Groundwater & Environmental Services, Inc.
1 Park Drive, Suite 8
Westford, MA 01886
T. 800.221.6119

June 25, 2020

Via Electronic Mail: NPDES.Generalpermits@epa.gov; Little.Shauna@epa.gov

Ms. Shauna Little
U.S. Environmental Protection Agency
Remediation General Permit NOI Processing
5 Post Office Square, Suite 100
Mail Code OEP06-4
Boston, Massachusetts 02109-3912

Re: EPA Remediation General Permit Notice of Intent
Roy Bros., Inc.
764 Boston Road
Billerica, Massachusetts 01821
MassDEP Site No. 3-0236
(and Linked MassDEP RTNs 3-32406 and 3-35266)

Dear Ms. Little:

Groundwater & Environmental Services, Inc. (GES), on behalf of Roy Bros., Inc. (Roy Bros.), has prepared this EPA Remediation General Permit (RGP) Notice of Intent (NOI) submittal for the above-referenced location (the Site). The RGP NOI submittal is provided as **Attachment A**. The Site property encompasses three parcels. The developed portion of the property encompasses approximately 4.78 acres (Tax Assessor's Map 90, Parcel 25). Improvements at the parcel include a 17,786-square foot, one-story, slab-on-grade building (without a basement) with steel frame and concrete block construction. The building contains offices, two truck wash bays, and a truck repair bay. Most of the active portion of this parcel from the property entrance (located along the Allen Road intersection with Boston Road) to the building is paved with asphalt. An undeveloped, unpaved parcel to the east of the main operations encompasses approximately 2.6 acres (Tax Assessor's Map 90, Parcel 217), and consists of a historically filled area that extends east into wetlands associated with the Shawsheen River. A third undeveloped parcel consisting of 0.376 acres (Tax Assessor's Map 90, Parcel 24) is located near Boston Road.

Roy Bros. operated as a bulk chemical hauler at the subject property since approximately 1948. In August 2017, under a leasing arrangement, Dana Companies of Avenel, New Jersey (a national firm) assumed operations at the Roy Bros., Inc. facility. The location now operates as Dana Transport, Inc. The property continues to be owned by Roy Bros. Current operations consist of hauling of liquid and dry industrial chemicals, truck washing and vehicle maintenance.

Truck washing bays in the building contain two floor drains reportedly connected to a 200-gallon holding tank from which wastewater is pumped directly to a wastewater treatment facility at the rear of the building. Treated wastewater is discharged to the municipal sewer system under an approved permit with the Town of Billerica. The property is serviced by municipal water and sewer, and overhead electric. A 25,000-gallon diesel above ground storage tank (AST) located near the eastern corner of the building is used to power steam boilers used to heat the building.

According to the Town of Billerica Official Zoning Map, dated October 11, 2016, the main developed parcel owned by Roy Bros., Inc. is zoned as “Industrial.” Land use in the vicinity beyond the Roy Bros., Inc. parcels is generally commercial and residential. Abutting residential properties are located along Allen Road to the west and Devonshire Drive to the north. Abutting undeveloped properties, designated as conservation land, are located to the east and southeast.

Soil and groundwater beneath the Site have been impacted by several historic releases of phthalates, petroleum and chlorinated compounds. Records indicate that, before the connection to the municipal sewer system in 1981, wastewater from the truck washing operations was reportedly discharged to unlined infiltration lagoons. In the 1980’s, MassDEP required soil, groundwater, and waste stream sampling related to discharges to the lagoons and surface impoundments that had previously operated at the Site. The Site was initially assigned MassDEP Site No. 3-0236, and was on MassDEP’s list of Confirmed Disposal Sites in January 1987. Multiple environmental investigations have been conducted since that time. The most recent reports to MassDEP included a Revised Phase II Comprehensive Site Assessment (CSA) submitted in January 2015, a Revised Phase II CSA Addendum submitted in August 2019 and a Revised Phase III RAP Addendum submitted in February 2020.

The former Western Lagoon area is the focus of the current remediation. A former 25,000-gallon diesel underground storage tank (UST) was also once located west of the building in this general area. On October 29, 2018, light non-aqueous liquid (LNAPL) was detected at a thickness of 3.12 inches in monitoring well MW-20S located just downgradient of the former Western Lagoon area and RTN 3-35266 was assigned to this condition. The LNAPL consisted primarily of petroleum and phthalates. A limited subsurface investigation was implemented in August 2019 to evaluate the nature and extent of impacts. Soil samples collected at the time of excavation confirmed the presence of petroleum and phthalates in soil, which are considered the constituents of concern for the former Western Lagoon area.

Excavation of petroleum and phthalate impacted soil is proposed during upcoming remedial activities at the Site. It is anticipated that proposed excavation and temporary dewatering and groundwater treatment activities will be initiated at the Site in July/August 2020 upon receipt of Authorization of the RGP. Proposed remediation activities are being performed at the Site under an Immediate Response Action (IRA) Plan Modification for RTN 3-35266 submitted to MassDEP on June 12, 2020, in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000.

This Notice of Intent is being submitted in order to obtain a permit for the short term (temporary) discharge of treated groundwater to surface water. Based on available information groundwater has been measured at the Site at depths ranging from approximately 1.5 feet to 8 feet below grade. Therefore, it is anticipated that dewatering activities and corresponding treatment of such using a temporary groundwater treatment system will be necessary to depress the groundwater table at the Site during subsurface excavation activities. A Site Location Map is provided as **Figure 1** and an Expanded Site Layout is provided as **Figure 2**. The attached Site Location Map (**Figure 1**) depicts the subject property with respect to surrounding topography and the Site Layout (**Figure 2**) depicts pertinent Site features. The attached MADEP Bureau of Waste Site Cleanup (BWSC) Phase 1 Site Assessment Map provided as **Figure 3** depicts surface water features and sensitive receptors located within an approximate 500 foot radius and half-mile radius of the Site.

GROUNDWATER TREATMENT SYSTEM DESIGN

The proposed groundwater treatment system to be located on-Site shall consist of an electric submersible pump which will pump groundwater from a temporary dewatering sump or well set within the excavation area to two (2) 21,000-gallon fractionation (frac) tanks for settling and temporary storage. Recovered groundwater shall be pumped from the frac tank using a submersible pump through bag filters to remove particulates and then through two (2) 2,000-pound capacity liquid phase granular activated carbon adsorption (LGAC) vessels plumbed in series. The treated groundwater will pass through a flow meter and flow totalizer prior to being discharged to a storm drain catch basin located to the immediate south along Allen Road or a storm drain catch basin located to the immediate south along Boston Road (Route 3A).

Information provided by the Town of Billerica Department of Public Works (DPW) indicates that the storm drain catch basins in front of the site is connected to the underground stormwater drainage system beneath Boston Road and discharges to the wetlands adjacent to the Shawsheen freshwater surface water, located approximately 675 feet east of the Site.

A process flow diagram of the proposed groundwater treatment system is provided as **Figure 4**. The proposed treated water discharge location to catch basins adjacent to the Site is shown on **Figure 5, Figure 6,** and **Figure 7**.

The average flow rate of the treated water discharge from the system to the storm drain system is anticipated to be between 50 and 100 gallons per minute (gpm). The pumping capacity of the groundwater treatment system is 100 gpm based upon the capacity of the submersible pumps. The groundwater treatment system shall be inspected, monitored, and sampled by or under the direction of a Grade II Wastewater Treatment Plant Operator as required in accordance with the RGP. Groundwater samples shall be collected from the influent and effluent (treated water) prior to discharge for analysis by a Massachusetts-certified laboratory for contaminants of concern and any additional monitoring parameters required by the RGP. In addition, groundwater samples shall also be collected from the midpoint (between LGAC units) for analysis by a Massachusetts-certified laboratory to further monitor the groundwater treatment system for potential break through of the liquid phase carbon.

GROUNDWATER AND SURFACE WATER PRE-CHARACTERIZATION ANALYSIS

Groundwater samples were collected on March 25, 2020 from on-Site monitoring wells MW-11S and MW-20S for RGP parameters. The March 2020 samples were submitted to Eurofins TestAmerica (TestAmerica) under chain-of-custody protocol and analyzed for select RGP parameters including ammonia, chloride, total suspended solids (TSS), total residual chlorine (TRC), hardness, total metals, cyanide, volatile organic compounds (VOCs), semi-VOCs (SVOCs)/ polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH) via the corresponding EPA methodologies. Refer to the laboratory analytical report included in **Attachment B** for details of the RGP parameters, EPA methodologies and groundwater analytical results. The temperature of groundwater sample MW-11S was field measured at 6.7 degrees Celsius, and pH was field measured at 5.47 standard units (SU). The temperature of groundwater sample MW-20S was field measured at 7.6 degrees Celsius, and the pH was field measured at 5.72 SU. In addition, a surface water sample identified as SW-1 was collected from the receiving water in the Shawsheen River at the storm drain outfall. The surface water sample SW-1 was submitted to TestAmerica under chain-of-custody for select RGP parameters including total metals, ammonia, and hardness. The temperature of the surface water was field measured at 7.4 degrees Celsius, and pH was field measured at 6.86 SU.

The groundwater analytical results for untreated/ unfiltered groundwater samples collected from monitoring wells MW-11S and MW-20S on March 25, 2020 for RGP parameters are summarized in the enclosed RGP NOI data summary section (**Attachment A**).

The RGP effluent limitations were obtained from the RGP Table 2 Chemical-Specific Effluent Limitations for Category I – Petroleum Related Site Remediation, found at (https://www.epa.gov/npdes-permits/remediation-general-permit-rgp-massachusetts-new-hampshire). Based on the proposed discharge location, a dilution factor of 1 has been used. The surface water sample SW-1 analytical results are presented in the laboratory analytical report (**Attachment B**).

Referring to the NOI data summary included in **Attachment A**, the analytical results for the untreated/ unfiltered groundwater samples (MW-11S and MW-20S) detected TSS, iron, total phthalates, diethylhexyl phthalate, Total Group I PAHs, Total Group 2 PAHs, total petroleum hydrocarbons (TPH), and total benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations above the corresponding EPA RGP technology-based effluent limitation (TBEL) and/or water quality-based effluent limitation (WQBEL) available for this report. These exceedances of RGP effluent limitations in the untreated groundwater sample (MW-11S and MW-20S) are most likely attributable to silt and residual LNAPL in the unfiltered groundwater sample and not representative of actual groundwater (soluble) concentrations. However, it is anticipated that the proposed groundwater treatment system will reduce concentrations of TSS, iron, total phthalates, diethylhexyl phthalate, Total Group I PAHs, Total Group II PAHs, and total BTEX below available RGP effluent limitations in treated groundwater prior to discharge. Based on available information, TSS, total BTEX, total iron, total phthalates, diethylhexyl phthalate,

TPH, Total Group I PAHs, and Total Group II PAHs should be subject to monitoring requirements.

RECEIVING WATERS INFORMATION

The receiving water for the treated groundwater discharge is wetlands adjacent to the Shawsheen River freshwater surface water, located approximately 765 feet east of the Site. GES consulted the United States Geological Survey (USGS) StreamStats program (https://streamstats.usgs.gov/ss/) to determine the 7Q10 flow rate at the discharge location. USGS provided the enclosed StreamStats Report for the proposed discharge point (located at 42.534777N, -71.23366W) at the drainage system outfall in the Shawsheen River located to the southeast of the Site in Billerica, MA. Data obtained from the StreamStats Flow Statistics Report indicates that the calculated 7Q10 flow rate for this area basin is 2.21 cubic feet per second (cfs). A copy of the USGS StreamStats Report is provided in **Attachment C**. The approximate location of the discharge outfall into the Shawsheen River is shown on **Figures 5** and **6**.

RECEIVING WATER CLASSIFICATION

According to the Massachusetts Surface Water Quality Standards, the Shawsheen River surface water where the proposed drainage system outfall is located is designated as Class B surface water body suitable as habitat for fish and aquatic wildlife, and for primary and secondary contact recreation. The Shawsheen River is not an Outstanding Resource Water according information provided by the MADEP.

THREATENED OR ENDANGERED SPECIES OR CRITICAL HABITAT

According to the Massachusetts Geographic Information Systems (MassGIS) and online MassDEP Phase 1 Site Assessment Map (http://maps.massgis.state.ma.us/images/dep/mcp/mcp.htm) and Natural Heritage Endangered Species Program (NHESP) online maps, no Priority Habitat of Rare Species or Estimated Habitats of Rare Wildlife are located within the work area or at the proposed groundwater discharge location. Also, the MassGIS map does not depict any Areas of Critical Environmental Concern on the Site or within one-half mile of the Site. Copies of the MADEP Phase 1 Site Assessment Map (**Figure 3**) is attached and the NHESP maps are provided as **Attachment D**.

As part of the Endangered Species Act eligibility determination, GES contacted the United States Department of the Interior, Fish and Wildlife Services (FWS) and requested a list of threatened and endangered species that may occur in the proposed project location and/or that may be affected by the proposed project. The FWS provided the requested list which indicates that Northern Long-eared Bats were identified. The discharge activities are not likely to impact the Northern Long-eared Bats. Therefore, the proposed project discharge meets FWS Criterion B. A copy of the FWS letter is included in **Attachment E**.

REVIEW OF NATIONAL REGISTER OF HISTORIC PLACES

A listing of Historic Places within the Town of Billerica was obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database (http://mhc-macris.net/) on April 6, 2020. A copy of the MACRIS historic places report is provided as **Attachment F**. The database indicates that numerous historic places are located in the Town of Billerica. Referring to **Attachment F**, the 577 Boston Road property located approximately 1.3 miles northwest of the Site is a historic property. The 577 Boston Road historic property appears to be the closest historic property to the Site. However, the project does not involve the demolition or rehabilitation of any of the historic places identified in the database. Also, historic properties are not affected by the discharge or identified in the path of the discharges regulated by this permit, and are not identified where installation or construction of treatment systems or best management practices to control such discharges are planned.

Should you have any questions regarding this application, please contact Meghan Proia at 800-221-6119, extension 3589.

Sincerely,

Groundwater & Environmental Services, Inc.

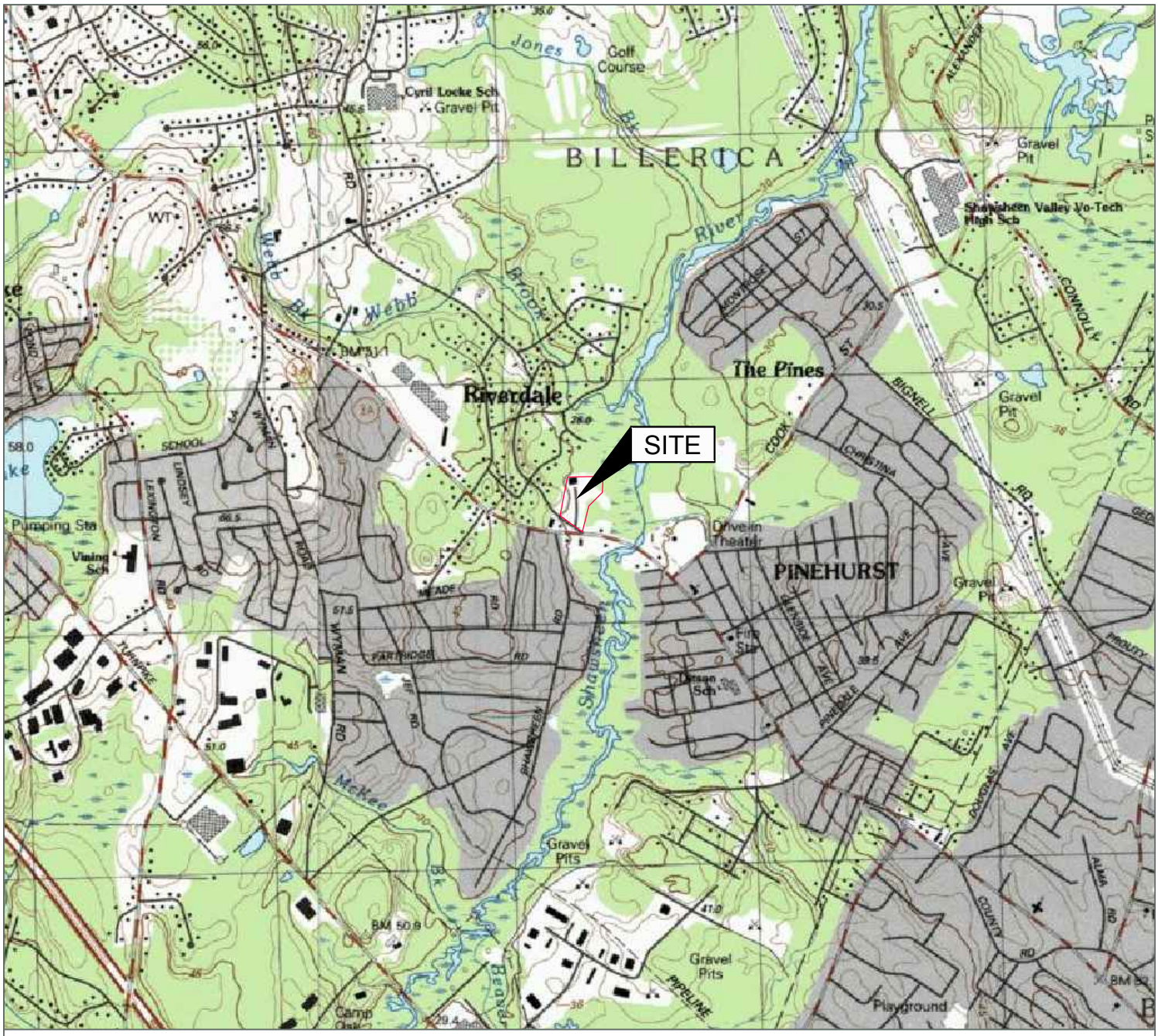
Meghan Proia
2020.06.25
15:34:03 -04'00'

Meghan D. Proia, PE
Senior Engineer

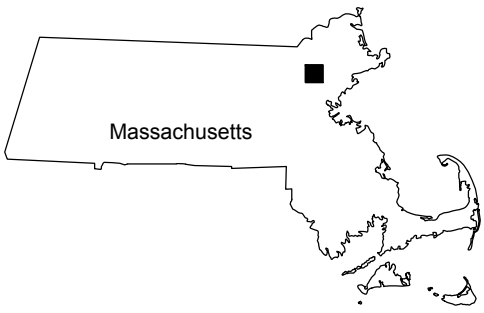
Digitally signed
by Stefan C. Sokol
Date: 2020.06.25
16:04:03 -04'00'

Stefan C. Sokol, LSP
Principal Environmental Scientist

Figures



Source:
□SGS 7.□ Minute Series
Topographic □uadrangle, 1□87
Reading, Massachusetts
□ontour Interval □ □ Meters



□uadrangle □ocation

Site □ocation Map

Roy Bros., Inc.
764 Boston Road
Billerica, Massachusetts

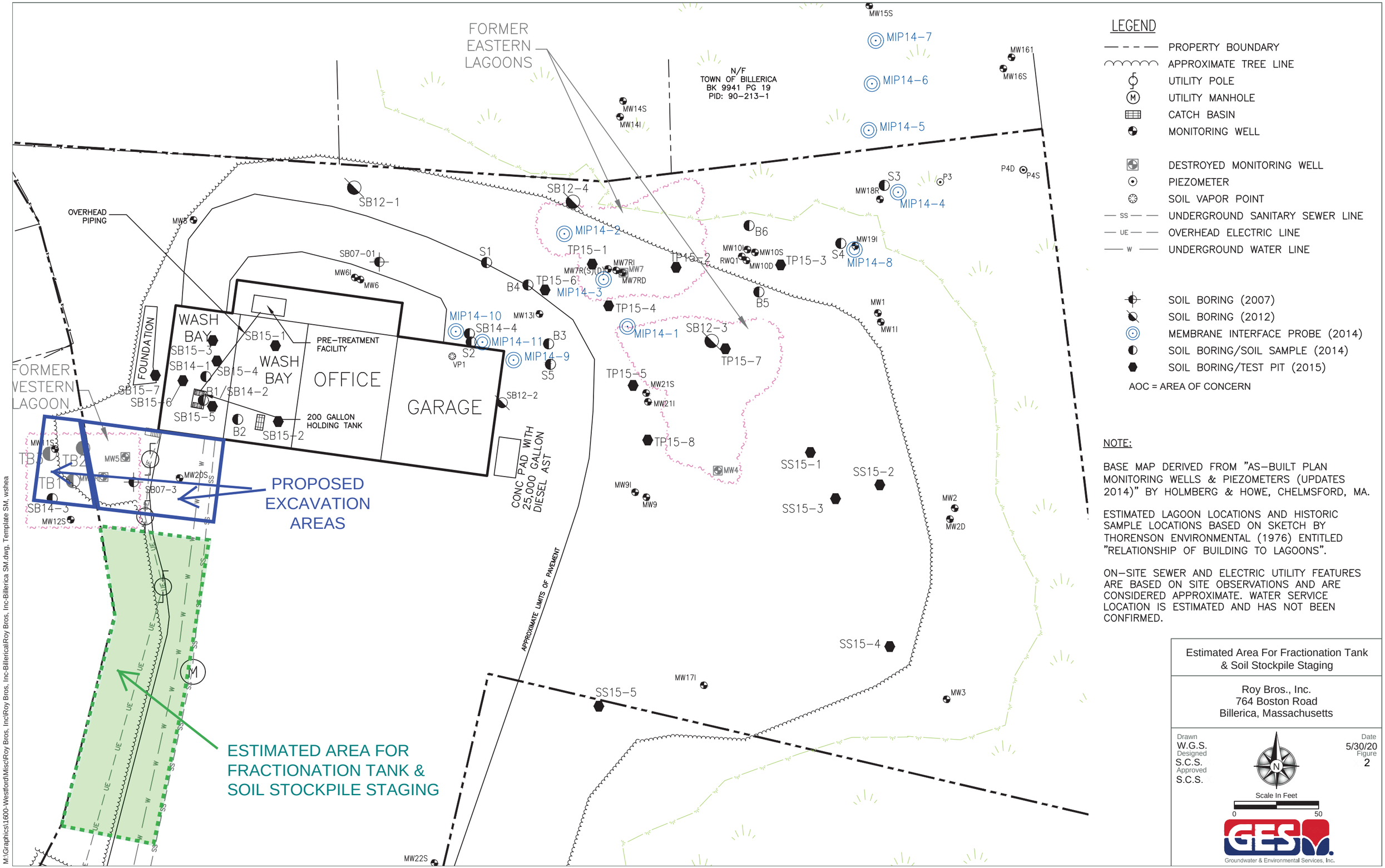
Drawn
W.G.S.
Designed
L.E.
Approved
S.C.S.

Date
11/26/18
Figure
1

Scale In Feet
0 2000

GES
Groundwater & Environmental Services, Inc.

M:\Graphics\1600-Westford\Misc\Roy Bros, Inc\Roy Bros, Inc-Billerica S□M.dwg, Template S□M, wshea



LEGEND

- PROPERTY BOUNDARY
- APPROXIMATE TREE LINE
- UTILITY POLE
- UTILITY MANHOLE
- CATCH BASIN
- MONITORING WELL
- DESTROYED MONITORING WELL
- PIEZOMETER
- SOIL VAPOR POINT
- SS — UNDERGROUND SANITARY SEWER LINE
- UE — OVERHEAD ELECTRIC LINE
- W — UNDERGROUND WATER LINE
- SOIL BORING (2007)
- SOIL BORING (2012)
- MEMBRANE INTERFACE PROBE (2014)
- SOIL BORING/SOIL SAMPLE (2014)
- SOIL BORING/TEST PIT (2015)

AOC = AREA OF CONCERN

NOTE:

BASE MAP DERIVED FROM "AS-BUILT PLAN MONITORING WELLS & PIEZOMETERS (UPDATES 2014)" BY HOLMBERG & HOWE, CHELMSFORD, MA.

ESTIMATED LAGOON LOCATIONS AND HISTORIC SAMPLE LOCATIONS BASED ON SKETCH BY THORENSON ENVIRONMENTAL (1976) ENTITLED "RELATIONSHIP OF BUILDING TO LAGOONS".

ON-SITE SEWER AND ELECTRIC UTILITY FEATURES ARE BASED ON SITE OBSERVATIONS AND ARE CONSIDERED APPROXIMATE. WATER SERVICE LOCATION IS ESTIMATED AND HAS NOT BEEN CONFIRMED.

Estimated Area For Fractionation Tank & Soil Stockpile Staging

Roy Bros., Inc.
764 Boston Road
Billerica, Massachusetts

Drawn W.G.S.
Designed S.C.S.
Approved S.C.S.

Date 5/30/20
Figure 2

Scale In Feet
0 50

GES
Groundwater & Environmental Services, Inc.

M:\Graphics\1600-Westford\Misc\Roy Bros, Inc\Roy Bros, Inc-Billerica\Roy Bros, Inc-Billerica SM.dwg, Template SM, wshea

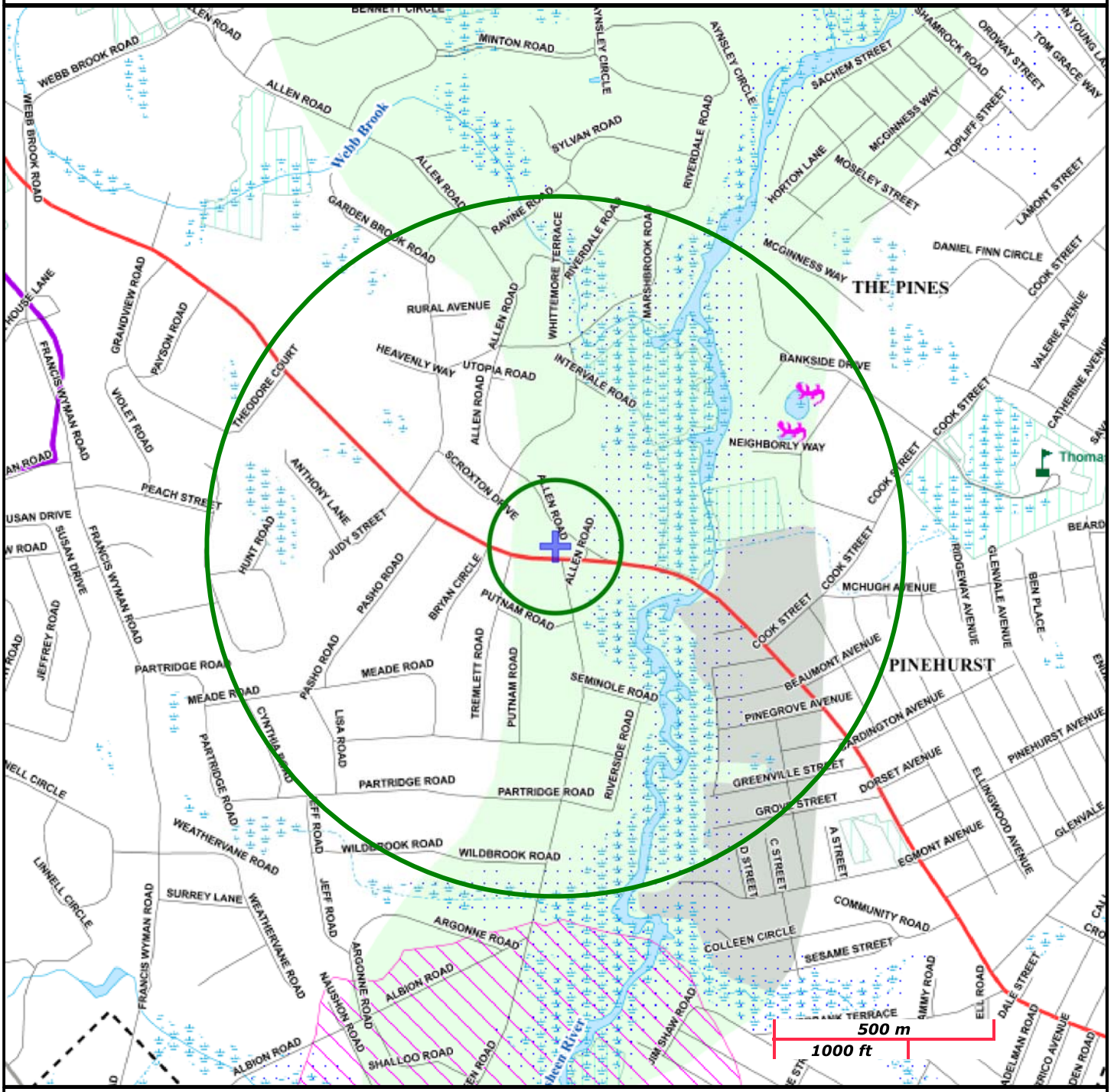
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
ROY BROS., INC.
764 BOSTON RD BILLERICA, MA
3-000000236
NAD83 UTM Meters:
4711646mN , 316242mE (Zone: 19)
June 5, 2020

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Figure 3

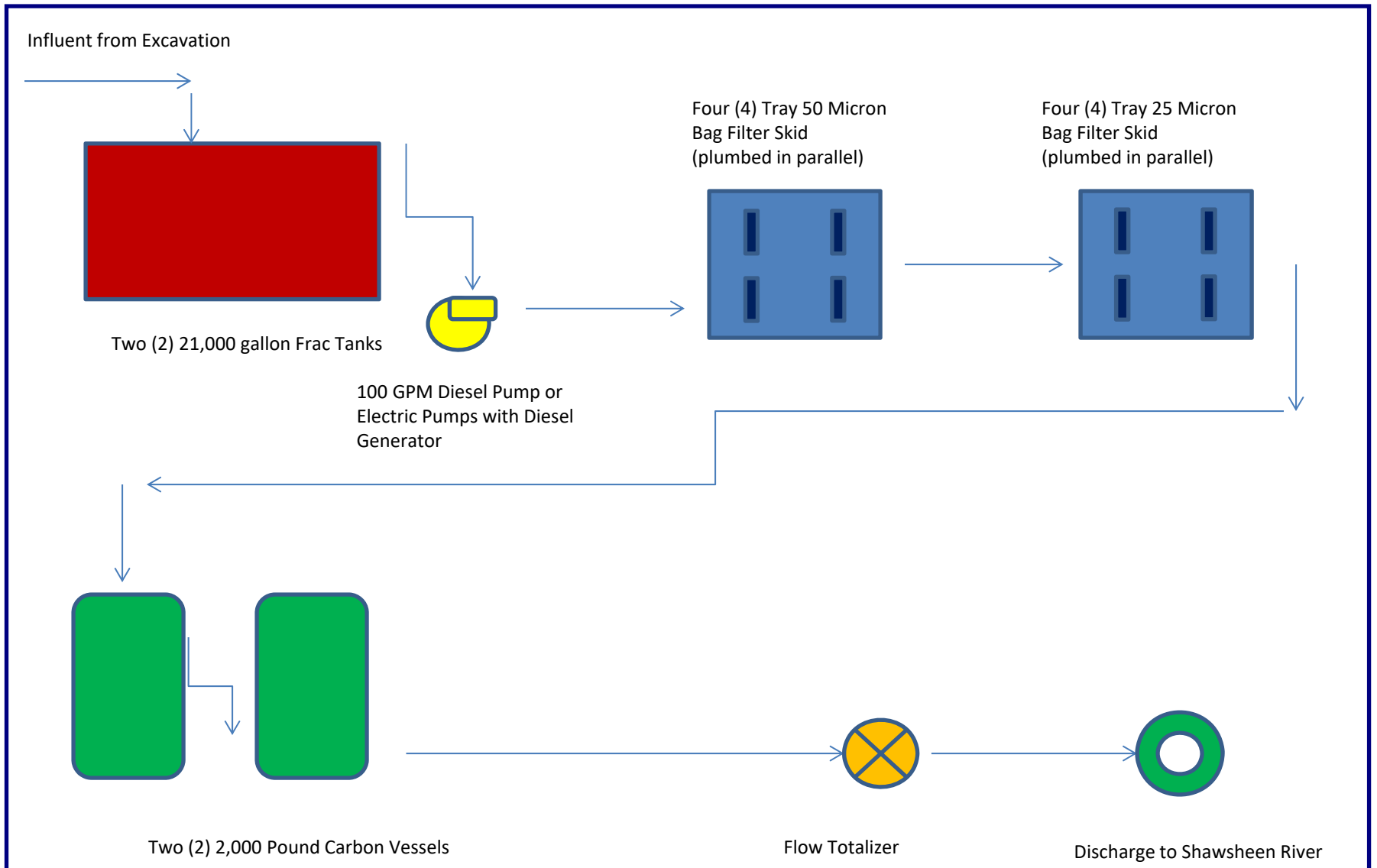


Figure 4

Process Flow Diagram for the Dewatering Treatment System

Roy Bros., Inc.
764 Boston Road
Billerica, Massachusetts

Figure 5

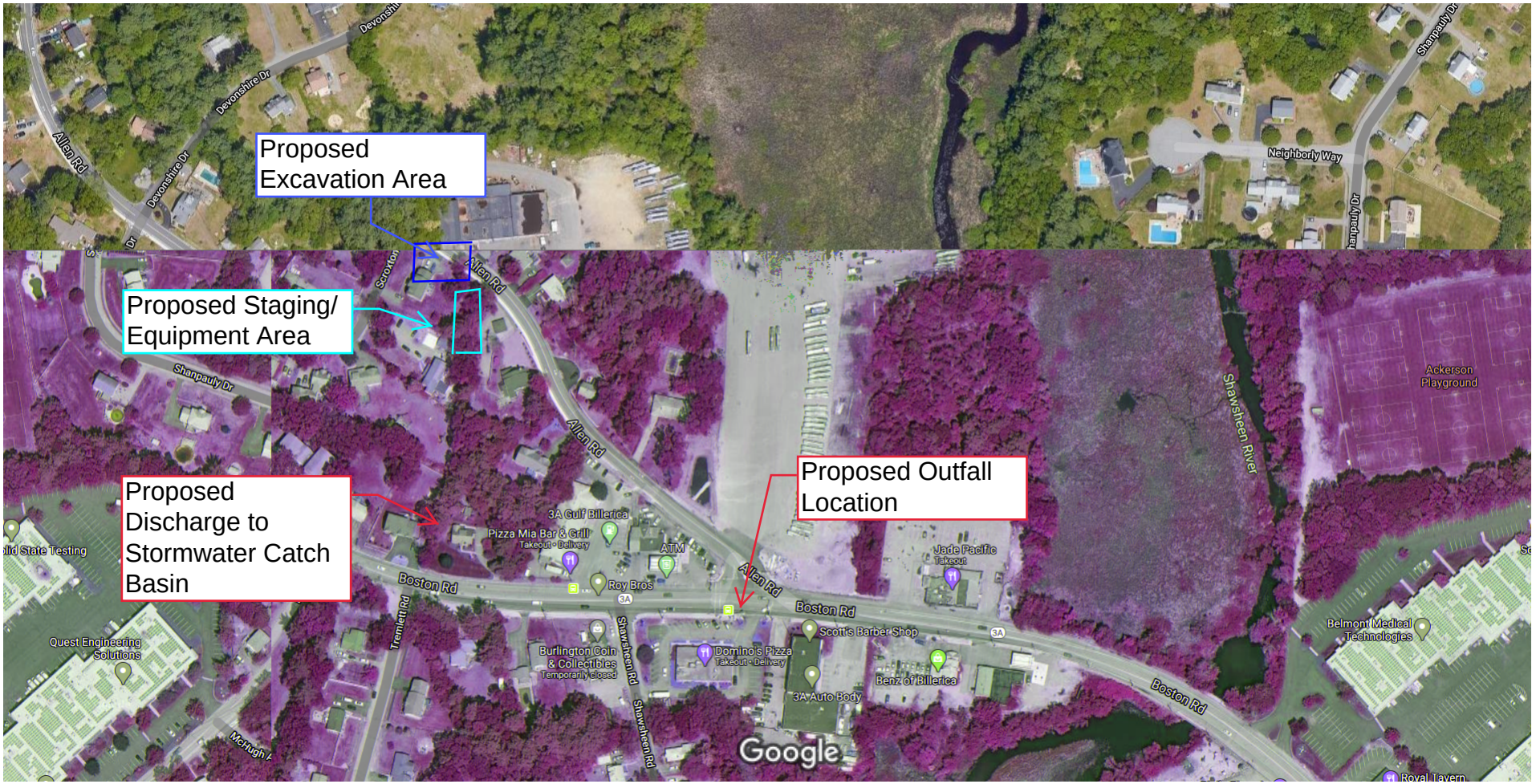

Google Maps
Proposed Excavation Area
Proposed Staging/ Equipment Area
Proposed Discharge to Stormwater Catch Basin
Proposed Outfall Location
Allen Rd
Boston Rd
Shawsheen River
Ackerson Playground
Shanpauly Dr
Neighborly Way
Devonshire Dr
Scroxton
Tremlett Rd
Shawsheen Rd
3A Gulf Billerica
Pizza Mia Bar & Grill
Takeout · Delivery
ATM
Roy Bros
Jade Pacific
Takeout
Scott's Barber Shop
Domino's Pizza
Takeout · Delivery
Burlington Coin & Collectibles
Temporarily closed
3A Auto Body
Benz of Billerica
Belmont Medical Technologies
Quest Engineering Solutions
Google
Imagery ©2020 MassGIS, Commonwealth of Massachusetts EOEA, Maxar Technologies, Map data ©2020
100 ft

Figure 6

Proposed Outfall Location to wetlands/ Shawsheen River

BILLERICA
BOSTON ROAD (ROUTE 3A)

STATE	FED. AID NO.	SHEET NO.	TOTAL SHEETS
MASS.	CMSTP/TAP-003S(032)X	1	
FILE NO. 608181			

UTILITY AND GRADING PLAN

WATER SUPPLY ALTERATIONS
SEE SHEET 22

BOSTON ROAD (RTE 3A)

DRAINAGE STRUCTURE DATA						
NO	TYPE	LOC.	RIM	INV	T/F	COMMENTS
1	CB	10+61 LT	29.56	28.56	2	LOW POINT/OFFSET CB-ECCENTRIC CONE
2	DVM	10+48 RT	29.92	28.46	1	1.8 DIA STRUCT
				28.02	5	
				28.02	4	300 mm LOW FLOW OUT
				28.02	3	750 mm OVERFLOW
3	HW	10+43 RT		28.00	2	HEADWALL
4	FES	10+43 RT		28.00	2	FLARED END
5	DMH	11+13 RT	29.85	28.68	6	1.8M DIA. STRUCT
				Exist	8	CONNECT EX. 300mm
				28.23	9	
				28.23	2	
6	CBCI	11+16 RT	29.81	28.72	5	LOW POINT
7	CBCI	11+30 LT	29.89	28.59	8	OFFSET CB/ECCENTRIC CONE
8	DMH	11+26 LT	29.73	28.50	7	
				28.24	5	
				28.30	Exist	CHECK FLOW IN FIELD

NOTE: FLAT TOP STRUCTURE SHALL BE SUBSTITUTED IN AREAS OF LOW CLEARANCE.

SCALE
0 5 10 15 20 25 METERS
(1:250)

CONT. ON SH. 20

Figure 7

BILLERICA
BOSTON ROAD (ROUTE 3A)

STATE	FED. □R□□ AID N□.	SHEET N□.	TOTAL SHEETS
MASS.	CMSTP/TAP-003S(032)X	20	□□
□R□□ FILE N□. 608181			

UTILITY AND GRADING PLAN

WATER SUPPLY ALTERATIONS
SEE SHEET 23

CONT. ON SH. 21

DRAINAGE STRUCTURE DATA						
NO	TYPE	LOC.	RIM	INV	T/F	COMMENTS
9	DMH	11+57 RT	30.04	28.34	9A	2.4M DIA. STRUCT.
				28.34	5	
9A	DMH	10+17 RT	30.09	28.74	12	2.4M DIA. STRUCT.
				28.44	16	
				28.44	9	
11	GICI	12+05 LT	30.68	29.92	11A	
11A	CB	12+04 LT	30.73	29.48	11	
				29.48	12	
12	DMH	12+00 RT	30.62	29.18	120	1.8M DIA. STRUCT.
				29.25	13	
				29.29	11A	
				29.10	9A	
13	CBCI	12+02 RT	30.55	29.27	12	
14	CBCI	10+30 LT	30.34	28.88	15	LOW POINT
15	CBCI	10+30 LT	30.02	28.86	14	LOW POINT
				28.86	16	
16	DMH	10+29 RT	30.11	28.80	15	1.8M DIA. STRUCT.
				28.80	17	
				28.51	18	
				28.41	9A	
17	CBCI	10+30 RT	30.04	28.82	16	LOW POINT
18	DMH	10+36 RT	30.10	28.86	21	1.8M DIA. STRUCT.
				28.57	19	
				28.53	16	
19	DMH	10+43 LT	30.13	29.00	20	
				28.70	25	
				28.70	18	
20	CBCI	10+43 LT	30.07	29.09	19	
21	DMH	10+44 RT	30.21	28.90	22	
				28.90	23	INLET -300MM FLARED END
				28.90	18	

NOTE: FLAT TOP STRUCTURE SHALL BE SUBSTITUTED IN AREAS OF LOW CLEARANCE.

DRAINAGE STRUCTURE DATA						
NO	TYPE	LOC.	RIM	INV	T/F	COMMENTS
22	CBCI	10+45 RT	30.10	28.93	21	
23	FES	10+52 RT	-	29.00	21	
24	GICI	10+74 LT	30.25	29.49	25	PROJECT #608181 (B.O.)
25	DVM	10+72 LT	30.30	29.31	24	PROJECT #608181 (B.O.)
				29.16	27	
				29.16	26	300 mm LOW FLOW OUT
				29.16	19	450 mm OVERFLOW
26	FES	10+67 RT	-	29.10	25	
27	DMH	11+07 LT	30.92	29.74	28	PROJECT #608181 (B.O.)
				29.67	30	PROJECT #608181 (B.O.)
				29.59	25	PROJECT #608181 (B.O.)
28	CBCI	11+10 RT	30.96	29.76	27	PROJECT #608181 (B.O.)

NOTE: INVERT ELEVATIONS SHOWN ARE PROPOSED AND SHOWN FOR BIDDING PURPOSES ONLY. ACTUAL INVERT ELEVATIONS SHALL BE CONFIRMED IN THE FIELD.

CONT. ON SH. 19

SCALE
0 5 10 15 20 25 METERS
(1:250)

P:\0600s\681 - Allen Road, Billerica\AutoCAD Files\Plan Set\Phase 2 - Boston Road\681 Utility - Phase 2.dwg May 25,2017 5:21pm

Attachment A – RGP NOI Form

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:

Roy Bros., Inc.</td><td colspan="3">Site address:
Street: 764 Boston Road</td></tr>
<tr><td>City: Billerica</td><td>State: MA</td><td>Zip: 01821</td></tr>
<tr><td rowspan="4">2. Site owner

Roy Bros., Inc.

Owner is (check one): ☐ Federal ☐ State/Tribal ☒ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Deborah Roy</td></tr>
<tr><td colspan="2">Telephone: 978-667-2489</td><td>Email: roybrosbill@aol.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: P.O. Box 855</td></tr>
<tr><td>City: Billerica</td><td>State: MA</td><td>Zip: 01821</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner

Groundwater & Environmental Services, Inc.</td><td colspan="3">Contact Person: Meghan Proia, PE</td></tr>
<tr><td colspan="2">Telephone: 800-220-6119 x3589</td><td>Email: mproia@gesonline.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 1 Park Drive, Suite 8</td></tr>
<tr><td>City: Westford</td><td>State: MA</td><td>Zip: 01886</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): 3-0236; 3-32406; 3-35266
☐ 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):
Shawsheen River	MA83-17	Class B Surface 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. Impairment cause and pollutants: Dissolved Oxygen, E. Coli (TMDL #2587), Fecal Coliform (TMDL #2587)

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.	2.21 cfs
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.	1

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:

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: Historical use of the site	
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): Proposed discharge to a catch basin drains into the Shawsheen River surface water located east of the site near the Boston Road/Route 3A bridge. See attached figure for approximate outfall location.	Outfall location(s): (Latitude, Longitude) Approximate outfall location: Latitude: 42.53504 Longitude: -71.23482

Discharges enter the receiving water(s) via (check any that apply): ☐ Direct discharge to the receiving water ☒ Indirect discharge, if so, specify:

Discharge is proposed to a storm drain catch basin that discharges to the Shawsheen River surface water east of the site.

☐ 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 On 3/16/20, the Town of Billerica DPW confirmed the storm drainage outfall location. A DPW permit will be obtained prior to discharge.

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: Authorization to be obtained from Town of Billerica DPW pending EPA RGP authorization.

Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☒ No
A DPW permit will be obtained once the RGP is obtained, prior to discharge.

Provide the expected start and end dates of discharge(s) (month/year): August 2020 - total duration: 3 weeks

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="4">☒ 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		x	2	4500NH3H	0.100 mg/L	0.776 mg/L	0.461 mg/L	Report mg/L	---
Chloride		x	2	300.0	1.40 mg/L	121 mg/L	100.35 mg/L	Report µg/l	---
Total Residual Chlorine	x		2	4500ClF	0.0720 mg/L	<0.0720 mg/L	0.0720 mg/L	0.2 mg/L	11 ug/L
Total Suspended Solids		x	2	SM2540D	12.5 mg/L	114 mg/L	94 mg/L	30 mg/L	30 mg/L
Antimony	x		2	200.7	5.30 ug/L	<5.30 ug/L	0 ug/L	206 µg/L	640 ug/L
Arsenic	x		2	200.7	6.20 ug/L	11.7 ug/L	5.85 ug/L	104 µg/L	10 ug/L
Cadmium		x	2	200.7	1.00 ug/L	9.35 ug/L	4.675 ug/L	10.2 µg/L	0.25 ug/L
Chromium III	x							323 µg/L	
Chromium VI	x							323 µg/L	
Copper		x	2	200.7	1.80 ug/L	3.70 ug/L	1.85 ug/L	242 µg/L	9 ug/L
Iron		x	2	200.7	17.0 ug/L	20,100 ug/L	16,600 ug/L	5,000 µg/L	1,000 ug/L
Lead	x		2	200.7	3.90 ug/L	<3.90 ug/L	0 ug/L	160 µg/L	2.5 ug/L
Mercury		x	2	245.1	0.0910 ug/L	0.150 ug/L	0.075 ug/L	0.739 µg/L	0.77 ug/L
Nickel		x	2	200.7	2.10 ug/L	14.7 ug/L	7.35 ug/L	1,450 µg/L	52 ug/L
Selenium	x		2	200.7	9.90 ug/L	<9.90 ug/L	0 ug/L	235.8 µg/L	5.0 ug/L
Silver		x	2	200.7	0.600 ug/L	1.06 ug/L	0.53 ug/L	35.1 µg/L	3.2 ug/L
Zinc		x	2	200.7	7.00 ug/L	27.4 ug/L	20.45 ug/L	420 µg/L	120 ug/L
Cyanide	x		2	335.4	0.00400 mg/L	<0.00400 mg/L	0 mg/L	178 mg/L	5.2 ug/L
B. Non-Halogenated VOCs									
Total BTEX		x	2	624.1	0.597 ug/L	137.12 ug/L	68.56 ug/L	100 µg/L	---
Benzene	x		2	624.1	1.19 ug/L	<1.19 ug/L	0 ug/L	5.0 µg/L	---
1,4 Dioxane	x		2	522	0.0640 ug/L	<0.0640 ug/L	0 ug/L	200 µg/L	---
Acetone	x		2	624.1	3.96 ug/L	<3.96 ug/L	0 ug/L	7.97 mg/L	---
Phenol		x	2	625.1	62.2 ug/L	<62.2 ug/L	31.1 ug/L	1,080 µg/L	300 ug/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	x		2	624.1	1.02 ug/L	<1.02 ug/L	0 ug/L	4.4 µg/L	1.6 ug/L
1,2 Dichlorobenzene		x	2	624.1	0.889 ug/L	3.20 ug/L	1.60 ug/L	600 µg/L	---
1,3 Dichlorobenzene	x		2	624.1	1.09 ug/L	<1.09 ug/L	0 ug/L	320 µg/L	---
1,4 Dichlorobenzene	x		2	624.1	1.02 ug/L	<1.02 ug/L	0 ug/L	5.0 µg/L	---
Total dichlorobenzene		x	2	624.1	0.889 ug/L	3.20 ug/L	1.60 ug/L	763 µg/L in NH	---
1,1 Dichloroethane	x		2	624.1	1.18 ug/L	<1.18 ug/L	0.59 ug/L	70 µg/L	---
1,2 Dichloroethane	x		2	624.1	1.21 ug/L	<1.21 ug/L	0.605 ug/L	5.0 µg/L	---
1,1 Dichloroethylene	x		2	624.1	1.71 ug/L	<1.71 ug/L	0.855 ug/L	3.2 µg/L	---
Ethylene Dibromide	x		2	624.1	1.00 ug/L	<1.00 ug/L	0 ug/L	0.05 µg/L	---
Methylene Chloride	x		2	624.1	1.63 ug/L	<1.63 ug/L	0.815 ug/L	4.6 µg/L	---
1,1,1 Trichloroethane	x		2	624.1	0.770 ug/L	<0.770 ug/L	0 ug/L	200 µg/L	---
1,1,2 Trichloroethane	x		2	624.1	0.965 ug/L	<0.965 ug/L	0 ug/L	5.0 µg/L	---
Trichloroethylene	x		2	624.1	1.19 ug/L	<1.19 ug/L	0.595 ug/L	5.0 µg/L	---
Tetrachloroethylene	x		2	624.1	0.678 ug/L	<0.678 ug/L	0 ug/L	5.0 µg/L	
cis-1,2 Dichloroethylene	x		2	624.1	1.15 ug/L	<1.15 ug/L	0.575 ug/L	70 µg/L	---
Vinyl Chloride	x		2	624.1	1.49 ug/L	<1.49 ug/L	0.745 ug/L	2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates		x	2	625.1	72.3 ug/L	2.96 ug/L	2328 ug/L	190 µg/L	--
Diethylhexyl phthalate		x	2	625.1	50.9 ug/L	4170 ug/L	2086 ug/L	101 µg/L	2.2 ug/L
Total Group I PAHs	x		2	625.1	64.8 ug/L	<64.8 ug/L	33.05 ug/L	1.0 µg/L	---
Benzo(a)anthracene	x		2	625.1	29.6 ug/L	<29.6 ug/L	15.096 ug/L	As Total PAHs	0.0038 ug/L
Benzo(a)pyrene	x		2	625.1	34.1 ug/L	<34.1 ug/L	17.391 ug/L		0.0038 ug/L
Benzo(b)fluoranthene	x		2	625.1	71.7 ug/L	<71.7 ug/L	36.57 ug/L		0.0038 ug/L
Benzo(k)fluoranthene	x		2	625.1	33.7 ug/L	<33.7 ug/L	17.187 ug/L		0.0038 ug/L
Chrysene	x		2	625.1	45.4 ug/L	<0.45.4 ug/L	23.15 ug/L		0.0038 ug/L
Dibenzo(a,h)anthracene	x		2	625.1	36.9 ug/L	<36.9 ug/L	18.819 ug/L		0.0038 ug/L
Indeno(1,2,3-cd)pyrene	x		2	625.1	64.8 ug/L	<64.8 ug/L	33.05 ug/L		0.0038 ug/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
Total Group II PAHs		x	2	625.1	53.8 ug/L	104.1 ug/L	52.05 ug/L	100 µg/L	---
Naphthalene	x		2	625.1	56.7 ug/L	<56.7	28.915 ug/L	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	x		2	608.3	0.0370 ug/L	<0.0370 ug/L	0 ug/L	0.000064 µg/L	---
Pentachlorophenol		x	2	8270D SIM	7.71 ug/L	0.232 ug/L	3.971 ug/L	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		x	2	1664A	1.4 mg/L	73.5 mg/L	37.45 mg/L	5.0 mg/L	---
Ethanol	x		2	8260C	60.1 ug/L	<60.1 ug/L	0 ug/L	Report mg/L	---
Methyl-tert-Butyl Ether	x		2	8260C	0.465 ug/L	<0.465 ug/L	0 ug/L	70 µg/L	20 ug/L
tert-Butyl Alcohol	x		2	8260C	8.28 ug/L	<8.28 ug/L	0 ug/L	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	x		2	8260C	0.453 ug/L	<0.453 ug/L	0 ug/L	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:									
Temperature (groundwater)			2			7.6 deg C	7.15 deg C		
pH (groundwater)			2			5.72 SU	5.60 SU		
Temperature (surface water)			1			7.4 deg C	7.4 deg C		
pH (surface water)			1			6.86 SU	6.86 SU		

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:

See below written description of the proposed treatment system.

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

An electric submersible pump will pump groundwater from a temporary excavation dewatering sump to a 21,000-gallon fractionation (frac) tank. Recovered groundwater shall pass through bag filters to remove particulates and two 2,000-pound liquid phase granular activated carbon (LGAC) units plumbed in series. The treated groundwater shall be discharged into a nearby storm drain catch basin located in front of the site property. The storm drain discharges to the Shawsheen River freshwater surface water located approximately 0.25 miles to the east.

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: The proposed treatment system will also include liquid phase granular activated carbon (LGAC) units and a flow meter/totalizer.

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: Is use of a flow meter feasible? (check one): ☒ Yes ☐ No, if so, provide justification:	
Provide the proposed maximum effluent flow in gpm.	100
Provide the average effluent flow in gpm.	50
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:
Not applicable

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.

Please see attached figures, data tables, laboratory analytical reports, and supporting documentation for supplemental information.

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 Best Management Practices Plan (BMPP) has been prepared for the dewatering system/discharge and a copy will be maintained on-site.
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. Billerica DPW was informed of the proposed discharge to the storm drain system on 3/16/20. Authorization from the DPW will be obtained after authorization from EPA.	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: Meghan D. Proia Meghan Proia 2020.06.25 15:51:56 -04'00'	Date: 6/25/2020
Print Name and Title: Meghan D. Proia, PE / Senior Engineer	

Attachment B – Laboratory Analytical Report

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-205843-1
Client Project/Site: Billerica, MA
Revision: 1

For:
Groundwater & Environmental Services Inc
One Park Drive
Suite 8
Westford, Massachusetts 01886

Attn: Stefan Sokol

Authorized for release by:
4/22/2020 1:03:27 PM

Lauren Evans, Project Management Assistant I
(615)301-5034
lauren.evans@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate recovery exceeds control limits

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

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

Job ID: 460-205843-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

Job Narrative
460-205843-1

Revised Report
This report has been revised to adjust the Volatiles and Semivolatiles analyte lists as well as change the sample ID for 460-205843-1, per client request. This revision replaces the original report provided on 4/9/20 at 5:00 pm.

Comments
No additional comments.

Receipt
The samples were received on 3/26/2020 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0º C.

Receipt Exceptions
No analysis methods were applied to sample MW-20S. The client confirmed that the same analysis should be run for this sample as was marked for MW-11S.

GC/MS VOA
Method 624.1: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-20S (460-205843-3). Elevated reporting limits (RLs) are provided.

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

GC/MS Semi VOA
Method 8270D SIM: The laboratory control sample duplicate (LCSD) for preparation batch 460-684079 and analytical batch 460-684053 recovered outside control limits for the following analytes: Indeno[1,2,3-cd]pyrene. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8270D SIM: The continuing calibration verification (CCV) analyzed in batch 460-684386 was outside the method criteria for the following analyte(s): Benzo[a]pyrene. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D SIM: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-20S (460-205843-3). Elevated reporting limits (RLs) are provided.

Method 8270D SIM: Four surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: MW-11S (460-205843-2). These results have been reported and qualified.

Method 625.1: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-20S (460-205843-3). Elevated reporting limits (RLs) are provided.

Method 625.1: The following sample required a dilution due to the nature of the sample matrix: MW-20S (460-205843-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

GC Semi VOA
Method 608.3: The continuing calibration verification (CCV) associated with batch 460-684055 recovered above the upper control limit for DDE and Endrin. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Job ID: 460-205843-1 (Continued)

Laboratory: Eurofins TestAmerica, Edison (Continued)

Method 608.3: The DCB Decachlorobiphenyl surrogate recovery for the following samples was outside acceptance limits (high biased) on the confirmation column due to matrix interference: MW-20S (460-205843-3). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 300.0: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-11S (460-205843-2) and MW-20S (460-205843-3). Elevated reporting limits (RLs) are provided.

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

Metals

Method 200.7 Rev 4.4: The initial calibration verification (ICV) result for batch 680-613384 was above the upper control limit for Antimony. Sample results were non-detects, and have been reported as qualified data.

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

General Chemistry

Method 1664A: Analysis for Hexane Extractable Material (HEM) was performed for the following sample: MW-11S (460-205843-2). Since the HEM result(s) was below the reporting limit (RL), the result(s) for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All HEM quality control criteria were met.

Method 4500 NH3 H: The reference method requires samples to be preserved to a pH of <2.0. The following sample(s) was received with insufficient preservation at a pH of 7.0. The sample(s) was preserved to the appropriate pH in the laboratory with conc. sulfuric acid.

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

Organic Prep

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

VOA Prep

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

Detection Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: SW-1
Lab Sample ID: 460-205843-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	341		50.0	17.0	ug/L	1		200.7 Rev 4.4	Total/NA
Silver	0.983	J	10.0	0.600	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	7.77	J	20.0	7.00	ug/L	1		200.7 Rev 4.4	Total/NA
Hardness	60.0		5.00	5.00	mg/L	1		SM 2340C	Total/NA
pH	7.0	HF	0.1	0.1	SU	1		SM 4500 H+ B	Total/NA
Temperature	22.4	HF	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: MW-11S
Lab Sample ID: 460-205843-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bis(2-ethylhexyl) phthalate	2.96	H	2.00	1.02	ug/L	1		625.1	Total/NA
Benzo[a]anthracene	0.0200	J	0.0500	0.0156	ug/L	1		8270D SIM	Total/NA
Pentachlorophenol	0.232		0.200	0.154	ug/L	1		8270D SIM	Total/NA
Chloride	79.7		12.0	1.40	mg/L	100		300.0	Total/NA
Cadmium	9.35		5.00	1.00	ug/L	1		200.7 Rev 4.4	Total/NA
Copper	3.70	J	20.0	1.80	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	20100		50.0	17.0	ug/L	1		200.7 Rev 4.4	Total/NA
Nickel	14.7	J	40.0	2.10	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	27.4		20.0	7.00	ug/L	1		200.7 Rev 4.4	Total/NA
Mercury	0.150	J	0.200	0.0910	ug/L	1		245.1	Total/NA
Ammonia (as N)	0.145		0.100	0.0340	mg/L	1		4500 NH3 H	Total/NA
Total Suspended Solids	114		12.5	12.5	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-20S
Lab Sample ID: 460-205843-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	2.56	J	10.0	1.08	ug/L	2		624.1	Total/NA
1,2-Dichlorobenzene	3.20	J	10.0	0.889	ug/L	2		624.1	Total/NA
Ethylbenzene	112		10.0	0.930	ug/L	2		624.1	Total/NA
Isopropylbenzene	6.93	J	10.0	1.02	ug/L	2		624.1	Total/NA
4-Isopropyltoluene	9.64	J	10.0	1.08	ug/L	2		624.1	Total/NA
m-Xylene & p-Xylene	23.5		20.0	2.16	ug/L	2		624.1	Total/NA
Naphthalene	137		10.0	0.218	ug/L	2		624.1	Total/NA
n-Butylbenzene	6.69	J	20.0	0.642	ug/L	2		624.1	Total/NA
N-Propylbenzene	8.58	J	20.0	0.592	ug/L	2		624.1	Total/NA
o-Xylene	1.62	J	10.0	0.857	ug/L	2		624.1	Total/NA
sec-Butylbenzene	8.29	J	20.0	0.638	ug/L	2		624.1	Total/NA
1,2,4-Trimethylbenzene	74.9		10.0	1.04	ug/L	2		624.1	Total/NA
1,3,5-Trimethylbenzene	18.0	J	20.0	0.888	ug/L	2		624.1	Total/NA
Bis(2-ethylhexyl) phthalate	4170	H	100	50.9	ug/L	50		625.1	Total/NA
Di-n-octyl phthalate	483	J H	500	72.3	ug/L	50		625.1	Total/NA
2-Methylnaphthalene	111	J H	500	54.8	ug/L	50		625.1	Total/NA
Phenanthrene	63.6	J H	500	29.0	ug/L	50		625.1	Total/NA
Acenaphthene	17.7		2.50	0.710	ug/L	50		8270D SIM	Total/NA
Benzo[a]anthracene	1.47	J	2.50	0.780	ug/L	50		8270D SIM	Total/NA
Acenaphthylene	4.35		2.50	0.730	ug/L	50		8270D SIM	Total/NA
Fluorene	31.8		2.50	0.590	ug/L	50		8270D SIM	Total/NA
Phenanthrene	50.0		2.50	1.10	ug/L	50		8270D SIM	Total/NA
Pyrene	4.59		2.50	1.57	ug/L	50		8270D SIM	Total/NA
Chloride	121		12.0	1.40	mg/L	100		300.0	Total/NA
Arsenic	11.7	J	20.0	6.20	ug/L	1		200.7 Rev 4.4	Total/NA
Iron	13100		50.0	17.0	ug/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: MW-20S (Continued)
Lab Sample ID: 460-205843-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Silver	1.06	J	10.0	0.600	ug/L	1		200.7 Rev 4.4	Total/NA
Zinc	13.5	J	20.0	7.00	ug/L	1		200.7 Rev 4.4	Total/NA
HEM	52.8		5.0	1.4	mg/L	1		1664A	Total/NA
SGT-HEM	20.7		5.0	1.4	mg/L	1		1664A	Total/NA
Ammonia (as N)	0.776		0.100	0.0340	mg/L	1		4500 NH3 H	Total/NA
Total Suspended Solids	74.0		12.5	12.5	mg/L	1		SM 2540D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: SW-1
Lab Sample ID: 460-205843-1
Date Collected: 03/25/20 12:45
Matrix: Water
Date Received: 03/26/20 10:00

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	20.0	5.30	ug/L		03/29/20 11:36	03/30/20 22:16	1
Arsenic	ND		20.0	6.20	ug/L		03/29/20 11:36	03/30/20 22:16	1
Cadmium	ND		5.00	1.00	ug/L		03/29/20 11:36	03/30/20 22:16	1
Copper	ND		20.0	1.80	ug/L		03/29/20 11:36	03/30/20 22:16	1
Iron	**341**		50.0	17.0	ug/L		03/29/20 11:36	03/30/20 22:16	1
Lead	ND		10.0	3.90	ug/L		03/29/20 11:36	03/30/20 22:16	1
Nickel	ND		40.0	2.10	ug/L		03/29/20 11:36	03/30/20 22:16	1
Selenium	ND		20.0	9.90	ug/L		03/29/20 11:36	03/30/20 22:16	1
Silver	**0.983**	**J**	10.0	0.600	ug/L		03/29/20 11:36	03/30/20 22:16	1
Zinc	**7.77**	**J**	20.0	7.00	ug/L		03/29/20 11:36	03/30/20 22:16	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0910	ug/L		04/03/20 12:34	04/03/20 14:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.100	0.0340	mg/L			03/31/20 10:48	1
Cr (VI)	ND		10.0	8.14	ug/L			03/26/20 11:10	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (III)	ND		10.0	10.0	ug/L			04/06/20 16:49	1
Hardness	**60.0**		5.00	5.00	mg/L			04/08/20 12:11	1
pH	**7.0**	**HF**	0.1	0.1	SU			04/07/20 10:19	1
Temperature	**22.4**	**HF**	0.1	0.1	Degrees C			04/07/20 10:19	1

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: MW-11S
Lab Sample ID: 460-205843-2
Date Collected: 03/25/20 11:15
Matrix: Water
Date Received: 03/26/20 10:00

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	1.98	ug/L			03/30/20 12:47	1
Benzene	ND		5.00	0.597	ug/L			03/30/20 12:47	1
Bromobenzene	ND		10.0	0.438	ug/L			03/30/20 12:47	1
Bromoform	ND		5.00	0.469	ug/L			03/30/20 12:47	1
Bromomethane	ND		5.00	1.19	ug/L			03/30/20 12:47	1
2-Butanone (MEK)	ND		25.0	1.76	ug/L			03/30/20 12:47	1
Carbon disulfide	ND		5.00	0.287	ug/L			03/30/20 12:47	1
Carbon tetrachloride	ND		5.00	0.511	ug/L			03/30/20 12:47	1
Chlorobenzene	ND		5.00	0.476	ug/L			03/30/20 12:47	1
Chlorobromomethane	ND		5.00	0.715	ug/L			03/30/20 12:47	1
Chlorodibromomethane	ND		5.00	0.414	ug/L			03/30/20 12:47	1
Chloroethane	ND		5.00	0.873	ug/L			03/30/20 12:47	1
Chloroform	ND		5.00	0.542	ug/L			03/30/20 12:47	1
Chloromethane	ND		5.00	0.636	ug/L			03/30/20 12:47	1
2-Chlorotoluene	ND		5.00	0.328	ug/L			03/30/20 12:47	1
4-Chlorotoluene	ND		5.00	0.273	ug/L			03/30/20 12:47	1
cis-1,2-Dichloroethene	ND		5.00	0.573	ug/L			03/30/20 12:47	1
cis-1,3-Dichloropropene	ND		5.00	0.331	ug/L			03/30/20 12:47	1
1,2-Dibromo-3-Chloropropane	ND		5.00	0.620	ug/L			03/30/20 12:47	1
Dibromomethane	ND		5.00	0.534	ug/L			03/30/20 12:47	1
1,2-Dichlorobenzene	ND		5.00	0.445	ug/L			03/30/20 12:47	1
1,3-Dichlorobenzene	ND		5.00	0.543	ug/L			03/30/20 12:47	1
1,4-Dichlorobenzene	ND		5.00	0.508	ug/L			03/30/20 12:47	1
Dichlorobromomethane	ND		5.00	0.537	ug/L			03/30/20 12:47	1
Dichlorodifluoromethane	ND		5.00	0.277	ug/L			03/30/20 12:47	1
1,1-Dichloroethane	ND		5.00	0.589	ug/L			03/30/20 12:47	1
1,2-Dichloroethane	ND		5.00	0.603	ug/L			03/30/20 12:47	1
1,1-Dichloroethene	ND		5.00	0.855	ug/L			03/30/20 12:47	1
1,2-Dichloropropane	ND		5.00	0.612	ug/L			03/30/20 12:47	1
1,3-Dichloropropane	ND		5.00	0.516	ug/L			03/30/20 12:47	1
2,2-Dichloropropane	ND		5.00	0.329	ug/L			03/30/20 12:47	1
1,1-Dichloropropene	ND		5.00	0.790	ug/L			03/30/20 12:47	1
1,4-Dioxane	ND		200	15.1	ug/L			03/30/20 12:47	1
Ethylbenzene	ND		5.00	0.465	ug/L			03/30/20 12:47	1
Ethylene Dibromide	ND		5.00	0.502	ug/L			03/30/20 12:47	1
Ethyl ether	ND		5.00	0.339	ug/L			03/30/20 12:47	1
Hexachlorobutadiene	ND		10.0	0.578	ug/L			03/30/20 12:47	1
2-Hexanone	ND		25.0	1.95	ug/L			03/30/20 12:47	1
Isopropylbenzene	ND		5.00	0.511	ug/L			03/30/20 12:47	1
Isopropyl ether	ND		5.00	0.351	ug/L			03/30/20 12:47	1
4-Isopropyltoluene	ND		5.00	0.541	ug/L			03/30/20 12:47	1
Methylene Chloride	ND		5.00	0.815	ug/L			03/30/20 12:47	1
4-Methyl-2-pentanone (MIBK)	ND		25.0	1.29	ug/L			03/30/20 12:47	1
Methyl tert-butyl ether	ND		5.00	0.354	ug/L			03/30/20 12:47	1
m-Xylene & p-Xylene	ND		10.0	1.08	ug/L			03/30/20 12:47	1
Naphthalene	ND		5.00	0.109	ug/L			03/30/20 12:47	1
n-Butylbenzene	ND		10.0	0.321	ug/L			03/30/20 12:47	1
N-Propylbenzene	ND		10.0	0.296	ug/L			03/30/20 12:47	1
o-Xylene	ND		5.00	0.428	ug/L			03/30/20 12:47	1

Client Sample ID: MW-11S
Date Collected: 03/25/20 11:15
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-2
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		10.0	0.319	ug/L			03/30/20 12:47	1
Styrene	ND		5.00	0.382	ug/L			03/30/20 12:47	1
tert-Butylbenzene	ND		10.0	0.544	ug/L			03/30/20 12:47	1
1,1,1,2-Tetrachloroethane	ND		5.00	0.495	ug/L			03/30/20 12:47	1
1,1,2,2-Tetrachloroethane	ND		5.00	0.259	ug/L			03/30/20 12:47	1
Tetrachloroethene	ND		5.00	0.339	ug/L			03/30/20 12:47	1
Tetrahydrofuran	ND		25.0	2.19	ug/L			03/30/20 12:47	1
Toluene	ND		5.00	0.454	ug/L			03/30/20 12:47	1
trans-1,2-Dichloroethene	ND		5.00	0.589	ug/L			03/30/20 12:47	1
trans-1,3-Dichloropropene	ND		5.00	0.442	ug/L			03/30/20 12:47	1
1,2,3-Trichlorobenzene	ND		5.00	0.414	ug/L			03/30/20 12:47	1
1,2,4-Trichlorobenzene	ND		5.00	0.391	ug/L			03/30/20 12:47	1
1,1,1-Trichloroethane	ND		5.00	0.385	ug/L			03/30/20 12:47	1
1,1,2-Trichloroethane	ND		5.00	0.482	ug/L			03/30/20 12:47	1
Trichloroethene	ND		5.00	0.597	ug/L			03/30/20 12:47	1
Trichlorofluoromethane	ND		5.00	0.449	ug/L			03/30/20 12:47	1
1,2,3-Trichloropropane	ND		5.00	0.207	ug/L			03/30/20 12:47	1
1,2,4-Trimethylbenzene	ND		5.00	0.522	ug/L			03/30/20 12:47	1
1,3,5-Trimethylbenzene	ND		10.0	0.444	ug/L			03/30/20 12:47	1
Vinyl chloride	ND		5.00	0.747	ug/L			03/30/20 12:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*76 - 123*		*03/30/20 12:47*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*03/30/20 12:47*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*68 - 130*		*03/30/20 12:47*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/30/20 12:47*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		200	60.1	ug/L			03/27/20 15:25	1
t-Butyl alcohol	ND		5.00	8.28	ug/L			03/27/20 15:25	1
Methyl tert-butyl ether	ND		0.500	0.465	ug/L			03/27/20 15:25	1
Tert-amyl methyl ether	ND		0.500	0.453	ug/L			03/27/20 15:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*76 - 120*		*03/27/20 15:25*	*1*
Dibromofluoromethane (Surr)	*107*		*77 - 124*		*03/27/20 15:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 123*		*03/27/20 15:25*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*03/27/20 15:25*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.200	0.0640	ug/L		03/30/20 14:45	04/02/20 08:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*95*		*46 - 130*	*03/30/20 14:45*	*04/02/20 08:05*	*1*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	H	10.0	1.08	ug/L		04/18/20 08:24	04/19/20 03:22	1
Acenaphthylene	ND	H	10.0	0.823	ug/L		04/18/20 08:24	04/19/20 03:22	1

Client Sample ID: MW-11S
Date Collected: 03/25/20 11:15
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-2
Matrix: Water

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetophenone	ND	H	10.0	2.53	ug/L		04/18/20 08:24	04/19/20 03:22	1
Aniline	ND	H	10.0	1.14	ug/L		04/18/20 08:24	04/19/20 03:22	1
Anthracene	ND	H	10.0	0.634	ug/L		04/18/20 08:24	04/19/20 03:22	1
Benzo[a]anthracene	ND	H	1.00	0.592	ug/L		04/18/20 08:24	04/19/20 03:22	1
Benzo[a]pyrene	ND	H	1.00	0.682	ug/L		04/18/20 08:24	04/19/20 03:22	1
Benzo[b]fluoranthene	ND	H	2.00	1.43	ug/L		04/18/20 08:24	04/19/20 03:22	1
Benzo[g,h,i]perylene	ND	H	10.0	1.31	ug/L		04/18/20 08:24	04/19/20 03:22	1
Benzo[k]fluoranthene	ND	H	1.00	0.674	ug/L		04/18/20 08:24	04/19/20 03:22	1
Bis(2-chloroethoxy)methane	ND	H	10.0	0.640	ug/L		04/18/20 08:24	04/19/20 03:22	1
Bis(2-chloroethyl)ether	ND	H	1.00	0.688	ug/L		04/18/20 08:24	04/19/20 03:22	1
bis (2-chloroisopropyl) ether	ND	H	10.0	0.629	ug/L		04/18/20 08:24	04/19/20 03:22	1
Bis(2-ethylhexyl) phthalate	**2.96**	**H**	2.00	1.02	ug/L		04/18/20 08:24	04/19/20 03:22	1
4-Bromophenyl phenyl ether	ND	H	10.0	0.745	ug/L		04/18/20 08:24	04/19/20 03:22	1
Butyl benzyl phthalate	ND	H	10.0	0.854	ug/L		04/18/20 08:24	04/19/20 03:22	1
4-Chloroaniline	ND	H	10.0	1.88	ug/L		04/18/20 08:24	04/19/20 03:22	1
2-Chloronaphthalene	ND	H	10.0	1.18	ug/L		04/18/20 08:24	04/19/20 03:22	1
Chrysene	ND	H	2.00	0.907	ug/L		04/18/20 08:24	04/19/20 03:22	1
Dibenz(a,h)anthracene	ND	H	1.00	0.738	ug/L		04/18/20 08:24	04/19/20 03:22	1
Dibenzofuran	ND	H	10.0	1.10	ug/L		04/18/20 08:24	04/19/20 03:22	1
1,2-Dichlorobenzene	ND	H	10.0	1.34	ug/L		04/18/20 08:24	04/19/20 03:22	1
1,3-Dichlorobenzene	ND	H	10.0	2.03	ug/L		04/18/20 08:24	04/19/20 03:22	1
1,4-Dichlorobenzene	ND	H	10.0	1.27	ug/L		04/18/20 08:24	04/19/20 03:22	1
3,3'-Dichlorobenzidine	ND	H	10.0	1.58	ug/L		04/18/20 08:24	04/19/20 03:22	1
Diethyl phthalate	ND	H	10.0	0.976	ug/L		04/18/20 08:24	04/19/20 03:22	1
Dimethyl phthalate	ND	H	10.0	0.766	ug/L		04/18/20 08:24	04/19/20 03:22	1
Di-n-butyl phthalate	ND	H	10.0	0.753	ug/L		04/18/20 08:24	04/19/20 03:22	1
2,4-Dinitrotoluene	ND	H	2.00	1.03	ug/L		04/18/20 08:24	04/19/20 03:22	1
2,6-Dinitrotoluene	ND	H	2.00	0.534	ug/L		04/18/20 08:24	04/19/20 03:22	1
Di-n-octyl phthalate	ND	H	10.0	1.45	ug/L		04/18/20 08:24	04/19/20 03:22	1
1,4-Dioxane	ND	H	10.0	1.58	ug/L		04/18/20 08:24	04/19/20 03:22	1
Fluoranthene	ND	H	10.0	0.842	ug/L		04/18/20 08:24	04/19/20 03:22	1
Fluorene	ND	H	10.0	0.912	ug/L		04/18/20 08:24	04/19/20 03:22	1
Hexachlorobenzene	ND	H	1.00	0.909	ug/L		04/18/20 08:24	04/19/20 03:22	1
Hexachlorobutadiene	ND	H	1.00	0.438	ug/L		04/18/20 08:24	04/19/20 03:22	1
Hexachloroethane	ND	H	2.00	1.19	ug/L		04/18/20 08:24	04/19/20 03:22	1
Indeno[1,2,3-cd]pyrene	ND	H	2.00	1.30	ug/L		04/18/20 08:24	04/19/20 03:22	1
Isophorone	ND	H	10.0	0.798	ug/L		04/18/20 08:24	04/19/20 03:22	1
2-Methylnaphthalene	ND	H	10.0	1.10	ug/L		04/18/20 08:24	04/19/20 03:22	1
Naphthalene	ND	H	2.00	1.13	ug/L		04/18/20 08:24	04/19/20 03:22	1
Nitrobenzene	ND	H	2.00	1.56	ug/L		04/18/20 08:24	04/19/20 03:22	1
Phenanthrene	ND	H	10.0	0.580	ug/L		04/18/20 08:24	04/19/20 03:22	1
Pyrene	ND	H	10.0	1.64	ug/L		04/18/20 08:24	04/19/20 03:22	1
1,2,4-Trichlorobenzene	ND	H	2.00	1.26	ug/L		04/18/20 08:24	04/19/20 03:22	1
Pentachlorophenol	ND	H	20.0	3.05	ug/L		04/18/20 08:24	04/19/20 03:22	1
Phenol	ND	H	10.0	1.24	ug/L		04/18/20 08:24	04/19/20 03:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*44 - 129*	*04/18/20 08:24*	*04/19/20 03:22*	*1*
Nitrobenzene-d5	*93*		*15 - 314*	*04/18/20 08:24*	*04/19/20 03:22*	*1*

Client Sample ID: MW-11S
Date Collected: 03/25/20 11:15
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-2
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0500	0.0142	ug/L		03/27/20 09:24	03/27/20 18:37	1
Benzo[a]anthracene	**0.0200**	**J**	0.0500	0.0156	ug/L		03/27/20 09:24	03/27/20 18:37	1
Benzo[a]pyrene	ND		0.0500	0.0216	ug/L		03/27/20 09:24	03/27/20 18:37	1
Benzo[b]fluoranthene	ND		0.0500	0.0240	ug/L		03/27/20 09:24	03/27/20 18:37	1
Benzo[g,h,i]perylene	ND		0.0500	0.0351	ug/L		03/27/20 09:24	03/27/20 18:37	1
Acenaphthylene	ND		0.0500	0.0146	ug/L		03/27/20 09:24	03/27/20 18:37	1
Benzo[k]fluoranthene	ND		0.0500	0.0278	ug/L		03/27/20 09:24	03/27/20 18:37	1
Bis(2-chloroethyl)ether	ND		0.0300	0.0260	ug/L		03/27/20 09:24	03/27/20 18:37	1
Anthracene	ND		0.0500	0.00920	ug/L		03/27/20 09:24	03/27/20 18:37	1
Dibenz(a,h)anthracene	ND		0.0500	0.0200	ug/L		03/27/20 09:24	03/27/20 18:37	1
Hexachlorobenzene	ND		0.0200	0.0131	ug/L		03/27/20 09:24	03/27/20 18:37	1
Indeno[1,2,3-cd]pyrene	ND	*	0.0500	0.0362	ug/L		03/27/20 09:24	03/27/20 18:37	1
Pentachlorophenol	**0.232**		0.200	0.154	ug/L		03/27/20 09:24	03/27/20 18:37	1
Chrysene	ND		0.0500	0.0299	ug/L		03/27/20 09:24	03/27/20 18:37	1
Fluorene	ND		0.0500	0.0118	ug/L		03/27/20 09:24	03/27/20 18:37	1
Phenanthrene	ND		0.0500	0.0219	ug/L		03/27/20 09:24	03/27/20 18:37	1
Pyrene	ND		0.0500	0.0314	ug/L		03/27/20 09:24	03/27/20 18:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*91*		*25 - 124*	*03/27/20 09:24*	*03/27/20 18:37*	*1*
Nitrobenzene-d5	*133*		*41 - 144*	*03/27/20 09:24*	*03/27/20 18:37*	*1*
2,4,6-Tribromophenol	*154*	*X*	*40 - 140*	*03/27/20 09:24*	*03/27/20 18:37*	*1*

Method: 608.3 - Organochlorine Pesticides/PCBs in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 10:16	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 10:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*60*		*10 - 150*	*03/26/20 15:14*	*03/27/20 10:16*	*1*
Tetrachloro-m-xylene	*82*		*10 - 150*	*03/26/20 15:14*	*03/27/20 10:16*	*1*
DCB Decachlorobiphenyl	*37*		*10 - 150*	*03/26/20 15:14*	*03/27/20 10:16*	*1*
DCB Decachlorobiphenyl	*37*		*10 - 150*	*03/26/20 15:14*	*03/27/20 10:16*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.7**		12.0	1.40	mg/L			03/29/20 18:22	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	20.0	5.30	ug/L		03/29/20 11:36	03/30/20 22:21	1
Arsenic	ND		20.0	6.20	ug/L		03/29/20 11:36	03/30/20 22:21	1
Cadmium	**9.35**		5.00	1.00	ug/L		03/29/20 11:36	03/30/20 22:21	1
Copper	**3.70**	**J**	20.0	1.80	ug/L		03/29/20 11:36	03/30/20 22:21	1

Client Sample ID: MW-11S
Date Collected: 03/25/20 11:15
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-2
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**20100**		50.0	17.0	ug/L		03/29/20 11:36	03/30/20 22:21	1
Lead	ND		10.0	3.90	ug/L		03/29/20 11:36	03/30/20 22:21	1
Nickel	**14.7**	**J**	40.0	2.10	ug/L		03/29/20 11:36	03/30/20 22:21	1
Selenium	ND		20.0	9.90	ug/L		03/29/20 11:36	03/30/20 22:21	1
Silver	ND		10.0	0.600	ug/L		03/29/20 11:36	03/30/20 22:21	1
Zinc	**27.4**		20.0	7.00	ug/L		03/29/20 11:36	03/30/20 22:21	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.150**	**J**	0.200	0.0910	ug/L		04/03/20 12:34	04/03/20 14:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L			04/06/20 08:39	1
SGT-HEM	ND		5.0	1.4	mg/L			04/06/20 08:39	1
Cyanide, Total	ND		0.0100	0.00400	mg/L		04/07/20 12:02	04/07/20 15:06	1
Ammonia (as N)	**0.145**		0.100	0.0340	mg/L			04/06/20 17:32	1
Chlorine, Total Residual	ND	HF	0.400	0.0720	mg/L			04/03/20 18:20	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**114**		12.5	12.5	mg/L			03/28/20 09:21	1

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: MW-20S
Lab Sample ID: 460-205843-3
Date Collected: 03/25/20 12:05
Matrix: Water
Date Received: 03/26/20 10:00

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50.0	3.96	ug/L			03/30/20 13:11	2
Benzene	ND		10.0	1.19	ug/L			03/30/20 13:11	2
Bromobenzene	ND		20.0	0.875	ug/L			03/30/20 13:11	2
Bromoform	ND		10.0	0.937	ug/L			03/30/20 13:11	2
Bromomethane	ND		10.0	2.38	ug/L			03/30/20 13:11	2
2-Butanone (MEK)	ND		50.0	3.52	ug/L			03/30/20 13:11	2
Carbon disulfide	ND		10.0	0.574	ug/L			03/30/20 13:11	2
Carbon tetrachloride	ND		10.0	1.02	ug/L			03/30/20 13:11	2
Chlorobenzene	ND		10.0	0.951	ug/L			03/30/20 13:11	2
Chlorobromomethane	ND		10.0	1.43	ug/L			03/30/20 13:11	2
Chlorodibromomethane	ND		10.0	0.828	ug/L			03/30/20 13:11	2
Chloroethane	ND		10.0	1.75	ug/L			03/30/20 13:11	2
Chloroform	**2.56**	**J**	10.0	1.08	ug/L			03/30/20 13:11	2
Chloromethane	ND		10.0	1.27	ug/L			03/30/20 13:11	2
2-Chlorotoluene	ND		10.0	0.656	ug/L			03/30/20 13:11	2
4-Chlorotoluene	ND		10.0	0.546	ug/L			03/30/20 13:11	2
cis-1,2-Dichloroethene	ND		10.0	1.15	ug/L			03/30/20 13:11	2
cis-1,3-Dichloropropene	ND		10.0	0.662	ug/L			03/30/20 13:11	2
1,2-Dibromo-3-Chloropropane	ND		10.0	1.24	ug/L			03/30/20 13:11	2
Dibromomethane	ND		10.0	1.07	ug/L			03/30/20 13:11	2
1,2-Dichlorobenzene	**3.20**	**J**	10.0	0.889	ug/L			03/30/20 13:11	2
1,3-Dichlorobenzene	ND		10.0	1.09	ug/L			03/30/20 13:11	2
1,4-Dichlorobenzene	ND		10.0	1.02	ug/L			03/30/20 13:11	2
Dichlorobromomethane	ND		10.0	1.07	ug/L			03/30/20 13:11	2
Dichlorodifluoromethane	ND		10.0	0.554	ug/L			03/30/20 13:11	2
1,1-Dichloroethane	ND		10.0	1.18	ug/L			03/30/20 13:11	2
1,2-Dichloroethane	ND		10.0	1.21	ug/L			03/30/20 13:11	2
1,1-Dichloroethene	ND		10.0	1.71	ug/L			03/30/20 13:11	2
1,2-Dichloropropane	ND		10.0	1.22	ug/L			03/30/20 13:11	2
1,3-Dichloropropane	ND		10.0	1.03	ug/L			03/30/20 13:11	2
2,2-Dichloropropane	ND		10.0	0.658	ug/L			03/30/20 13:11	2
1,1-Dichloropropene	ND		10.0	1.58	ug/L			03/30/20 13:11	2
1,4-Dioxane	ND		400	30.2	ug/L			03/30/20 13:11	2
Ethylbenzene	**112**		10.0	0.930	ug/L			03/30/20 13:11	2
Ethylene Dibromide	ND		10.0	1.00	ug/L			03/30/20 13:11	2
Ethyl ether	ND		10.0	0.678	ug/L			03/30/20 13:11	2
Hexachlorobutadiene	ND		20.0	1.16	ug/L			03/30/20 13:11	2
2-Hexanone	ND		50.0	3.90	ug/L			03/30/20 13:11	2
Isopropylbenzene	**6.93**	**J**	10.0	1.02	ug/L			03/30/20 13:11	2
Isopropyl ether	ND		10.0	0.702	ug/L			03/30/20 13:11	2
4-Isopropyltoluene	**9.64**	**J**	10.0	1.08	ug/L			03/30/20 13:11	2
Methylene Chloride	ND		10.0	1.63	ug/L			03/30/20 13:11	2
4-Methyl-2-pentanone (MIBK)	ND		50.0	2.58	ug/L			03/30/20 13:11	2
Methyl tert-butyl ether	ND		10.0	0.708	ug/L			03/30/20 13:11	2
m-Xylene & p-Xylene	**23.5**		20.0	2.16	ug/L			03/30/20 13:11	2
Naphthalene	**137**		10.0	0.218	ug/L			03/30/20 13:11	2
n-Butylbenzene	**6.69**	**J**	20.0	0.642	ug/L			03/30/20 13:11	2
N-Propylbenzene	**8.58**	**J**	20.0	0.592	ug/L			03/30/20 13:11	2
o-Xylene	**1.62**	**J**	10.0	0.857	ug/L			03/30/20 13:11	2

Client Sample ID: MW-20S
Date Collected: 03/25/20 12:05
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-3
Matrix: Water

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	**8.29**	**J**	20.0	0.638	ug/L			03/30/20 13:11	2
Styrene	ND		10.0	0.764	ug/L			03/30/20 13:11	2
tert-Butylbenzene	ND		20.0	1.09	ug/L			03/30/20 13:11	2
1,1,1,2-Tetrachloroethane	ND		10.0	0.991	ug/L			03/30/20 13:11	2
1,1,2,2-Tetrachloroethane	ND		10.0	0.518	ug/L			03/30/20 13:11	2
Tetrachloroethene	ND		10.0	0.678	ug/L			03/30/20 13:11	2
Tetrahydrofuran	ND		50.0	4.38	ug/L			03/30/20 13:11	2
Toluene	ND		10.0	0.909	ug/L			03/30/20 13:11	2
trans-1,2-Dichloroethene	ND		10.0	1.18	ug/L			03/30/20 13:11	2
trans-1,3-Dichloropropene	ND		10.0	0.884	ug/L			03/30/20 13:11	2
1,2,3-Trichlorobenzene	ND		10.0	0.827	ug/L			03/30/20 13:11	2
1,2,4-Trichlorobenzene	ND		10.0	0.781	ug/L			03/30/20 13:11	2
1,1,1-Trichloroethane	ND		10.0	0.770	ug/L			03/30/20 13:11	2
1,1,2-Trichloroethane	ND		10.0	0.965	ug/L			03/30/20 13:11	2
Trichloroethene	ND		10.0	1.19	ug/L			03/30/20 13:11	2
Trichlorofluoromethane	ND		10.0	0.898	ug/L			03/30/20 13:11	2
1,2,3-Trichloropropane	ND		10.0	0.414	ug/L			03/30/20 13:11	2
1,2,4-Trimethylbenzene	**74.9**		10.0	1.04	ug/L			03/30/20 13:11	2
1,3,5-Trimethylbenzene	**18.0**	**J**	20.0	0.888	ug/L			03/30/20 13:11	2
Vinyl chloride	ND		10.0	1.49	ug/L			03/30/20 13:11	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*76 - 123*		*03/30/20 13:11*	*2*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*03/30/20 13:11*	*2*
1,2-Dichloroethane-d4 (Surr)	*98*		*68 - 130*		*03/30/20 13:11*	*2*
Toluene-d8 (Surr)	*92*		*77 - 120*		*03/30/20 13:11*	*2*

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		200	60.1	ug/L			03/27/20 15:46	1
t-Butyl alcohol	ND		5.00	8.28	ug/L			03/27/20 15:46	1
Methyl tert-butyl ether	ND		0.500	0.465	ug/L			03/27/20 15:46	1
Tert-amyl methyl ether	ND		0.500	0.453	ug/L			03/27/20 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*116*		*76 - 120*		*03/27/20 15:46*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 124*		*03/27/20 15:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 123*		*03/27/20 15:46*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*03/27/20 15:46*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.200	0.0640	ug/L		03/30/20 14:45	04/02/20 08:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*101*		*46 - 130*	*03/30/20 14:45*	*04/02/20 08:19*	*1*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND	H	500	53.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Acenaphthylene	ND	H	500	41.2	ug/L		04/18/20 08:24	04/20/20 07:04	50

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: MW-20S
Lab Sample ID: 460-205843-3
Date Collected: 03/25/20 12:05
Matrix: Water
Date Received: 03/26/20 10:00

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetophenone	ND	H	500	127	ug/L		04/18/20 08:24	04/20/20 07:04	50
Aniline	ND	H	500	57.2	ug/L		04/18/20 08:24	04/20/20 07:04	50
Anthracene	ND	H	500	31.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Benzo[a]anthracene	ND	H	50.0	29.6	ug/L		04/18/20 08:24	04/20/20 07:04	50
Benzo[a]pyrene	ND	H	50.0	34.1	ug/L		04/18/20 08:24	04/20/20 07:04	50
Benzo[b]fluoranthene	ND	H	100	71.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Benzo[g,h,i]perylene	ND	H	500	65.5	ug/L		04/18/20 08:24	04/20/20 07:04	50
Benzo[k]fluoranthene	ND	H	50.0	33.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Bis(2-chloroethoxy)methane	ND	H	500	32.0	ug/L		04/18/20 08:24	04/20/20 07:04	50
Bis(2-chloroethyl)ether	ND	H	50.0	34.4	ug/L		04/18/20 08:24	04/20/20 07:04	50
bis (2-chloroisopropyl) ether	ND	H	500	31.5	ug/L		04/18/20 08:24	04/20/20 07:04	50
Bis(2-ethylhexyl) phthalate	**4170**	**H**	100	50.9	ug/L		04/18/20 08:24	04/20/20 07:04	50
4-Bromophenyl phenyl ether	ND	H	500	37.3	ug/L		04/18/20 08:24	04/20/20 07:04	50
Butyl benzyl phthalate	ND	H	500	42.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
4-Chloroaniline	ND	H	500	94.2	ug/L		04/18/20 08:24	04/20/20 07:04	50
2-Chloronaphthalene	ND	H	500	58.9	ug/L		04/18/20 08:24	04/20/20 07:04	50
Chrysene	ND	H	100	45.4	ug/L		04/18/20 08:24	04/20/20 07:04	50
Dibenz(a,h)anthracene	ND	H	50.0	36.9	ug/L		04/18/20 08:24	04/20/20 07:04	50
Dibenzofuran	ND	H	500	55.0	ug/L		04/18/20 08:24	04/20/20 07:04	50
1,2-Dichlorobenzene	ND	H	500	66.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
1,3-Dichlorobenzene	ND	H	500	102	ug/L		04/18/20 08:24	04/20/20 07:04	50
1,4-Dichlorobenzene	ND	H	500	63.5	ug/L		04/18/20 08:24	04/20/20 07:04	50
3,3'-Dichlorobenzidine	ND	H	500	79.0	ug/L		04/18/20 08:24	04/20/20 07:04	50
Diethyl phthalate	ND	H	500	48.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Dimethyl phthalate	ND	H	500	38.3	ug/L		04/18/20 08:24	04/20/20 07:04	50
Di-n-butyl phthalate	ND	H	500	37.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
2,4-Dinitrotoluene	ND	H	100	51.5	ug/L		04/18/20 08:24	04/20/20 07:04	50
2,6-Dinitrotoluene	ND	H	100	26.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Di-n-octyl phthalate	**483**	**J H**	500	72.3	ug/L		04/18/20 08:24	04/20/20 07:04	50
1,4-Dioxane	ND	H	500	78.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Fluoranthene	ND	H	500	42.1	ug/L		04/18/20 08:24	04/20/20 07:04	50
Fluorene	ND	H	500	45.6	ug/L		04/18/20 08:24	04/20/20 07:04	50
Hexachlorobenzene	ND	H	50.0	45.5	ug/L		04/18/20 08:24	04/20/20 07:04	50
Hexachlorobutadiene	ND	H	50.0	21.9	ug/L		04/18/20 08:24	04/20/20 07:04	50
Hexachloroethane	ND	H	100	59.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Indeno[1,2,3-cd]pyrene	ND	H	100	64.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Isophorone	ND	H	500	39.9	ug/L		04/18/20 08:24	04/20/20 07:04	50
2-Methylnaphthalene	**111**	**J H**	500	54.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Naphthalene	ND	H	100	56.7	ug/L		04/18/20 08:24	04/20/20 07:04	50
Nitrobenzene	ND	H	100	78.2	ug/L		04/18/20 08:24	04/20/20 07:04	50
Phenanthrene	**63.6**	**J H**	500	29.0	ug/L		04/18/20 08:24	04/20/20 07:04	50
Pyrene	ND	H	500	82.2	ug/L		04/18/20 08:24	04/20/20 07:04	50
1,2,4-Trichlorobenzene	ND	H	100	62.8	ug/L		04/18/20 08:24	04/20/20 07:04	50
Pentachlorophenol	ND	H	1000	152	ug/L		04/18/20 08:24	04/20/20 07:04	50
Phenol	ND	H	500	62.2	ug/L		04/18/20 08:24	04/20/20 07:04	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*0*	*X*	*44 - 129*	*04/18/20 08:24*	*04/20/20 07:04*	*50*
Nitrobenzene-d5	*0*	*X*	*15 - 314*	*04/18/20 08:24*	*04/20/20 07:04*	*50*

Client Sample ID: MW-20S
Date Collected: 03/25/20 12:05
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-3
Matrix: Water

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**17.7**		2.50	0.710	ug/L		03/27/20 09:24	03/29/20 04:18	50
Benzo[a]anthracene	**1.47**	**J**	2.50	0.780	ug/L		03/27/20 09:24	03/29/20 04:18	50
Benzo[a]pyrene	ND		2.50	1.08	ug/L		03/27/20 09:24	03/29/20 04:18	50
Benzo[b]fluoranthene	ND		2.50	1.20	ug/L		03/27/20 09:24	03/29/20 04:18	50
Benzo[g,h,i]perylene	ND		2.50	1.76	ug/L		03/27/20 09:24	03/29/20 04:18	50
Acenaphthylene	**4.35**		2.50	0.730	ug/L		03/27/20 09:24	03/29/20 04:18	50
Benzo[k]fluoranthene	ND		2.50	1.39	ug/L		03/27/20 09:24	03/29/20 04:18	50
Bis(2-chloroethyl)ether	ND		1.50	1.30	ug/L		03/27/20 09:24	03/29/20 04:18	50
Anthracene	ND		2.50	0.460	ug/L		03/27/20 09:24	03/29/20 04:18	50
Dibenz(a,h)anthracene	ND		2.50	1.00	ug/L		03/27/20 09:24	03/29/20 04:18	50
Hexachlorobenzene	ND		1.00	0.655	ug/L		03/27/20 09:24	03/29/20 04:18	50
Indeno[1,2,3-cd]pyrene	ND	*	2.50	1.81	ug/L		03/27/20 09:24	03/29/20 04:18	50
Pentachlorophenol	ND		10.0	7.71	ug/L		03/27/20 09:24	03/29/20 04:18	50
Chrysene	ND		2.50	1.50	ug/L		03/27/20 09:24	03/29/20 04:18	50
Fluorene	**31.8**		2.50	0.590	ug/L		03/27/20 09:24	03/29/20 04:18	50
Phenanthrene	**50.0**		2.50	1.10	ug/L		03/27/20 09:24	03/29/20 04:18	50
Pyrene	**4.59**		2.50	1.57	ug/L		03/27/20 09:24	03/29/20 04:18	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*90*		*25 - 124*	*03/27/20 09:24*	*03/29/20 04:18*	*50*
Nitrobenzene-d5	*110*		*41 - 144*	*03/27/20 09:24*	*03/29/20 04:18*	*50*
2,4,6-Tribromophenol	*90*		*40 - 140*	*03/27/20 09:24*	*03/29/20 04:18*	*50*

Method: 608.3 - Organochlorine Pesticides/PCBs in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 09:54	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 09:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*14*		*10 - 150*	*03/28/20 18:35*	*03/30/20 09:54*	*1*
Tetrachloro-m-xylene	*63*		*10 - 150*	*03/28/20 18:35*	*03/30/20 09:54*	*1*
DCB Decachlorobiphenyl	*567*	*X*	*10 - 150*	*03/28/20 18:35*	*03/30/20 09:54*	*1*
DCB Decachlorobiphenyl	*135*		*10 - 150*	*03/28/20 18:35*	*03/30/20 09:54*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**121**		12.0	1.40	mg/L			03/29/20 18:37	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	20.0	5.30	ug/L		03/29/20 11:36	03/30/20 22:25	1
Arsenic	**11.7**	**J**	20.0	6.20	ug/L		03/29/20 11:36	03/30/20 22:25	1
Cadmium	ND		5.00	1.00	ug/L		03/29/20 11:36	03/30/20 22:25	1
Copper	ND		20.0	1.80	ug/L		03/29/20 11:36	03/30/20 22:25	1

Client Sample ID: MW-20S
Date Collected: 03/25/20 12:05
Date Received: 03/26/20 10:00

Lab Sample ID: 460-205843-3
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**13100**		50.0	17.0	ug/L		03/29/20 11:36	03/30/20 22:25	1
Lead	ND		10.0	3.90	ug/L		03/29/20 11:36	03/30/20 22:25	1
Nickel	ND		40.0	2.10	ug/L		03/29/20 11:36	03/30/20 22:25	1
Selenium	ND		20.0	9.90	ug/L		03/29/20 11:36	03/30/20 22:25	1
Silver	**1.06**	**J**	10.0	0.600	ug/L		03/29/20 11:36	03/30/20 22:25	1
Zinc	**13.5**	**J**	20.0	7.00	ug/L		03/29/20 11:36	03/30/20 22:25	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0910	ug/L		04/03/20 12:34	04/03/20 14:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	**52.8**		5.0	1.4	mg/L			04/06/20 08:39	1
SGT-HEM	**20.7**		5.0	1.4	mg/L			04/06/20 08:39	1
Cyanide, Total	ND		0.0100	0.00400	mg/L		04/07/20 12:02	04/07/20 15:07	1
Ammonia (as N)	**0.776**		0.100	0.0340	mg/L			03/31/20 10:49	1
Chlorine, Total Residual	ND	HF	0.400	0.0720	mg/L			04/03/20 18:25	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	**74.0**		12.5	12.5	mg/L			03/28/20 09:21	1

Surrogate Summary

Client: Groundwater & Environmental Services Inc
Project/Site: Billerica, MA

Job ID: 460-205843-1

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(76-123)	(75-123)	(68-130)	(77-120)
460-205843-2	MW-11S	111	105	100	93
460-205843-3	MW-20S	115	103	98	92
LCS 480-523464/6	Lab Control Sample	111	102	94	96
MB 480-523464/8	Method Blank	108	100	96	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(76-120)	(77-124)	(75-123)	(80-120)
460-205843-2	MW-11S	110	107	97	104
460-205843-3	MW-20S	116	106	96	103
LCS 460-684033/4	Lab Control Sample	110	107	99	101
LCSD 460-684033/5	Lab Control Sample Dup	111	105	97	102
MB 460-684033/8	Method Blank	110	106	96	105

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(46-130)
460-205843-2	MW-11S	95
460-205843-3	MW-20S	101
LLCS 200-153707/2-A	Lab Control Sample	99
LLCSD 200-153707/3-A	Lab Control Sample Dup	94
MB 200-153707/1-A	Method Blank	100

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		FBP	NBZ
Lab Sample ID	Client Sample ID	(44-129)	(15-314)
460-205843-2	MW-11S	91	93
460-205843-3	MW-20S	0 X	0 X

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	
Lab Sample ID	Client Sample ID	(44-129)	(15-314)	
LCS 460-688463/2-A	Lab Control Sample	93	102	
LCSD 460-688463/3-A	Lab Control Sample Dup	88	95	
MB 460-688463/1-A	Method Blank	69	76	

Surrogate Legend

FBP = 2-Fluorobiphenyl

NBZ = Nitrobenzene-d5

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		FBP	NBZ	TBP	
Lab Sample ID	Client Sample ID	(25-124)	(41-144)	(40-140)	
460-205843-2	MW-11S	91	133	154 X	
460-205843-3	MW-20S	90	110	90	
LCS 460-684079/2-A	Lab Control Sample	93	112	115	
LCSD 460-684079/3-A	Lab Control Sample Dup	89	117	127	
MB 460-684079/1-A	Method Blank	77	96	96	

Surrogate Legend

FBP = 2-Fluorobiphenyl

NBZ = Nitrobenzene-d5

TBP = 2,4,6-Tribromophenol

Method: 608.3 - Organochlorine Pesticides/PCBs in Water

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)				
		TCX1	TCX2	DCBP1	DCBP2	
Lab Sample ID	Client Sample ID	(10-150)	(10-150)	(10-150)	(10-150)	
460-205843-2	MW-11S	82	60	37	37	
460-205843-3	MW-20S	63	14	135	567 X	
LCS 460-683908/4-A	Lab Control Sample	72	72	43	46	
LCS 460-684395/4-A	Lab Control Sample	74	72	29	29	
LCSD 460-683908/5-A	Lab Control Sample Dup	76	78	48	52	
LCSD 460-684395/5-A	Lab Control Sample Dup	73	70	45	46	
MB 460-683908/1-A	Method Blank	62	66	51	51	
MB 460-684395/1-A	Method Blank	70	71	36	34	

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Method: 624.1 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-523464/8
Matrix: Water
Analysis Batch: 523464

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25.0	1.98	ug/L			03/30/20 11:40	1
Benzene	ND		5.00	0.597	ug/L			03/30/20 11:40	1
Bromobenzene	ND		10.0	0.438	ug/L			03/30/20 11:40	1
Bromoform	ND		5.00	0.469	ug/L			03/30/20 11:40	1
Bromomethane	ND		5.00	1.19	ug/L			03/30/20 11:40	1
2-Butanone (MEK)	ND		25.0	1.76	ug/L			03/30/20 11:40	1
Carbon disulfide	ND		5.00	0.287	ug/L			03/30/20 11:40	1
Carbon tetrachloride	ND		5.00	0.511	ug/L			03/30/20 11:40	1
Chlorobenzene	ND		5.00	0.476	ug/L			03/30/20 11:40	1
Chlorobromomethane	ND		5.00	0.715	ug/L			03/30/20 11:40	1
Chlorodibromomethane	ND		5.00	0.414	ug/L			03/30/20 11:40	1
Chloroethane	ND		5.00	0.873	ug/L			03/30/20 11:40	1
Chloroform	ND		5.00	0.542	ug/L			03/30/20 11:40	1
Chloromethane	ND		5.00	0.636	ug/L			03/30/20 11:40	1
2-Chlorotoluene	ND		5.00	0.328	ug/L			03/30/20 11:40	1
4-Chlorotoluene	ND		5.00	0.273	ug/L			03/30/20 11:40	1
cis-1,2-Dichloroethene	ND		5.00	0.573	ug/L			03/30/20 11:40	1
cis-1,3-Dichloropropene	ND		5.00	0.331	ug/L			03/30/20 11:40	1
1,2-Dibromo-3-Chloropropane	ND		5.00	0.620	ug/L			03/30/20 11:40	1
Dibromomethane	ND		5.00	0.534	ug/L			03/30/20 11:40	1
1,2-Dichlorobenzene	ND		5.00	0.445	ug/L			03/30/20 11:40	1
1,3-Dichlorobenzene	ND		5.00	0.543	ug/L			03/30/20 11:40	1
1,4-Dichlorobenzene	ND		5.00	0.508	ug/L			03/30/20 11:40	1
Dichlorobromomethane	ND		5.00	0.537	ug/L			03/30/20 11:40	1
Dichlorodifluoromethane	ND		5.00	0.277	ug/L			03/30/20 11:40	1
1,1-Dichloroethane	ND		5.00	0.589	ug/L			03/30/20 11:40	1
1,2-Dichloroethane	ND		5.00	0.603	ug/L			03/30/20 11:40	1
1,1-Dichloroethene	ND		5.00	0.855	ug/L			03/30/20 11:40	1
1,2-Dichloropropane	ND		5.00	0.612	ug/L			03/30/20 11:40	1
1,3-Dichloropropane	ND		5.00	0.516	ug/L			03/30/20 11:40	1
2,2-Dichloropropane	ND		5.00	0.329	ug/L			03/30/20 11:40	1
1,1-Dichloropropene	ND		5.00	0.790	ug/L			03/30/20 11:40	1
1,4-Dioxane	ND		200	15.1	ug/L			03/30/20 11:40	1
Ethylbenzene	ND		5.00	0.465	ug/L			03/30/20 11:40	1
Ethylene Dibromide	ND		5.00	0.502	ug/L			03/30/20 11:40	1
Ethyl ether	ND		5.00	0.339	ug/L			03/30/20 11:40	1
Hexachlorobutadiene	ND		10.0	0.578	ug/L			03/30/20 11:40	1
2-Hexanone	ND		25.0	1.95	ug/L			03/30/20 11:40	1
Isopropylbenzene	ND		5.00	0.511	ug/L			03/30/20 11:40	1
Isopropyl ether	ND		5.00	0.351	ug/L			03/30/20 11:40	1
4-Isopropyltoluene	ND		5.00	0.541	ug/L			03/30/20 11:40	1
Methylene Chloride	ND		5.00	0.815	ug/L			03/30/20 11:40	1
4-Methyl-2-pentanone (MIBK)	ND		25.0	1.29	ug/L			03/30/20 11:40	1
Methyl tert-butyl ether	ND		5.00	0.354	ug/L			03/30/20 11:40	1
m-Xylene & p-Xylene	ND		10.0	1.08	ug/L			03/30/20 11:40	1
Naphthalene	ND		5.00	0.109	ug/L			03/30/20 11:40	1
n-Butylbenzene	ND		10.0	0.321	ug/L			03/30/20 11:40	1
N-Propylbenzene	ND		10.0	0.296	ug/L			03/30/20 11:40	1

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-523464/8
Matrix: Water
Analysis Batch: 523464

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		5.00	0.428	ug/L			03/30/20 11:40	1
sec-Butylbenzene	ND		10.0	0.319	ug/L			03/30/20 11:40	1
Styrene	ND		5.00	0.382	ug/L			03/30/20 11:40	1
tert-Butylbenzene	ND		10.0	0.544	ug/L			03/30/20 11:40	1
1,1,1,2-Tetrachloroethane	ND		5.00	0.495	ug/L			03/30/20 11:40	1
1,1,2,2-Tetrachloroethane	ND		5.00	0.259	ug/L			03/30/20 11:40	1
Tetrachloroethene	ND		5.00	0.339	ug/L			03/30/20 11:40	1
Tetrahydrofuran	ND		25.0	2.19	ug/L			03/30/20 11:40	1
Toluene	ND		5.00	0.454	ug/L			03/30/20 11:40	1
trans-1,2-Dichloroethene	ND		5.00	0.589	ug/L			03/30/20 11:40	1
trans-1,3-Dichloropropene	ND		5.00	0.442	ug/L			03/30/20 11:40	1
1,2,3-Trichlorobenzene	ND		5.00	0.414	ug/L			03/30/20 11:40	1
1,2,4-Trichlorobenzene	ND		5.00	0.391	ug/L			03/30/20 11:40	1
1,1,1-Trichloroethane	ND		5.00	0.385	ug/L			03/30/20 11:40	1
1,1,2-Trichloroethane	ND		5.00	0.482	ug/L			03/30/20 11:40	1
Trichloroethene	ND		5.00	0.597	ug/L			03/30/20 11:40	1
Trichlorofluoromethane	ND		5.00	0.449	ug/L			03/30/20 11:40	1
1,2,3-Trichloropropane	ND		5.00	0.207	ug/L			03/30/20 11:40	1
1,2,4-Trimethylbenzene	ND		5.00	0.522	ug/L			03/30/20 11:40	1
1,3,5-Trimethylbenzene	ND		10.0	0.444	ug/L			03/30/20 11:40	1
Vinyl chloride	ND		5.00	0.747	ug/L			03/30/20 11:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*76 - 123*		*03/30/20 11:40*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 123*		*03/30/20 11:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*68 - 130*		*03/30/20 11:40*	*1*
Toluene-d8 (Surr)	*93*		*77 - 120*		*03/30/20 11:40*	*1*

Lab Sample ID: LCS 480-523464/6
Matrix: Water
Analysis Batch: 523464

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	124.2		ug/L		124	21 - 161
Benzene	20.0	21.01		ug/L		105	37 - 151
Bromobenzene	20.0	18.37		ug/L		92	77 - 123
Bromoform	20.0	15.54		ug/L		78	45 - 169
Bromomethane	20.0	21.56		ug/L		108	1 - 242
2-Butanone (MEK)	100	106.7		ug/L		107	57 - 140
Carbon disulfide	20.0	21.95		ug/L		110	49 - 145
Carbon tetrachloride	20.0	19.11		ug/L		96	70 - 140
Chlorobenzene	20.0	19.02		ug/L		95	37 - 160
Chlorobromomethane	20.0	21.41		ug/L		107	72 - 130
Chlorodibromomethane	20.0	16.87		ug/L		84	53 - 149
Chloroethane	20.0	21.97		ug/L		110	14 - 230
Chloroform	20.0	20.90		ug/L		105	51 - 138
Chloromethane	20.0	17.02		ug/L		85	1 - 273
2-Chlorotoluene	20.0	19.32		ug/L		97	72 - 126

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-523464/6
Matrix: Water
Analysis Batch: 523464

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorotoluene	20.0	19.63		ug/L		98	76 - 120
cis-1,2-Dichloroethene	20.0	20.95		ug/L		105	50 - 150
cis-1,3-Dichloropropene	20.0	19.56		ug/L		98	1 - 227
1,2-Dibromo-3-Chloropropane	20.0	18.26		ug/L		91	44 - 138
Dibromomethane	20.0	21.11		ug/L		106	50 - 150
1,2-Dichlorobenzene	20.0	18.61		ug/L		93	18 - 190
1,3-Dichlorobenzene	20.0	18.75		ug/L		94	59 - 156
1,4-Dichlorobenzene	20.0	18.72		ug/L		94	18 - 190
Dichlorobromomethane	20.0	19.57		ug/L		98	35 - 155
Dichlorodifluoromethane	20.0	14.91		ug/L		75	59 - 135
1,1-Dichloroethane	20.0	22.01		ug/L		110	59 - 155
1,2-Dichloroethane	20.0	20.83		ug/L		104	49 - 155
1,1-Dichloroethene	20.0	22.22		ug/L		111	1 - 234
1,2-Dichloropropane	20.0	20.86		ug/L		104	1 - 210
1,3-Dichloropropane	20.0	18.93		ug/L		95	72 - 126
2,2-Dichloropropane	20.0	19.92		ug/L		100	50 - 150
1,1-Dichloropropene	20.0	22.35		ug/L		112	50 - 150
1,4-Dioxane	400	571.9		ug/L		143	10 - 208
Ethylbenzene	20.0	19.41		ug/L		97	37 - 162
Ethylene Dibromide	20.0	17.97		ug/L		90	77 - 124
Ethyl ether	20.0	20.84		ug/L		104	62 - 140
Hexachlorobutadiene	20.0	20.75		ug/L		104	56 - 127
2-Hexanone	100	95.56		ug/L		96	50 - 150
Isopropylbenzene	20.0	19.40		ug/L		97	68 - 133
4-Isopropyltoluene	20.0	19.41		ug/L		97	68 - 132
Methylene Chloride	20.0	20.21		ug/L		101	1 - 221
4-Methyl-2-pentanone (MIBK)	100	93.47		ug/L		93	50 - 150
Methyl tert-butyl ether	20.0	20.96		ug/L		105	78 - 118
m-Xylene & p-Xylene	20.0	18.70		ug/L		94	79 - 120
Naphthalene	20.0	20.86		ug/L		104	48 - 134
n-Butylbenzene	20.0	19.86		ug/L		99	59 - 135
N-Propylbenzene	20.0	19.42		ug/L		97	65 - 136
o-Xylene	20.0	19.00		ug/L		95	79 - 120
sec-Butylbenzene	20.0	19.60		ug/L		98	62 - 135
Styrene	20.0	18.77		ug/L		94	50 - 150
tert-Butylbenzene	20.0	19.30		ug/L		96	50 - 150
1,1,1,2-Tetrachloroethane	20.0	17.25		ug/L		86	50 - 150
1,1,2,2-Tetrachloroethane	20.0	18.52		ug/L		93	46 - 157
Tetrachloroethene	20.0	19.40		ug/L		97	64 - 148
Tetrahydrofuran	40.0	43.17		ug/L		108	47 - 144
Toluene	20.0	18.75		ug/L		94	47 - 150
trans-1,2-Dichloroethene	20.0	21.67		ug/L		108	54 - 156
trans-1,3-Dichloropropene	20.0	16.75		ug/L		84	17 - 183
1,2,3-Trichlorobenzene	20.0	21.29		ug/L		106	48 - 130
1,2,4-Trichlorobenzene	20.0	20.06		ug/L		100	56 - 128
1,1,1-Trichloroethane	20.0	19.93		ug/L		100	52 - 162
1,1,2-Trichloroethane	20.0	18.47		ug/L		92	52 - 150
Trichloroethene	20.0	21.02		ug/L		105	71 - 157
Trichlorofluoromethane	20.0	22.78		ug/L		114	17 - 181

Method: 624.1 - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-523464/6
Matrix: Water
Analysis Batch: 523464

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichloropropane	20.0	18.20		ug/L		91	50 - 150
1,2,4-Trimethylbenzene	20.0	18.96		ug/L		95	70 - 130
1,3,5-Trimethylbenzene	20.0	19.13		ug/L		96	69 - 132
Vinyl chloride	20.0	19.72		ug/L		99	1 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*76 - 123*
Dibromofluoromethane (Surr)	*102*		*75 - 123*
1,2-Dichloroethane-d4 (Surr)	*94*		*68 - 130*
Toluene-d8 (Surr)	*96*		*77 - 120*

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-684033/8
Matrix: Water
Analysis Batch: 684033

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethanol	ND		200	60.1	ug/L			03/27/20 08:51	1
t-Butyl alcohol	ND		5.00	8.28	ug/L			03/27/20 08:51	1
Methyl tert-butyl ether	ND		0.500	0.465	ug/L			03/27/20 08:51	1
Tert-amyl methyl ether	ND		0.500	0.453	ug/L			03/27/20 08:51	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*76 - 120*		*03/27/20 08:51*	*1*
Dibromofluoromethane (Surr)	*106*		*77 - 124*		*03/27/20 08:51*	*1*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 123*		*03/27/20 08:51*	*1*
Toluene-d8 (Surr)	*105*		*80 - 120*		*03/27/20 08:51*	*1*

Lab Sample ID: LCS 460-684033/4
Matrix: Water
Analysis Batch: 684033

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethanol	800	784.1		ug/L		98	24 - 150
t-Butyl alcohol	200	193.6		ug/L		97	67 - 126
Methyl tert-butyl ether	20.0	18.25		ug/L		91	65 - 131
Tert-amyl methyl ether	20.0	18.32		ug/L		92	65 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*110*		*76 - 120*
Dibromofluoromethane (Surr)	*107*		*77 - 124*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 123*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 460-684033/5
Matrix: Water
Analysis Batch: 684033

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethanol			800	825.1		ug/L		103	24 - 150	5	30
t-Butyl alcohol			200	192.6		ug/L		96	67 - 126	1	30
Methyl tert-butyl ether			20.0	18.10		ug/L		91	65 - 131	1	30
Tert-amyl methyl ether			20.0	17.30		ug/L		86	65 - 128	6	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*111*		*76 - 120*
Dibromofluoromethane (Surr)	*105*		*77 - 124*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 123*
Toluene-d8 (Surr)	*102*		*80 - 120*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: MB 200-153707/1-A
Matrix: Water
Analysis Batch: 153789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 153707

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.200	0.0640	ug/L		03/30/20 14:45	04/02/20 07:52	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*100*		*46 - 130*	*03/30/20 14:45*	*04/02/20 07:52*	*1*

Lab Sample ID: LLCS 200-153707/2-A
Matrix: Water
Analysis Batch: 153789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153707

Analyte			Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane			0.200	0.2234		ug/L		112	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*99*		*46 - 130*

Lab Sample ID: LLCSD 200-153707/3-A
Matrix: Water
Analysis Batch: 153789

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 153707

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane			0.200	0.1999	J	ug/L		100	50 - 150	11	50

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*94*		*46 - 130*

Method: 625.1 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-688463/1-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 688463

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		10.0	1.08	ug/L		04/18/20 08:24	04/18/20 20:45	1
Acenaphthylene	ND		10.0	0.823	ug/L		04/18/20 08:24	04/18/20 20:45	1
Acetophenone	ND		10.0	2.53	ug/L		04/18/20 08:24	04/18/20 20:45	1
Aniline	ND		10.0	1.14	ug/L		04/18/20 08:24	04/18/20 20:45	1
Anthracene	ND		10.0	0.634	ug/L		04/18/20 08:24	04/18/20 20:45	1
Benzo[a]anthracene	ND		1.00	0.592	ug/L		04/18/20 08:24	04/18/20 20:45	1
Benzo[a]pyrene	ND		1.00	0.682	ug/L		04/18/20 08:24	04/18/20 20:45	1
Benzo[b]fluoranthene	ND		2.00	1.43	ug/L		04/18/20 08:24	04/18/20 20:45	1
Benzo[g,h,i]perylene	ND		10.0	1.31	ug/L		04/18/20 08:24	04/18/20 20:45	1
Benzo[k]fluoranthene	ND		1.00	0.674	ug/L		04/18/20 08:24	04/18/20 20:45	1
Bis(2-chloroethoxy)methane	ND		10.0	0.640	ug/L		04/18/20 08:24	04/18/20 20:45	1
Bis(2-chloroethyl)ether	ND		1.00	0.688	ug/L		04/18/20 08:24	04/18/20 20:45	1
bis (2-chloroisopropyl) ether	ND		10.0	0.629	ug/L		04/18/20 08:24	04/18/20 20:45	1
Bis(2-ethylhexyl) phthalate	ND		2.00	1.02	ug/L		04/18/20 08:24	04/18/20 20:45	1
4-Bromophenyl phenyl ether	ND		10.0	0.745	ug/L		04/18/20 08:24	04/18/20 20:45	1
Butyl benzyl phthalate	ND		10.0	0.854	ug/L		04/18/20 08:24	04/18/20 20:45	1
4-Chloroaniline	ND		10.0	1.88	ug/L		04/18/20 08:24	04/18/20 20:45	1
2-Chloronaphthalene	ND		10.0	1.18	ug/L		04/18/20 08:24	04/18/20 20:45	1
Chrysene	ND		2.00	0.907	ug/L		04/18/20 08:24	04/18/20 20:45	1
Dibenz(a,h)anthracene	ND		1.00	0.738	ug/L		04/18/20 08:24	04/18/20 20:45	1
Dibenzofuran	ND		10.0	1.10	ug/L		04/18/20 08:24	04/18/20 20:45	1
1,2-Dichlorobenzene	ND		10.0	1.34	ug/L		04/18/20 08:24	04/18/20 20:45	1
1,3-Dichlorobenzene	ND		10.0	2.03	ug/L		04/18/20 08:24	04/18/20 20:45	1
1,4-Dichlorobenzene	ND		10.0	1.27	ug/L		04/18/20 08:24	04/18/20 20:45	1
3,3'-Dichlorobenzidine	ND		10.0	1.58	ug/L		04/18/20 08:24	04/18/20 20:45	1
Diethyl phthalate	ND		10.0	0.976	ug/L		04/18/20 08:24	04/18/20 20:45	1
Dimethyl phthalate	ND		10.0	0.766	ug/L		04/18/20 08:24	04/18/20 20:45	1
Di-n-butyl phthalate	ND		10.0	0.753	ug/L		04/18/20 08:24	04/18/20 20:45	1
2,4-Dinitrotoluene	ND		2.00	1.03	ug/L		04/18/20 08:24	04/18/20 20:45	1
2,6-Dinitrotoluene	ND		2.00	0.534	ug/L		04/18/20 08:24	04/18/20 20:45	1
Di-n-octyl phthalate	ND		10.0	1.45	ug/L		04/18/20 08:24	04/18/20 20:45	1
1,4-Dioxane	ND		10.0	1.58	ug/L		04/18/20 08:24	04/18/20 20:45	1
Fluoranthene	ND		10.0	0.842	ug/L		04/18/20 08:24	04/18/20 20:45	1
Fluorene	ND		10.0	0.912	ug/L		04/18/20 08:24	04/18/20 20:45	1
Hexachlorobenzene	ND		1.00	0.909	ug/L		04/18/20 08:24	04/18/20 20:45	1
Hexachlorobutadiene	ND		1.00	0.438	ug/L		04/18/20 08:24	04/18/20 20:45	1
Hexachloroethane	ND		2.00	1.19	ug/L		04/18/20 08:24	04/18/20 20:45	1
Indeno[1,2,3-cd]pyrene	ND		2.00	1.30	ug/L		04/18/20 08:24	04/18/20 20:45	1
Isophorone	ND		10.0	0.798	ug/L		04/18/20 08:24	04/18/20 20:45	1
2-Methylnaphthalene	ND		10.0	1.10	ug/L		04/18/20 08:24	04/18/20 20:45	1
Naphthalene	ND		2.00	1.13	ug/L		04/18/20 08:24	04/18/20 20:45	1
Nitrobenzene	ND		2.00	1.56	ug/L		04/18/20 08:24	04/18/20 20:45	1
Phenanthrene	ND		10.0	0.580	ug/L		04/18/20 08:24	04/18/20 20:45	1
Pyrene	ND		10.0	1.64	ug/L		04/18/20 08:24	04/18/20 20:45	1
1,2,4-Trichlorobenzene	ND		2.00	1.26	ug/L		04/18/20 08:24	04/18/20 20:45	1
Pentachlorophenol	ND		20.0	3.05	ug/L		04/18/20 08:24	04/18/20 20:45	1
Phenol	ND		10.0	1.24	ug/L		04/18/20 08:24	04/18/20 20:45	1

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 460-688463/1-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 688463

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		44 - 129	04/18/20 08:24	04/18/20 20:45	1
Nitrobenzene-d5	76		15 - 314	04/18/20 08:24	04/18/20 20:45	1

Lab Sample ID: LCS 460-688463/2-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 688463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	80.0	70.29		ug/L		88	47 - 135
Acenaphthylene	80.0	72.34		ug/L		90	33 - 145
Acetophenone	80.0	70.74		ug/L		88	60 - 140
Aniline	80.0	60.86		ug/L		76	60 - 140
Anthracene	80.0	78.22		ug/L		98	27 - 133
Benzo[a]anthracene	80.0	80.72		ug/L		101	33 - 143
Benzo[a]pyrene	80.0	73.34		ug/L		92	17 - 163
Benzo[b]fluoranthene	80.0	78.25		ug/L		98	24 - 159
Benzo[g,h,i]perylene	80.0	86.91		ug/L		109	0.1 - 219
Benzo[k]fluoranthene	80.0	82.94		ug/L		104	11 - 162
Bis(2-chloroethoxy)methane	80.0	72.14		ug/L		90	33 - 184
Bis(2-chloroethyl)ether	80.0	72.33		ug/L		90	12 - 158
bis (2-chloroisopropyl) ether	80.0	64.82		ug/L		81	36 - 166
Bis(2-ethylhexyl) phthalate	80.0	77.83		ug/L		97	8 - 158
4-Bromophenyl phenyl ether	80.0	74.96		ug/L		94	53 - 127
Butyl benzyl phthalate	80.0	76.76		ug/L		96	0.1 - 152
4-Chloroaniline	80.0	71.33		ug/L		89	60 - 140
2-Chloronaphthalene	80.0	68.50		ug/L		86	60 - 120
Chrysene	80.0	87.26		ug/L		109	17 - 168
Dibenz(a,h)anthracene	80.0	90.46		ug/L		113	0.1 - 227
Dibenzofuran	80.0	74.76		ug/L		93	60 - 140
1,2-Dichlorobenzene	80.0	59.48		ug/L		74	25 - 101
1,3-Dichlorobenzene	80.0	56.89		ug/L		71	25 - 101
1,4-Dichlorobenzene	80.0	56.12		ug/L		70	27 - 101
3,3'-Dichlorobenzidine	80.0	93.94		ug/L		117	0.1 - 262
Diethyl phthalate	80.0	70.67		ug/L		88	0.1 - 120
Dimethyl phthalate	80.0	75.17		ug/L		94	0.1 - 120
Di-n-butyl phthalate	80.0	74.47		ug/L		93	1 - 120
2,4-Dinitrotoluene	80.0	91.38		ug/L		114	39 - 139
2,6-Dinitrotoluene	80.0	81.88		ug/L		102	50 - 158
Di-n-octyl phthalate	80.0	66.02		ug/L		83	4 - 146
1,4-Dioxane	80.0	39.14		ug/L		49	27 - 70
Fluoranthene	80.0	78.60		ug/L		98	26 - 137
Fluorene	80.0	74.55		ug/L		93	59 - 121
Hexachlorobenzene	80.0	85.11		ug/L		106	0.1 - 152
Hexachlorobutadiene	80.0	56.09		ug/L		70	24 - 120
Hexachloroethane	80.0	50.20		ug/L		63	40 - 120
Indeno[1,2,3-cd]pyrene	80.0	88.50		ug/L		111	0.1 - 171
Isophorone	80.0	68.81		ug/L		86	21 - 196
2-Methylnaphthalene	80.0	67.24		ug/L		84	60 - 140

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 460-688463/2-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 688463

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Naphthalene	80.0	67.54		ug/L		84	21 - 133
Nitrobenzene	80.0	81.78		ug/L		102	35 - 180
Phenanthrene	80.0	78.27		ug/L		98	54 - 120
Pyrene	80.0	76.95		ug/L		96	52 - 120
1,2,4-Trichlorobenzene	80.0	63.47		ug/L		79	44 - 142

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*93*		*44 - 129*
Nitrobenzene-d5	*102*		*15 - 314*

Lab Sample ID: LCSD 460-688463/3-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 688463

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	80.0	56.93		ug/L		71	47 - 135	21	48
Acenaphthylene	80.0	58.58		ug/L		73	33 - 145	21	74
Acetophenone	80.0	57.28		ug/L		72	60 - 140	21	50
Aniline	80.0	48.28		ug/L		60	60 - 140	23	50
Anthracene	80.0	62.89		ug/L		79	27 - 133	22	66
Benzo[a]anthracene	80.0	64.79		ug/L		81	33 - 143	22	53
Benzo[a]pyrene	80.0	58.25		ug/L		73	17 - 163	23	72
Benzo[b]fluoranthene	80.0	62.07		ug/L		78	24 - 159	23	71
Benzo[g,h,i]perylene	80.0	70.75		ug/L		88	0.1 - 219	20	97
Benzo[k]fluoranthene	80.0	65.58		ug/L		82	11 - 162	23	63
Bis(2-chloroethoxy)methane	80.0	58.14		ug/L		73	33 - 184	21	54
Bis(2-chloroethyl)ether	80.0	58.61		ug/L		73	12 - 158	21	108
bis (2-chloroisopropyl) ether	80.0	51.81		ug/L		65	36 - 166	22	76
Bis(2-ethylhexyl) phthalate	80.0	64.11		ug/L		80	8 - 158	19	82
4-Bromophenyl phenyl ether	80.0	61.13		ug/L		76	53 - 127	20	43
Butyl benzyl phthalate	80.0	63.21		ug/L		79	0.1 - 152	19	60
4-Chloroaniline	80.0	55.33		ug/L		69	60 - 140	25	50
2-Chloronaphthalene	80.0	55.45		ug/L		69	60 - 120	21	24
Chrysene	80.0	70.73		ug/L		88	17 - 168	21	87
Dibenz(a,h)anthracene	80.0	72.62		ug/L		91	0.1 - 227	22	126
Dibenzofuran	80.0	60.75		ug/L		76	60 - 140	21	50
1,2-Dichlorobenzene	80.0	48.42		ug/L		61	25 - 101	21	50
1,3-Dichlorobenzene	80.0	46.57		ug/L		58	25 - 101	20	50
1,4-Dichlorobenzene	80.0	46.51		ug/L		58	27 - 101	19	50
3,3'-Dichlorobenzidine	80.0	74.36		ug/L		93	0.1 - 262	23	108
Diethyl phthalate	80.0	59.04		ug/L		74	0.1 - 120	18	100
Dimethyl phthalate	80.0	60.84		ug/L		76	0.1 - 120	21	183
Di-n-butyl phthalate	80.0	61.48		ug/L		77	1 - 120	19	47
2,4-Dinitrotoluene	80.0	75.98		ug/L		95	39 - 139	18	42
2,6-Dinitrotoluene	80.0	67.25		ug/L		84	50 - 158	20	48
Di-n-octyl phthalate	80.0	55.12		ug/L		69	4 - 146	18	69
1,4-Dioxane	80.0	37.24		ug/L		47	27 - 70	5	50
Fluoranthene	80.0	64.00		ug/L		80	26 - 137	20	66

Method: 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 460-688463/3-A
Matrix: Water
Analysis Batch: 688396

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 688463

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluorene			80.0	60.67		ug/L		76	59 - 121	21	38
Hexachlorobenzene			80.0	68.55		ug/L		86	0.1 - 152	22	55
Hexachlorobutadiene			80.0	45.02		ug/L		56	24 - 120	22	62
Hexachloroethane			80.0	41.07		ug/L		51	40 - 120	20	52
Indeno[1,2,3-cd]pyrene			80.0	72.61		ug/L		91	0.1 - 171	20	99
Isophorone			80.0	56.19		ug/L		70	21 - 196	20	93
2-Methylnaphthalene			80.0	55.05		ug/L		69	60 - 140	20	50
Naphthalene			80.0	53.64		ug/L		67	21 - 133	23	65
Nitrobenzene			80.0	67.39		ug/L		84	35 - 180	19	62
Phenanthrene			80.0	63.08		ug/L		79	54 - 120	22	39
Pyrene			80.0	63.21		ug/L		79	52 - 120	20	49
1,2,4-Trichlorobenzene			80.0	52.26		ug/L		65	44 - 142	19	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*88*		*44 - 129*
Nitrobenzene-d5	*95*		*15 - 314*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 460-684079/1-A
Matrix: Water
Analysis Batch: 684053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0500	0.0142	ug/L		03/27/20 09:24	03/27/20 17:34	1
Benzo[a]anthracene	ND		0.0500	0.0156	ug/L		03/27/20 09:24	03/27/20 17:34	1
Benzo[a]pyrene	ND		0.0500	0.0216	ug/L		03/27/20 09:24	03/27/20 17:34	1
Benzo[b]fluoranthene	ND		0.0500	0.0240	ug/L		03/27/20 09:24	03/27/20 17:34	1
Benzo[g,h,i]perylene	ND		0.0500	0.0351	ug/L		03/27/20 09:24	03/27/20 17:34	1
Acenaphthylene	ND		0.0500	0.0146	ug/L		03/27/20 09:24	03/27/20 17:34	1
Benzo[k]fluoranthene	ND		0.0500	0.0278	ug/L		03/27/20 09:24	03/27/20 17:34	1
Bis(2-chloroethyl)ether	ND		0.0300	0.0260	ug/L		03/27/20 09:24	03/27/20 17:34	1
Anthracene	ND		0.0500	0.00920	ug/L		03/27/20 09:24	03/27/20 17:34	1
Dibenz(a,h)anthracene	ND		0.0500	0.0200	ug/L		03/27/20 09:24	03/27/20 17:34	1
Hexachlorobenzene	ND		0.0200	0.0131	ug/L		03/27/20 09:24	03/27/20 17:34	1
Indeno[1,2,3-cd]pyrene	ND		0.0500	0.0362	ug/L		03/27/20 09:24	03/27/20 17:34	1
Pentachlorophenol	ND		0.200	0.154	ug/L		03/27/20 09:24	03/27/20 17:34	1
Chrysene	ND		0.0500	0.0299	ug/L		03/27/20 09:24	03/27/20 17:34	1
Fluorene	ND		0.0500	0.0118	ug/L		03/27/20 09:24	03/27/20 17:34	1
Phenanthrene	ND		0.0500	0.0219	ug/L		03/27/20 09:24	03/27/20 17:34	1
Pyrene	ND		0.0500	0.0314	ug/L		03/27/20 09:24	03/27/20 17:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*77*		*25 - 124*	*03/27/20 09:24*	*03/27/20 17:34*	*1*
Nitrobenzene-d5	*96*		*41 - 144*	*03/27/20 09:24*	*03/27/20 17:34*	*1*
2,4,6-Tribromophenol	*96*		*40 - 140*	*03/27/20 09:24*	*03/27/20 17:34*	*1*

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 460-684079/2-A
Matrix: Water
Analysis Batch: 684053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684079

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Acenaphthene			0.800	0.6754		ug/L		84	29 - 131		
Benzo[a]anthracene			0.800	0.8993		ug/L		112	44 - 150		
Benzo[a]pyrene			0.800	0.7774		ug/L		97	38 - 139		
Benzo[b]fluoranthene			0.800	0.7767		ug/L		97	32 - 148		
Acenaphthylene			0.800	0.7248		ug/L		91	10 - 150		
Bis(2-chloroethyl)ether			0.800	0.8789		ug/L		110	49 - 143		
Anthracene			0.800	0.8478		ug/L		106	37 - 149		
Hexachlorobenzene			0.800	0.7319		ug/L		91	10 - 135		
Pentachlorophenol			1.60	1.573		ug/L		98	10 - 150		
Chrysene			0.800	0.9455		ug/L		118	52 - 150		
Fluorene			0.800	0.7508		ug/L		94	23 - 150		
Phenanthrene			0.800	0.9045		ug/L		113	18 - 150		
Pyrene			0.800	0.9360		ug/L		117	45 - 150		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*93*		*25 - 124*
Nitrobenzene-d5	*112*		*41 - 144*
2,4,6-Tribromophenol	*115*		*40 - 140*

Lab Sample ID: LCSD 460-684079/3-A
Matrix: Water
Analysis Batch: 684053

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 684079

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene			0.800	0.8112		ug/L		101	29 - 131	18	30
Benzo[a]anthracene			0.800	0.9789		ug/L		122	44 - 150	8	30
Benzo[a]pyrene			0.800	0.8534		ug/L		107	38 - 139	9	30
Benzo[b]fluoranthene			0.800	0.8841		ug/L		111	32 - 148	13	30
Acenaphthylene			0.800	0.7585		ug/L		95	10 - 150	5	30
Bis(2-chloroethyl)ether			0.800	1.043		ug/L		130	49 - 143	17	30
Anthracene			0.800	0.9121		ug/L		114	37 - 149	7	30
Hexachlorobenzene			0.800	0.7918		ug/L		99	10 - 135	8	30
Pentachlorophenol			1.60	1.784		ug/L		111	10 - 150	13	30
Chrysene			0.800	1.078		ug/L		135	52 - 150	13	30
Fluorene			0.800	0.7935		ug/L		99	23 - 150	6	30
Phenanthrene			0.800	0.9579		ug/L		120	18 - 150	6	30
Pyrene			0.800	1.058		ug/L		132	45 - 150	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*89*		*25 - 124*
Nitrobenzene-d5	*117*		*41 - 144*
2,4,6-Tribromophenol	*127*		*40 - 140*

Method: 608.3 - Organochlorine Pesticides/PCBs in Water

Lab Sample ID: MB 460-683908/1-A
Matrix: Water
Analysis Batch: 684055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 683908

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1016	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/26/20 15:14	03/27/20 08:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*10 - 150*	*03/26/20 15:14*	*03/27/20 08:06*	*1*
Tetrachloro-m-xylene	*62*		*10 - 150*	*03/26/20 15:14*	*03/27/20 08:06*	*1*
DCB Decachlorobiphenyl	*51*		*10 - 150*	*03/26/20 15:14*	*03/27/20 08:06*	*1*
DCB Decachlorobiphenyl	*51*		*10 - 150*	*03/26/20 15:14*	*03/27/20 08:06*	*1*

Lab Sample ID: LCS 460-683908/4-A
Matrix: Water
Analysis Batch: 684055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 683908

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor 1016			4.00	3.242		ug/L		81	50 - 140		
Aroclor 1016			4.00	3.322		ug/L		83	50 - 140		
Aroclor 1260			4.00	2.771		ug/L		69	8 - 140		
Aroclor 1260			4.00	2.832		ug/L		71	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*72*		*10 - 150*
Tetrachloro-m-xylene	*72*		*10 - 150*
DCB Decachlorobiphenyl	*46*		*10 - 150*
DCB Decachlorobiphenyl	*43*		*10 - 150*

Lab Sample ID: LCSD 460-683908/5-A
Matrix: Water
Analysis Batch: 684055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 683908

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			4.00	3.611		ug/L		90	50 - 140	11	36
Aroclor 1016			4.00	3.547		ug/L		89	50 - 140	7	36

Method: 608.3 - Organochlorine Pesticides/PCBs in Water (Continued)

Lab Sample ID: LCSD 460-683908/5-A
Matrix: Water
Analysis Batch: 684055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 683908

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1260			4.00	3.215		ug/L		80	8 - 140	15	45
Aroclor 1260			4.00	3.433		ug/L		86	8 - 140	19	45

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*78*		*10 - 150*
Tetrachloro-m-xylene	*76*		*10 - 150*
DCB Decachlorobiphenyl	*52*		*10 - 150*
DCB Decachlorobiphenyl	*48*		*10 - 150*

Lab Sample ID: MB 460-684395/1-A
Matrix: Water
Analysis Batch: 684552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 684395

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1016	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1221	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1232	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1242	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1248	ND		1.00	0.0300	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1254	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1260	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1262	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1
Aroclor 1268	ND		1.00	0.0370	ug/L		03/28/20 18:35	03/30/20 07:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*10 - 150*	*03/28/20 18:35*	*03/30/20 07:53*	*1*
Tetrachloro-m-xylene	*70*		*10 - 150*	*03/28/20 18:35*	*03/30/20 07:53*	*1*
DCB Decachlorobiphenyl	*34*		*10 - 150*	*03/28/20 18:35*	*03/30/20 07:53*	*1*
DCB Decachlorobiphenyl	*36*		*10 - 150*	*03/28/20 18:35*	*03/30/20 07:53*	*1*

Lab Sample ID: LCS 460-684395/4-A
Matrix: Water
Analysis Batch: 684552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684395

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			4.00	3.162		ug/L		79	50 - 140
Aroclor 1016			4.00	3.391		ug/L		85	50 - 140
Aroclor 1260			4.00	2.353		ug/L		59	8 - 140
Aroclor 1260			4.00	2.507		ug/L		63	8 - 140

Method: 608.3 - Organochlorine Pesticides/PCBs in Water (Continued)

Lab Sample ID: LCS 460-684395/4-A
Matrix: Water
Analysis Batch: 684552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 684395

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*72*		*10 - 150*
Tetrachloro-m-xylene	*74*		*10 - 150*
DCB Decachlorobiphenyl	*29*		*10 - 150*
DCB Decachlorobiphenyl	*29*		*10 - 150*

Lab Sample ID: LCSD 460-684395/5-A
Matrix: Water
Analysis Batch: 684552

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 684395

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016			4.00	3.535		ug/L		88	50 - 140	11	36
Aroclor 1016			4.00	3.618		ug/L		90	50 - 140	6	36
Aroclor 1260			4.00	2.694		ug/L		67	8 - 140	13	45
Aroclor 1260			4.00	2.897		ug/L		72	8 - 140	14	45

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*70*		*10 - 150*
Tetrachloro-m-xylene	*73*		*10 - 150*
DCB Decachlorobiphenyl	*46*		*10 - 150*
DCB Decachlorobiphenyl	*45*		*10 - 150*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 460-684460/3
Matrix: Water
Analysis Batch: 684460

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.120	0.0140	mg/L			03/29/20 13:54	1

Lab Sample ID: LCS 460-684460/5
Matrix: Water
Analysis Batch: 684460

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			1.50	1.509		mg/L		101	90 - 110

Lab Sample ID: LCSD 460-684460/6
Matrix: Water
Analysis Batch: 684460

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			1.50	1.500		mg/L		100	90 - 110	1	15

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 680-613122/1-A
Matrix: Water
Analysis Batch: 613384

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 613122

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	20.0	5.30	ug/L		03/29/20 11:36	03/30/20 21:21	1
Arsenic	ND		20.0	6.20	ug/L		03/29/20 11:36	03/30/20 21:21	1
Cadmium	ND		5.00	1.00	ug/L		03/29/20 11:36	03/30/20 21:21	1
Copper	ND		20.0	1.80	ug/L		03/29/20 11:36	03/30/20 21:21	1
Iron	ND		50.0	17.0	ug/L		03/29/20 11:36	03/30/20 21:21	1
Lead	ND		10.0	3.90	ug/L		03/29/20 11:36	03/30/20 21:21	1
Nickel	ND		40.0	2.10	ug/L		03/29/20 11:36	03/30/20 21:21	1
Selenium	ND		20.0	9.90	ug/L		03/29/20 11:36	03/30/20 21:21	1
Silver	ND		10.0	0.600	ug/L		03/29/20 11:36	03/30/20 21:21	1
Zinc	ND		20.0	7.00	ug/L		03/29/20 11:36	03/30/20 21:21	1

Lab Sample ID: LCS 680-613122/2-A
Matrix: Water
Analysis Batch: 613384

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 613122

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	51.92	^	ug/L		104	85 - 115
Arsenic	100	103.2		ug/L		103	85 - 115
Cadmium	50.0	52.57		ug/L		105	85 - 115
Chromium	100	99.88		ug/L		100	85 - 115
Copper	100	96.91		ug/L		97	85 - 115
Iron	5010	4964		ug/L		99	85 - 115
Lead	454	450.0		ug/L		99	85 - 115
Magnesium	5010	4947		ug/L		99	85 - 115
Nickel	99.5	98.60		ug/L		99	85 - 115
Selenium	100	101.6		ug/L		101	85 - 115
Silver	50.0	50.36		ug/L		101	85 - 115
Zinc	101	100.6		ug/L		100	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 460-685503/1-A
Matrix: Water
Analysis Batch: 685563

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 685503

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0910	ug/L		04/03/20 12:34	04/03/20 13:58	1

Lab Sample ID: LCS 460-685503/2-A
Matrix: Water
Analysis Batch: 685563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 685503

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	1.00	1.018		ug/L		102	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 460-685884/1
Matrix: Water
Analysis Batch: 685884

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		5.0	1.4	mg/L			04/06/20 08:02	1
SGT-HEM	ND		5.0	1.4	mg/L			04/06/20 08:02	1

Lab Sample ID: LCS 460-685884/2
Matrix: Water
Analysis Batch: 685884

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	37.40		mg/L		93	78 - 114
SGT-HEM	20.0	17.20		mg/L		86	64 - 132

Lab Sample ID: LCSD 460-685884/3
Matrix: Water
Analysis Batch: 685884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	37.90		mg/L		95	78 - 114	1	18
SGT-HEM	20.0	17.40		mg/L		87	64 - 132	1	34

Method: 335.4 - Cyanide, Total

Lab Sample ID: MB 460-686162/1-A
Matrix: Water
Analysis Batch: 686191

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 686162

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.0100	0.00400	mg/L		04/07/20 12:02	04/07/20 14:58	1

Lab Sample ID: LCS 460-686162/2-A
Matrix: Water
Analysis Batch: 686191

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 686162

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.09870		mg/L		99	90 - 110

Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 460-684792/42
Matrix: Water
Analysis Batch: 684792

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.100	0.0340	mg/L			03/31/20 09:58	1

Lab Sample ID: LCS 460-684792/43
Matrix: Water
Analysis Batch: 684792

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.00	1.990		mg/L		100	89 - 113

Method: 4500 NH3 H - Ammonia (Continued)

Lab Sample ID: MB 460-686034/12
Matrix: Water
Analysis Batch: 686034

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	ND		0.100	0.0340	mg/L			04/06/20 16:52	1

Lab Sample ID: LCS 460-686034/13
Matrix: Water
Analysis Batch: 686034

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia (as N)			2.00	2.000		mg/L		100	89 - 113		

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 460-683820/9
Matrix: Water
Analysis Batch: 683820

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	ND		10.0	8.14	ug/L			03/26/20 09:10	1

Lab Sample ID: LCSSRM 460-683820/10
Matrix: Water
Analysis Batch: 683820

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Cr (VI)			77.8	78.14		ug/L		100.4	84.2 - 114.5		

Lab Sample ID: LCSSRM 460-683820/11
Matrix: Water
Analysis Batch: 683820

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Cr (VI)			77.8	78.14		ug/L		100.4	84.2 - 114.5		

Lab Sample ID: 460-205843-1 MS
Matrix: Water
Analysis Batch: 683820

Client Sample ID: SW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cr (VI)	ND		30.0	30.93		ug/L		103	85 - 115		

Lab Sample ID: 460-205843-1 DU
Matrix: Water
Analysis Batch: 683820

Client Sample ID: SW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Cr (VI)	ND			ND		ug/L				NC	20

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 460-686416/1
Matrix: Water
Analysis Batch: 686416

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness	ND		5.00	5.00	mg/L			04/08/20 12:11	1

Lab Sample ID: LCSSRM 460-686416/2
Matrix: Water
Analysis Batch: 686416

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Hardness			246	240.0		mg/L		97.6	85.0 - 115.0		

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 460-684334/1
Matrix: Water
Analysis Batch: 684334

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		2.50	2.50	mg/L			03/28/20 09:21	1

Lab Sample ID: LCSSRM 460-684334/2
Matrix: Water
Analysis Batch: 684334

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Suspended Solids			59.2	60.00		mg/L		101.4	79.2 - 113.2		

Lab Sample ID: 460-205843-2 DU
Matrix: Water
Analysis Batch: 684334

Client Sample ID: MW-11S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Suspended Solids	114			114.0		mg/L				0	5

Method: SM 4500 Cl F - Chlorine, Residual

Lab Sample ID: MB 460-685600/1
Matrix: Water
Analysis Batch: 685600

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorine, Total Residual	ND		0.400	0.0720	mg/L			04/03/20 18:00	1

Lab Sample ID: LCSSRM 460-685600/2
Matrix: Water
Analysis Batch: 685600

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
Chlorine, Total Residual			1.30	1.340		mg/L		103.1	83.1 - 113.1		

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Method: SM 4500 H+ B - pH

Lab Sample ID: MB 460-686154/2
Matrix: Water
Analysis Batch: 686154

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

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.1		0.1	0.1	SU			04/07/20 10:15	1
Temperature	23.3		0.1	0.1	Degrees C			04/07/20 10:15	1

Lab Sample ID: LCSSRM 460-686154/3
Matrix: Water
Analysis Batch: 686154

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

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			5.67	5.7		SU		100.5	96.5 - 103.5		

Lab Sample ID: 460-205843-1 DU
Matrix: Water
Analysis Batch: 686154

Client Sample ID: SW-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.0	HF		7.1		SU				0.3	10
Temperature	22.4	HF		22.0		Degrees C				0	

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Analysis Batch: 523464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	624.1	
460-205843-3	MW-20S	Total/NA	Water	624.1	
MB 480-523464/8	Method Blank	Total/NA	Water	624.1	
LCS 480-523464/6	Lab Control Sample	Total/NA	Water	624.1	

Analysis Batch: 684033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	8260C	
460-205843-3	MW-20S	Total/NA	Water	8260C	
MB 460-684033/8	Method Blank	Total/NA	Water	8260C	
LCS 460-684033/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-684033/5	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 153707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	522	
460-205843-3	MW-20S	Total/NA	Water	522	
MB 200-153707/1-A	Method Blank	Total/NA	Water	522	
LLCS 200-153707/2-A	Lab Control Sample	Total/NA	Water	522	
LLCSD 200-153707/3-A	Lab Control Sample Dup	Total/NA	Water	522	

Analysis Batch: 153789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	522	153707
460-205843-3	MW-20S	Total/NA	Water	522	153707
MB 200-153707/1-A	Method Blank	Total/NA	Water	522	153707
LLCS 200-153707/2-A	Lab Control Sample	Total/NA	Water	522	153707
LLCSD 200-153707/3-A	Lab Control Sample Dup	Total/NA	Water	522	153707

Analysis Batch: 684053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	8270D SIM	684079
MB 460-684079/1-A	Method Blank	Total/NA	Water	8270D SIM	684079
LCS 460-684079/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	684079
LCSD 460-684079/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	684079

Prep Batch: 684079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	3510C	
460-205843-3	MW-20S	Total/NA	Water	3510C	
MB 460-684079/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-684079/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-684079/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 684386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-3	MW-20S	Total/NA	Water	8270D SIM	684079

GC/MS Semi VOA

Analysis Batch: 688396

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	625.1	688463
MB 460-688463/1-A	Method Blank	Total/NA	Water	625.1	688463
LCS 460-688463/2-A	Lab Control Sample	Total/NA	Water	625.1	688463
LCSD 460-688463/3-A	Lab Control Sample Dup	Total/NA	Water	625.1	688463

Prep Batch: 688463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	625	
460-205843-3	MW-20S	Total/NA	Water	625	
MB 460-688463/1-A	Method Blank	Total/NA	Water	3510C	
LCS 460-688463/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 460-688463/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 688654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-3	MW-20S	Total/NA	Water	625.1	688463

GC Semi VOA

Prep Batch: 683908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	608	
MB 460-683908/1-A	Method Blank	Total/NA	Water	608	
LCS 460-683908/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 460-683908/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 684055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	608.3	683908
MB 460-683908/1-A	Method Blank	Total/NA	Water	608.3	683908
LCS 460-683908/4-A	Lab Control Sample	Total/NA	Water	608.3	683908
LCSD 460-683908/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	683908

Prep Batch: 684395

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-3	MW-20S	Total/NA	Water	608	
MB 460-684395/1-A	Method Blank	Total/NA	Water	608	
LCS 460-684395/4-A	Lab Control Sample	Total/NA	Water	608	
LCSD 460-684395/5-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 684552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-3	MW-20S	Total/NA	Water	608.3	684395
MB 460-684395/1-A	Method Blank	Total/NA	Water	608.3	684395
LCS 460-684395/4-A	Lab Control Sample	Total/NA	Water	608.3	684395
LCSD 460-684395/5-A	Lab Control Sample Dup	Total/NA	Water	608.3	684395

HPLC/IC

Analysis Batch: 684460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 684460 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-3	MW-20S	Total/NA	Water	300.0	
MB 460-684460/3	Method Blank	Total/NA	Water	300.0	
LCS 460-684460/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 460-684460/6	Lab Control Sample Dup	Total/NA	Water	300.0	

Metals

Prep Batch: 613122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	200.7-1994 R4.4	
460-205843-2	MW-11S	Total/NA	Water	200.7-1994 R4.4	
460-205843-3	MW-20S	Total/NA	Water	200.7-1994 R4.4	
MB 680-613122/1-A	Method Blank	Total/NA	Water	200.7-1994 R4.4	
LCS 680-613122/2-A	Lab Control Sample	Total/NA	Water	200.7-1994 R4.4	

Analysis Batch: 613384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	200.7 Rev 4.4	613122
460-205843-2	MW-11S	Total/NA	Water	200.7 Rev 4.4	613122
460-205843-3	MW-20S	Total/NA	Water	200.7 Rev 4.4	613122
MB 680-613122/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	613122
LCS 680-613122/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	613122

Prep Batch: 685503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	245.1	
460-205843-2	MW-11S	Total/NA	Water	245.1	
460-205843-3	MW-20S	Total/NA	Water	245.1	
MB 460-685503/1-A	Method Blank	Total/NA	Water	245.1	
LCS 460-685503/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 685563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	245.1	685503
460-205843-2	MW-11S	Total/NA	Water	245.1	685503
460-205843-3	MW-20S	Total/NA	Water	245.1	685503
MB 460-685503/1-A	Method Blank	Total/NA	Water	245.1	685503
LCS 460-685503/2-A	Lab Control Sample	Total/NA	Water	245.1	685503

General Chemistry

Analysis Batch: 683820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	7196A	
MB 460-683820/9	Method Blank	Total/NA	Water	7196A	
LCSSRM 460-683820/10	Lab Control Sample	Total/NA	Water	7196A	
LCSSRM 460-683820/11	Lab Control Sample	Total/NA	Water	7196A	
460-205843-1 MS	SW-1	Total/NA	Water	7196A	
460-205843-1 DU	SW-1	Total/NA	Water	7196A	

General Chemistry

Analysis Batch: 684334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	SM 2540D	
460-205843-3	MW-20S	Total/NA	Water	SM 2540D	
MB 460-684334/1	Method Blank	Total/NA	Water	SM 2540D	
LCSSRM 460-684334/2	Lab Control Sample	Total/NA	Water	SM 2540D	
460-205843-2 DU	MW-11S	Total/NA	Water	SM 2540D	

Analysis Batch: 684792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	4500 NH3 H	
460-205843-3	MW-20S	Total/NA	Water	4500 NH3 H	
MB 460-684792/42	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 460-684792/43	Lab Control Sample	Total/NA	Water	4500 NH3 H	

Analysis Batch: 685600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	SM 4500 Cl F	
460-205843-3	MW-20S	Total/NA	Water	SM 4500 Cl F	
MB 460-685600/1	Method Blank	Total/NA	Water	SM 4500 Cl F	
LCSSRM 460-685600/2	Lab Control Sample	Total/NA	Water	SM 4500 Cl F	

Analysis Batch: 685884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	1664A	
460-205843-3	MW-20S	Total/NA	Water	1664A	
MB 460-685884/1	Method Blank	Total/NA	Water	1664A	
LCS 460-685884/2	Lab Control Sample	Total/NA	Water	1664A	
LCSD 460-685884/3	Lab Control Sample Dup	Total/NA	Water	1664A	

Analysis Batch: 686012

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	7196A	

Analysis Batch: 686034

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	4500 NH3 H	
MB 460-686034/12	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 460-686034/13	Lab Control Sample	Total/NA	Water	4500 NH3 H	

Analysis Batch: 686154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	SM 4500 H+ B	
MB 460-686154/2	Method Blank	Total/NA	Water	SM 4500 H+ B	
LCSSRM 460-686154/3	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
460-205843-1 DU	SW-1	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 686162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	Distill/CN	
460-205843-3	MW-20S	Total/NA	Water	Distill/CN	
MB 460-686162/1-A	Method Blank	Total/NA	Water	Distill/CN	
LCS 460-686162/2-A	Lab Control Sample	Total/NA	Water	Distill/CN	

QC Association Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

General Chemistry

Analysis Batch: 686191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-2	MW-11S	Total/NA	Water	335.4	686162
460-205843-3	MW-20S	Total/NA	Water	335.4	686162
MB 460-686162/1-A	Method Blank	Total/NA	Water	335.4	686162
LCS 460-686162/2-A	Lab Control Sample	Total/NA	Water	335.4	686162

Analysis Batch: 686416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-205843-1	SW-1	Total/NA	Water	SM 2340C	
MB 460-686416/1	Method Blank	Total/NA	Water	SM 2340C	
LCSSRM 460-686416/2	Lab Control Sample	Total/NA	Water	SM 2340C	

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: SW-1
Lab Sample ID: 460-205843-1
Date Collected: 03/25/20 12:45
Matrix: Water
Date Received: 03/26/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7-1994 R4.4			613122	03/29/20 11:36	AJR	TAL SAV
Total/NA	Analysis	200.7 Rev 4.4		1	613384	03/30/20 22:16	BCB	TAL SAV
Total/NA	Prep	245.1			685503	04/03/20 12:34	RBS	TAL EDI
Total/NA	Analysis	245.1		1	685563	04/03/20 14:09	RBS	TAL EDI
Total/NA	Analysis	4500 NH3 H		1	684792	03/31/20 10:48	AJP	TAL EDI
Total/NA	Analysis	7196A		1	686012	04/06/20 16:49	TJW	TAL EDI
Total/NA	Analysis	7196A		1	683820	03/26/20 11:10	RAK	TAL EDI
Total/NA	Analysis	SM 2340C		1	686416	04/08/20 12:11	IAA	TAL EDI
Total/NA	Analysis	SM 4500 H+ B		1	686154	04/07/20 10:19	YAH	TAL EDI

Client Sample ID: MW-11S
Lab Sample ID: 460-205843-2
Date Collected: 03/25/20 11:15
Matrix: Water
Date Received: 03/26/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		1	523464	03/30/20 12:47	WJD	TAL BUF
Total/NA	Analysis	8260C		1	684033	03/27/20 15:25	SZD	TAL EDI
Total/NA	Prep	522			153707	03/30/20 14:45	MJW	TAL BUR
Total/NA	Analysis	522		1	153789	04/02/20 08:05	K1P	TAL BUR
Total/NA	Prep	625			688463	04/18/20 08:24	DXD	TAL EDI
Total/NA	Analysis	625.1		1	688396	04/19/20 03:22	P1M	TAL EDI
Total/NA	Prep	3510C			684079	03/27/20 09:24	DXD	TAL EDI
Total/NA	Analysis	8270D SIM		1	684053	03/27/20 18:37	MDJ	TAL EDI
Total/NA	Prep	608			683908	03/26/20 15:14	OXG	TAL EDI
Total/NA	Analysis	608.3		1	684055	03/27/20 10:16	SAK	TAL EDI
Total/NA	Analysis	300.0		100	684460	03/29/20 18:22	VMI	TAL EDI
Total/NA	Prep	200.7-1994 R4.4			613122	03/29/20 11:36	AJR	TAL SAV
Total/NA	Analysis	200.7 Rev 4.4		1	613384	03/30/20 22:21	BCB	TAL SAV
Total/NA	Prep	245.1			685503	04/03/20 12:34	RBS	TAL EDI
Total/NA	Analysis	245.1		1	685563	04/03/20 14:10	RBS	TAL EDI
Total/NA	Analysis	1664A		1	685884	04/06/20 08:39	AAA	TAL EDI
Total/NA	Prep	Distill/CN			686162	04/07/20 12:02	IAA	TAL EDI
Total/NA	Analysis	335.4		1	686191	04/07/20 15:06	AJP	TAL EDI
Total/NA	Analysis	4500 NH3 H		1	686034	04/06/20 17:32	AJP	TAL EDI
Total/NA	Analysis	SM 2540D		1	684334	03/28/20 09:21	AAP	TAL EDI
Total/NA	Analysis	SM 4500 Cl F		1	685600	04/03/20 18:20	HTV	TAL EDI

Client Sample ID: MW-20S
Lab Sample ID: 460-205843-3
Date Collected: 03/25/20 12:05
Matrix: Water
Date Received: 03/26/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624.1		2	523464	03/30/20 13:11	WJD	TAL BUF

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Client Sample ID: MW-20S
Lab Sample ID: 460-205843-3

Date Collected: 03/25/20 12:05
Matrix: Water

Date Received: 03/26/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	684033	03/27/20 15:46	SZD	TAL EDI
Total/NA	Prep	522			153707	03/30/20 14:45	MJW	TAL BUR
Total/NA	Analysis	522		1	153789	04/02/20 08:19	K1P	TAL BUR
Total/NA	Prep	625			688463	04/18/20 08:24	DXD	TAL EDI
Total/NA	Analysis	625.1		50	688654	04/20/20 07:04	YAH	TAL EDI
Total/NA	Prep	3510C			684079	03/27/20 09:24	DXD	TAL EDI
Total/NA	Analysis	8270D SIM		50	684386	03/29/20 04:18	YAH	TAL EDI
Total/NA	Prep	608			684395	03/28/20 18:35	OXG	TAL EDI
Total/NA	Analysis	608.3		1	684552	03/30/20 09:54	SAK	TAL EDI
Total/NA	Analysis	300.0		100	684460	03/29/20 18:37	VMI	TAL EDI
Total/NA	Prep	200.7-1994 R4.4			613122	03/29/20 11:36	AJR	TAL SAV
Total/NA	Analysis	200.7 Rev 4.4		1	613384	03/30/20 22:25	BCB	TAL SAV
Total/NA	Prep	245.1			685503	04/03/20 12:34	RBS	TAL EDI
Total/NA	Analysis	245.1		1	685563	04/03/20 14:12	RBS	TAL EDI
Total/NA	Analysis	1664A		1	685884	04/06/20 08:39	AAA	TAL EDI
Total/NA	Prep	Distill/CN			686162	04/07/20 12:02	IAA	TAL EDI
Total/NA	Analysis	335.4		1	686191	04/07/20 15:07	AJP	TAL EDI
Total/NA	Analysis	4500 NH3 H		1	684792	03/31/20 10:49	AJP	TAL EDI
Total/NA	Analysis	SM 2540D		1	684334	03/28/20 09:21	AAP	TAL EDI
Total/NA	Analysis	SM 4500 Cl F		1	685600	04/03/20 18:25	HTV	TAL EDI

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990
TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900
TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Laboratory: Eurofins TestAmerica, Edison

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

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-21
Pennsylvania	NELAP	68-00522	02-28-21
Rhode Island	State	LAO00132	12-31-20
USDA	US Federal Programs	P330-18-00135	05-03-21

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-20
California	State	2931	04-01-20
Connecticut	State	PH-0568	09-30-20
Florida	NELAP	E87672	06-30-20
Georgia	State	10026 (NY)	03-31-20
Georgia (DW)	State	956	03-31-20
Illinois	NELAP	200003	09-30-20
Iowa	State	374	02-28-21
Kansas	NELAP	E-10187	01-31-20 *
Kentucky (DW)	State	90029	12-31-20
Kentucky (UST)	State	30	03-31-20
Kentucky (WW)	State	KY90029	12-31-20
Louisiana	NELAP	02031	06-30-20
Maine	State	NY00044	12-04-20
Maryland	State	294	03-31-20
Massachusetts	State	M-NY044	06-30-20
Michigan	State	9937	03-31-20
Minnesota	NELAP	1524384	12-31-20
New Hampshire	NELAP	2337	11-18-20
New Jersey	NELAP	NY455	06-30-20
New York	NELAP	10026	04-01-20
North Dakota	State	R-176	03-31-20
Oklahoma	State	9421	09-01-20
Oregon	NELAP	NY200003	06-10-20
Pennsylvania	NELAP	68-00281	07-31-20
Rhode Island	State	LAO00328	12-30-20
Tennessee	State	02970	03-31-20
Texas	NELAP	T104704412-18-10	08-01-20
USDA	US Federal Programs	P330-18-00039	02-06-21
Virginia	NELAP	460185	09-14-20
Washington	State	C784	02-11-21
Wisconsin	State	998310390	08-31-20

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

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Laboratory: Eurofins TestAmerica, Burlington

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

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2336	02-25-23
Connecticut	State	PH-0751	09-30-21
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	05-15-20
Florida	NELAP	E87467	06-30-20
Minnesota	NELAP	050-999-436	12-31-20
New Hampshire	NELAP	2006	12-18-20
New Jersey	NELAP	VT972	06-30-20
New York	NELAP	10391	04-01-21
Rhode Island	State	LAO00298	12-30-20
US Fish & Wildlife	US Federal Programs	058448	07-31-20
USDA	US Federal Programs	P330-17-00272	08-09-20
Vermont	State	VT4000	12-31-20
Virginia	NELAP	460209	12-14-20

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Laboratory: Eurofins TestAmerica, Savannah

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	SAVLAB	
Alabama	State	41450	06-30-20
Alaska	State	GA00006	06-30-20
Alaska (UST)	State	17-016	09-30-20
ANAB	Dept. of Defense ELAP	L2463	09-22-22
ANAB	ISO/IEC 17025	L2463.01	09-22-22
Arizona	State	AZ0808	12-14-20
Arkansas DEQ	State	19-015-0	02-02-21
California	State	2939	06-30-20
Colorado	State	GA00006	12-31-20
Connecticut	State	PH-0161	03-31-21
Florida	NELAP	E87052	06-30-20
GA Dept. of Agriculture	State Program	N/A	06-12-20
Georgia	State	E87052	06-30-20
Georgia (DW)	State	803	06-30-20
Guam	State	19-007R	04-17-20
Hawaii	State	<cert No.>	06-30-20
Illinois	NELAP	004547	11-30-20
Indiana	State	C-GA-02	06-30-20
Iowa	State	353	06-30-21
Kansas	NELAP	E-10322	10-15-20
Kentucky (DW)	State	KY90084	12-31-21
Kentucky (UST)	State	<cert No.>	06-30-20
Kentucky (WW)	State	KY90084	12-31-20
Louisiana	NELAP	02011	06-30-20
Louisiana (DW)	State	LA009	12-31-20
Maine	State	GA00006	09-26-20
Maryland	State	250	12-31-20
Massachusetts	State	M-GA006	06-30-20
Michigan	State	9925	06-30-20
Mississippi	State	<cert No.>	06-30-20
Nebraska	State	NE-OS-7-04	06-30-20
New Hampshire	NELAP	2096	05-29-20
New Jersey	NELAP	GA769	06-30-20
New Mexico	State	GA00006	06-30-20
North Carolina (DW)	State	13701	07-31-20
North Carolina (WW/SW)	State	269	12-31-20
Oklahoma	State	9984	08-31-20
Pennsylvania	NELAP	68-00474	06-30-20
Puerto Rico	State	GA00006	01-01-21
South Carolina	State	98001	06-30-20
Tennessee	State	02961	06-30-20
Texas	NELAP	T1047004185-19-14	11-30-20
Texas	TCEQ Water Supply	T104704185	06-30-20
US Fish & Wildlife	US Federal Programs	LE058448-0	07-31-20
USDA	US Federal Programs	P330-18-00313	10-29-21
Virginia	NELAP	10509	06-14-20
Washington	State	C805	06-10-20
West Virginia (DW)	State	9950C	12-31-20
West Virginia DEP	State	094	07-31-20

Accreditation/Certification Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Laboratory: Eurofins TestAmerica, Savannah (Continued)

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999819810	08-31-20
Wyoming	State	8TMS-L	06-30-20

Method Summary

Client: Groundwater & Environmental Services Inc
Job ID: 460-205843-1
Project/Site: Billerica, MA

Method	Method Description	Protocol	Laboratory
624.1	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL BUF
8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL EDI
522	1,4 Dioxane (GC/MS SIM)	EPA	TAL BUR
625.1	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL EDI
8270D SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL EDI
608.3	Organochlorine Pesticides/PCBs in Water	40CFR136A	TAL EDI
300.0	Anions, Ion Chromatography	MCAWW	TAL EDI
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL SAV
245.1	Mercury (CVAA)	EPA	TAL EDI
1664A	HEM and SGT-HEM	1664A	TAL EDI
335.4	Cyanide, Total	MCAWW	TAL EDI
4500 NH3 H	Ammonia	SM	TAL EDI
7196A	Chromium, Hexavalent	SW846	TAL EDI
7196A	Chromium, Trivalent (Colorimetric)	SW846	TAL EDI
SM 2340C	Hardness, Total (mg/l as CaC03)	SM	TAL EDI
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL EDI
SM 4500 Cl F	Chlorine, Residual	SM	TAL EDI
SM 4500 H+ B	pH	SM	TAL EDI
200.7-1994 R4.4	Preparation, Total Metals	EPA	TAL SAV
245.1	Preparation, Mercury	EPA	TAL EDI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI
522	Solid-Phase Extraction (SPE)	EPA	TAL BUR
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL EDI
625	Liquid-Liquid Extraction	40CFR136A	TAL EDI
Distill/CN	Distillation, Cyanide	None	TAL EDI

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL BUR = Eurofins TestAmerica, Burlington, 30 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

TAL SAV = Eurofins TestAmerica, Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Groundwater & Environmental Services Inc
Project/Site: Billerica, MA

Job ID: 460-205843-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-205843-1	SW-1	Water	03/25/20 12:45	03/26/20 10:00	
460-205843-2	MW-11S	Water	03/25/20 11:15	03/26/20 10:00	
460-205843-3	MW-20S	Water	03/25/20 12:05	03/26/20 10:00	

Evans, Lauren

From: Meghan Proia <MProia@gesonline.com>
Sent: Thursday, March 26, 2020 3:52 PM
To: Evans, Lauren; Local: Northeast Region General Mail; Stefan Sokol
Subject: RE: *Please see below* Eurofins TestAmerica Sample Login Confirmation files from 460-205843 Billerica, MA

EXTERNAL EMAIL*

Hi Lauren,

Yes, please run the same analyses for both MW-11S and MW-20S. Oxygenates by 8260 is fine.

Thanks,
Meghan

Meghan Proia, PE
Senior Engineer

Office: 800.220.6119 ext. 3589
Mobile: 724.967.4444

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Success Through Safety.

Licensed PE in CT, MA, NH, RI, VT

From: Lauren Evans <lauren.evans@testamericainc.com>
Sent: Thursday, March 26, 2020 4:50 PM
To: Meghan Proia <MProia@gesonline.com>; Local: Northeast Region General Mail <NERegion@gesonline.com>; Stefan Sokol <SSokol@gesonline.com>
Subject: *Please see below* Eurofins TestAmerica Sample Login Confirmation files from 460-205843 Billerica, MA
Importance: High

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Hello,

Attached, please find the Sample Confirmation files for job 460-205843; Billerica, MA **Please note that sample MW-20S was not marked on the chain for any analyses - as we received the same containers for this sample as for sample MW-11S, I've added the same analyses as were requested for MW-11S. Please confirm

that this is accurate.

Additionally, per my email on Tuesday, we can run the oxygenates by 8260 if that's acceptable to you. It looks like 524 is also an option through Eurofins Lancaster. Please confirm method you prefer and we'll get those added. Limits and analytes are attached for review - please let me know if you have any questions.**

Please feel free to contact me if you have any questions.

Thank you.

Lauren R Evans
Project Manager Assistant

TestAmerica Laboratories, Inc
Phone: 615-301-5034

E-mail: lauren.evans@testamericainc.com
www.eurofinsus.com | www.testamericainc.com

Reference: [460-923512]
Attachments: 2

Please let us know if we met your expectations by rating the service you received from Eurofins TestAmerica on this project by visiting our website at: Project Feedback

* WARNING - EXTERNAL: This email originated from outside of Eurofins TestAmerica. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Eurofins TestAmerica, Edison
~~777 New Durham Road~~
Edison, NJ 08817
Phone: 732-549-3900 Fax: 732-549-3679

Chain of Custody Record

Boston #215

eurofins | Environment Testing TestAmerica

7

Client Information

Client Contact: Stefan Sokol	Sampler: Van Sawyer	Lab PM: Evans, Lauren R	Carrier Tracking No(s):
	Phone:	E-Mail: lauren.evans@testamericainc.com	
Company: Groundwater & Environmental Services Inc			
Address: One Park Drive Suite 8	Due Date Requested:		
City: Westford	TAT Requested (days):		
State, Zip: MA, 01886			
Phone: 800-221-6119	PO #: 1616017/16/2016/1116 Purchase Order Requested		
Email: ssokol@gesonline.com	WO #: ORG #: 1116		
Project Name: Billerica, MA	Project #: 48020741		
Site:	SSOW#:		

COC No: 480-143938-32080.2
Page: Page 2 of 2
Job #:

Analysis Requested

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

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.8 - (MOD) Custom Metals List	7196A_CR3 - Chromium, Trivalent	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N		
SW-1 (upstream nearest to outfall)	3/25/20	1045	G	Water	N	N	X	X		
MW-115	3/25/20	1115	G	Water						
MW-305	3/25/20	1205	G	Water						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 3/25/20 1315	Company: GES	Received by: [signature]	Date/Time: 3-25-20 1315	Company: TA	
Relinquished by: [signature]	Date/Time: 3-25-20 1700	Company: [illegible]	Received by:	Date/Time:	Company:	
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Phone: 732-549-3900 Fax: 732-549-3679

Chain of Custody Record

Boston #215

eurofins | Environment Testing TestAmerica

1/2

Client Information	Sampler: Ven Seuya	Lab PM: Evans, Lauren R	Carrier Tracking No(s):	COC No: 480-143938-32080.1
Client Contact: Stefan Sokol	Phone:	E-Mail: lauren.evans@testamericainc.com		Page: Page 1 of 2
Company: Groundwater & Environmental Services Inc				Job #:
Address: One Park Drive Suite 8	Due Date Requested:			
City: Westford	TAT Requested (days):			
State, Zip: MA, 01886				
Phone: 800-221-6119 x 3252	PO #: 1616017/16/206/1116 Purchase Order Requested			
Email: ssokol@gesonline.com	WO #: ORG #: 1116			
Project Name: Billerica, MA	Project #: 48020741			
Site:	SSOW#:			

Analysis Requested

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

Lab report to NGRegim@gesonline.com and ssokol@gesonline.com
Email EQuIS pkg to gesequisonline.com
EDD Name: Billerica MA 76V Boom DD
~~LAB RPT # 11374 EQEDD ZIP~~

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SM4500_NH3_H - Ammonia	300_ORGFM_28D, 4500_Cl_F	2540D - Total Suspended Solids	200.7_CWA, 245.1	524.2_Preserved - (MOD) Regulated VOCs	1664A_NP - HEM and SGT-HEM	608.3_PREC, 8270D_SIM	624.1_PREC - Custom 624 List	335.4 - Cyanide, Total	522 - 1,4 Dioxane by 522	8260C_LL - Ethanol by 8260	2340C, 245.1	7196A, SM4500_H+	Total Number of containers	Special Instructions/Note:
				Preservation Code:			S	N	N	D	N	A	N	A	B	A	A	D	N		
SW-1 (upstream nearest to outfall)	3/25/20	1245	G	Water	N	N	X											X	X		
MW-11S	3/25/20	1115	G	Water			X	X	X	X	X	X	X	X	X	X	X	[illegible]	[illegible]		
MW-20S	3/25/20	1205	G	Water																	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	3/25/20 1315	GES	[signature]	3-25-20 1315	TA
[signature]	3-25-20 1800	[signature]			

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Phone: 732-549-3900 Fax: 732-549-3679

Chain of Custody Record

460-205843 Chain of Custody

Eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Evans, Lauren R		39.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: lauren.evans@testamericainc.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 460-205843-1
Address: 30 Community Drive, Suite 11,	Due Date Requested: 4/7/2020			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: Billerica, MA	Project #: 48020741			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	522/522_CWA_Prep	Special Instructions/Note:
MW-11S (460-205843-2)	3/25/20	11:15 Eastern		Water	X	No MS/MSD unless requested
MW-20S (460-205843-3)	3/25/20	12:05 Eastern		Water	X	No MS/MSD unless requested

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

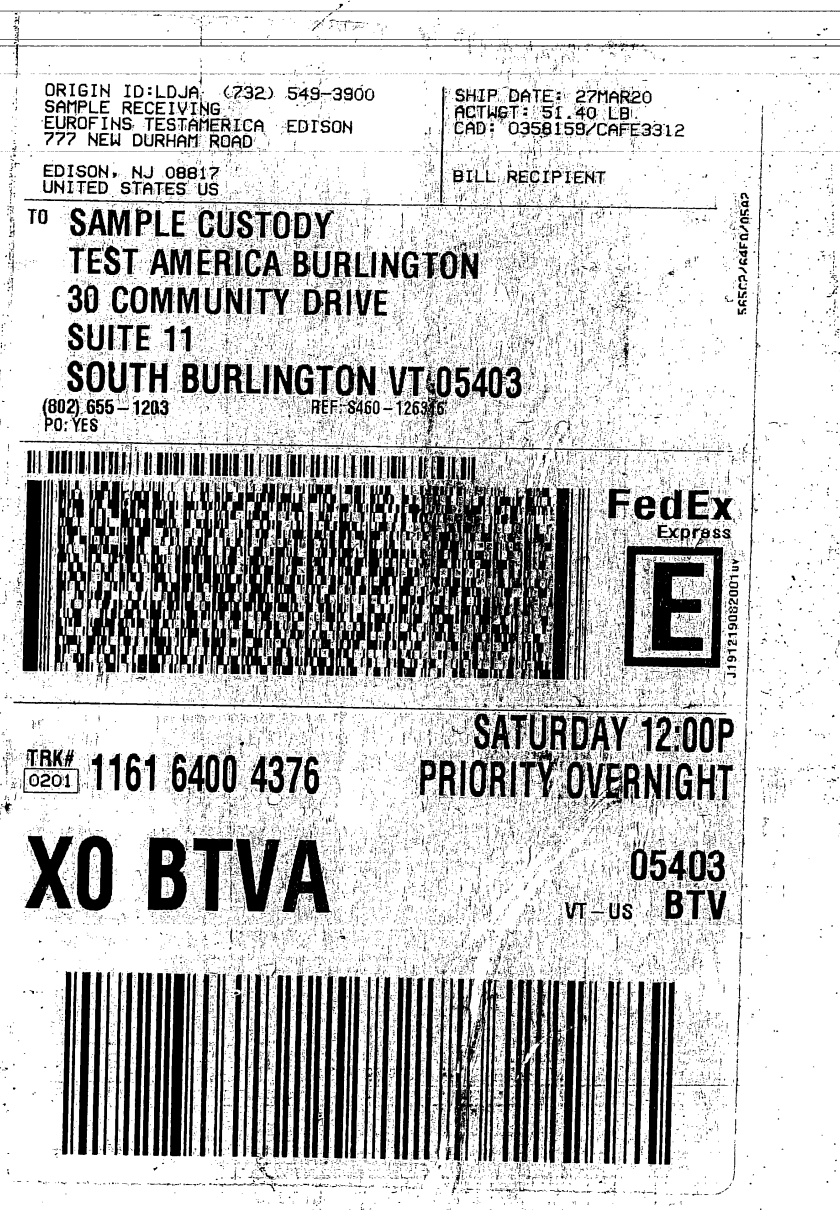
Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 3/27/20 1800	Company EFTAEL	Received by:	Date/Time: 3/28/2020 09:25	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.6	

Ver: 01/16/2019


ORIGIN ID:LDJA (732) 549-3900
SAMPLE RECEIVING
EUROFINS TESTAMERICA EDISON
777 NEW DURHAM ROAD
EDISON, NJ 08817
UNITED STATES US
SHIP DATE: 27MAR20
ACTWGT: 51.40 LB
CAD: 0358159/CAFE3312
BILL RECIPIENT
TO SAMPLE CUSTODY
TEST AMERICA BURLINGTON
30 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 655-1203
REF: 8460-126315
PO: YES
FedEx
Express
TRK# 0201 1161 6400 4376
SATURDAY 12:00P
PRIORITY OVERNIGHT
XO BTVA
05403
VT-US BTV

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Phone: 732-549-3900 Fax: 732-549-3679

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Evans, Lauren R	Carrier Tracking No(s):	COC No: 460-57793.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: lauren.evans@testamericainc.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 460-205843-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 4/7/2020			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: Billerica, MA	Project #: 48020741			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	624.1_PREC/624_Prep (MOD) Volatile Organic Compounds (GC/MS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-11S (460-205843-2)	3/25/20	11:15 Eastern		Water			X	3	
MW-20S (460-205843-3)	3/25/20	12:05 Eastern		Water			X	3	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	[signature]	3/26/20 1800	FTAEdi	[signature]	03127/20 0800	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.4 #1 ICE

Ver: 01/16/2019

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Phone: 732-549-3900 Fax: 732-549-3679

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Evans, Lauren R	Carrier Tracking No(s):	COC No: 460-57794.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: lauren.evans@testamericainc.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 460-205843-1
Address: 5102 LaRoche Avenue, ,	Due Date Requested: 4/7/2020			
City: Savannah	TAT Requested (days):			
State, Zip: GA, 31404				
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:			
Email:	WO #:			
Project Name: Billerica, MA	Project #: 48020741			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7_CWA/200.7_P_TOT (MOD) Custom Metals List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
5W-1 (460-205843-1)	3/25/20	12:45 Eastern		Water			X	1	
MW-11S (460-205843-2)	3/25/20	11:15 Eastern		Water			X	4	
MW-20S (460-205843-3)	3/25/20	12:05 Eastern		Water			X	4	

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

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		3/26/20 1800	TAEDI		3-27-20 900	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.6/3.0

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 460-205843-1

Login Number: 205843
List Number: 1
Creator: Breton, Jayson J

List Source: Eurofins TestAmerica, Edison

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

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 460-205843-1

Login Number: 205843
List Number: 2
Creator: Yeager, Brian A

List Source: Eurofins TestAmerica, Buffalo
List Creation: 03/27/20 11:47 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 ice ir gun #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 460-205843-1

Login Number: 205843
List Number: 4
Creator: Khudaier, Zahraa

List Source: Eurofins TestAmerica, Burlington
List Creation: 03/28/20 12:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6°C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 460-205843-1

Login Number: 205843
List Number: 3
Creator: Sims, Robert D

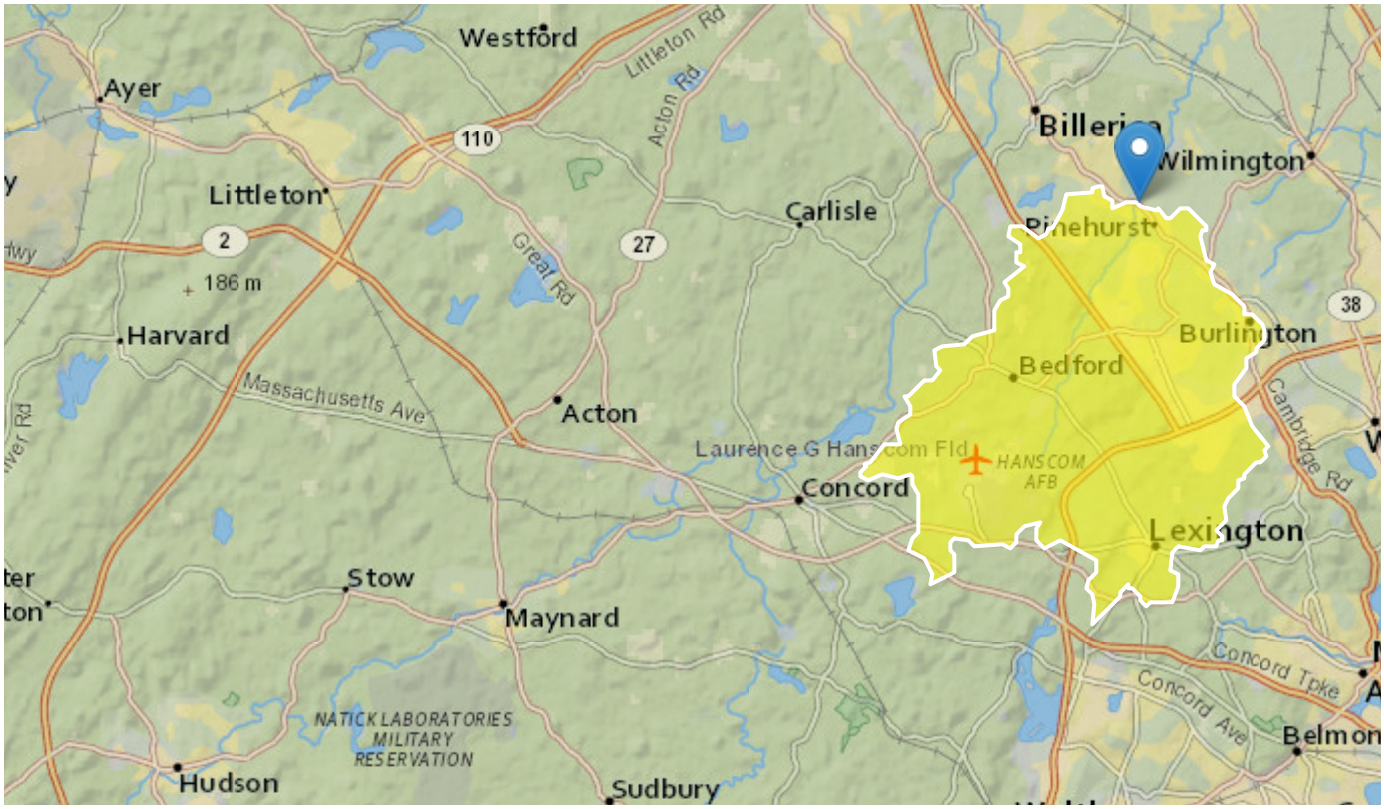
List Source: Eurofins TestAmerica, Savannah
List Creation: 03/27/20 11:59 AM

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

Attachment C – StreamStats Flow Statistics Report

StreamStats Report

Region ID: MA
Workspace ID: MA20200617135104989000
Clicked Point (Latitude, Longitude): 42.53477, -71.23366
Time: 2020-06-17 09:51:22 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	31.2	square miles
BSLDEM250	Mean basin slope computed from 1:250K DEM	1.854	percent
DRFTPERSTR	Area of stratified drift per unit of stream length	0.32	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	0	dimensionless

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

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	31.2	square miles	1.61	149
BSLDEM250	Mean Basin Slope from 250K DEM	1.854	percent	0.32	24.6
DRFTPERSTR	Stratified Drift per Stream Length	0.32	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, PIu: Prediction Interval-Upper, SEp: Standard Error of Prediction, SE: Standard Error (other -- see report)

Statistic	Value	Unit	PII	PIu	SE	SEp
7 Day 2 Year Low Flow	4.74	ft^3/s	1.47	14.7	49.5	49.5
7 Day 10 Year Low Flow	2.21	ft^3/s	0.555	8.2	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/)

Application Version: 4.3.11

Attachment D – MassDEP Phase 1 Site Assessment Map and NHESP Map

Attachment D – MassDEP Phase 1 Site Assessment Map and NHESP Map

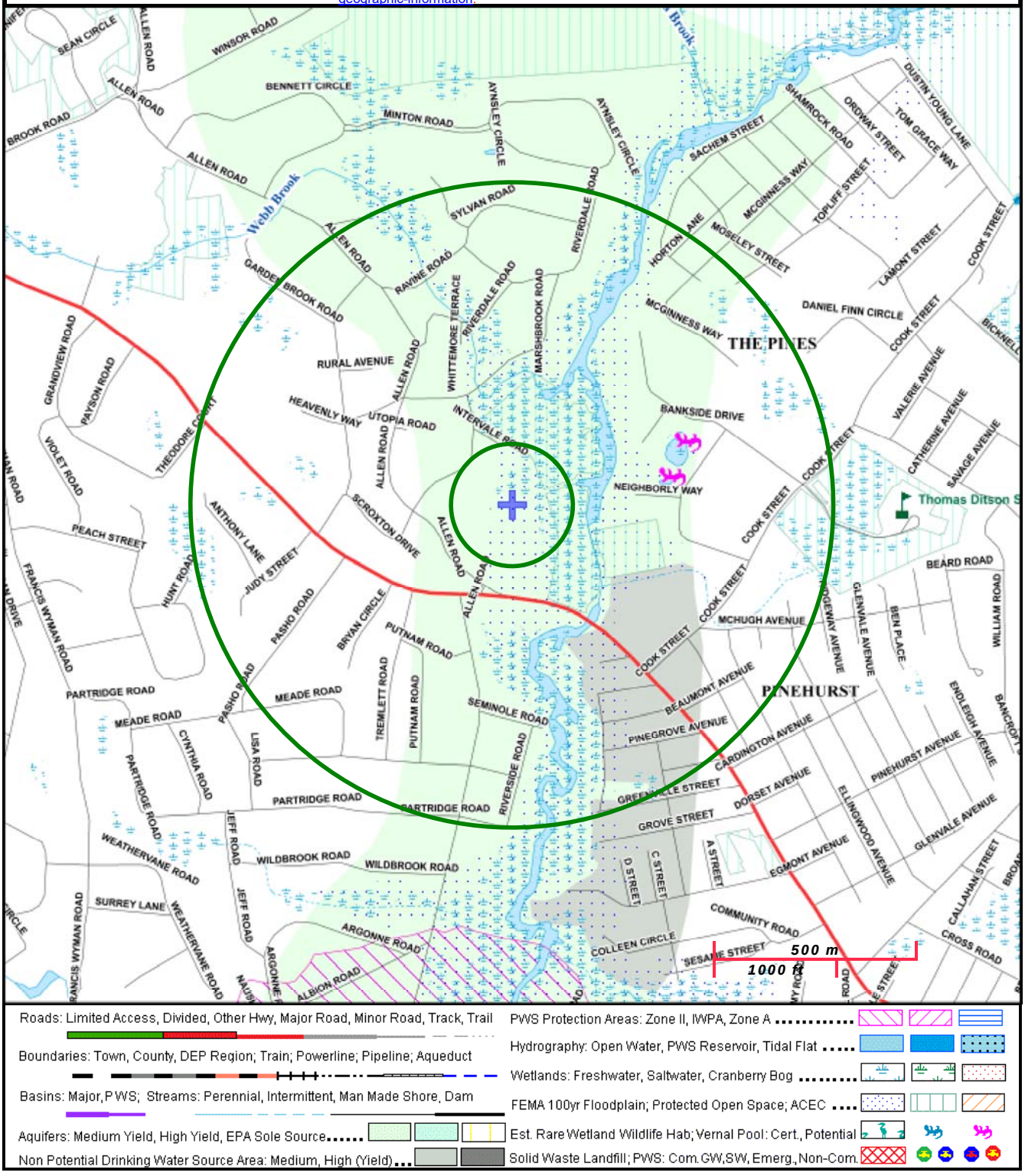
MassDEP - Bureau of Waste Site Cleanup

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

Site Information:
ROY BROS., INC.
764 BOSTON ROAD BILLERICA MA
3-000000236
NAD83 UTM Meters:
4711835mN , 316393mE (Zone: 19)
January 31, 2020

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

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg.,Non-Com.

Figure 5

Attachment E – US Department of the Interior, Fish and Wildlife Services (FWS) Threatened or Endangered Species or Critical Habitat Letter

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: June 25, 2020
Consultation Code: 05E1NE00-2020-SLI-3067
Event Code: 05E1NE00-2020-E-09348
Project Name: Roy Bros., Inc, Billerica, MA

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2020-SLI-3067

Event Code: 05E1NE00-2020-E-09348

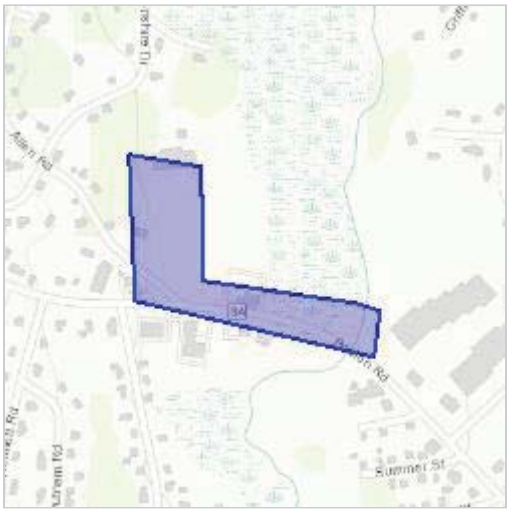
Project Name: Roy Bros., Inc, Billerica, MA

Project Type: SPILL / RELEASE

Project Description: Short term (less than 2 months) remediation of petroleum-impacted soil and groundwater at 764 Boston Road, Billerica, MA. Soil excavation, dewatering, groundwater treatment and discharge is proposed to a storm drain that discharges to local surface water under an EPA RGP. Proposed remediation and discharge is anticipated to be completed in less than 8 weeks. No trees will be removed or effected by the proposed work.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.53573778641054N71.23665431263956W



Counties: Middlesex, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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

IPaC Record Locator: 308-21130017 April 06, 2020

Subject: Consistency letter for the 'Roy Bros., Inc, Billerica, MA' project indicating that any take of the northern long-eared bat 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).

Dear Meghan Proia:

The U.S. Fish and Wildlife Service (Service) received on April 06, 2020 your effects determination for the 'Roy Bros., Inc, Billerica, MA' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited 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, any take of the northern long-eared bat 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 Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into 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 your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

[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

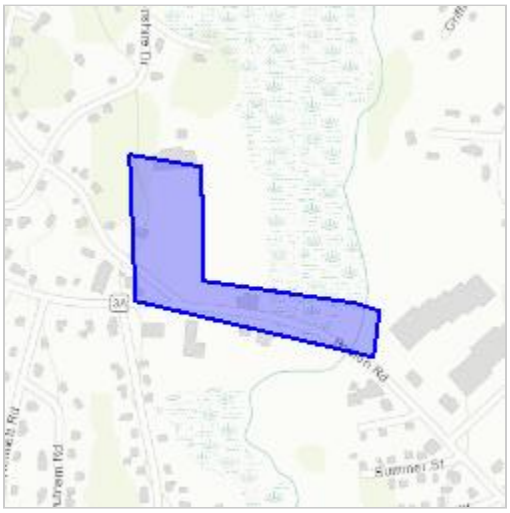
Roy Bros., Inc, Billerica, MA

2. Description

The following description was provided for the project 'Roy Bros., Inc, Billerica, MA':

> Short term (less than 2 months) remediation of petroleum-impacted soil and groundwater at 764 Boston Road, Billerica, MA. Soil excavation, dewatering, groundwater treatment and discharge is proposed to a storm drain that discharges to local surface water under an EPA RGP. Proposed remediation and discharge is anticipated to be completed in less than 8 weeks. No trees will be removed or effected by the proposed work.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.53573778641054N71.23665431263956W



Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

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 non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat 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).

Qualification Interview

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

   No

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

   No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

4. 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

5. 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

6. 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

Attachment F – MACRIS Historic Places Report

Attachment F – MACRIS Historic Places Report

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

Search Criteria: Town(s): Billerica; Street Name: Boston; Resource Type(s): Area, Building, Burial Ground, Object, Structure;

Inv. No.	Property Name	Street	Town	Year
BIL.314		95 Boston Post Rd	Billerica	c 1960
BIL.901	World War I and II Monument	Boston Rd	Billerica	c 1948
BIL.902	Billerica Meeting House Site Memorial	Boston Rd	Billerica	1901
BIL.903	Civil War Soldiers' Memorial	Boston Rd	Billerica	1873
BIL.904	Naval Cannon Monument	Boston Rd	Billerica	1907
BIL.905	Kohlrausch, Charles H. Memorial Fountain	Boston Rd	Billerica	1912
BIL.906	Stone Road Marker	Boston Rd	Billerica	
BIL.907	Billerica Town Common Bandstand	Boston Rd	Billerica	1890
BIL.912	Boston Road Bridge over Concord River	Boston Rd	Billerica	1920
BIL.919	Boston Road Bridge over Shawsheen River	Boston Rd	Billerica	1915
BIL.945	Billerica World War I and II Memorial	Boston Rd	Billerica	2004
BIL.965	Billerica Town Common	Boston Rd	Billerica	1655
BIL.130	Stearns, Joseph House	179 Boston Rd	Billerica	c 1825
BIL.131	Stearns, Sarah House	186 Boston Rd	Billerica	c 1848
BIL.132	Billerica Town Water Supply Pumping Station	250 Boston Rd	Billerica	1898
BIL.137	Mason, William D. House	314 Boston Rd	Billerica	1842
BIL.304	Robinson, James P. House	317 Boston Rd	Billerica	1910
BIL.13	Walnuts, The	327 Boston Rd	Billerica	1873
BIL.157	Shed, John House	329 Boston Rd	Billerica	c 1727
BIL.158	Farmer, Oliver House	336 Boston Rd	Billerica	c 1760
BIL.156	Fitch, David W. House	341 Boston Rd	Billerica	1886
BIL.155	Cole, Elmer E. - Allen, Arthur E. House	345 Boston Rd	Billerica	1886
BIL.154	Pillsbury, Dr. Harlin House	349 Boston Rd	Billerica	c 1875
BIL.153	Sanborn, William F. House	357 Boston Rd	Billerica	1869
BIL.48		367 Boston Rd	Billerica	c 1870
BIL.49	Chandler, H. P. House	371 Boston Rd	Billerica	c 1870
BIL.50	Foster, John D. House	373 Boston Rd	Billerica	c 1900

Inv. No.	Property Name	Street	Town	Year
BIL.160	Baldwin, John House	376 Boston Rd	Billerica	c 1700
BIL.51	Foster, Dudley House	377 Boston Rd	Billerica	1838
BIL.52	Locke, Joseph House	381 Boston Rd	Billerica	1811
BIL.47		388 Boston Rd	Billerica	r 1880
BIL.46	Howe School	390 Boston Rd	Billerica	1852
BIL.44	Danforth, Ensign Jonathan Jr. House	396 Boston Rd	Billerica	1682
BIL.43	Richardson, John A. House	398 Boston Rd	Billerica	c 1885
BIL.42	Richardson, John O. House	400 Boston Rd	Billerica	c 1885
BIL.71	Martin's Block	403-405 Boston Rd	Billerica	c 1875
BIL.41	Preston, Marshall House	404 Boston Rd	Billerica	1822
BIL.297	Lyons, Thomas F. Building	406-408 Boston Rd	Billerica	c 1914
BIL.72	Richardson, Capt. William House	409 Boston Rd	Billerica	1822
BIL.73		411 Boston Rd	Billerica	c 1800
BIL.25	Faulkner, Luther W. House	414 Boston Rd	Billerica	1833
BIL.295		428 Boston Rd	Billerica	c 1925
BIL.294		430 Boston Rd	Billerica	c 1928
BIL.23	Abbott, James House	432 Boston Rd	Billerica	1796
BIL.22	Central Block	438 Boston Rd	Billerica	1894
BIL.76	Page, Arza House	447 Boston Rd	Billerica	1840
BIL.194	Heald, Benjamin K. House	475 Boston Rd	Billerica	c 1845
BIL.196		520 Boston Rd	Billerica	c 1840
BIL.195		524 Boston Rd	Billerica	c 1850
BIL.197	Hamlet, William - Farley, Caleb House	562 Boston Rd	Billerica	r 1680
BIL.198		577 Boston Rd	Billerica	r 1680