

Batch 579213 (CI45906)

CI51795

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional soil criteria LCS acceptance range is 80-120% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Hexavalent Chromium (Aqueous)

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 06/10/21-3 Ashley Griffith, Chemist 06/10/21

CI51795

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.

QC (Batch Specific):

Batch 578871 (CI51792)

CI51795

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 06/11/21 08:06 Alex Purdue, Chemist 06/11/21

CI51795

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

June 16, 2021

SDG I.D.: GCI51795

Mercury Narration

The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 579026 (CI51673)

CI51795

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 578915 (Samples: CI51795): -----

Analyte was found in blank. A high bias is suspected. (Aqueous- Nickel(CI51795))

Instrument:

BLUE 06/11/21 08:09 Cindy Pearce, Emily Kolominskaya, Chemist 06/11/21

CI51795

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 06/14/21 08:39 Cindy Pearce, Emily Kolominskaya, Chemist 06/14/21

CI51795

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

June 16, 2021

SDG I.D.: GCI51795

ICP Metals Narration

QC (Batch Specific):

Batch 578915 (CI49668)

CI51795

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

LACHAT

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 06/11/21-1 April Pasquale, Chemist 06/11/21

CI51795

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 579194 (CI51099)

CI51795

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

NITROGEN

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

LACHAT 06/11/21-1 Kandi Della Bella, Chemist 06/11/21

CI51795

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 578896 (CI43778)

CI51795

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
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ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

June 16, 2021

SDG I.D.: GCI51795

NITROGEN

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.7 °C Pg of

Data Delivery/Contact Cptions:
[ ] Fax:
[ ] Phone: RGOAD@CMGENV.COM
[ ] Email: CMGENVSUN@CMGENV.COM

Customer: CMG ENVIRONMENTAL, INC
Address: 67 HALL ROAD
STURBRIDGE, MA 01566

Project: 2018-104
Report to: CMG
Invoice to: CMG
QUOTE #

Project P.O: 719 SOUTHBRIDGE

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 6-9-21

Client Sample - Information - Identifcation

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other) AQUEOUS

Analysis Request

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	AMMONIA - 4500-NH3 H2SO4	CHLORIDE - 4110 - 300.0 - 4500	TSS - 2540 - CYANIDE - 4500	TOTAL Sb, As, Cd, Cr3, Cu	Fe, Pb, Ni, Se, Ag, Zn	Cr6 - EPA - 218.6	Hg: 245.1 or 245.7	1,4-DIOXANE, SIM HALOALKENES	MS/MSD*	GL Amber 8 oz. unpres.	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [X] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml	PL H2SO4 [X] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
51795	MW-2	X	6-9-21	14:35	X	X	X	X	X	X	X	X	X		1				1	2	1	1	1			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	ST	6.10.21	1046
ST	[signature]	6/10/21	1231

Comments, Special Requirements or Regulations:
MUST USE CWA METHODS & CWA MDLs.

**MS/MSD are considered six samples and will be billed as such in accordance with the prices quoted.*

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[X] 3 Days*
[ ] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certifcation
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protecton

State where samples were colected: MA

Data Format
[ ] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

PEL-126 REV. 06/20

PHOENIX
Environmental Laboratories, Inc.

Wednesday, June 16, 2021

Attn: Mr. Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Project ID: 2018-104
SDG ID: GCI51792
Sample ID#s: CI51792

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

June 16, 2021

SDG I.D.: GCI51792

Project ID: 2018-104

Client Id	Lab Id	Matrix
M-RIVER-UP	CI51792	WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

June 16, 2021

FOR: Attn: Mr. Gary Magnuson
CMG Environmental, Inc.
67 Hall Rd
Sturbridge, MA 01566

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		06/09/21	14:15
Location Code:	CMGENV	Received by:	CP	06/10/21	12:31
Rush Request:	72 Hour	Analyzed by:	see "By" below		
P.O.#:	719 SOUTHBRIDGE				

Laboratory Data

SDG ID: GCI51792
Phoenix ID: CI51792

Project ID: 2018-104
Client ID: M-RIVER-UP

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Silver	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Arsenic	0.007	0.004	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Cadmium	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Chromium	< 0.001	0.001	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Copper	< 0.005	0.005	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Iron	0.940	0.010	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Hardness (CaCO3)	55.9	0.1	mg/L	1	06/14/21		E200.7	
Mercury	< 0.0002	0.0002	mg/L	1	06/11/21	AT	SW7470/E245.1	
Nickel	0.002	0.001	mg/L	1	06/14/21	EK	SW6010D/E200.7	B*
Lead	0.003	0.002	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Antimony	< 0.005	0.005	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Selenium	< 0.010	0.010	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Trivalent Chromium	< 0.001	0.001	mg/L	1	06/12/21		Calculation	
Zinc	0.005	0.004	mg/L	1	06/12/21	CPP	SW6010D/E200.7	
Chromium, Hexavalent	< 0.01	0.01	mg/L	1	06/10/21 13:58	ARG	SM3500CRB-11	
Ammonia as Nitrogen	0.11	0.05	mg/L	1	06/11/21	KDB	E350.1	
Mercury Digestion	Completed				06/11/21	AB/CG	SW7470/245.1	
Total Metals Digestion	Completed				06/10/21	AG		

Ver 1

Project ID: 2018-104
Client ID: M-RIVER-UP

Phoenix I.D.: CI51792

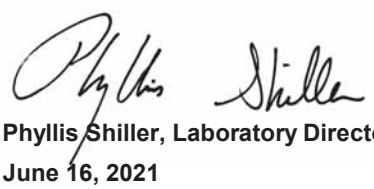
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

B* = Present in blank, a bias is possible.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
June 16, 2021
Reviewed and Released by: Rashmi Makol, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 16, 2021

QA/QC Data

SDG I.D.: GCI51792

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 579026 (mg/L), QC Sample No: CI51673 (CI51792)													
Mercury - Water	BRL	0.0002	<0.0002	<0.0002	NC	99.9			97.9			75 - 125	30
Comment:													
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%													
QA/QC Batch 578915 (mg/L), QC Sample No: CI49668 (CI51792)													
ICP Metals - Aqueous													
Antimony	BRL	0.005	<0.005	<0.005	NC	104	100	3.9	100			80 - 120	20
Arsenic	BRL	0.004	<0.004	<0.004	NC	104	101	2.9	102			80 - 120	20
Cadmium	BRL	0.001	<0.001	<0.001	NC	102	99.1	2.9	98.7			80 - 120	20
Chromium	BRL	0.001	<0.001	<0.001	NC	102	98.5	3.5	99.3			80 - 120	20
Copper	BRL	0.005	<0.005	<0.005	NC	101	95.9	5.2	98.6			80 - 120	20
Iron	BRL	0.010	0.145	0.134	7.90	100	96.9	3.1	98.6			80 - 120	20
Lead	BRL	0.002	<0.002	<0.002	NC	102	98.7	3.3	100			80 - 120	20
Nickel	0.006	0.001	<0.001	<0.001	NC	100	96.8	3.3	98.0			80 - 120	20
Selenium	BRL	0.010	<0.010	<0.010	NC	102	97.7	4.3	97.0			80 - 120	20
Silver	BRL	0.001	<0.001	<0.001	NC	97.8	93.3	4.7	94.6			80 - 120	20
Zinc	BRL	0.004	<0.004	<0.004	NC	101	97.0	4.0	96.9			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

June 16, 2021

QA/QC Data

SDG I.D.: GCI51792

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 578871 (mg/L), QC Sample No: CI51792 (CI51792)													
Chromium, Hexavalent	BRL	0.01	<0.01	<0.01	NC	99.9			108			90 - 110	30
Comment:													
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.													
QA/QC Batch 578896 (mg/L), QC Sample No: CI43778 (CI51792)													
Ammonia as Nitrogen	BRL	0.05	14.5	14.3	1.40	100			102			90 - 110	20

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
June 16, 2021

Wednesday, June 16, 2021

Criteria: MA: CAM

State: MA

Sample Criteria Exceedances Report

GCI51792 - CMGENV

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 2018-104 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CI51792

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: ICP Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Rashmi Makol

Date: Wednesday, June 16, 2021

Printed Name: Rashmi Makol

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

June 16, 2021

SDG I.D.: GCI51792

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list.

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Hexavalent Chromium (Aqueous)

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 06/10/21-3 Ashley Griffith, Chemist 06/10/21

CI51792

The initial calibration met all criteria including a standard run at the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.

QC (Batch Specific):

Batch 578871 (CI51792)

CI51792

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional Hexavalent Chromium criteria: LCS acceptance range for waters is 90-110% and MS acceptance range is 85-115%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Mercury Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

MERLIN 06/11/21 08:06 Alex Purdue, Chemist 06/11/21

CI51792

The method preparation blank, ICB, and CCBs contain all of the acids and reagents as the samples.
The initial calibration met all criteria including a standard run at or below the reporting level.
All calibration verification standards (ICV, CCV) met criteria.
All calibration blank verification standards (ICB, CCB) met criteria.
The matrix spike sample is used to identify spectral interference for each batch of samples, if within 85-115%, no interference is observed and no further action is taken.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 579026 (CI51673)

CI51792

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

June 16, 2021

SDG I.D.: GCI51792

Mercury Narration

All LCS recoveries were within 75 - 125 with the following exceptions: None.
Additional Mercury criteria: LCS acceptance range for waters is 80-120% and for soils is 75-125%

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? No.

QC Batch 578915 (Samples: CI51792): -----

Analyte was found in blank. A high bias is suspected. (Aqueous- Nickel(CI51792))

Instrument:

BLUE 06/11/21 08:09 Cindy Pearce, Emily Kolominskaya, Chemist 06/11/21

CI51792

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 06/14/21 08:39 Cindy Pearce, Emily Kolominskaya, Chemist 06/14/21

CI51792

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 578915 (CI49668)

CI51792

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

NITROGEN

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

June 16, 2021

SDG I.D.: GCI51792

NITROGEN

Instrument:

LACHAT 06/11/21-1 Kandi Della Bella, Chemist 06/11/21

CI51792

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 578896 (CI43778)

CI51792

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.7 °C Pg of

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone: RGOADCMGENV1.COM
[X] Email: GMAGNUSONCMGENV1.COM

Customer: CMG ENVIRONMENTAL, INC
Address: 67 HALL ROAD
STURBRIDGE MA 01566

Project: 2018.104
Report to: CMG
Invoice to: CMG
QUOTE #

Project P.O: 719 SOUTHBRIDGE

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 6-9-21

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other) AQUEOUS

Analysis Request: 11 HARDNESS; AMMONIA; TOTAL Sb, As, Cd, Cr, Cu, Fe, Pb, Ni, Se, Ag, Zn; Cr6; Hg By EPA 200.8; By EPA 218.6; By 245.1 or 245.7

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	MS/MSD *	GL Amber 8 oz. w/H3PO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	G: Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCL	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml	PL H2SO4 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
51792	M-RIVER-UP	X	6-9-21	1415	X							1	3	2			

Relinquished by:	Accepted by:	Date:	Time:
[signature]	ST	6/10/21	1045
ST	[signature]	6/10/21	1231

Comments, Special Requirements or Regulations:
MUST USE CWA METHODS WITH CWA MDL'S

*MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.

Turnaround Time:
[ ] 1 Day*
[ ] 2 Days*
[X] 3 Days*
[ ] Standard
[ ] Other
* SURCHARGE APPLIES

RI
[ ] (Residential) Direct Exposure
[ ] (Comm/Industrial) Direct Exposure
[ ] GA Leachability
[ ] GB Leachability
[ ] GA-GW Objectives
[ ] GB-GW Objectives

CT
[ ] RCP Cert
[ ] GW Protection
[ ] SW Protection
[ ] GA Mobility
[ ] GB Mobility
[ ] Residential DEC
[ ] I/C DEC
[ ] Other

MA
[X] MCP Certification
[ ] GW-1 [ ] MWRA eSMART
[ ] GW-2 [ ] S-1 10% CALC
[ ] GW-3
[ ] S-1 GW-1 [ ] S-1 GW-2 [ ] S-1 GW-3
[ ] S-2 GW-1 [ ] S-2 GW-2 [ ] S-2 GW-3
[ ] S-3 GW-1 [ ] S-3 GW-2 [ ] S-3 GW-3
[ ] SW Protection

State where samples were collected: MA

Data Format
[ ] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist
[ ] Full Data Package*
[X] Phoenix Std Report
[ ] Other
* SURCHARGE APPLIES

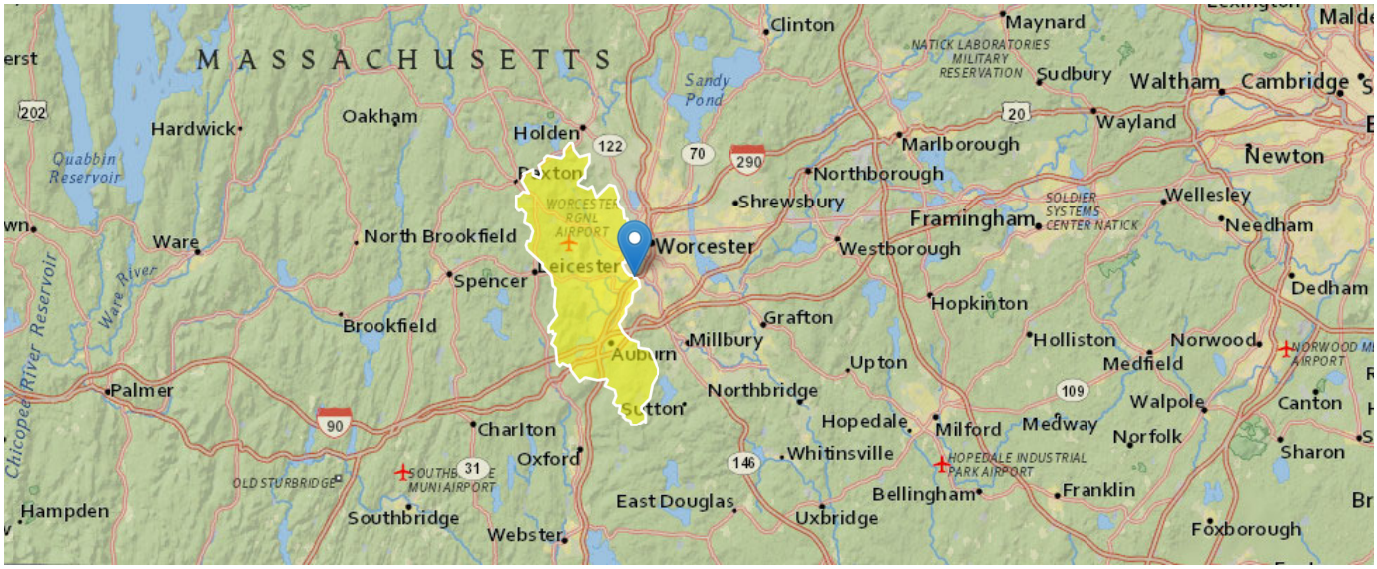
PEL-126 REV. 06/20

ATTACHMENT B

STREAMSTATS REPORT FOR MIDDLE RIVER

StreamStats Report

Region ID: MA
Workspace ID: MA20210527193213122000
Clicked Point (Latitude, Longitude): 42.24135, -71.81228
Time: 2021-05-27 15:32:36 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
ACRSDFT	Area underlain by stratified drift	8.93	square miles
BSLDEM10M	Mean basin slope computed from 10 m DEM	8.774	percent
CRSDFT	Percentage of area of coarse-grained stratified drift	17.94	percent
DRNAREA	Area that drains to a point on a stream	49.9	square miles
FOREST	Percentage of area covered by forest	45.33	percent
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless
OUTLETX	Basin outlet horizontal (x) location in state plane coordinates	174225	feet
OUTLETY	Basin outlet vertical (y) location in state plane coordinates	887925	feet
PRECPRIS00	Basin average mean annual precipitation for 1971 to 2000 from PRISM	48.8	inches
STRMTOT	total length of all mapped streams (1:24,000-scale) in the basin	124	miles
ELEV	Mean Basin Elevation	749	feet
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	9.45	percent
BSLDEM250	Mean basin slope computed from 1:250K DEM	4.406	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.0719	square mile per mile

Peak-Flow Statistics Parameters [Peak Statewide 2016 5156]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	49.9	square miles	0.16	512
ELEV	Mean Basin Elevation	749	feet	80.6	1948

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
LC06STOR	Percent Storage from NLCD2006	9.45	percent	0	32.3

Peak-Flow Statistics Flow Report [Peak Statewide 2016 5156]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SEp
50-percent AEP flood	1040	ft^3/s	530	2040	42.3
20-percent AEP flood	1700	ft^3/s	855	3380	43.4
10-percent AEP flood	2220	ft^3/s	1090	4520	44.7
4-percent AEP flood	2980	ft^3/s	1420	6270	47.1
2-percent AEP flood	3610	ft^3/s	1660	7850	49.4
1-percent AEP flood	4280	ft^3/s	1910	9600	51.8
0.5-percent AEP flood	5010	ft^3/s	2170	11600	54.1
0.2-percent AEP flood	6070	ft^3/s	2510	14700	57.6

Peak-Flow Statistics Citations

Zarriello, P.J.,2017, Magnitude of flood flows at selected annual exceedance probabilities for streams in Massachusetts: U.S. Geological Survey Scientific Investigations Report 2016–5156, 99 p. (https://dx.doi.org/10.3133/sir20165156)

Low-Flow Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	49.9	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	4.406	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.0719	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

Low-Flow Statistics Flow Report [Statewide Low Flow WRIR00 4135]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	Plu	SE	SEp
7 Day 2 Year Low Flow	4.74	ft^3/s	1.41	15.3	49.5	49.5
7 Day 10 Year Low Flow	2.08	ft^3/s	0.503	8.01	70.8	70.8

Low-Flow Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	49.9	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.0719	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	4.406	percent	0.32	24.6

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

PII: Prediction Interval-Lower, Plu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SE	SEp
50 Percent Duration	51.5	ft^3/s	28.7	91.9	17.6	17.6
60 Percent Duration	37.3	ft^3/s	20.2	68.6	19.8	19.8
70 Percent Duration	21.2	ft^3/s	8.06	55.2	23.5	23.5
75 Percent Duration	16.2	ft^3/s	6.11	42.5	25.8	25.8
80 Percent Duration	12.5	ft^3/s	4.62	33.4	28.4	28.4
85 Percent Duration	9.77	ft^3/s	3.54	26.5	31.9	31.9
90 Percent Duration	7.13	ft^3/s	2.44	20.4	36.6	36.6
95 Percent Duration	4.63	ft^3/s	1.44	14.4	45.6	45.6
98 Percent Duration	2.89	ft^3/s	0.78	10.1	60.3	60.3
99 Percent Duration	2.27	ft^3/s	0.585	8.29	65.1	65.1

Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

August Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	49.9	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	4.406	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.0719	square mile per mile	0	1.29
MAREGION	Massachusetts Region	0	dimensionless	0	1

August Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

PII: Prediction Interval-Lower, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SE	SEp
August 50 Percent Duration	9.96	ft^3/s	3.57	27.3	33.2	33.2

August Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Application Version: 4.5.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.1.2

Ryan Goad

From: Keohane, Kathleen (DEP) <kathleen.keohane@state.ma.us>
Sent: Thursday, June 17, 2021 12:23 PM
To: Ryan Goad; Gary Magnuson
Cc: Vakalopoulos, Catherine (DEP)
Subject: RE: NPDES RGP Dilution/Attenuation Factor Calculations- 719 Southbridge St, Worcester site

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ryan,

The 7Q10 of 2.08 cfs (1.34 MGD) and the dilution factor calculation of 19.6 using a design flow of 50 gpm (0.072 MGD) for the proposed discharge to the Middle River from 719 Southbridge St. in Worcester is correct.

Here is water quality information to assist you with filling out the NOI (some of which you already have):

Waterbody and ID: Middle River (MA51-02) (Blackstone River Watershed)
Classification: B, Warm water fishery
Outstanding Resource Water?: No

State's most recent Integrated List is located here: https://www.epa.gov/sites/production/files/2020-01/documents/2016-ma-303d-list-report.pdf, search for "MA51-02" to see the causes of impairments.
TMDLs: There is a draft TMDL (pathogens) for this segment.

As you may know, if this is not a current MCP site, then in addition to submitting the NOI to EPA, you need to apply with MassDEP and submit a $500 fee (unless fee exempt, e.g., municipality) using ePLACE. Instructions on how to apply are located here: https://www.mass.gov/how-to/wm-15-npdes-general-permit-notice-of-intent and information on how to get ePLACE technical assistance is available on the ePLACE Portal webpage: https://eplace.eea.mass.gov/citizenaccess/.

Please let me know if you have any questions.

From: Ryan Goad <RGoad@cmgenv.com>
Sent: Thursday, June 17, 2021 12:06 PM
To: Keohane, Kathleen (DEP) <Kathleen.Keohane@mass.gov>
Subject: RE: NPDES RGP Dilution/Attenuation Factor Calculations-Worcester site

Last time I did one of these (several years back) I remember there being a worksheet that auto-calculated WQBELs, dilution, etc. but that is not currently available. There also appear to be some dropdown menus that are missing from the current one was well (last revised 2020, downloaded from below):

https://www3.epa.gov/region1/npdes/remediation/MALimitsBookRev1.xlsx

Anyhow, I did it myself per Appendix V to the RGP (below, copied from Excel, also attached).

I.A. 7Q10 (Streamstats)			I.B (Calculate DF)		
2.08	ft^3/s =		$\frac{Q_S + Q_D}{Q_D}$	= Dilution factor =	19.6
1,344,339	GPD =				
1.34	MGD =	Q_S			

Discharge (design flow):		
50	gpm =	
72000	GPD =	
0.072	MGD =	Q_D

Let me know if you need anything else.
-Ryan

From: Keohane, Kathleen (DEP) <kathleen.keohane@state.ma.us>
Sent: Thursday, June 17, 2021 11:24 AM
To: Ryan Goad <RGoad@cmgenv.com>
Subject: RE: NPDES RGP Dilution/Attenuation Factor Calculations-Worcester site

I usually see a separate calculation sheet showing your design flow and DF. I agree with your 7Q10 and discharge location, but in order for me to confirm the dilution factor (19.6), send you calculation for our records. Thanks.

From: Vakalopoulos, Catherine (DEP) <catherine.vakalopoulos@ mass.gov>
Sent: Wednesday, June 16, 2021 9:25 AM
To: Keohane, Kathleen (DEP) <Kathleen.Keohane@mass.gov>
Cc: RGoad@cmgenv.com; GMagnuson@cmgenv.com
Subject: FW: NPDES RGP Dilution/Attenuation Factor Calculations-Worcester site

Hi Kathleen,
Do you have time to look at this?
Thanks,
Cathy

From: Ryan Goad <RGoad@cmgenv.com>
Date: Tuesday, June 15, 2021 at 3:28 PM
To: "Vakalopoulos, Catherine (DEP)" <catherine.vakalopoulos@mass.gov>
Cc: Gary Magnuson <GMagnuson@cmgenv.com>
Subject: NPDES RGP Dilution/Attenuation Factor Calculations-Worcester site

Good afternoon-
I have attached a copy of the “MALimitsBookRev1.xlsx” file for receiving water vs. RGP discharge concentrations, along with a copy of a StreamStats printout for my area of interest.

We are preparing an NOI for dewatering to accommodate new UST installation at an existing gas station (719 Southbridge Street, Worcester) as part of station re-build later in the summer. Surprisingly groundwater at this site is clean, with no petroleum impacts downgradient of the existing USTs and only background metals present. There was a minor release of fuel to soil at one of the dispensers, but excavation removed the material and it did not appear to have impacted groundwater. Nonetheless we plan to treat groundwater with carbon just in case.

This discharge will be via an on-site drainage manhole with ultimate discharge to the Middle River a short distance to the south.

I have attached pertinent information and wanted to see if you concur with my determination of 7Q10 flow at this particular location (specifically the Middle River where it enters a culvert beneath Southbridge Street and the I-290 interchange above that.

Regards,

C. Ryan Goad
Hydrogeologist
CMG Environmental, Inc.
67 Hall Road, Sturbridge MA 01566
774-241-0901 (p)
774-241-0906 (f)
860-729-4957 (mobile)

ATTACHMENT C

WORCESTER DPW CORRESPONDENCE

Ryan Goad

From: Lyford, Nicholas J. <LyfordN@worcesterma.gov>
Sent: Wednesday, June 16, 2021 1:02 PM
To: Ryan Goad
Cc: Gary Magnuson; 'Tom Healey'
Subject: RE: NPDES RGP Discharge - 719 Southbridge Street

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Ryan,
After reviewing, this approach does not look to require any permits from DPW, and we do not have an issue with it proceeding as described below.
Thanks,

Nick Lyford
Assistant Engineer
Worcester Public Works & Parks
(508) 929-1300 Ex. 4174
LyfordN@worcesterma.gov

From: Ryan Goad <RGoad@cmgenv.com>
Sent: Tuesday, June 15, 2021 8:58 AM
To: Lyford, Nicholas J. <LyfordN@worcesterma.gov>
Cc: Gary Magnuson <GMagnuson@cmgenv.com>; 'Tom Healey' <Tom.Healey@nouriaenergy.com>
Subject: NPDES RGP Discharge - 719 Southbridge Street
Importance: High

As per our conversation, this is a summary of what we plan to do:

1. Dewatering to install new USTs at the existing gas station site (current car wash and store to be demolished, store rebuilt, plans already approved by City). We collected groundwater samples from the site which are clean (i.e., no gasoline/diesel impacts) in preparation for permitting.
2. The dewatering will occur under EPA Region 1's Remediation General Permit (their dewatering permit expired in 2018, and dewatering must be done under RGP). See https://www.epa.gov/npdes-permits/remediation-general-permit-rgp-massachusetts-new-hampshire
3. Discharge will be through treatment to the stormwater system in accordance with the terms of the permit. After our call I found an on-site drainage manhole (southeast of the current car

wash; see Exist. Cond. Plan, page #1) that will be ideal to receive our treated discharge, which will then flow through the city's stormwater system to the nearby Middle River.
4. We expect 50 gpm discharge for 1-2 weeks. Area is sandy river channel deposits, thus we anticipate a large dewatering volume.

I have attached an Existing Conditions (pg 1) and planned construction (pg 2) plans as submitted for City permitting. I have also included a dewatering & treatment system sketch.

Please contact me with any questions. I am still awaiting additional data before preparing the permit registration, but it should arrive within the next few days.

We would like DPW permission to discharge this treated water in accordance with the RGP. As discussed, Upper Blackstone (POC: Sharon Lawson) is not interested in accepting the discharge unless there is no other alternative. She indicated I should seek discharge approval under the RGP. Thank you,

C. Ryan Goad
Hydrogeologist
CMG Environmental, Inc.
67 Hall Road, Sturbridge MA 01566
774-241-0901 (p)
774-241-0906 (f)
860-729-4957 (mobile)

ATTACHMENT D

USFWS ENDANGERED SPECIES CONSULTATION DOCUMENTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To: May 28, 2021
Consultation code: 05E1NE00-2021-TA-3615
Event Code: 05E1NE00-2021-E-10845
Project Name: Groundwater discharge under Remediation General Permit for MA/NH

Subject: Verification letter for the 'Groundwater discharge under Remediation General Permit for MA/NH' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Ryan Goad:

The U.S. Fish and Wildlife Service (Service) received on May 28, 2021 your effects determination for the 'Groundwater discharge under Remediation General Permit for MA/NH' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Groundwater discharge under Remediation General Permit for MA/NH

2. Description

The following description was provided for the project 'Groundwater discharge under Remediation General Permit for MA/NH':

> Discharge of treated groundwater to facilitate installation of new USTs at an existing Shell station.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.24181485,-71.8114853977801,14z

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require

ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0