July 2, 2019

Ms. Shauna Little
Environmental Protection Agency
Office of Environmental Stewardship (OES)
Water Technical Unit
5 Post Office Square, Suite 110 (OES4-SMR)
Boston, MA 02109-3912
Via electronic mail to NPDES.Generalpermits@epa.gov

Re: NPDES RGP NOI
Former Mobil Service Station No. 01-GOH
Massachusetts Turnpike Service Area 6AW
Westborough, Massachusetts
Release Tracking Number 2-0401

Dear Ms. Little,

On behalf of ExxonMobil Environmental and Property Solutions Company (E&PS), Kleinfelder has revised the attached National Pollutant Discharge Elimination System (NPDES) Notice of Intent (NOI) to discharge treated groundwater under the auspices of the Remediation General Permit (RGP). This request is to allow for the treatment and discharge of potentially impacted groundwater to allow excavation activities associated with the remediation of impacted soil under Massachusetts Department of Environmental Protection (MassDEP) Release Tracking Number (RTN) 2-0401. The excavation activities will be performed at property located at 30 Belknap Street, Westborough, Massachusetts.

Excavation dewatering and the discharge of treated groundwater are currently anticipated to commence no earlier than July 15, 2019 and end no later than October 31, 2019.

Permission is concurrently being sought from Veolia (operator) and the Town of Westborough (owner) to discharge treated groundwater to the Town's municipal sewer system for treatment through their wastewater treatment plant located at 238 Turnpike Road, Westborough, Massachusetts.

The revised NOI form is included as Attachment A. Thank you for your comments provided in your June 20, 2019 email (attached), which are summarized here with Kleinfelder's responses:

Comment #1: Part B.1. Classification incorrect. Class A or B are common freshwater classifications in MA.

Response #1: Kleinfelder has revised Part B.1 to reflect classification of the receiving water unnamed tributary to Picadilly Brook (Unit ID MA82A-30) as Class B as per 314 CMR 4.00 (figure below).

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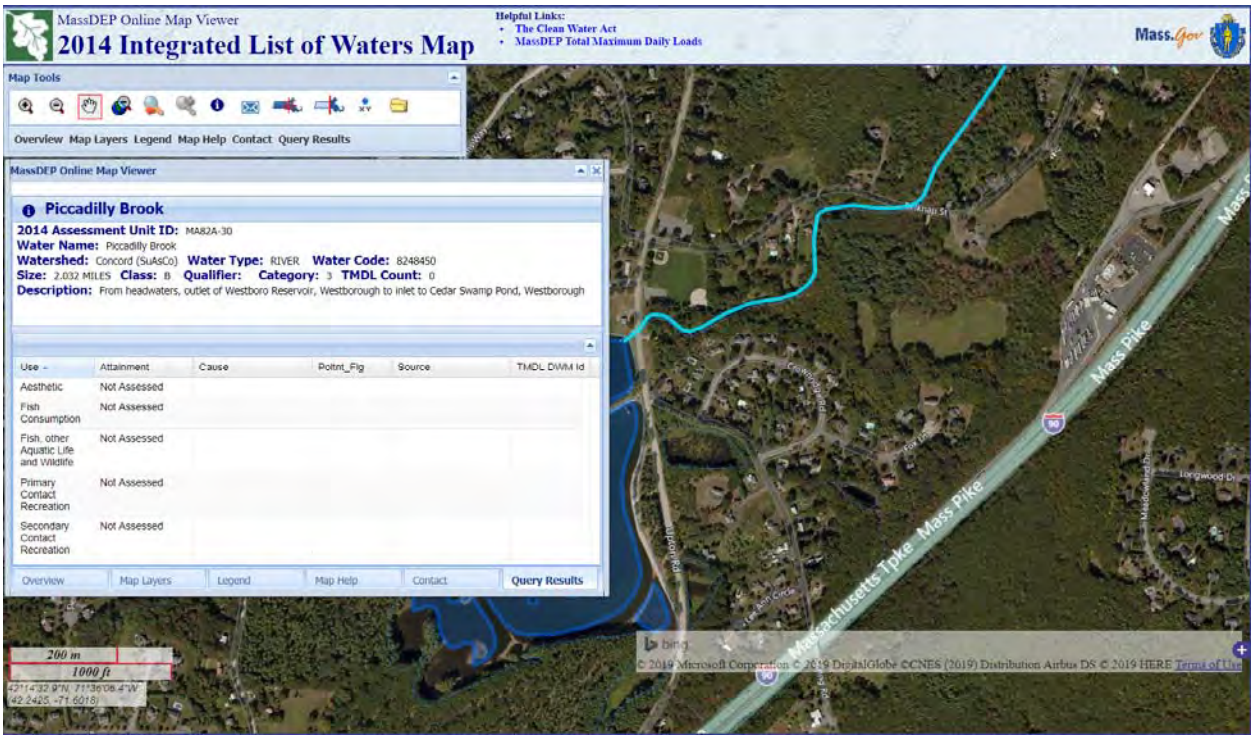

Figure 1. Picadilly Brook and the proposed discharge location showing waterbody class and category.

Comment #2: Part D.1. Please verify that this site meets the definition of a "new source" under 40 CFR Part 122.2. Note that a site is not eligible for coverage under the RGP if a new source.

Response #2: The site is not a new source. It is, however, a new discharge under the RGP.

Comment #3: Part D.3. You have disclosed one or more individual parameters are known present at the site that are part of contamination type and D. Please add these selections.

Response #3: As the Release Tracking Number associated with this project is active (RT 2-0401), Kleinfelder has re-classified the activity category as "I – Petroleum-Related Site remediation, and edited Part D.3 as requested.

Comment #4: Part D.4. The RGP requires analysis and reporting of total recoverable metals. Please remove results reported for dissolved metals. Retest if necessary. Please also ensure only test methods allowed in 40 CFR Part 136 are used for all analyses (except historic data being provided in addition to minimum required sampling). For example, SW methods including 8260 and 8270, are NOT allowed. Please ensure minimum levels meet sufficiently sensitive requirements.

Response #4: Attached please find additional analytical results for total recoverable metals, as well as additional analyses of phenols and polynuclear aromatic hydrocarbons (PAHs) via EPA Method 625. Method 8270 – SIM had been previously used to analyze these compounds. Please note, the sample locations are the same as the original samples.

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Comment #5: Part D.4. Please provide an electronic copy of the WQBEL calculations (in excel format).

Response #5: An electronic copy of the WQBEL calculations is attached. Please note that a dilution factor of zero was assumed.

Comment #6: Part J. Please provide a BMPP certification statement in the box provided. See Part 2.5.1.c for appropriate wording that may be used to create this statement.

Response #6: A BMPP certification has now been provided.

Project Background

This project will excavate and remove soils impacted with petroleum hydrocarbons and arsenic from the property located at 30 Belknap Street. These impacts are associated with the release(s) of petroleum at the adjacent Massachusetts Turnpike Service Area 6AW. A Locus Plan for RTN 2-0401 is included as Figure 1 (Attachment B). An overall Site Plan is provided as Figure 2A. A focused site plan showing the extents of the proposed remedial excavation, associated soil sample locations, and nearby monitoring wells is included as Figure 2B. Figure 3 illustrates the proposed groundwater extraction and treated groundwater discharge locations, area sensitive receptors (a private well), the receiving water body and associated waterbodies and wetlands.

Massachusetts Contingency Plan Applicability

Since 1988 assessment and remedial activities associated with these releases have been tracked by MassDEP under RTN 2-0401 and secondary RTNs 2-12022, 2-15880, 2-16263, 2-16908, and 2-20433. Groundwater extraction, treatment, and re-injection is currently conducted under the provisions of the Massachusetts Contingency Plan (310 CMR 40.0000). Excavation, handling, removal, and treatment of impacted soils are also being conducted under the applicable provisions of 310 CMR 40.0000. The proposed excavation may require control of infiltrating groundwater to reach the required excavation depths. Accordingly, this NOI is being filed to allow for recovery, treatment, and discharge of recovered groundwater impacted by the release(s) mentioned above.

Updated Groundwater Characterization

Groundwater sampling has been conducted under RTN 2-0401 for approximately 30 years. For the purpose of this application, a sample of groundwater was collected from one of the temporary dewatering points installed for proposed excavation dewatering. The groundwater sample was collected from dewatering well DW-5 on May 6, 2019, and designated “NPDES Dewater Sample”. The sample was submitted to Eurofins Spectrum Analytical of Agawam, MA for analysis of volatile organic compounds (VOCs) via EPA Method 624, polynuclear aromatic hydrocarbons (PAHs) and phenols via EPA Method 625 SIM, dissolved metals via EPA Method 200.7, total metals via EPA Method 200.7 (sampled June 24, 2019), Oil and Grease via EPA Method 1664A, chloride via EPA Method 300, ammonia via EPA Method 350.1, cyanide via EPA Method 335.4, and total suspended solids (TSS) via Standard Method 2540D. Groundwater pH and temperature recorded in the field at wells in the extraction area during groundwater sampling events conducted in 2019 have averaged 6.1 and 9 degrees, respectively.

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The groundwater samples ("NPDES Dewater Sample" May 6, 2019, and "NPDES Surface Water Sample" June 24, 2019) analytical results indicated the presence of dissolved iron (2.09 milligrams per liter [mg/L]), total iron (8.49 mg/L), dissolved lead (0.002 mg/L), dissolved nickel (0.002 mg/L), dissolved zinc (0.003 mg/L), ammonia as nitrogen (0.30 mg/L), TSS (26 mg/L), chloride (2110 mg/L). It is believed that the chloride concentration is associated with the MassDOT road salt storage facility at Macadam Road and/or de-icing treatments at the travel plaza. Neither VOCs, PAHs, fuel oxygenates, nor Oil and Grease were detected in the groundwater sample.

Groundwater analytical results are included as Attachment C. Groundwater monitoring data for wells in the extraction area are summarized in Table 1.

Updated Receiving Water Characterization

The receiving water body, wetlands associated with an unnamed tributary to Piccadilly Brook, was sampled May 14and June 24, 2019, at the point where this tributary crosses Belknap Road. The surface water sample was submitted to Eurofins Spectrum Analytical of Agawam, MA for analysis of volatile organic compounds (VOCs) via EPA Method 624, polynuclear aromatic hydrocarbons (PAHs) and phenols via EPA Method 625 SIM, dissolved metals via EPA Method 200.7, Oil and Grease via EPA Method 1664A, chloride via EPA Method 300, ammonia via EPA Method 350.1, cyanide via EPA Method 335.4, and total suspended solids via Standard Method 2540D.

Similar to the groundwater sample, the sample from the receiving water body ("NPDES Surface Water Sample" on both dates) exhibited detectable concentrations of dissolved iron (0.176 mg/L), total iron (0.546 mg/L), dissolved zinc (0.003 mg/L), and chloride (154 mg/L). Neither VOCs, PAHs, fuel oxygenates, nor Oil and Grease were detected in the receiving water sample. Receiving water analytical results are included as Attachment C.

This unnamed tributary is not listed on the Massachusetts 303(d) list. Piccadilly Brook (MA82A-30_2008) is classified as Category 3 ("No uses assessed") and Class B on the List of Integrated Waters. No dilution due to flow in the receiving water body is assumed. An electronic copy of the Water Quality Based Effluent Limit Workbook (US EPA) is included with this revised submittal.

Proposed Treatment System

A Design Flow treatment system discharge rate of 50 gallons per minute (gpm) was used to evaluate the applicable RGP discharge standards. Extracted water from the excavation activities will be initially pumped into a 21,000-gallon fractionation tank, or equivalent capacity of more portable polyethylene holding tanks for initial settling of total suspended solids.

Following settling extracted groundwater will be treated by passage through (at minimum) 50-micron particle filters, and through liquid-phase reactive carbon vessels. Flow will be measured using an in-line flowmeter and totalizer prior to the discharge.

Discharge will occur through temporary lines lain from the treatment system along a cart path to the location shown on the NOI Map (Figure 3).

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Kleinfelder anticipates that the dewatering system will operate from approximately July 15, 2019 through October 31, 2019. A Work Plan for the groundwater extraction and treatment systems satisfying the requirements of Section 2.5 of the RGP will be available at the Site prior to initiating dewatering activities.

Notice of Intent

Preparation of this NOI has included a review of the literature pertaining to Areas of Critical Environmental Concern, (ACECs), the Endangered Species Act, and the National Historic Preservation Act:

- Review of the Massachusetts Geographic Information Systems MassDEP Priority Resources Map (Figure 5 in Attachment B) shows the Site is not within an ACEC.
- One private water supply well is located at 30 Belknap Road (Figure 3) and is monitored periodically as required as part of site assessment and remediation activities performed under 310 CMR 40.
- An "informal consultation" with the Fish and Wildlife Service resulted in a consistency letter opining that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the applicable regulations, the permit eligibility therefore meets "Criterion B" (Attachment D).
- This work will not affect historical properties that are listed by the United States Park Service or Massachusetts Cultural Resources. Cultural resources in the vicinity of the Site are listed in Attachment E.

The proposed treatment system has been designed to reduce contaminants of concern below the applicable effluent limits. Effluent compliance monitoring will be conducted in compliance with the RGP. Additionally, the flow rate, pH, and temperature of the effluent will be monitoring in the field and recorded.

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We appreciate your assistance in processing this Notice of Intent. Should you have any questions regarding this correspondence, please do not hesitate to contact the undersigned at (508) 370-8256.

Sincerely,
KLEINFELDER

Brian Caccavale
Case Manager

Nathan Stevens, PG (Maine)
Hydrogeologist

cc: Mr. Kehat Falik, E&PS (file)
Ms. Debra Houlden-Engvall (via electronic mail)
Mr. Jonathan Higgins, LSP (via electronic mail)
Mr. Keith Labbe, Veolia (via electronic mail)
Mr. Carl Balduf, Town of Westborough (via electronic mail)
Mr. Derek Saari, Town of Westborough (via electronic mail)

List of Attachments

Attachment A – RGP NOI Form
Attachment B – Figures

Figure 1 – Locus Plan
Figure 2A – Site Plan
Figure 2B – Proposed Excavation Area
Figure 3 – NOI Map
Figure 4 – Treatment System Schematic

Attachment C – Laboratory Analytical Data
Attachment D – Fish and Wildlife Consistency Letter
Attachment E – Massachusetts Cultural Resources in Vicinity of Site

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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:
Portion of RTN 2-0401
Former Mobil Service Station No. 01-GOH
Massachusetts Turnpike Service Area 6AW
Westborough, Massachusetts</td><td colspan="3">Site address: 30 Belknap Street
Street:</td></tr>
<tr><td>City: Westborough</td><td>State: MA</td><td>Zip: 01581</td></tr>
<tr><td rowspan="4">2. Site owner
Zwicker, Dorothy
Houlden, Debra

Owner is (check one): ☐ Federal ☐ State/Tribal ■ Private
☐ Other; if so, specify:</td><td colspan="3">Contact Person: Debra Houlden-Engvall</td></tr>
<tr><td colspan="2">Telephone: 1 (907) 942-0694</td><td>Email: engvall@gci.net</td></tr>
<tr><td colspan="3">Mailing address: 30 Belknap Street
Street:</td></tr>
<tr><td>City: Westbrorough</td><td>State: MA</td><td>Zip: 01581</td></tr>
<tr><td rowspan="4">3. Site operator, if different than owner
Kleinfelder, Inc.</td><td colspan="3">Contact Person: Ernest Stoetzner</td></tr>
<tr><td colspan="2">Telephone: 1 (508) 270 6537</td><td>Email: estoetzner@kleinfelder.com</td></tr>
<tr><td colspan="3">Mailing address:
Street: 1500 Main Street, Suite 1506, PO Box 1551</td></tr>
<tr><td>City: Springfield</td><td>State: MA</td><td>Zip: 01115-5511</td></tr>
<tr><td>4. NPDES permit number assigned by EPA:
MAG910000

NPDES permit is (check all that apply: ■ RGP ☐ DGP ☐ CGP
☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:</td><td colspan="3">5. Other regulatory program(s) that apply to the site (check all that apply):
■ MA Chapter 21e; list RTN(s): 2-0401
☐ 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):
Unnamed wetland tributary to Picadilly Brook	MA82A-30_2008	Class B

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: Drinking water well at 30 Belknap Street

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. The receiving water(s) are listed, in the "Final Massachusetts Year 2014 Integrated List of Waters" as Category 3, "No uses assessed".

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.	0
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.	0

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: Fuel and fuel oxygenates	
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): Unnamed tributary to Piccadilly Brook.	Outfall location(s): (Latitude, Longitude) 42.245274°, -71.594809°
Discharges enter the receiving water(s) via (check any that apply): ■ Direct discharge to the receiving water ☐ Indirect discharge, if so, specify: Treated groundwater to be directed to receiving water via temporary discharge hose ☐ A private storm sewer system ☐ A municipal storm sewer system If the discharge enters the receiving water via a private or municipal storm sewer system: Has notification been provided to the owner of this system? (check one): ☐ Yes ☐ No Has the operator has received permission from the owner to use such system for discharges? (check one): ☐ Yes ☐ No, if so, explain, with an estimated timeframe for obtaining permission: Has the operator attached a summary of any additional requirements the owner of this system has specified? (check one): ☐ Yes ☐ No	
Provide the expected start and end dates of discharge(s) (month/year): July 15, 2019 through September 30, 2019 Indicate if the discharge is expected to occur over a duration of: ■ less than 12 months ☐ 12 months or more ☐ is an emergency discharge	
Has the operator attached a site plan in accordance with the instructions in D, above? (check one): ■ Yes ☐ No	

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

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

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

4. Influent and Effluent Characteristics

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
A. Inorganics									
Ammonia		✓	1	E350.1	0.1 (mg/L)	0.3 (mg/L)	0.3 (mg/L)	Report mg/L	---
Chloride		✓	1	SM4500C				Report µg/l	---
Total Residual Chlorine	✓							0.2 mg/L	11 ug/L
Total Suspended Solids		✓	1	SM2450D	5000	26000	26000	30 mg/L	---
Antimony	✓		1	E200.7	5	<5	<5	206 µg/L	
Arsenic	✓		1	E200.7	4	<4	<4	104 µg/L	
Cadmium	✓		1	E200.7	1	<1	<1	10.2 µg/L	
Chromium III	✓		1	Calculatio		0	0	323 µg/L	
Chromium VI	✓		1	SM3500-C	5	<5	<5	323 µg/L	
Copper	✓		1	E200.7	5	<5	<5	242 µg/L	
Iron		✓	1	E200.7	11	8490	8490	5,000 µg/L	1000 ug/L
Lead		✓		E200.7	2	2	2	160 µg/L	
Mercury	✓			E245.1	0.2	<0.2	<0.2	0.739 µg/L	
Nickel		✓		E200.7	1	2	2	1,450 µg/L	
Selenium	✓			E200.7	11	<11	<11	235.8 µg/L	
Silver	✓			E200.7	1	<1	<1	35.1 µg/L	
Zinc		✓		E200.7	2	3	3	420 µg/L	
Cyanide	✓			E335.4	10	<10	<10	178 mg/L	
B. Non-Halogenated VOCs									
Total BTEX		✓	1	E624.1	5.0	<5.0	<5.0	100 µg/L	---
Benzene		✓	1	E624.1	1.0	<1.0	<1.0	5.0 µg/L	---
1,4 Dioxane	✓							200 µg/L	---
Acetone	✓							7.97 mg/L	---
Phenol	✓		1	8270D	1.9	<1.9	<1.9	1,080 µg/L	

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
C. Halogenated VOCs									
Carbon Tetrachloride	✓							4.4 µg/L	
1,2 Dichlorobenzene	✓							600 µg/L	---
1,3 Dichlorobenzene	✓							320 µg/L	---
1,4 Dichlorobenzene	✓							5.0 µg/L	---
Total dichlorobenzene	✓							763 µg/L in NH	---
1,1 Dichloroethane	✓							70 µg/L	---
1,2 Dichloroethane	✓							5.0 µg/L	---
1,1 Dichloroethylene	✓							3.2 µg/L	---
Ethylene Dibromide	✓							0.05 µg/L	---
Methylene Chloride	✓							4.6 µg/L	---
1,1,1 Trichloroethane	✓							200 µg/L	---
1,1,2 Trichloroethane	✓							5.0 µg/L	---
Trichloroethylene	✓							5.0 µg/L	---
Tetrachloroethylene	✓							5.0 µg/L	
cis-1,2 Dichloroethylene	✓							70 µg/L	---
Vinyl Chloride	✓							2.0 µg/L	---
D. Non-Halogenated SVOCs									
Total Phthalates	✓							190 µg/L	
Diethylhexyl phthalate	✓							101 µg/L	
Total Group I PAHs	✓		1	625.1	0.1	<0.1	<0.1	1.0 µg/L	---
Benzo(a)anthracene	✓		1	625.1	0.1	<0.1	<0.1	As Total PAHs	
Benzo(a)pyrene	✓		1	625.1	0.1	<0.1	<0.1		
Benzo(b)fluoranthene	✓		1	625.1	0.1	<0.1	<0.1		
Benzo(k)fluoranthene	✓		1	625.1	0.1	<0.1	<0.1		
Chrysene	✓		1	625.1	0.1	<0.1	<0.1		
Dibenzo(a,h)anthracene	✓		1	625.1	0.1	<0.1	<0.1		
Indeno(1,2,3-cd)pyrene	✓		1	625.1	0.1	<0.1	<0.1		

Parameter	Known or believed absent	Known or believed present	# of samples	Test method (#)	Detection limit (µg/l)	Influent		Effluent Limitations	
						Daily maximum (µg/l)	Daily average (µg/l)	TBEL	WQBEL
Total Group II PAHs	✓		1	625.1	0.1	<0.1	<0.1	100 µg/L	---
Naphthalene		✓	1	625.1	0.1	<0.1	<0.1	20 µg/L	---
E. Halogenated SVOCs									
Total PCBs	✓							0.000064 µg/L	---
Pentachlorophenol	✓		1	625.1	1	<1	<1	1.0 µg/L	---
F. Fuels Parameters									
Total Petroleum Hydrocarbons		✓	1	E1664A	1.6 (mg/L)	<1.6 (mg/L)	<1.6 (mg/L)	5.0 mg/L	---
Ethanol	✓		1	8260C	0.4 (mg/L)	<0.4 (mg/L)	<0.4 (mg/L)	Report mg/L	---
Methyl-tert-Butyl Ether	✓		1	624.1	2.0	<2.0	<2.0	70 µg/L	
tert-Butyl Alcohol	✓		1	8260C	50	<50	<50	120 µg/L in MA 40 µg/L in NH	---
tert-Amyl Methyl Ether	✓		1	624.1	1.0	<1.0	<1.0	90 µg/L in MA 140 µg/L in NH	---
Other (i.e., pH, temperature, hardness, salinity, LC_{50}, additional pollutants present); if so, specify:									

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:
Settling in fractionation tank, sediment removal through micron-bag filtration, treatment with GAC

2. Provide a written description of all treatment system(s) or processes that will be applied to the effluent prior to discharge.
Recovered water will be collected into sufficient fractionation tanks to settle suspended solids, then pumped through, at minimum, 50-micron bag filter units, and treated through GAC to allow removal of potential dissolved VOCs, Metals, and Fuel Parameters to below Massachusetts GW-1 Standards and applicable RGP limits.

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:

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: GAC units Is use of a flow meter feasible? (check one): ■ Yes ☐ No, if so, provide justification:	50 GPM
Provide the proposed maximum effluent flow in gpm.	50
Provide the average effluent flow in gpm.	10
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:
None proposed

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

None Proposed
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.

Cover letter, site plans, and groundwater monitoring data are also attached.

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

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

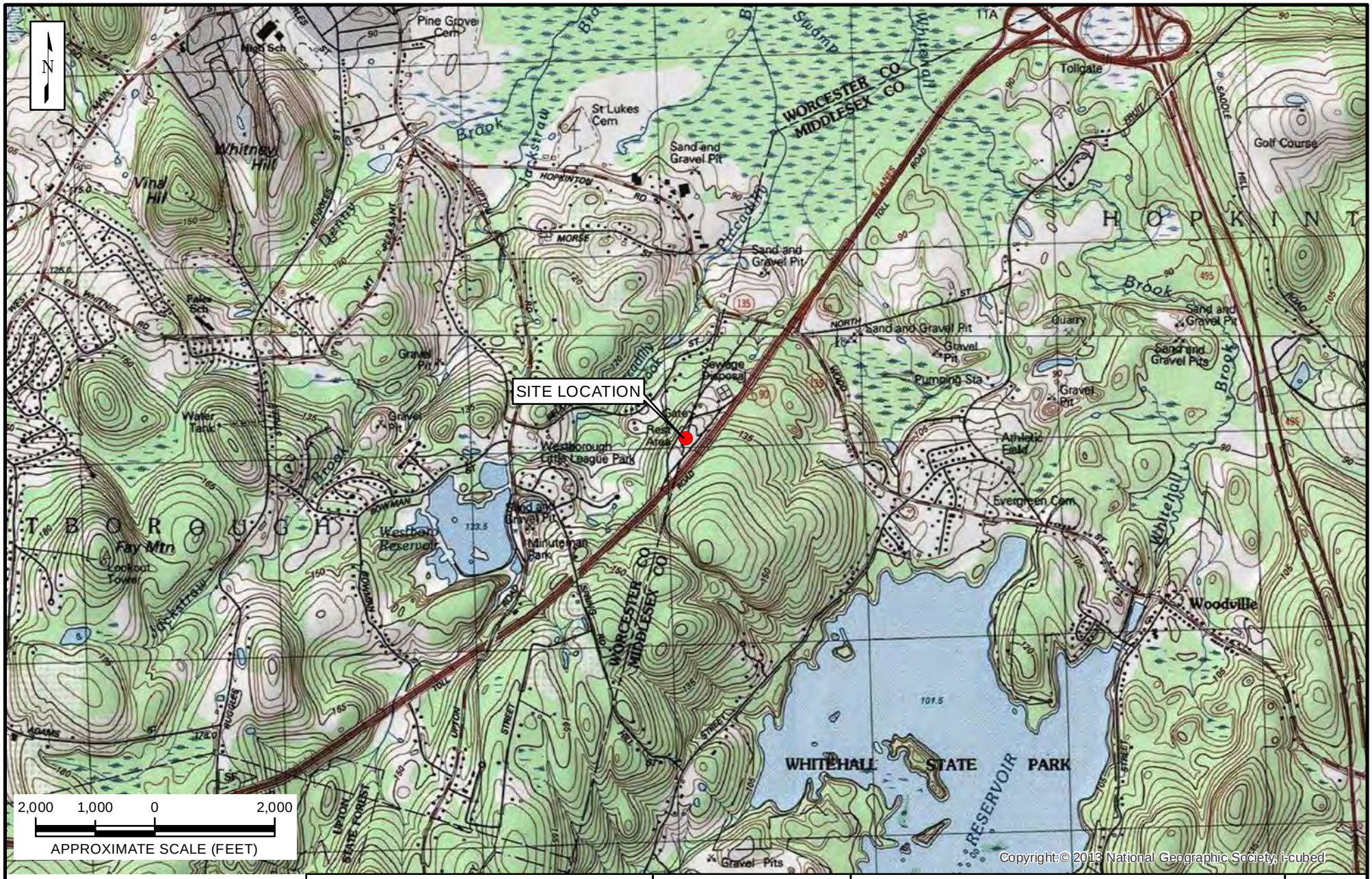
J. Certification requirement

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

BMPP certification statement: A BMPP meeting the requirements of this general permit will be prepared and implemented upon the initiation of the discharge.	
Notification provided to the appropriate State, including a copy of this NOI, if required.	Check one: Yes ■ No ☐
Notification provided to the municipality in which the discharge is located, including a copy of this NOI, if requested.	Check one: Yes ■ No ☐
Notification provided to the owner of a private or municipal storm sewer system, if such system is used for site discharges, including a copy of this NOI, if requested.	Check one: Yes ☐ No ☐ NA ■
Permission obtained from the owner of a private or municipal storm sewer system, if such system is used for site discharges. If yes, attach additional conditions. If no, attach explanation and timeframe for obtaining permission.	Check one: Yes ☐ No ☐ NA ■
Notification provided to the owner/operator of the area associated with activities covered by an additional discharge permit(s). Additional discharge permit is (check one): ☐ RGP ☐ DGP ☐ CGP ☐ MSGP ☐ Individual NPDES permit ☐ Other; if so, specify:	Check one: Yes ☐ No ☐ NA ■
Signature: 	Date: July 2, 2019
Print Name and Title: Ernest Stoetzner IV, Project Manager	

ATTACHMENT B

Figures



SOURCE :
USGS 7.5' TOPOGRAPHIC MAP, MILFORD, MASSACHUSETTS QUADRANGLE LOCATON

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PROJECT NO.	01GOH
DRAWN:	AUG 2015
DRAWN BY:	CTH
CHECKED BY:	
FILE NAME:	01GOH_LOCUS.mxd

SITE LOCATION MAP

FORMER MOBIL SERVICE STATION # 01-GOH
MASSACHUSETTS TURNPIKE SERVICE AREA 6AW
WESTBOROUGH, MASSACHUSETTS

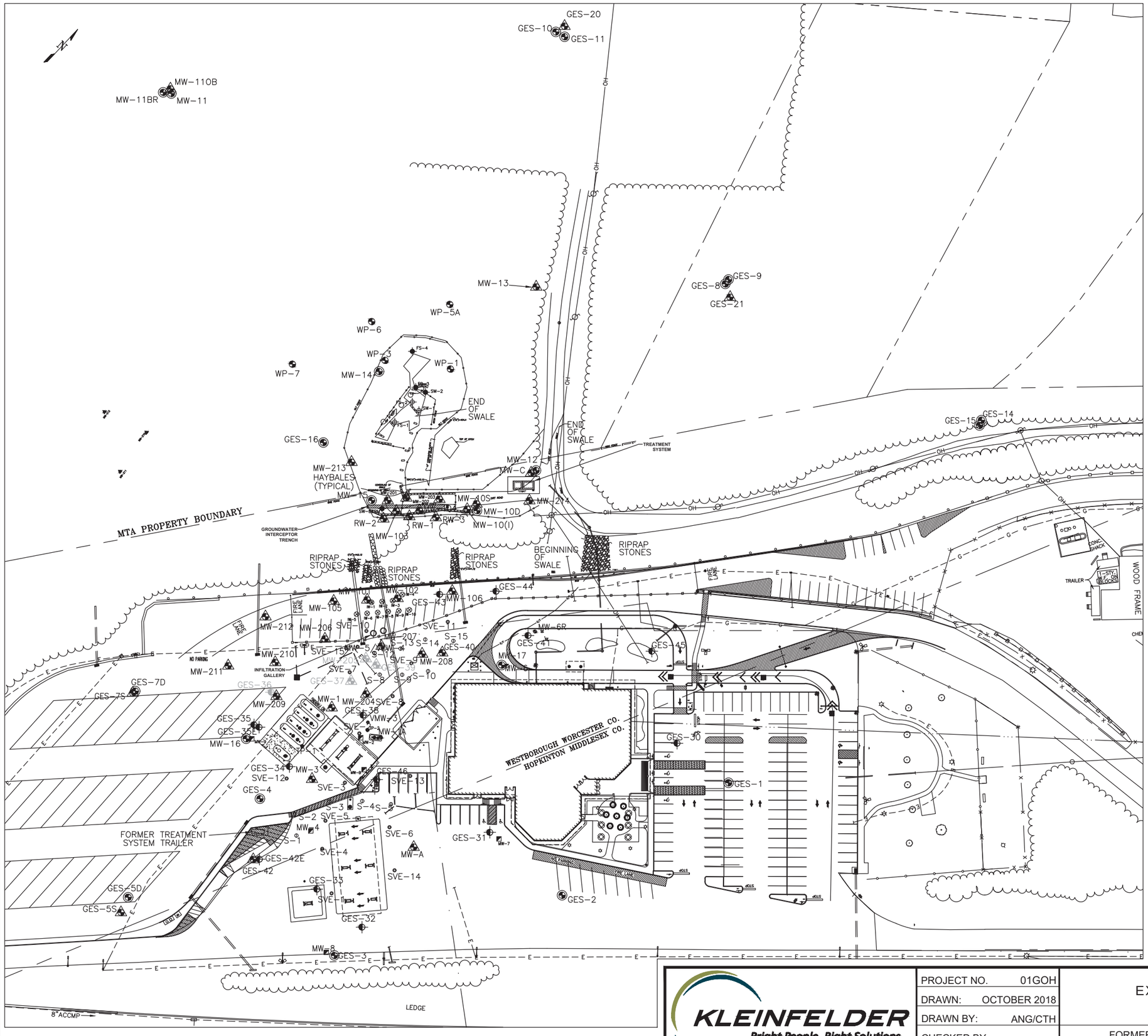
FIGURE

1

PLOTTED: 31 Oct 2018, 5:36pm, CHait

CAD FILE: G:\CADD\KLF PROJECTS\MASSACHUSETTS\01-GOH WESTBOROUGH\2018\01GOH\ LAYOUT: 01GOH

Framingham, MA



LEGEND

- SOIL BORING
- OVERBURDEN MONITORING WELL
- OVERBURDEN MINI-MONITORING WELL
- ABANDONED/DESTROYED MINI-MONITORING WELL
- ABANDONED/DESTROYED OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- COMPOSITE MONITORING WELL
- TANK PAD WELL
- RECOVERY WELL
- DESTROYED/PAVED OVER SOIL BORING
- PRODUCT UNDERGROUND STORAGE TANK
- SANITARY MANHOLE
- ELECTRIC MANHOLE
- UTILITY POLE
- STORM SEWER INLET
- SOIL VAPOR EXTRACTION WELL
- VAPOR MONITORING POINT
- AIR SPARGE WELL
- ----S--- APPROX. LOC. UNDERGROUND SANITARY LINE
- ——D—— APPROX. LOC. STORMWATER DRAINAGE
- ——G—— APPROX. LOC. UNDERGROUND GAS LINE
- ——OH—— APPROX. LOC. OVERHEAD LINE
- ——W—— APPROX. LOC. UNDERGROUND WATER LINE
- ——E—— APPROX. LOC. UNDERGROUND ELECTRIC LINE

60 30 0 60
APPROXIMATE SCALE (feet)

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Framingham, MA 01701
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PROJECT NO.	01GOH
DRAWN:	OCTOBER 2018
DRAWN BY:	ANG/CTH
CHECKED BY:	
FILE NAME:	01GOHOCT18.dwg

EXPANDED SITE PLAN

FORMER MOBIL SERVICE STATION #01-GOH
MASSACHUSETTS TURNPIKE SERVICE AREA 6AW
WESTBOROUGH, MASSACHUSETTS

FIGURE
2A

N

LEGEND

- EXISTING MONITORING WELL
- MONITORING WELL (APRIL 2018)
- SOIL BORING (APRIL 2018)
- GRAIN SIZE SAMPLE
- SHALLOW SOIL SAMPLE LOCATION (APRIL 2018)
- SURFACE WATER/SEDIMENT SAMPLE LOCATION (APRIL/MAY 2018)
- MANHOLE
- SOIL BORING (OCTOBER 2018)
- TEST PITS (OCTOBER 2018)
- TEST PITS (NOVEMBER 2018)
- EXPLORATORY BORING (SEPTEMBER/OCTOBER 2018)
- SHALLOW SOIL SAMPLE LOCATION (SEPTEMBER/OCTOBER 2018)
- PROPERTY BOUNDARY
- REMEDIATION TRENCH
- SHALLOW EXCAVATION AREA
- DEEP EXCAVATION AREA
- DELINEATED WETLAND

MW-13, SS-114, SS-113, WP-5A, SS-110, SS-109, TP-17, TP-16, WP-1, TP-20, SS-112, SWS-1/SED-1, SS-108, SWS-3/SED-3, TP-18, SWS-4/SED-4, TP-15, SS-105B, WP-6, SS-107, SS-105A, GRAIN SIZE EAST, SS-111, SWS-6/SED-6, TP-19, SS-103, MW-10S, SB-208, WP-3, SS-102B, SS-102A, MW-10D, MW-10D, MW-14, SS-104, SS-101, MW-10(I), SWS-10, SWS-2/SED-2, TP-21, SS-102C, SB-207, MW-203, SS-106, SWS-7/SED-7, SWS-5/SED-5, SWS-8/SED-8, SB-206, GRAIN SIZE WEST, MW-202, SWS-11, SS-100, MW-103, RW-3, WP-7, MW-201, SB-205, MW-213, SWS-9/SED-9, MW-104, RW-1, SB-210, SB-204, SB-209, RW-2, SWS-12, GES-16, SB-200, SB-203, MW-15, SWS-13, SB-201, SB-202, MW-12, MW-C, MW-214

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

50 25 0 50
APPROXIMATE SCALE (FEET)

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PROJECT NO.	01GOH
DRAWN:	1/23/2019
DRAWN BY:	CTH
CHECKED BY:	
FILE NAME:	01GOH_ProposedExcavation.mxd

PROPOSED REMEDIAL EXCAVATION PLAN

FORMER MOBIL STATION NO. 01-GOH
MASSACHUSETTS TURNPIKE SERVICE AREA 6AW
WESTBOROUGH, MASSACHUSETTS

FIGURE 2B

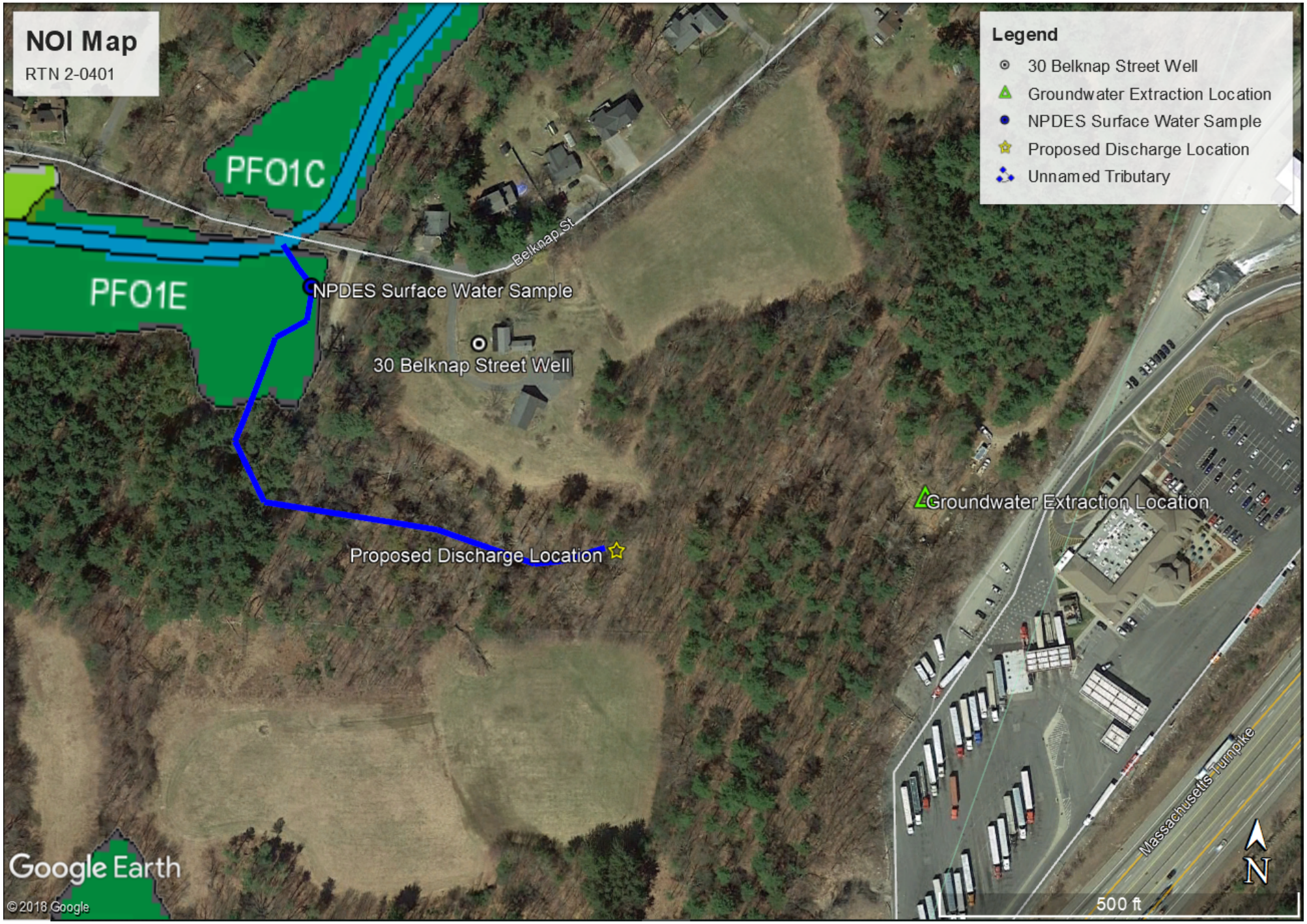

Figure 3
Notice of Intent Map

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Proposed Treatment System Schematic

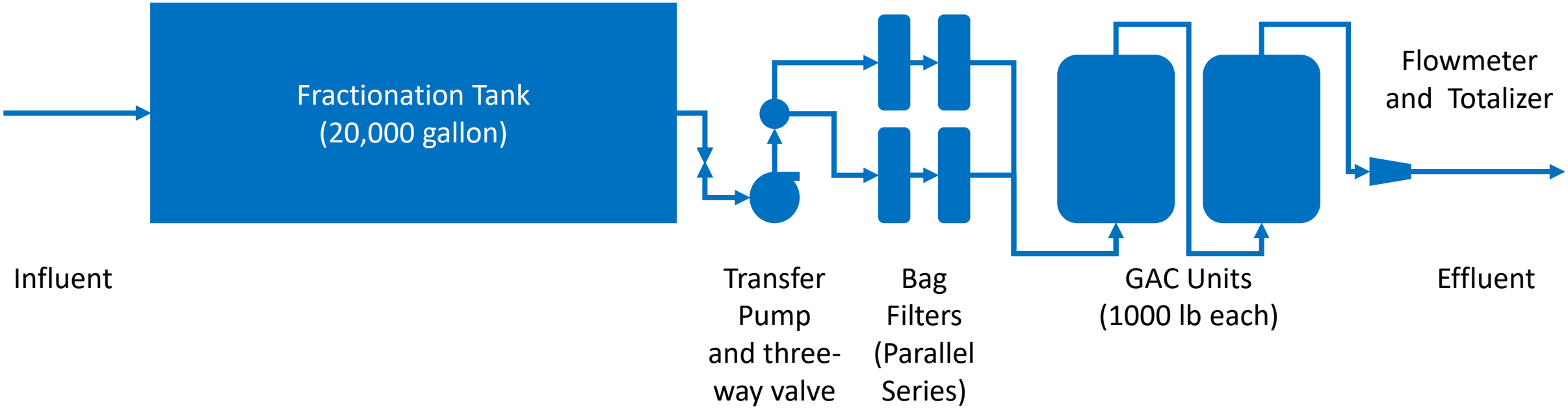

Figure 4
Proposed Treatment System Schematic

KLEINFELDER
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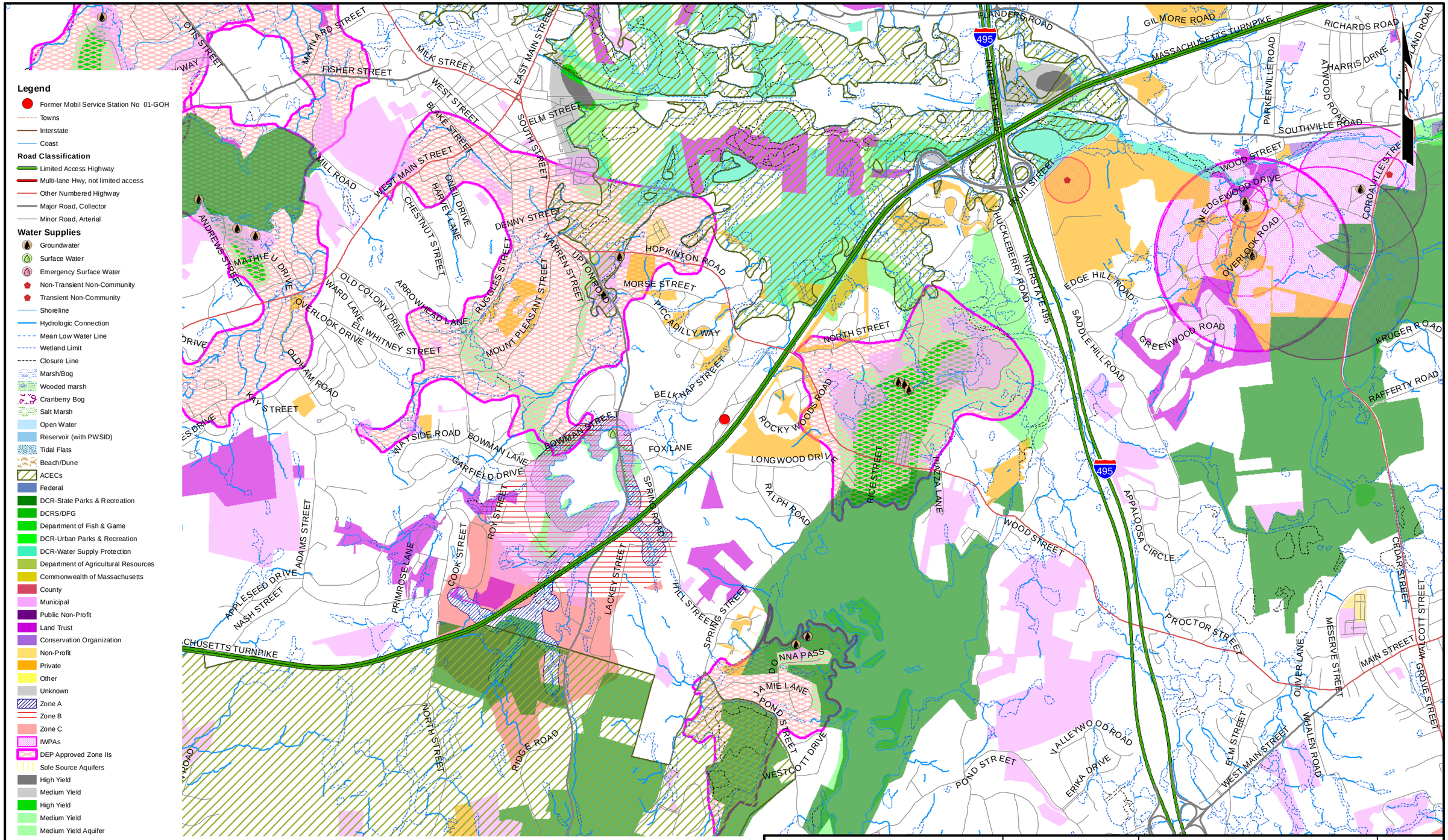

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PROJECT NO.	01GOH
DRAWN:	AUG 2015
DRAWN BY:	CTH
CHECKED BY:	--
FILE NAME:	01GOH_PRM.mxd

MassGIS
PRIORITY RESOURCE MAP

FORMER MOBIL SERVICE STATION # 01-GOH
MASSACHUSETTS TURNPIKE SERVICE AREA 6AW
WESTBOROUGH, MASSACHUSETTS

FIGURE
5

ATTACHMENT C

Laboratory Analytical Data

☑ Final Report
☐ Revised Report

Report Date:
13-May-19 12:55

Laboratory Report
SC54663

Kleinfelder, Inc.
4 Technology Drive, Suite 110
Westborough, MA 01851
Attn: Ernie Stoetzner

Project: ExxonMobil -01-GOH-Service Plaza6AW-Westborough
Project #: 01-GOH

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Dawn Wojcik
Laboratory Director

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 19 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC54663

Project: ExxonMobil -01-GOH-Service Plaza6AW-Westborough,MA

Project Number: 01-GOH

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC54663-01	NPDES Dewater Sample	Ground Water	06-May-19 08:00	06-May-19 13:20

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 01-GOH
Project Location: ExxonMobil -01-GOH-Service Plaza6AW-Westboro	**RTN:**
This form provides certifications for the following data set: SC54663-01	
Matrices: Ground Water	

CAM Protocol

✓ 8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	✓ 7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
✓ 8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

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

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

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

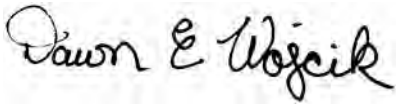
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	✓ Yes No

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

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

All negative responses are addressed in a case narrative on the cover page of this report.

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



Dawn E. Wojcik
Laboratory Director
Date: 5/13/2019

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 2.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

SDG Comments

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.
Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list.
8260 Volatile Organics:
The client requested a short list for 8260 RCP Volatiles. Only the site specific volatile organic constituents are reported as requested on the chain-of-custody.
Volatiles Analysis:
The client requested volatiles by 624. Only the site specific volatile organic constituents are reported as requested on the chain-ofcustody.

Cyanide Narration

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

Instrument:

CD07946

LACHAT 05/08/19-1 Dustin Harrison, Greg Danielewski, Chemist 05/08/19
The samples were distilled in accordance with the method.
The initial calibration met criteria.
The calibration check standards (ICV,CCV) were within 15% of true value and were analyzed at a frequencey of one per ten samples.
The continuing calibration blanks (ICB,CCB) had concentrations less than the reporting level.
The method blank, laboratory control sample (LCS), and matrix spike were distilled with the samples.

QC (Batch Specific):

CD07946

Batch 477925 (CD04794)

All LCS recoveries were within 90 - 110 with the following exceptions: None.
Additional soil criteria LCS acceptance range is 80-120% MS acceptance range 75-125%.
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Mercury Narration

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

Instrument:

CD07946

MERLIN 05/08/19 07:41 Rick Schweitzer, Chemist 05/08/19

Mercury Narration

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

QC (Batch Specific):

CD07946

Batch 477984 (CD07946)

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

IC

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

Instrument:

CD07946

IC 05/08/19-2 Brian Sheriden, Greg Danielewski, Chemist 05/08/19
The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

CD07946

Batch 478310 (CD09653)

All LCS recoveries were within 90 - 110 with the following exceptions: None.
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

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

Instrument:

CD07946

BLUE 05/08/19 08:30 Emily Kolominskaya, Chemist 05/08/19

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.

ICP Metals Narration

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

CD07946

Batch 477957 (CD07947)

All LCS recoveries were within 75 - 125 with the following exceptions: None.

NITROGEN

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

Instrument:

CD07946

LACHAT 05/10/19-1 Kandi Della Bella, Chemist 05/10/19
The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

CD07946

Batch 478227 (CD08636)

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional criteria: LCS acceptance range for waters is 85-115% and for soils is 75-125%. MS acceptance range is 75-125%.
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA-624

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

Instrument:

CD07946

CHEM23 05/07/19-2 Michael Hahn, Chemist 05/07/19
Initial Calibration Evaluation (CHEM23/VOA23_042819):
100% of target compounds met criteria.
The following compounds had %RSDs >35%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.
1. Continuing Calibration Verification (CHEM23/0507_30-VOA23_042819):

VOA-624

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

CD07946

Batch 478018 (CD08102)

All LCS recoveries were within critiera with the following exceptions: None.
All LCSD recoveries were within critiera with the following exceptions: None.
All LCS/LCSD RPDs were within criteria with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.
Additional VOA Criteria: The 624 recovery criteria for the MS is different than the LCS, which is reported above.
I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA-OXY Narration

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

Instrument:

CD07946

CHEM23 05/07/19-2 Michael Hahn, Chemist 05/07/19
Initial Calibration Evaluation (CHEM23/OXY0427):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.
Continuing Calibration Verification (CHEM23/0507_28-OXY0427) (MCP Compliance):

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

CD07946

Batch 478023 (CD07946)

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

See below for any non-conformances and issues relating to quality control samples and/or sample analysis/matrix.

SW-846 8270D

Laboratory Control Samples:

P8WFLCSY

[Undefined]

2,4,6-Tribromophenol

SW-846 8270D SIM

Samples:

SC54663-01 *NPDES Dewater Sample*

[Undefined]

Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Chrysene
Indeno(1,2,3-cd)pyrene

Sample Acceptance Check Form

Client:	Kleinfelder, Inc. - Westborough, MA
Project:	ExxonMobil -01-GOH-Service Plaza6AW-Westborough,MA / 01-GOH
Work Order:	SC54663
Sample(s) received on:	5/6/2019

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples refrigerated upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC54663-01 **Client ID:** NPDES Dewater Sample

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Oil and Grease by EPA 1664A	< 1.6		1.6	mg/l	E1664A
Iron (Dissolved)	2.09		0.011	mg/l	E200.7
Lead (Dissolved)	0.002		0.002	mg/l	E200.7
Nickel (Dissolved)	0.002		0.001	mg/l	E200.7
Zinc (Dissolved)	0.003		0.002	mg/l	E200.7
Ammonia as Nitrogen	0.30		0.10	mg/l	E350.1
Total Suspended Solids	26		5.0	mg/l	SM2540D-11
Chloride	2110		150	mg/l	SM4500CLE

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Dewater Sample SC54663-01	01-GOH	Ground Water	06-May-19 08:00	06-May-19

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Filtration	**Lab Filtered**		N/A			1	Varies	06-May-19		ABW	1900626	
16065-83-1	Trivalent Chromium (soluble)	**0.00**		mg/l			1	Calculation	13-May-19	13-May-19	ABW	1900621	
18540-29-9	Hexavalent Chromium (soluble)	< 0.005		mg/l	0.005	0.004	1	SM3500-Cr-B (11)/7196A	06-May-19 15:35	06-May-19 16:02	ABW	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - M-PA009													
117-81-7	bis(2-Ethylhexyl)phthalate	< 10		ug/l	10	4.6	1	SW-846 8270D	08-May-19 19:05	09-May-19 10:49	M-PA009	128WAF0	
85-68-7	Butylbenzylphthalate	< 4.6		ug/l	4.6	1.9	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 4.6		ug/l	4.6	1.9	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 4.6		ug/l	4.6	1.9	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 4.6		ug/l	4.6	1.9	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 10		ug/l	10	4.6	1	"	"	"	"	"	
108-95-2	Phenol	< 1.9		ug/l	1.9	0.46	1	"	"	"	"	"	
Surrogate recoveries:													
118-79-6	*2,4,6-Tribromophenol*	*55*			*15-110 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*69*			*30-130 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*30*			*15-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*66*			*30-130 %*			"	"	"	"	"	
13127-88-3	*Phenol-d6*	*23*			*15-110 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*60*			*30-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - M-PA009													
56-55-3	Benzo(a)anthracene	< 0.046	.	ug/l	0.046	0.0093	1	SW-846 8270D SIM	"	09-May-19 07:09	M-PA009	128WAE0	
50-32-8	Benzo(a)pyrene	< 0.046	.	ug/l	0.046	0.0093	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 0.046	.	ug/l	0.046	0.0093	1	"	"	"	"	"	
207-08-9	Benzo(k)fluoranthene	< 0.046	.	ug/l	0.046	0.0093	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.046	.	ug/l	0.046	0.0093	1	"	"	"	"	"	
53-70-3	Dibenz(a,h)anthracene	< 0.065		ug/l	0.065	0.019	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 0.046	.	ug/l	0.046	0.0093	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.065		ug/l	0.065	0.028	1	"	"	"	"	"	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*61*			*30-130 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*45*			*30-130 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*90*			*30-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Prepared by method E1664A													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Oil and Grease by EPA 1664A	**< 1.6**		mg/l	1.6	1.6	1.2	E1664A	08-May-19 05:29	08-May-19 05:29	M-CT007	477975A	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-36-0	Antimony (Dissolved)	< 0.005		mg/l	0.005	0.005	1	E200.7	07-May-19	08-May-19 22:28	M-CT007	477957A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Dewater Sample	01-GOH	Ground Water	06-May-19 08:00	06-May-19
SC54663-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-38-2	Arsenic (Dissolved)	< 0.004		mg/l	0.004	0.004	1	E200.7	07-May-19	08-May-19 22:28	M-CT007	477957A	
7440-43-9	Cadmium (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-47-3	Chromium (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-50-8	Copper (Dissolved)	< 0.005		mg/l	0.005	0.005	1	"	"	"	"	"	
7439-89-6	Iron (Dissolved)	**2.09**		mg/l	0.011	0.011	1	"	"	"	"	"	
7439-92-1	Lead (Dissolved)	**0.002**		mg/l	0.002	0.002	1	"	"	"	"	"	
7440-02-0	Nickel (Dissolved)	**0.002**		mg/l	0.001	0.001	1	"	"	"	"	"	
7782-49-2	Selenium (Dissolved)	< 0.011		mg/l	0.011	0.011	1	"	"	"	"	"	
7440-22-4	Silver (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-66-6	Zinc (Dissolved)	**0.003**		mg/l	0.002	0.002	1	"	"	"	"	"	
Prepared by method SW7470A													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7439-97-6	Mercury (Dissolved)	< 0.0002		mg/l	0.0002	0.0002	1	E245.1	08-May-19	08-May-19 14:52	M-CT007	477984A	
Prepared by method SW9012B													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide	< 0.010		mg/l	0.010	0.010	1	E335.4	07-May-19	08-May-19 13:05	M-CT007	477925A	
Prepared by method E350.1													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7664-41-7	Ammonia as Nitrogen	**0.30**		mg/l	0.10	0.10	2	E350.1	10-May-19 07:43	10-May-19 07:43	M-CT007	478227A	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
71-43-2	Benzene	< 1.0		ug/l	1.0	1.0	1	E624.1	07-May-19 17:10	07-May-19 21:50	M-CT007	478018A	
100-41-4	Ethylbenzene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
179601-23-1	m&p-Xylene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
1634-04-4	Methyl t-butyl ether (MTBE)	< 2.0		ug/l	2.0	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
994-05-8	Tert-amyl-methyl-ether	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
Surrogate recoveries:													
2199-69-1	*% 1,2-dichlorobenzene-d4*	*101*			*70-130 %*			"	"	"	"	"	
460-00-4	*% Bromofluorobenzene*	*97*			*70-130 %*			"	"	"	"	"	
1868-53-7	*% Dibromofluoromethane*	*98*			*70-130 %*			"	"	"	"	"	
2037-26-5	*% Toluene-d8*	*99*			*70-130 %*			"	"	"	"	"	
Prepared by method SM2540D-11													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Total Suspended Solids	**26**		mg/l	5.0	5.0	1	SM2540D-11	08-May-19 06:35	08-May-19 06:35	M-CT007	477978A	
Prepared by method SM4500CLE													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
16887-00-6	Chloride	**2,110**		mg/l	150	150	50	SM4500CLE	09-May-19 07:13	09-May-19 07:13	M-CT007	478310A	
Subcontracted Analyses													
Prepared by method SW8260C													

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Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Dewater Sample SC54663-01	01-GOH	Ground Water	06-May-19 08:00	06-May-19

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses Prepared by method SW8260C													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
64-17-5	Ethanol	< 400		ug/l	400	400	1	SW8260C	07-May-19 17:10	07-May-19 21:50	M-CT007	478023B	
75-65-0	Tert-butyl alcohol	< 50		ug/l	50	50	1	"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM3500-Cr-B (11)/7196A										
Batch 1900621 - General Preparation										
Blank (1900621-BLK1)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	< 0.005		mg/l	0.005						
LCS (1900621-BS1)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**0.050**		mg/l	0.005	0.0500		101	90-111		
Calibration Blank (1900621-CCB1)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**-0.0007**		mg/l							
Calibration Blank (1900621-CCB2)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**-0.0008**		mg/l							
Calibration Check (1900621-CCV1)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**0.051**		mg/l	0.005	0.0500		101	90-110		
Calibration Check (1900621-CCV2)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**0.051**		mg/l	0.005	0.0500		101	90-110		
Reference (1900621-SRM1)						Prepared & Analyzed: 06-May-19				
Hexavalent Chromium (soluble)	**0.025**		mg/l	0.005	0.0250		100	85-115		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D										
Batch 19128WAF026 - SW-846 3510C										
LCS (128WFLCSQ)						Prepared: 08-May-19 Analyzed: 09-May-19				
Phenol	**25**		ug/l	2.0	50		50	30-130		
bis(2-Ethylhexyl)phthalate	**48**		ug/l	11	50		95	40-140		
Diethylphthalate	**44**		ug/l	5.0	50		88	40-140		
Butylbenzylphthalate	**46**		ug/l	5.0	50		93	40-140		
Dimethylphthalate	**39**		ug/l	5.0	50		78	40-140		
Di-n-octylphthalate	**50**		ug/l	11	50		101	40-140		
Di-n-butylphthalate	**48**		ug/l	5.0	50		96	40-140		
Surrogate: Nitrobenzene-d5	*82*		ug/l		*100*		*82*	*30-130*		
Surrogate: Terphenyl-d14	*92*		ug/l		*100*		*92*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*190*		ug/l		*200*		*94*	*15-110*		
Surrogate: Phenol-d6	*110*		ug/l		*200*		*53*	*15-110*		
Surrogate: 2-Fluorophenol	*130*		ug/l		*200*		*66*	*15-110*		
Surrogate: 2-Fluorobiphenyl	*65*		ug/l		*100*		*65*	*30-130*		
LCS Dup (P8WFLCSY)						Prepared: 08-May-19 Analyzed: 09-May-19				
bis(2-Ethylhexyl)phthalate	**50**		ug/l	11	50		100	40-140	5	20
Di-n-butylphthalate	**50**		ug/l	5.0	50		100	40-140	4	20
Diethylphthalate	**51**		ug/l	5.0	50		101	40-140	14	20
Dimethylphthalate	**46**		ug/l	5.0	50		91	40-140	15	20
Di-n-octylphthalate	**53**		ug/l	11	50		106	40-140	4	20
Phenol	**23**		ug/l	2.0	50		47	30-130	8	20
Butylbenzylphthalate	**48**		ug/l	5.0	50		97	40-140	4	20
Surrogate: 2-Fluorophenol	*140*		ug/l		*200*		*68*	*15-110*		
Surrogate: 2,4,6-Tribromophenol	*250*	*	ug/l		*200*		*123*	*15-110*		
Surrogate: Nitrobenzene-d5	*81*		ug/l		*100*		*81*	*30-130*		
Surrogate: 2-Fluorobiphenyl	*86*		ug/l		*100*		*86*	*30-130*		
Surrogate: Terphenyl-d14	*96*		ug/l		*100*		*96*	*30-130*		
Surrogate: Phenol-d6	*94*		ug/l		*200*		*47*	*15-110*		
Blank (SBLKWF128B)						Prepared: 08-May-19 Analyzed: 09-May-19				
Butylbenzylphthalate	< 5.0		ug/l	5.0				-		
bis(2-Ethylhexyl)phthalate	< 11		ug/l	11				-		
Diethylphthalate	< 5.0		ug/l	5.0				-		
Dimethylphthalate	< 5.0		ug/l	5.0				-		
Di-n-butylphthalate	< 5.0		ug/l	5.0				-		
Phenol	< 2.0		ug/l	2.0				-		
Di-n-octylphthalate	< 11		ug/l	11				-		
Surrogate: Terphenyl-d14	*87*		ug/l		*100*		*87*	*30-130*		
Surrogate: Nitrobenzene-d5	*74*		ug/l		*100*		*74*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*200*		ug/l		*200*		*101*	*15-110*		
Surrogate: 2-Fluorobiphenyl	*69*		ug/l		*100*		*69*	*30-130*		
Surrogate: Phenol-d6	*62*		ug/l		*200*		*31*	*15-110*		
Surrogate: 2-Fluorophenol	*91*		ug/l		*200*		*45*	*15-110*		
SW-846 8270D SIM										
Batch 19128WAE026 - SW-846 3510C										
LCS (128WELCSQ)						Prepared: 08-May-19 Analyzed: 09-May-19				
Naphthalene	**0.66**		ug/l	0.070	1.0		66	40-140		
Indeno(1,2,3-cd)pyrene	**0.71**		ug/l	0.050	1.0		71	40-140		
Dibenz(a,h)anthracene	**0.62**		ug/l	0.070	1.0		62	40-140		
Chrysene	**0.85**		ug/l	0.050	1.0		85	40-140		
Benzo(k)fluoranthene	**0.88**		ug/l	0.050	1.0		88	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D SIM										
Batch 19128WAE026 - SW-846 3510C										
LCS (128WELCSQ)						Prepared: 08-May-19 Analyzed: 09-May-19				
Benzo(b)fluoranthene	**0.91**		ug/l	0.050	1.0		91	40-140		
Benzo(a)pyrene	**0.89**		ug/l	0.050	1.0		89	40-140		
Benzo(a)anthracene	**0.91**		ug/l	0.050	1.0		91	40-140		
Surrogate: Benzo(a)pyrene-d12	*0.73*		ug/l		*1.0*		*73*	*30-130*		
Surrogate: Fluoranthene-d10	*0.88*		ug/l		*1.0*		*88*	*30-130*		
Surrogate: 1-Methylnaphthalene-d10	*0.65*		ug/l		*1.0*		*65*	*30-130*		
LCS Dup (P8WELCSY)						Prepared: 08-May-19 Analyzed: 09-May-19				
Benzo(b)fluoranthene	**1.1**		ug/l	0.050	1.0		105	40-140	15	20
Benzo(a)pyrene	**1.0**		ug/l	0.050	1.0		105	40-140	17	20
Naphthalene	**0.77**		ug/l	0.070	1.0		77	40-140	17	20
Chrysene	**0.98**		ug/l	0.050	1.0		98	40-140	14	20
Benzo(k)fluoranthene	**1.0**		ug/l	0.050	1.0		102	40-140	14	20
Benzo(a)anthracene	**1.1**		ug/l	0.050	1.0		105	40-140	14	20
Indeno(1,2,3-cd)pyrene	**0.82**		ug/l	0.050	1.0		82	40-140	14	20
Dibenz(a,h)anthracene	**0.71**		ug/l	0.070	1.0		71	40-140	13	20
Surrogate: 1-Methylnaphthalene-d10	*0.75*		ug/l		*1.0*		*75*	*30-130*		
Surrogate: Benzo(a)pyrene-d12	*0.85*		ug/l		*1.0*		*85*	*30-130*		
Surrogate: Fluoranthene-d10	*0.99*		ug/l		*1.0*		*99*	*30-130*		
Blank (SBLKWE128B)						Prepared: 08-May-19 Analyzed: 09-May-19				
Benzo(a)anthracene	< 0.050		ug/l	0.050				-		
Naphthalene	< 0.070		ug/l	0.070				-		
Indeno(1,2,3-cd)pyrene	< 0.050		ug/l	0.050				-		
Dibenz(a,h)anthracene	< 0.070		ug/l	0.070				-		
Chrysene	< 0.050		ug/l	0.050				-		
Benzo(k)fluoranthene	< 0.050		ug/l	0.050				-		
Benzo(b)fluoranthene	< 0.050		ug/l	0.050				-		
Benzo(a)pyrene	< 0.050		ug/l	0.050				-		
Surrogate: Fluoranthene-d10	*1.0*		ug/l		*1.0*		*103*	*30-130*		
Surrogate: Benzo(a)pyrene-d12	*0.87*		ug/l		*1.0*		*87*	*30-130*		
Surrogate: 1-Methylnaphthalene-d10	*0.43*		ug/l		*1.0*		*43*	*30-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
E1664A										
Batch 477975A - E1664A										
Blank (CD07946-BLK)						Prepared & Analyzed: 08-May-19				
Oil and Grease by EPA 1664A	< 1.4		mg/l	1.4	40		BRL	-		
LCS (CD07946-LCS)						Prepared & Analyzed: 08-May-19				
Oil and Grease by EPA 1664A	**39.50**		mg/l	1.4	40		99	85-115		20
LCS Dup (CD07946-LCSD)			**Source: CD07946-LCS**			Prepared & Analyzed: 08-May-19				
Oil and Grease by EPA 1664A	**38.70**		mg/l	1.4	40		97	85-115	2.0	20
E200.7										
Batch 477957A - SW3005A										
Blank (CD07947-BLK)						Prepared: 07-May-19 Analyzed: 08-May-19				
Lead (Dissolved)	< 0.002		mg/l	0.002			BRL	-		
Zinc (Dissolved)	< 0.002		mg/l	0.002			BRL	-		
Silver (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Nickel (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Iron (Dissolved)	< 0.011		mg/l	0.011			BRL	-		
Copper (Dissolved)	< 0.005		mg/l	0.005			BRL	-		
Chromium (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Cadmium (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Arsenic (Dissolved)	< 0.004		mg/l	0.004			BRL	-		
Antimony (Dissolved)	< 0.005		mg/l	0.005			BRL	-		
Selenium (Dissolved)	< 0.011		mg/l	0.011			BRL	-		
LCS (CD07947-LCS)						Prepared: 07-May-19 Analyzed: 08-May-19				
Copper (Dissolved)	**1.035**		mg/l	0.005	1.087		95.2	75-125		20
Nickel (Dissolved)	**1.008**		mg/l	0.001	1.087		92.7	75-125		20
Zinc (Dissolved)	**1.016**		mg/l	0.002	1.087		93.5	75-125		20
Silver (Dissolved)	**0.2510**		mg/l	0.001	0.2717		92.4	75-125		20
Selenium (Dissolved)	**1.011**		mg/l	0.011	1.087		93.0	75-125		20
Antimony (Dissolved)	**2.140**		mg/l	0.005	2.173		98.5	75-125		20
Lead (Dissolved)	**2.066**		mg/l	0.002	2.173		95.1	75-125		20
Chromium (Dissolved)	**1.012**		mg/l	0.001	1.087		93.1	75-125		20
Cadmium (Dissolved)	**1.030**		mg/l	0.001	1.087		94.8	75-125		20
Arsenic (Dissolved)	**2.000**		mg/l	0.004	2.173		92.0	75-125		20
Iron (Dissolved)	**1.029**		mg/l	0.011	1.087		94.7	75-125		20
E245.1										
Batch 477984A - SW7470A										
Blank (CD07946-BLK)						Prepared & Analyzed: 08-May-19				
Mercury (Dissolved)	< 0.0002		mg/l	0.0002			BRL	-		
Duplicate (CD07946-DUP)			**Source: SC54663-01**			Prepared & Analyzed: 08-May-19				
Mercury (Dissolved)	< 0.0003		mg/l	0.0003		BRL		-	NC	30
LCS (CD07946-LCS)						Prepared & Analyzed: 08-May-19				
Mercury (Dissolved)	**0.002546**		mg/l	0.0002	0.0025		102	75-125		30
Matrix Spike (CD07946-MS)			**Source: SC54663-01**			Prepared & Analyzed: 08-May-19				
Mercury (Dissolved)	**0.002478**		mg/l	0.0002	0.0025	BRL	99.1	75-125		30
E335.4										
Batch 477925A - SW9012B										
Blank (CD04794-BLK)						Prepared: 07-May-19 Analyzed: 08-May-19				
Total Cyanide	< 0.010		mg/l	0.010			BRL	-		
LCS (CD04794-LCS)						Prepared: 07-May-19 Analyzed: 08-May-19				
Total Cyanide	**0.4210**		mg/l	0.010	0.426		98.8	90-110		30
E350.1										

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
E350.1										
Batch 478227A - E350.1										
Blank (CD08636-BLK)						Prepared: 09-May-19 Analyzed: 10-May-19				
Ammonia as Nitrogen	< 0.05		mg/l	0.05			BRL	-		
LCS (CD08636-LCS)						Prepared: 09-May-19 Analyzed: 10-May-19				
Ammonia as Nitrogen	**2.490**		mg/l	0.05	2.72		91.5	90-110		20
E624.1										
Batch 478018A - E624.1										
Blank (CD08102-BLK)						Prepared & Analyzed: 07-May-19				
Methyl t-butyl ether (MTBE)	**ND**		ug/l	1.0			ND	-		
o-Xylene	**ND**		ug/l	1.0			ND	-		
Ethylbenzene	**ND**		ug/l	1.0			ND	-		
m&p-Xylene	**ND**		ug/l	1.0			ND	-		
Toluene	**ND**		ug/l	1.0			ND	-		
Benzene	**ND**		ug/l	0.70			ND	-		
Surrogate: % Toluene-d8	*100*		ug/l		*30*		*100*	*70-130*		
Surrogate: % Dibromofluoromethane	*95*		ug/l		*30*		*95*	*70-130*		
Surrogate: % Bromofluorobenzene	*94*		ug/l		*30*		*94*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*101*		ug/l		*30*		*101*	*70-130*		
LCS (CD08102-LCS)						Prepared & Analyzed: 07-May-19				
Benzene	**18.42**		ug/l	0.70	20		92	65-135		20
Toluene	**18.24**		ug/l	1.0	20		91	70-130		20
o-Xylene	**18.96**		ug/l	1.0	20		95	70-130		30
Methyl t-butyl ether (MTBE)	**18.05**		ug/l	1.0	20		90	70-130		30
m&p-Xylene	**37.85**		ug/l	1.0	40		95	70-130		30
Ethylbenzene	**18.33**		ug/l	1.0	20		92	60-140		20
Surrogate: % Dibromofluoromethane	*28.82*		ug/l		*30*		*96*	*70-130*		
Surrogate: % Bromofluorobenzene	*33.33*		ug/l		*30*		*111*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*30.16*		ug/l		*30*		*101*	*70-130*		
Surrogate: % Toluene-d8	*29.49*		ug/l		*30*		*98*	*70-130*		
LCS Dup (CD08102-LCSD)			**Source: CD08102-LCS**			Prepared & Analyzed: 07-May-19				
Ethylbenzene	**17.45**		ug/l	1.0	20		87	60-140	5.6	20
o-Xylene	**18.02**		ug/l	1.0	20		90	70-130	5.4	30
Toluene	**17.86**		ug/l	1.0	20		89	70-130	2.2	20
m&p-Xylene	**35.52**		ug/l	1.0	40		89	70-130	6.5	30
Methyl t-butyl ether (MTBE)	**18.28**		ug/l	1.0	20		91	70-130	1.1	30
Benzene	**18.04**		ug/l	0.70	20		90	65-135	2.2	20
Surrogate: % Toluene-d8	*29.96*		ug/l		*30*		*100*	*70-130*		
Surrogate: % Dibromofluoromethane	*30.73*		ug/l		*30*		*102*	*70-130*		
Surrogate: % Bromofluorobenzene	*32.39*		ug/l		*30*		*108*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*30.40*		ug/l		*30*		*101*	*70-130*		
SM2540D-11										
Batch 477978A - SM2540D-11										
Blank (CD07874-BLK)						Prepared & Analyzed: 08-May-19				
Total Suspended Solids	< 5.0		mg/l	5.0	75		BRL	-		
LCS (CD07874-LCS)						Prepared & Analyzed: 08-May-19				
Total Suspended Solids	**73.00**		mg/l	5.0	75		97	85-115		
SM4500CLE										
Batch 478310A - SM4500CLE										
Blank (CD09653-BLK)						Prepared & Analyzed: 08-May-19				
Chloride	< 3.0		mg/l	3.0			BRL	-		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM4500CLE										
Batch 478310A - SM4500CLE										
LCS (CD09653-LCS)					Prepared & Analyzed: 09-May-19					
Chloride	**29.12**		mg/l	3.0	)89701338(		97.1	90-110		20
SW8260C										
Batch 478023B - SW8260C										
Blank (CD07946-BLK)					Prepared & Analyzed: 07-May-19					
tert-amyl methyl ether	**ND**		ug/l	10			ND	-		
Tert-butyl alcohol	**ND**		ug/l	25			ND	-		
Ethanol	**ND**		ug/l	200			ND	-		
LCS (CD07946-LCS)					Prepared & Analyzed: 07-May-19					
tert-amyl methyl ether	**9.520**		ug/l	10	10		95	70-130		30
Tert-butyl alcohol	**229.0**		ug/l	25	250		92	70-130		30
Ethanol	**239.4**		ug/l	200	250		96	70-130		30
LCS Dup (CD07946-LCSD)			**Source: CD07946-LCS**		Prepared & Analyzed: 07-May-19					
tert-amyl methyl ether	**9.581**		ug/l	10	10		96	70-130	1.0	30
Ethanol	**229.4**		ug/l	200	250		92	70-130	4.3	30
Tert-butyl alcohol	**213.1**		ug/l	25	250		85	70-130	7.9	30
Matrix Spike (CD07946-MS)			**Source: SC54663-01**		Prepared & Analyzed: 08-May-19					
tert-amyl methyl ether	**9.053**		ug/l	10	10		91	70-130		30
Ethanol	**251.7**		ug/l	200	250	BRL	101	70-130		30
Tert-butyl alcohol	**250.4**		ug/l	25	250	BRL	100	70-130		30
Matrix Spike Dup (CD07946-MSD)			**Source: SC54663-01**		Prepared & Analyzed: 08-May-19					
tert-amyl methyl ether	**9.589**		ug/l	10	10		96	70-130	5.3	30
Tert-butyl alcohol	**263.5**		ug/l	25	250	BRL	105	70-130	4.9	30
Ethanol	**262.4**		ug/l	200	250	BRL	105	70-130	3.9	30

Notes and Definitions

*	[Undefined]
.	
dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
OG	The required Matrix Spike and Matrix Spike Duplicate (MS/MSD) for Oil & Grease method 1664B can only be analyzed when the client has submitted sufficient sample volume. An extra liter per MS/MSD is required to fulfill the method QC criteria. Please refer to Chain of Custody and QC Summary (MS/MSD) of the Laboratory Report to verify ample sample volume was submitted to fulfill the requirement.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC54663 BR R.B. 18868

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Exxon Mobil
CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:

- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: ~~5/9/19~~ 5/10/19

All TAT's subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Kleinfelder - Attn: Robin Yarnell
4 Technology Drive, Suite 110
Westborough, MA 01581
ryarnell@kleinfelder.com
Telephone #: P:508-370-8256 / F: 508-628-1401
Project Mgr: Ernie Stoetzner

Invoice To: Kleinfelder
550 West C Street, Suite 1200
San Diego, CA 92101
AccountsPayableUS@kleinfelder.com
P.O No: 51361-336792 Quote #:

Project No: 01-GOH
Site Name: Westborough 01-GOH
Location: Service Plaza 6AW, Mass Pike Westbound State: MA
Sampler(s): Brian Caccavale

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= unpres. 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G=Grab C=Composite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	USEPA VOCs via 624*	PAHs & phenols via 625 SIM**	Dissolved Metals via 200.7***	HEM Oil and Grease via USEPA 1664A	Chloride via 300	Ammonia via method 350.1	Cyanide via 335.4	Total Suspended Solids via SM2540D	Check if chlorinated
						Containers				Analysis								
						List Preservative Code below:				2	11	4	3	11	3	5	11	
SC54663-01	NPDES Dewater Sample	5/6/19	0800	G	GW	6	3		7	X	X	X	X	X	X	X	X	☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☑ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other
State-specific reporting standards

* BTEX, TBA, phenol, TAME, MTBE, ethanol
* Total Phthalates, Diethylhexyl phthalate, Benzo(a)anthracene
** Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene
** Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene
**Napthalene
*** Sb, As, Cd, Cr3, Cr6, Cu, Fe, Pb, Hg
***Ni, Se, Ag, Zn

Rush TAT appd in email on 5/3/19 #18869

Relinquished by:	Received by:	Date:	Time:	Temp °C
Brian Cacc	KLF Fedex	5/6/19	0900	Observed 2.1
Brian Cacc		5/6/19	0945	Correction Factor 0
		5/6/19	13:26	Corrected 2.1
				IR ID # 1

☑ EDD format:
☑ E-mail to: ryarnell@kleinfelder.com, BCaccavale@kleinfelder.com
estoetzner@kleinfelder.com, nstevens@kleinfelder.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

SC54663 R.R. 18868

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Exxon Mobil
CHAIN OF CUSTODY RECORD

Page 1 of 1

Special Handling:
- ☐ Standard TAT - 7 to 10 business days
- ☑ Rush TAT - Date Needed: ~~5/9/19~~ 5/10/19

All TATs subject to laboratory approval
Min 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Kleinfelder - Attn: Robin Yarnell
4 Technology Drive, Suite 110
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Project Mgr: Ernie Stoetzner

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550 West C Street, Suite 1200
San Diego, CA 92101
AccountsPayableUS@kleinfelder.com
P.O No.: 51361-336792 Quote #: 517

Project No: 01-GOH
Site Name: Westborough 01-GOH
Location: Service Plaza 6AW, Mass Pike Westbound State: MA
Sampler(s): Brian Caccavale

F=Field Filtered 1=$Na_2S_2O_3$ 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= unpres. 12=

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= X2= X3=

G= Grab C=Composite

List Preservative Code below:

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: USEPA VOCs via 624* (2)	PAHs & phenols via 625SIM** (11)	Dissolved Metals via 200.7*** (4)	HEM Oil and Grease via USEPA 1664A (3)	Chloride via 300 (11)	Ammonia via method 350.1 (3)	Cyanide via 335.4 (5)	Total Suspended Solids via SM2540D (11)	Check if chlorinated
SC54663-01	NPDES Dewater Sample	5/6/19	0800	G	GW	6	3		7	X	X	X	X	X	X	X	X	☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☑ Standard ☐ No QC ☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other
State-specific reporting standards:

* BTEX, TBA, phenol, TAME, MTBE, ethanol
** Total Phthalates, Diethylhexyl phthalate, Benzo(a)anthracene
**Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene
**Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene
**Napthalene
***Sb, As, Cd, Cr3, Cr6, Cu, Fe, Pb, Hg
***Ni, Se, Ag, Zn
Rush TAT appvd in email on 5/3/19 #18869

Relinquished by:	Received by:	Date:	Time:
Brian Cacc	KLF Fedex	5/6/19	0900
Brian Cacc		5/6/19	0945
		5/6/19	13:26

Temp °C: Observed 2.1; Correction Factor 0; Corrected 2.1; IR ID # 1

☑ EDD format:
☑ E-mail to: ryarnell@kleinfelder.com, BCaccavale@kleinfelder.com, estoetzner@kleinfelder.com, nstevens@kleinfelder.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☐ Iced ☑ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

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11 Almgren Drive
Agawam, MA 01001
(413) 789-9018

This preceding chain of custody has been amended to include the client requested additional analyses as noted below:

Laboratory ID	*Client ID*	*Analysis*	*Added*
SC54663-01	NPDES Dewater Sample	Semivolatile Organic Compounds	5/7/2019
SC54663-01	NPDES Dewater Sample	SVOCs by SIM	5/7/2019

Batch Summary

1900621

General Chemistry Parameters

1900621-BLK1
1900621-BS1
1900621-CCB1
1900621-CCB2
1900621-CCV1
1900621-CCV2
1900621-SRM1
SC54663-01 (NPDES Dewater Sample)

1900626

General Chemistry Parameters

SC54663-01 (NPDES Dewater Sample)

19128WAE026

Subcontracted Analyses

128WELCSQ
P8WELCSY
SBLKWE128B
SC54663-01 (NPDES Dewater Sample)

19128WAF026

Subcontracted Analyses

128WFLCSQ
P8WFLCSY
SBLKWF128B
SC54663-01 (NPDES Dewater Sample)

477925A

Subcontracted Analyses

CD04794-BLK
CD04794-LCS
SC54663-01 (NPDES Dewater Sample)

477957A

Subcontracted Analyses

CD07947-BLK
CD07947-LCS
SC54663-01 (NPDES Dewater Sample)

477975A

Subcontracted Analyses

CD07946-BLK
CD07946-LCS
CD07946-LCSD
SC54663-01 (NPDES Dewater Sample)

477978A

Subcontracted Analyses

CD07874-BLK
CD07874-LCS
SC54663-01 (NPDES Dewater Sample)

477984A

Subcontracted Analyses

CD07946-BLK
CD07946-DUP
CD07946-LCS
CD07946-MS
SC54663-01 (NPDES Dewater Sample)

478018A

Subcontracted Analyses

CD08102-BLK
CD08102-LCS
CD08102-LCSD
SC54663-01 (NPDES Dewater Sample)

478023B

Subcontracted Analyses

CD07946-BLK
CD07946-LCS
CD07946-LCSD
CD07946-MS
CD07946-MSD
SC54663-01 (NPDES Dewater Sample)

478227A

Subcontracted Analyses

CD08636-BLK
CD08636-LCS
SC54663-01 (NPDES Dewater Sample)

478310A

Subcontracted Analyses

CD09653-BLK
CD09653-LCS
SC54663-01 (NPDES Dewater Sample)

☑ Final Report
☐ Revised Report

Report Date:
21-May-19 16:26

Laboratory Report
SC54770

Kleinfelder, Inc.
4 Technology Drive, Suite 110
Westborough, MA 01851
Attn: Ernie Stoetzner

Project: ExxonMobil -01-GOH-Service Plaza6AW-Westborough
Project #: 01-GOH

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87936
Maine # MA138
New Hampshire # 2972/2538
New Jersey # MA011
New York # 11393
Pennsylvania # 68-04426/68-02924
Rhode Island # LAO00348
USDA # P330-15-00375
Vermont # VT-11393

Authorized by:

Erica Troy
Quality Services Manager

Eurofins Spectrum Analytical holds primary certification in the State of Massachusetts for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of Massachusetts does not offer certification for all analytes. Please refer to our website for specific certification holdings in each state.
Please note that this report contains 16 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Eurofins Spectrum Analytical, Inc.

Eurofins Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Eurofins Spectrum Analytical, Inc. is currently accredited for the specific method or analyte indicated. Please refer to our 'Quality' web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Eurofins Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey, Pennsylvania and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (PA-68-04426).

Please contact the Laboratory or Technical Director at 800-789-9115 with any questions regarding the data contained in this laboratory report.

Sample Summary

Work Order: SC54770

Project: ExxonMobil -01-GOH-Service Plaza6AW-Westborough,MA

Project Number: 01-GOH

Laboratory ID	Client Sample ID	Matrix	Date Sampled	Date Received
SC54770-01	NPDES Surface Water Sample	Ground Water	14-May-19 11:20	14-May-19 16:30

MassDEP Analytical Protocol Certification Form

Laboratory Name: Eurofins Spectrum Analytical, Inc.	**Project #:** 01-GOH
Project Location: ExxonMobil -01-GOH-Service Plaza6AW-Westboro	**RTN:**
This form provides certifications for the following data set: SC54770-01	
Matrices: Ground Water	

CAM Protocol

✓ 8260 VOC CAM II A	✓ 7470/7471 Hg CAM III B	MassDEP VPH CAM IV A	8081 Pesticides CAM V B	✓ 7196 Hex Cr CAM VI B	MassDEP APH CAM IX A
✓ 8270 SVOC CAM II B	7010 Metals CAM III C	MassDEP EPH CAM IV B	8151 Herbicides CAM V C	8330 Explosives CAM VIII A	TO-15 VOC CAM IX B
6010 Metals CAM III A	6020 Metals CAM III D	8082 PCB CAM V A	✓ 9012 Total Cyanide/PAC CAM VI A	9014 Total Cyanide/PAC CAM VI A	6860 Perchlorate CAM VIII B

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

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

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

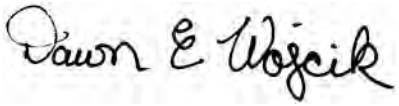
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	✓ Yes No

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

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

All negative responses are addressed in a case narrative on the cover page of this report.

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



Dawn E. Wojcik
Laboratory Director
Date: 5/21/2019

CASE NARRATIVE:

Data has been reported to the RDL. This report excludes estimated concentrations detected below the RDL and above the MDL (J-Flag).

All non-detects and all results below the reporting limit are reported as "<" (less than) the reporting limit in this report.

The samples were received 0.7 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 1.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group. If method or program required MS/MSD/Dup were not performed, sufficient sample was not provided to the laboratory.

MADEP has published a list of analytical methods (CAM) which provides a series of recommended protocols for the acquisition, analysis and reporting of analytical data in support of MCP decisions. "Presumptive Certainty" can be established only for those methods published by the MADEP in the MCP CAM. The compounds and/or elements reported were specifically requested by the client on the Chain of Custody and in some cases may not include the full analyte list as defined in the method. Regulatory limits may not be achieved if specific method and/or technique was not requested on the Chain of Custody.

According to WSC-CAM 5/2009 Rev.1, Table 11 A-1, recovery for some VOC analytes have been deemed potentially difficult. Although they may still be within the recommended recovery range, a range has been set based on historical control limits.

Some target analytes which are not listed as exceptions in the Summary of CAM Reporting Limits may exceed the recommended RL based on sample initial volume or weight provided, % moisture content, or responsiveness of a particular analyte to purge and trap instrumentation.

There is no relevant protocol-specific QC and/or performance standards non-conformances to report.

Sample Acceptance Check Form

Client:	Kleinfelder, Inc. - Westborough, MA
Project:	ExxonMobil -01-GOH-Service Plaza6AW-Westborough,MA / 01-GOH
Work Order:	SC54770
Sample(s) received on:	5/14/2019

The following outlines the condition of samples for the attached Chain of Custody upon receipt.

	Yes	No	N/A
Were custody seals present?	☐	☑	☐
Were custody seals intact?	☐	☐	☑
Were samples received at a temperature of ≤ 6°C?	☑	☐	☐
Were samples cooled on ice upon transfer to laboratory representative?	☑	☐	☐
Were sample containers received intact?	☑	☐	☐
Were samples properly labeled (labels affixed to sample containers and include sample ID, site location, and/or project number and the collection date)?	☑	☐	☐
Were samples accompanied by a Chain of Custody document?	☑	☐	☐
Does Chain of Custody document include proper, full, and complete documentation, which shall include sample ID, site location, and/or project number, date and time of collection, collector's name, preservation type, sample matrix and any special remarks concerning the sample?	☑	☐	☐
Did sample container labels agree with Chain of Custody document?	☑	☐	☐
Were samples received within method-specific holding times?	☑	☐	☐

Summary of Hits

Lab ID: SC54770-01 **Client ID:** NPDES Surface Water Sample

Parameter	Result	Flag	Reporting Limit	Units	Analytical Method
Iron (Dissolved)	0.176		0.011	mg/l	E200.7
Zinc (Dissolved)	0.003		0.002	mg/l	E200.7
Hexavalent Chromium (soluble)	Lab Filtered		0.005	mg/l	SM3500-Cr-B (11)/7196A
Chloride	154		15.0	mg/l	SM4500CLE

Please note that because there are no reporting limits associated with hazardous waste characterizations or micro analyses, this summary does not include hits from these analyses if included in this work order.

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Surface Water Sample SC54770-01	01-GOH	Ground Water	14-May-19 11:20	14-May-19

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
General Chemistry Parameters													
	Filtration	**Lab Filtered**		N/A			1	Varies	15-May-19		ABW	1900690	
16065-83-1	Trivalent Chromium (soluble)	< 0.0050		mg/l	0.0050		1	Calculation	15-May-19	20-May-19	EDT	1900688	
18540-29-9	Hexavalent Chromium (soluble)	**Lab Filtered**		mg/l	0.005	0.004	1	SM3500-Cr-B (11)/7196A	15-May-19 08:45	15-May-19 09:33	ABW	"	
Subcontracted Analyses													
Subcontracted Analyses Prepared by method SW-846 3510C													
Analysis performed by Eurofins Lancaster Laboratories Environmental - M-PA009													
117-81-7	bis(2-Ethylhexyl)phthalate	< 6		ug/l	6	2	1	SW-846 8270D	18-May-19 10:05	19-May-19 15:35	M-PA009	137WAG0	
85-68-7	Butylbenzylphthalate	< 6		ug/l	6	2	1	"	"	"	"	"	
84-66-2	Diethylphthalate	< 6		ug/l	6	2	1	"	"	"	"	"	
131-11-3	Dimethylphthalate	< 6		ug/l	6	2	1	"	"	"	"	"	
84-74-2	Di-n-butylphthalate	< 6		ug/l	6	2	1	"	"	"	"	"	
117-84-0	Di-n-octylphthalate	< 6		ug/l	6	2	1	"	"	"	"	"	
108-95-2	Phenol	< 2		ug/l	2	0.6	1	"	"	"	"	"	
Surrogate recoveries:													
118-79-6	*2,4,6-Tribromophenol*	*80*			*15-110 %*			"	"	"	"	"	
321-60-8	*2-Fluorobiphenyl*	*75*			*30-130 %*			"	"	"	"	"	
367-12-4	*2-Fluorophenol*	*56*			*15-110 %*			"	"	"	"	"	
4165-60-0	*Nitrobenzene-d5*	*75*			*30-130 %*			"	"	"	"	"	
13127-88-3	*Phenol-d6*	*35*			*15-110 %*			"	"	"	"	"	
1718-51-0	*Terphenyl-d14*	*84*			*30-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Analysis performed by Eurofins Lancaster Laboratories Environmental - M-PA009													
56-55-3	Benzo(a)anthracene	< 0.06		ug/l	0.06	0.01	1	SW-846 8270D SIM	"	21-May-19 10:49	M-PA009	137WAF0	
50-32-8	Benzo(a)pyrene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
205-99-2	Benzo(b)fluoranthene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
207-08-9	Benzo(k)fluoranthene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
218-01-9	Chrysene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
53-70-3	Dibenz(a,h)anthracene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
193-39-5	Indeno(1,2,3-cd)pyrene	< 0.06		ug/l	0.06	0.01	1	"	"	"	"	"	
91-20-3	Naphthalene	< 0.06		ug/l	0.06	0.03	1	"	"	"	"	"	
Surrogate recoveries:													
38072-94-5	*1-Methylnaphthalene-d10*	*69*			*30-130 %*			"	"	"	"	"	
63466-71-7	*Benzo(a)pyrene-d12*	*76*			*30-130 %*			"	"	"	"	"	
93951-69-0	*Fluoranthene-d10*	*95*			*30-130 %*			"	"	"	"	"	
Subcontracted Analyses													
Prepared by method E1664A													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Oil and Grease by EPA 1664A	< 2.2		mg/l	2.2	2.2	1.5	E1664A	16-May-19 11:54	16-May-19 11:54	M-CT007	479158A	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-36-0	Antimony (Dissolved)	< 0.010		mg/l	0.010	0.010	1	E200.7	15-May-19	16-May-19 21:27	M-CT007	479043A	

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Surface Water Sample	01-GOH	Ground Water	14-May-19 11:20	14-May-19
SC54770-01				

CAS No.	Analyte(s)	Result	Flag	Units	*RDL	MDL	Dilution	Method Ref.	Prepared	Analyzed	Analyst	Batch	Cert.
Subcontracted Analyses													
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7440-38-2	Arsenic (Dissolved)	< 0.004		mg/l	0.004	0.004	1	E200.7	15-May-19	16-May-19 21:27	M-CT007	479043A	
7440-43-9	Cadmium (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-47-3	Chromium (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-50-8	Copper (Dissolved)	< 0.005		mg/l	0.005	0.005	1	"	"	"	"	"	
7439-89-6	Iron (Dissolved)	**0.176**		mg/l	0.011	0.011	1	"	"	"	"	"	
7439-92-1	Lead (Dissolved)	< 0.002		mg/l	0.002	0.002	1	"	"	"	"	"	
7440-02-0	Nickel (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7782-49-2	Selenium (Dissolved)	< 0.011		mg/l	0.011	0.011	1	"	"	"	"	"	
7440-22-4	Silver (Dissolved)	< 0.001		mg/l	0.001	0.001	1	"	"	"	"	"	
7440-66-6	Zinc (Dissolved)	**0.003**		mg/l	0.002	0.002	1	"	"	"	"	"	
Prepared by method SW7470A													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7439-97-6	Mercury (Dissolved)	< 0.0002		mg/l	0.0002	0.0002	1	E245.1	17-May-19	17-May-19 11:42	M-CT007	479114A	
Prepared by method SW9012B													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
57-12-5	Total Cyanide	< 0.010		mg/l	0.010	0.010	1	E335.4	15-May-19	16-May-19 13:07	M-CT007	479041A	
Prepared by method E350.1													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
7664-41-7	Ammonia as Nitrogen	< 0.05		mg/l	0.05	0.05	1	E350.1	17-May-19 07:47	17-May-19 07:47	M-CT007	479159A	
Subcontracted Analyses													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
71-43-2	Benzene	< 1.0		ug/l	1.0	1.0	1	E624.1	15-May-19 16:04	15-May-19 22:05	M-CT007	479167A	
100-41-4	Ethylbenzene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
179601-23-1	m&p-Xylene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
1634-04-4	Methyl t-butyl ether (MTBE)	< 2.0		ug/l	2.0	2.0	1	"	"	"	"	"	
95-47-6	o-Xylene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
108-88-3	Toluene	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
Surrogate recoveries:													
2199-69-1	*% 1,2-dichlorobenzene-d4*	*104*			*70-130 %*			"	"	"	"	"	
460-00-4	*% Bromofluorobenzene*	*91*			*70-130 %*			"	"	"	"	"	
1868-53-7	*% Dibromofluoromethane*	*96*			*70-130 %*			"	"	"	"	"	
2037-26-5	*% Toluene-d8*	*98*			*70-130 %*			"	"	"	"	"	
Prepared by method SM2540D-11													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
	Total Suspended Solids	< 5.0		mg/l	5.0	5.0	1	SM2540D-11	16-May-19 06:26	16-May-19 06:26	M-CT007	479107A	
Prepared by method SM4500CLE													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
16887-00-6	Chloride	**154**		mg/l	15.0	15.0	5	SM4500CLE	17-May-19 02:49	17-May-19 02:49	M-CT007	479427A	
Subcontracted Analyses													
Prepared by method SW8260C													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													

Sample Identification	Client Project #	Matrix	Collection Date/Time	Received
NPDES Surface Water Sample SC54770-01	01-GOH	Ground Water	14-May-19 11:20	14-May-19

CAS No.	*Analyte(s)*	*Result*	*Flag*	*Units*	**RDL*	*MDL*	*Dilution*	*Method Ref.*	*Prepared*	*Analyzed*	*Analyst*	*Batch*	*Cert.*
Subcontracted Analyses													
Subcontracted Analyses Prepared by method SW8260C													
*Analysis performed by Phoenix Environmental Labs, Inc. * - CT007*													
64-17-5	Ethanol	< 400		ug/l	400	400	1	SW8260C	15-May-19 16:04	18-May-19 12:48	M-CT007	479578A	
994-05-8	Tert-amyl-methyl-ether	< 1.0		ug/l	1.0	1.0	1	"	"	"	"	"	
75-65-0	Tert-butyl alcohol	< 50		ug/l	50	50	1	"	"	"	"	"	

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM3500-Cr-B (11)/7196A										
Batch 1900688 - General Preparation										
Blank (1900688-BLK1)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**Lab Filtered**		mg/l	0.005						
LCS (1900688-BS1)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**0.051**		mg/l	0.005	0.0500		102	90-111		
Calibration Blank (1900688-CCB1)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**-0.0004**		mg/l							
Calibration Blank (1900688-CCB2)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**-0.0007**		mg/l							
Calibration Check (1900688-CCV1)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**0.051**		mg/l	0.005	0.0500		102	90-110		
Calibration Check (1900688-CCV2)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**0.051**		mg/l	0.005	0.0500		102	90-110		
Duplicate (1900688-DUP1)			**Source: SC54770-01**			Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**Lab Filtered**		mg/l	0.005		ab Filtered				20
Matrix Spike (1900688-MS1)			**Source: SC54770-01**			Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**Lab Filtered**		mg/l	0.005	0.0500	ab Filtered	100	85-115		
Matrix Spike Dup (1900688-MSD1)			**Source: SC54770-01**			Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**Lab Filtered**		mg/l	0.005	0.0500	ab Filtered	99	85-115	0.2	20
Reference (1900688-SRM1)						Prepared & Analyzed: 15-May-19				
Hexavalent Chromium (soluble)	**0.079**		mg/l	0.005	0.0742		106	83.3-116		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D										
Batch 19137WAG026 - SW-846 3510C										
LCS (137WGLCSQ)						Prepared: 18-May-19 Analyzed: 19-May-19				
Phenol	**22**		ug/l	2	50		45	30-130		
bis(2-Ethylhexyl)phthalate	**51**		ug/l	5	50		101	40-140		
Butylbenzylphthalate	**50**		ug/l	5	50		100	40-140		
Diethylphthalate	**46**		ug/l	5	50		92	40-140		
Dimethylphthalate	**44**		ug/l	5	50		89	40-140		
Di-n-butylphthalate	**50**		ug/l	5	50		99	40-140		
Di-n-octylphthalate	**52**		ug/l	5	50		103	40-140		
Surrogate: Terphenyl-d14	*92*		ug/l		*100*		*92*	*30-130*		
Surrogate: Nitrobenzene-d5	*86*		ug/l		*100*		*86*	*30-130*		
Surrogate: 2-Fluorophenol	*120*		ug/l		*200*		*62*	*15-110*		
Surrogate: 2-Fluorobiphenyl	*84*		ug/l		*100*		*84*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*180*		ug/l		*200*		*90*	*15-110*		
Surrogate: Phenol-d6	*83*		ug/l		*200*		*42*	*15-110*		
LCS Dup (P7WGLCSY)						Prepared: 18-May-19 Analyzed: 19-May-19				
bis(2-Ethylhexyl)phthalate	**54**		ug/l	5	50		108	40-140	7	20
Phenol	**21**		ug/l	2	50		42	30-130	6	20
Butylbenzylphthalate	**50**		ug/l	5	50		101	40-140	1	20
Diethylphthalate	**47**		ug/l	5	50		94	40-140	3	20
Dimethylphthalate	**45**		ug/l	5	50		89	40-140	1	20
Di-n-butylphthalate	**50**		ug/l	5	50		100	40-140	1	20
Di-n-octylphthalate	**53**		ug/l	5	50		106	40-140	2	20
Surrogate: Terphenyl-d14	*95*		ug/l		*100*		*95*	*30-130*		
Surrogate: Phenol-d6	*80*		ug/l		*200*		*40*	*15-110*		
Surrogate: Nitrobenzene-d5	*84*		ug/l		*100*		*84*	*30-130*		
Surrogate: 2-Fluorobiphenyl	*83*		ug/l		*100*		*83*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*180*		ug/l		*200*		*88*	*15-110*		
Surrogate: 2-Fluorophenol	*120*		ug/l		*200*		*60*	*15-110*		
Blank (SBLKWG137B)						Prepared: 18-May-19 Analyzed: 19-May-19				
Butylbenzylphthalate	< 5		ug/l	5				-		
bis(2-Ethylhexyl)phthalate	< 5		ug/l	5				-		
Phenol	< 2		ug/l	2				-		
Diethylphthalate	< 5		ug/l	5				-		
Di-n-octylphthalate	< 5		ug/l	5				-		
Di-n-butylphthalate	< 5		ug/l	5				-		
Dimethylphthalate	< 5		ug/l	5				-		
Surrogate: Phenol-d6	*76*		ug/l		*200*		*38*	*15-110*		
Surrogate: Terphenyl-d14	*92*		ug/l		*100*		*92*	*30-130*		
Surrogate: Nitrobenzene-d5	*79*		ug/l		*100*		*79*	*30-130*		
Surrogate: 2-Fluorophenol	*110*		ug/l		*200*		*57*	*15-110*		
Surrogate: 2-Fluorobiphenyl	*74*		ug/l		*100*		*74*	*30-130*		
Surrogate: 2,4,6-Tribromophenol	*170*		ug/l		*200*		*85*	*15-110*		
SW-846 8270D SIM										
Batch 19137WAF026 - SW-846 3510C										
LCS (137WFLCSQ)						Prepared: 18-May-19 Analyzed: 21-May-19				
Indeno(1,2,3-cd)pyrene	**1**		ug/l	0.05	1		99	40-140		
Naphthalene	**0.8**		ug/l	0.05	1		76	40-140		
Dibenz(a,h)anthracene	**1**		ug/l	0.05	1		96	40-140		
Benzo(k)fluoranthene	**0.9**		ug/l	0.05	1		89	40-140		
Benzo(b)fluoranthene	**0.9**		ug/l	0.05	1		92	40-140		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SW-846 8270D SIM										
Batch 19137WAF026 - SW-846 3510C										
LCS (137WFLCSQ)						Prepared: 18-May-19	Analyzed: 21-May-19			
Benzo(a)pyrene	**0.9**		ug/l	0.05	1		92	40-140		
Benzo(a)anthracene	**0.9**		ug/l	0.05	1		86	40-140		
Chrysene	**0.8**		ug/l	0.05	1		79	40-140		
Surrogate: 1-Methylnaphthalene-d10	*0.7*		ug/l		*1*		*70*	*30-130*		
Surrogate: Benzo(a)pyrene-d12	*0.9*		ug/l		*1*		*85*	*30-130*		
Surrogate: Fluoranthene-d10	*1*		ug/l		*1*		*105*	*30-130*		
LCS Dup (P7WFLCSY)						Prepared: 18-May-19	Analyzed: 21-May-19			
Benzo(b)fluoranthene	**1**		ug/l	0.05	1		104	40-140	12	20
Naphthalene	**0.8**		ug/l	0.05	1		76	40-140	0	20
Indeno(1,2,3-cd)pyrene	**1**		ug/l	0.05	1		99	40-140	1	20
Dibenz(a,h)anthracene	**1**		ug/l	0.05	1		96	40-140	0	20
Benzo(k)fluoranthene	**0.9**		ug/l	0.05	1		90	40-140	1	20
Benzo(a)anthracene	**0.9**		ug/l	0.05	1		86	40-140	1	20
Benzo(a)pyrene	**0.9**		ug/l	0.05	1		90	40-140	3	20
Chrysene	**0.8**		ug/l	0.05	1		80	40-140	1	20
Surrogate: 1-Methylnaphthalene-d10	*0.8*		ug/l		*1*		*84*	*30-130*		
Surrogate: Benzo(a)pyrene-d12	*0.9*		ug/l		*1*		*85*	*30-130*		
Surrogate: Fluoranthene-d10	*1*		ug/l		*1*		*105*	*30-130*		
Blank (SBLKWF137B)						Prepared: 18-May-19	Analyzed: 21-May-19			
Naphthalene	< 0.05		ug/l	0.05				-		
Benzo(a)anthracene	< 0.05		ug/l	0.05				-		
Benzo(a)pyrene	< 0.05		ug/l	0.05				-		
Benzo(b)fluoranthene	< 0.05		ug/l	0.05				-		
Benzo(k)fluoranthene	< 0.05		ug/l	0.05				-		
Chrysene	< 0.05		ug/l	0.05				-		
Dibenz(a,h)anthracene	< 0.05		ug/l	0.05				-		
Indeno(1,2,3-cd)pyrene	< 0.05		ug/l	0.05				-		
Surrogate: Benzo(a)pyrene-d12	*0.8*		ug/l		*1*		*80*	*30-130*		
Surrogate: 1-Methylnaphthalene-d10	*0.7*		ug/l		*1*		*72*	*30-130*		
Surrogate: Fluoranthene-d10	*0.9*		ug/l		*1*		*89*	*30-130*		

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
E1664A										
Batch 479158A - E1664A										
Blank (CD14804-BLK)						Prepared & Analyzed: 16-May-19				
Oil and Grease by EPA 1664A	< 1.4		mg/l	1.4	40		BRL	-		
LCS (CD14804-LCS)						Prepared & Analyzed: 16-May-19				
Oil and Grease by EPA 1664A	**38.60**		mg/l	1.4	40		97	85-115		20
LCS Dup (CD14804-LCSD)			**Source: CD14804-LCS**			Prepared & Analyzed: 16-May-19				
Oil and Grease by EPA 1664A	**38.30**		mg/l	1.4	40		96	85-115	1.0	20
E200.7										
Batch 479043A - SW3005A										
Blank (CD13067-BLK)						Prepared: 15-May-19 Analyzed: 16-May-19				
Chromium (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Cadmium (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Antimony (Dissolved)	< 0.005		mg/l	0.005			BRL	-		
Lead (Dissolved)	< 0.002		mg/l	0.002			BRL	-		
Copper (Dissolved)	< 0.005		mg/l	0.005			BRL	-		
Iron (Dissolved)	< 0.011		mg/l	0.011			BRL	-		
Silver (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Nickel (Dissolved)	< 0.001		mg/l	0.001			BRL	-		
Selenium (Dissolved)	< 0.011		mg/l	0.011			BRL	-		
Arsenic (Dissolved)	< 0.004		mg/l	0.004			BRL	-		
Zinc (Dissolved)	< 0.002		mg/l	0.002			BRL	-		
LCS (CD13067-LCS)						Prepared: 15-May-19 Analyzed: 16-May-19				
Lead (Dissolved)	**1.936**		mg/l	0.002	2.173		89.1	75-125		20
Zinc (Dissolved)	**0.9524**		mg/l	0.002	1.087		87.6	75-125		20
Silver (Dissolved)	**0.2367**		mg/l	0.001	0.2717		87.1	75-125		20
Nickel (Dissolved)	**0.9566**		mg/l	0.001	1.087		88.0	75-125		20
Iron (Dissolved)	**0.9593**		mg/l	0.011	1.087		88.3	75-125		20
Copper (Dissolved)	**0.9897**		mg/l	0.005	1.087		91.0	75-125		20
Chromium (Dissolved)	**0.9499**		mg/l	0.001	1.087		87.4	75-125		20
Arsenic (Dissolved)	**1.890**		mg/l	0.004	2.173		87.0	75-125		20
Antimony (Dissolved)	**2.003**		mg/l	0.005	2.173		92.2	75-125		20
Cadmium (Dissolved)	**0.9833**		mg/l	0.001	1.087		90.5	75-125		20
Selenium (Dissolved)	**0.9441**		mg/l	0.011	1.087		86.9	75-125		20
E245.1										
Batch 479114A - SW7470A										
Blank (CD13015-BLK)						Prepared & Analyzed: 17-May-19				
Mercury (Dissolved)	< 0.0002		mg/l	0.0002			BRL	-		
Duplicate (CD13015-DUP)			**Source: SC54770-01**			Prepared & Analyzed: 17-May-19				
Mercury (Dissolved)	< 0.0003		mg/l	0.0003		BRL		-		30
LCS (CD13015-LCS)						Prepared & Analyzed: 17-May-19				
Mercury (Dissolved)	**0.002628**		mg/l	0.0002	0.0025		105	75-125		30
Matrix Spike (CD13015-MS)			**Source: SC54770-01**			Prepared & Analyzed: 17-May-19				
Mercury (Dissolved)	**0.002415**		mg/l	0.0002	0.0025	BRL	96.6	75-125		30
E335.4										
Batch 479041A - SW9012B										
Blank (CD10790-BLK)						Prepared: 15-May-19 Analyzed: 16-May-19				
Total Cyanide	< 0.010		mg/l	0.010			BRL	-		
LCS (CD10790-LCS)						Prepared: 15-May-19 Analyzed: 16-May-19				
Total Cyanide	**0.4010**		mg/l	0.010	0.429		93.5	90-110		30
E350.1										

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
E350.1										
Batch 479159A - E350.1										
Blank (CD12987-BLK)						Prepared: 16-May-19 Analyzed: 17-May-19				
Ammonia as Nitrogen	< 0.05		mg/l	0.05			BRL	-		
LCS (CD12987-LCS)						Prepared: 16-May-19 Analyzed: 17-May-19				
Ammonia as Nitrogen	**4.480**		mg/l	0.05	4.72		94.9	90-110		20
E624.1										
Batch 479167A - E624.1										
Blank (CD13669-BLK)						Prepared & Analyzed: 15-May-19				
o-Xylene	**ND**		ug/l	1.0			ND	-		
Toluene	**ND**		ug/l	1.0			ND	-		
Ethylbenzene	**ND**		ug/l	1.0			ND	-		
m&p-Xylene	**ND**		ug/l	1.0			ND	-		
Methyl t-butyl ether (MTBE)	**ND**		ug/l	1.0			ND	-		
Benzene	**ND**		ug/l	0.70			ND	-		
Surrogate: % Toluene-d8	*100*		ug/l		*30*		*100*	*70-130*		
Surrogate: % Bromofluorobenzene	*91*		ug/l		*30*		*91*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*101*		ug/l		*30*		*101*	*70-130*		
Surrogate: % Dibromofluoromethane	*101*		ug/l		*30*		*101*	*70-130*		
LCS (CD13669-LCS)						Prepared & Analyzed: 15-May-19				
Methyl t-butyl ether (MTBE)	**17.34**		ug/l	1.0	20		87	70-130		30
o-Xylene	**20.81**		ug/l	1.0	20		104	70-130		30
m&p-Xylene	**40.67**		ug/l	1.0	40		102	70-130		30
Ethylbenzene	**19.77**		ug/l	1.0	20		99	60-140		20
Benzene	**19.88**		ug/l	0.70	20		99	65-135		20
Toluene	**19.96**		ug/l	1.0	20		100	70-130		20
Surrogate: % Toluene-d8	*29.59*		ug/l		*30*		*99*	*70-130*		
Surrogate: % Dibromofluoromethane	*30.96*		ug/l		*30*		*103*	*70-130*		
Surrogate: % Bromofluorobenzene	*29.93*		ug/l		*30*		*100*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*30.18*		ug/l		*30*		*101*	*70-130*		
LCS Dup (CD13669-LCSD)			**Source: CD13669-LCS**			Prepared & Analyzed: 15-May-19				
Benzene	**21.12**		ug/l	0.70	20		106	65-135	6.8	20
Ethylbenzene	**21.27**		ug/l	1.0	20		106	60-140	6.8	20
m&p-Xylene	**42.98**		ug/l	1.0	40		107	70-130	4.8	30
Methyl t-butyl ether (MTBE)	**18.45**		ug/l	1.0	20		92	70-130	5.6	30
o-Xylene	**22.37**		ug/l	1.0	20		112	70-130	7.4	30
Toluene	**21.40**		ug/l	1.0	20		107	70-130	6.8	20
Surrogate: % Bromofluorobenzene	*30.43*		ug/l		*30*		*101*	*70-130*		
Surrogate: % Dibromofluoromethane	*28.41*		ug/l		*30*		*95*	*70-130*		
Surrogate: % 1,2-dichlorobenzene-d4	*29.67*		ug/l		*30*		*99*	*70-130*		
Surrogate: % Toluene-d8	*29.85*		ug/l		*30*		*100*	*70-130*		
SM2540D-11										
Batch 479107A - SM2540D-11										
Blank (CD13717-BLK)						Prepared & Analyzed: 16-May-19				
Total Suspended Solids	< 5.0		mg/l	5.0	75		BRL	-		
LCS (CD13717-LCS)						Prepared & Analyzed: 16-May-19				
Total Suspended Solids	**75.00**		mg/l	5.0	75		100	85-115		
SM4500CLE										
Batch 479427A - SM4500CLE										
Blank (CD15306-BLK)						Prepared & Analyzed: 16-May-19				
Chloride	< 3.0		mg/l	3.0			BRL	-		

Subcontracted Analyses - Quality Control

Analyte(s)	Result	Flag	Units	*RDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
SM4500CLE										
Batch 479427A - SM4500CLE										
LCS (CD15306-LCS)						Prepared & Analyzed: 17-May-19				
Chloride	**28.41**		mg/l	3.0	30		94.7	90-110		20
SW8260C										
Batch 479578A - SW8260C										
Blank (CD12372-BLK)						Prepared & Analyzed: 18-May-19				
Tert-butyl alcohol	**ND**		ug/l	25			ND	-		
Ethanol	**ND**		ug/l	200			ND	-		
Tert-amyl-methyl-ether	**ND**		ug/l	10			ND	-		
LCS (CD12372-LCS)						Prepared & Analyzed: 18-May-19				
Ethanol	**255.4**		ug/l	200	250		102	70-130		30
Tert-amyl-methyl-ether	**10.05**		ug/l	10	10		100	70-130		30
Tert-butyl alcohol	**215.9**		ug/l	25	250		86	70-130		30
LCS Dup (CD12372-LCSD)			**Source: CD12372-LCS**			Prepared & Analyzed: 18-May-19				
Tert-amyl-methyl-ether	**10.25**		ug/l	10	10		103	70-130	3.0	30
Ethanol	**245.8**		ug/l	200	250		98	70-130	4.0	30
Tert-butyl alcohol	**222.1**		ug/l	25	250		89	70-130	3.4	30

Notes and Definitions

dry	Sample results reported on a dry weight basis
NR	Not Reported
RPD	Relative Percent Difference
OG	The required Matrix Spike and Matrix Spike Duplicate (MS/MSD) for Oil & Grease method 1664B can only be analyzed when the client has submitted sufficient sample volume. An extra liter per MS/MSD is required to fulfill the method QC criteria. Please refer to Chain of Custody and QC Summary (MS/MSD) of the Laboratory Report to verify ample sample volume was submitted to fulfill the requirement.

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

SC54770 Fry

eurofins | Spectrum Analytical

Exxon Mobil
CHAIN OF CUSTODY RECORD

Page ____ of ____

Special Handling:

☐ Standard TAT - 7 to 10 business days

☑ Rush TAT - Date Needed: 5/20/19 5/9/19 (EM)

All TATs subject to laboratory approval
Min. 24-hr notification needed for rushes
Samples disposed after 30 days unless otherwise instructed.

Report To: Kleinfelder - Attn: Robin Yarnell
4 Technology Drive, Suite 110
Westborough, MA 01581
ryarnell@kleinfelder.com
Telephone #: P:508-370-8256 / F: 508-628-1401
Project Mgr: Ernie Stoetzner

Invoice To: Kleinfelder
550 West C Street, Suite 1200
San Diego, CA 92101
AccountsPayableUS@kleinfelder.com
P.O No.: 51361-336792 Quote #:

Project No: 01-GOH
Site Name: Westborough 01-GOH
Location: Service Plaza 6AW, Mass Pike Westbound State: MA
Sampler(s): Evan Redden

F=Field Filtered 1=Na_2S2O_3 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=Ascorbic Acid
7=CH3OH 8=$NaHSO_4$ 9=Deionized Water 10=H_3PO_4 11= unpres. 12= ____

DW=Drinking Water GW=Groundwater SW=Surface Water WW=Waste Water
O=Oil SO=Soil SL=Sludge A=Indoor/Ambient Air SG=Soil Gas
X1= ____ X2= ____ X3= ____

G= Grab C=Compsite

Lab ID:	Sample ID:	Date:	Time:	Type	Matrix	Containers: # of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Analysis: USEPA VOCs via 624*	PAHs & phenols via 8270 SIM**	Dissolved Metals via 200.7 (field filtered)***	HEM Oil and Grease via USEPA 1664A	Chloride via 300	Ammonia via method 350.1	Cyanide via 335.4	Total Suspended Solids via SM2540D	Check if chlorinated
SC54770-01	NPDES Surface Water Sample	5/14/19	1120	G	GW	3	3		5	X	X	X	X	X	X	X	X	☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐
																		☐

List Preservative Code below: 2 | 11 | 4 | 3 | 11 | 3 | 5 | 11

QA/QC Reporting Notes:
* additional charges may appply

MA DEP MCP CAM Report? ☑ Yes ☐ No
CT DPH RCP Report? ☐ Yes ☐ No
☑ Standard ☐ No QC
☐ DQA*
☐ ASP A* ☐ ASP B*
☐ NJ Reduced* ☐ NJ Full*
☐ Tier II* ☐ Tier IV*
☐ Other ____
State-specific reporting standards.

* BTEX, TBA, phenol, TAME, MTBE, ethanol

** Total Phthalates, Diethylhexyl phthalate, Benzo(a)anthracene

**Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene

**Chrysene, Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene

**Napthalene

***Sb, As, Cd, Cr3, Cr6, Cu, Fe, Pb, Hg

***Ni, Se, Ag, Zn

Relinquished by:	Received by:	Date:	Time:
E Redd	RLF Front Libby (Cooler on Ice)	5/14/19	1250
		5/14/19	1505
		5/14/19	

Temp °C: Observed 7 | Correction Factor 0 | Corrected 7 | IR ID # 1

☑ EDD format:
☑ E-mail to: ryarnell@kleinfelder.com, BCaccavale@kleinfelder.com
estoetzner@kleinfelder.com, nstevens@kleinfelder.com

Condition upon receipt: Custody Seals: ☐ Present ☐ Intact ☐ Broken
☐ Ambient ☑ Iced ☐ Refrigerated ☐ DI VOA Frozen ☐ Soil Jar Frozen

Batch Summary

1900688

General Chemistry Parameters

1900688-BLK1
1900688-BS1
1900688-CCB1
1900688-CCB2
1900688-CCV1
1900688-CCV2
1900688-DUP1
1900688-MS1
1900688-MSD1
1900688-SRM1
SC54770-01 (NPDES Surface Water Sample)

1900690

General Chemistry Parameters

SC54770-01 (NPDES Surface Water Sample)

19137WAF026

Subcontracted Analyses

137WFLCSQ
P7WFLCSY
SBLKWF137B
SC54770-01 (NPDES Surface Water Sample)

19137WAG026

Subcontracted Analyses

137WGLCSQ
P7WGLCSY
SBLKWG137B
SC54770-01 (NPDES Surface Water Sample)

479041A

Subcontracted Analyses

CD10790-BLK
CD10790-LCS
SC54770-01 (NPDES Surface Water Sample)

479043A

Subcontracted Analyses

CD13067-BLK
CD13067-LCS
SC54770-01 (NPDES Surface Water Sample)

479107A

Subcontracted Analyses

CD13717-BLK
CD13717-LCS
SC54770-01 (NPDES Surface Water Sample)

479114A

Subcontracted Analyses

CD13015-BLK
CD13015-DUP
CD13015-LCS
CD13015-MS
SC54770-01 (NPDES Surface Water Sample)

479158A

Subcontracted Analyses

CD14804-BLK
CD14804-LCS
CD14804-LCSD
SC54770-01 (NPDES Surface Water Sample)

479159A

Subcontracted Analyses

CD12987-BLK
CD12987-LCS
SC54770-01 (NPDES Surface Water Sample)

479167A

Subcontracted Analyses

CD13669-BLK
CD13669-LCS
CD13669-LCSD
SC54770-01 (NPDES Surface Water Sample)

479427A

Subcontracted Analyses

CD15306-BLK
CD15306-LCS
SC54770-01 (NPDES Surface Water Sample)

479578A

Subcontracted Analyses

CD12372-BLK
CD12372-LCS
CD12372-LCSD
SC54770-01 (NPDES Surface Water Sample)

ANALYTICAL REPORT

Lab Number:	L1927549
Client:	Kleinfelder 4 Technology Drive Suite 110 Westborough, MA 01581
ATTN:	Ernie Stoetzner
Phone:	(508) 370-8256
Project Name:	WESTBOROUGH 01-60H
Project Number:	20187867.001A
Report Date:	06/26/19

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

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

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1927549-01	NPDES SURFACE WATER SAMPLE	WATER	MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW	06/24/19 17:30	06/24/19

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927549
Project Number:	20187867.001A	**Report Date:**	06/26/19

Case Narrative

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

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

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

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

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

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

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927549
Project Number:	20187867.001A	**Report Date:**	06/26/19

Case Narrative (continued)

Sample Receipt

The analyses performed were specified by the client.

Semivolatile Organics by SIM

The WG1252511-3 LCS recoveries, associated with L1927549-01, are above the acceptance criteria for naphthalene (126%) and anthracene (124%); however, the associated sample is non-detect for these target analytes. The results of the original analysis are reported.

Total Metals

The WG1253140-3 MS recovery, performed on L1927549-01, is outside the acceptance criteria for selenium (128%). A post digestion spike was performed and was within acceptance criteria.

The WG1253140-3 MS recovery, performed on L1927549-01, is outside the acceptance criteria for arsenic (134%). A post digestion spike was performed and yielded an unacceptable recovey of 123%. The serial dilution recovery was not acceptable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

The WG1253140-3 MS recovery for iron (171%), performed on L1927549-01, does not apply because the sample concentration is greater than four times the spike amount added.

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

Authorized Signature:  Cristin Walker

Title: Technical Director/Representative Date: 06/26/19

ORGANICS

SEMIVOLATILES

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927549

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927549-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW

Date Collected: 06/24/19 17:30
Date Received: 06/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 06/26/19 12:52
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-87
Phenol-d6	44		16-65
Nitrobenzene-d5	98		42-122
2-Fluorobiphenyl	84		46-121
2,4,6-Tribromophenol	61		45-128
4-Terphenyl-d14	84		47-138

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927549

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927549-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW

Date Collected: 06/24/19 17:30
Date Received: 06/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 06/26/19 19:26
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		25-87
Phenol-d6	39		16-65
Nitrobenzene-d5	85		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	77		45-128
4-Terphenyl-d14	77		47-138

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927549
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 06/26/19 06:55
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1252509-1					
Phenol	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		25-87
Phenol-d6	38		16-65
Nitrobenzene-d5	81		42-122
2-Fluorobiphenyl	82		46-121
2,4,6-Tribromophenol	53		45-128
4-Terphenyl-d14	88		47-138

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927549
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 06/25/19 15:45
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1252511-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		25-87
Phenol-d6	38		16-65
Nitrobenzene-d5	82		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	74		45-128
4-Terphenyl-d14	79		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927549

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1252509-2								
Phenol	55		-		17-120	-		64

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	70				25-87
Phenol-d6	54				16-65
Nitrobenzene-d5	109				42-122
2-Fluorobiphenyl	98				46-121
2,4,6-Tribromophenol	68				45-128
4-Terphenyl-d14	98				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1252511-3								
Acenaphthene	104		-		60-132	-		30
Fluoranthene	120		-		43-121	-		30
Naphthalene	**126**	Q	-		36-120	-		30
Benzo(a)anthracene	124		-		42-133	-		30
Benzo(a)pyrene	119		-		32-148	-		30
Benzo(b)fluoranthene	116		-		42-140	-		30
Benzo(k)fluoranthene	118		-		25-146	-		30
Chrysene	114		-		44-140	-		30
Acenaphthylene	110		-		54-126	-		30
Anthracene	**124**	Q	-		43-120	-		30
Benzo(ghi)perylene	114		-		1-195	-		30
Fluorene	108		-		70-120	-		30
Phenanthrene	120		-		65-120	-		30
Dibenzo(a,h)anthracene	117		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	118		-		1-151	-		30
Pyrene	118		-		70-120	-		30
Pentachlorophenol	101		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927549

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1252511-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	68				25-87
Phenol-d6	53				16-65
Nitrobenzene-d5	112				42-122
2-Fluorobiphenyl	102				46-121
2,4,6-Tribromophenol	99				45-128
4-Terphenyl-d14	107				47-138

METALS

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927549

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927549-01 Date Collected: 06/24/19 17:30

Client ID: NPDES SURFACE WATER SAMPLE Date Received: 06/24/19

Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Arsenic, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Cadmium, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Chromium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Iron, Total	8.49		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Mercury, Total	ND		mg/l	0.00020	--	1	06/26/19 11:23	06/26/19 14:22	EPA 245.1	3,245.1	GD
Selenium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Silver, Total	ND		mg/l	0.007	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC
Zinc, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:45	EPA 3005A	19,200.7	LC

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927549

Project Number: 20187867.001A **Report Date:** 06/26/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1253140-1										
Antimony, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Arsenic, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Cadmium, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Chromium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Iron, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Lead, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Selenium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Silver, Total	ND		mg/l	0.007	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Zinc, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1253241-1										
Mercury, Total	ND		mg/l	0.00020	--	1	06/26/19 11:23	06/26/19 13:50	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927549

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1253140-2								
Antimony, Total	98		-		85-115	-		
Arsenic, Total	112		-		85-115	-		
Cadmium, Total	106		-		85-115	-		
Chromium, Total	99		-		85-115	-		
Iron, Total	107		-		85-115	-		
Lead, Total	112		-		85-115	-		
Selenium, Total	112		-		85-115	-		
Silver, Total	105		-		85-115	-		
Zinc, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1253241-2								
Mercury, Total	103		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253140-3 QC Sample: L1927549-01 Client ID: NPDES SURFACE WATER SAMPLE												
Antimony, Total	ND	0.5	0.618	124		-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.161	**134**	Q	-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.053	103		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.196	98		-	-		75-125	-		20
Iron, Total	8.49	1	10.2	**171**	Q	-	-		75-125	-		20
Lead, Total	ND	0.51	0.522	102		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.154	**128**	Q	-	-		75-125	-		20
Silver, Total	ND	0.05	0.059	118		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.510	102		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-3 QC Sample: L1927011-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00337	**67**	Q	-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-5 QC Sample: L1927011-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00380	76		-	-		70-130	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253140-4 QC Sample: L1927549-01 Client ID: NPDES SURFACE WATER SAMPLE						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Iron, Total	8.49	8.99	mg/l	6		20
Lead, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-4 QC Sample: L1927011-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-6 QC Sample: L1927011-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

SAMPLE RESULTS

Lab ID: L1927549-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW

Date Collected: 06/24/19 17:30
Date Received: 06/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/25/19 00:30	06/25/19 02:08	1,7196A	MA

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927549
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1252545-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/25/19 00:30	06/25/19 02:00	1,7196A	MA

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927549

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1252545-2								
Chromium, Hexavalent	98		-		85-115	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1252545-4 QC Sample: L1927549-01 Client ID: NPDES SURFACE WATER SAMPLE												
Chromium, Hexavalent	ND	0.1	0.096	96		-	-		85-115	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927549

Report Date: 06/26/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1252545-3 QC Sample: L1927549-01 Client ID: NPDES SURFACE WATER SAMPLE						
Chromium, Hexavalent	ND	ND	mg/l	NC		20

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927549
Report Date: 06/26/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1927549-01A	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		SB-UI(180),AG-UI(180),ZN-UI(180),FE-UI(180),SE-UI(180),HG-U(28),CD-UI(180),CR-UI(180),AS-UI(180),PB-UI(180)
L1927549-01B	Plastic 500ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		SB-UI(180),AG-UI(180),ZN-UI(180),FE-UI(180),SE-UI(180),HG-U(28),CD-UI(180),CR-UI(180),AS-UI(180),PB-UI(180)
L1927549-01C	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		HEXCR-7196(1)
L1927549-01D	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927549-01E	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927549-01F	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927549-01G	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-SIM-RGP(7)
L1927549-01H	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927549
Project Number:	20187867.001A	**Report Date:**	06/26/19

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

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

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

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

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

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

Footnotes

Report Format: Data Usability Report

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927549
Project Number:	20187867.001A	**Report Date:**	06/26/19

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

Terms

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

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

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

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927549
Project Number:	20187867.001A	**Report Date:**	06/26/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/24/19

ALPHA Job #: L1927549

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

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

Client Information

Client: Kleinfelder

Address: 4 Technology Drive, Suite 110
Westborough, MA 01581

Phone: 508-370-8256

Email: estoetzner@kleinfelder.com

Additional Project Information:

Project Information

Project Name: Westborough 01-60H

Project Location: Massachusetts Turnpike Service Plaza 6/7W

Project #: 20187867.001A

Project Manager: Ernie Stoetzner

ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: ~~6/26/19~~ (48-hr) 6/27/19

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #: 5361-337468

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods
☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS

VOC: ☐ 8260 ☐ 624 ☐ 5242
SVOC: ☐ ABN ☐ PAH
METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15
METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13
EPH: ☐ Ranges & Targets ☐ Ranges Only
VPH: ☐ Ranges & Targets ☐ Ranges Only
☐ PCB ☐ PEST
TPH: ☐ Quant Only ☐ Fingerprint
Total Metals via 200.7 ★
PAHs and Phenols via 625 SIM

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Total Metals	PAHs	Sample Comments	TOTAL # BOTTLES
27549-01	NPDES Surface Water Sample	6/24/19	1730	GW	BC	X	X	★ As, Cd, Cr3 Cr6, Cu, Fe, Pb Hg, Ni, Zn, Sb Se, Ag	8

Container Type												P	A						
Preservative												C	H/A						

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

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Brian Carel	6/24/19 1837		6/24/19 1837

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ANALYTICAL REPORT

Lab Number:	L1927550
Client:	Kleinfelder 4 Technology Drive Suite 110 Westborough, MA 01581
ATTN:	Ernie Stoetzner
Phone:	(508) 370-8256
Project Name:	WESTBOROUGH 01-60H
Project Number:	20187867.001A
Report Date:	06/26/19

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

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

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927550
Report Date: 06/26/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1927550-01	NPDES SURFACE WATER SAMPLE	WATER	MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW	06/24/19 18:00	06/24/19

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927550
Project Number:	20187867.001A	**Report Date:**	06/26/19

Case Narrative

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

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

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

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

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

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

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927550
Project Number:	20187867.001A	**Report Date:**	06/26/19

Case Narrative (continued)

Sample Receipt

The analyses performed were specified by the client.

Semivolatile Organics by SIM

The WG1252511-3 LCS recovery, associated with L1927550-01, is above the acceptance criteria for naphthalene (126%) and anthracene (124%); however, the associated samples are non-detect for this target analyte. The results of the original analysis are reported.

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

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 06/26/19

ORGANICS

SEMIVOLATILES

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927550

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927550-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW

Date Collected: 06/24/19 18:00
Date Received: 06/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1
Analytical Date: 06/26/19 13:20
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		25-87
Phenol-d6	39		16-65
Nitrobenzene-d5	91		42-122
2-Fluorobiphenyl	81		46-121
2,4,6-Tribromophenol	56		45-128
4-Terphenyl-d14	87		47-138

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927550

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927550-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW

Date Collected: 06/24/19 18:00
Date Received: 06/24/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 129,625.1-SIM
Analytical Date: 06/26/19 19:43
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:01

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	--	1
Fluoranthene	ND		ug/l	0.10	--	1
Naphthalene	ND		ug/l	0.10	--	1
Benzo(a)anthracene	ND		ug/l	0.10	--	1
Benzo(a)pyrene	ND		ug/l	0.10	--	1
Benzo(b)fluoranthene	ND		ug/l	0.10	--	1
Benzo(k)fluoranthene	ND		ug/l	0.10	--	1
Chrysene	ND		ug/l	0.10	--	1
Acenaphthylene	ND		ug/l	0.10	--	1
Anthracene	ND		ug/l	0.10	--	1
Benzo(ghi)perylene	ND		ug/l	0.10	--	1
Fluorene	ND		ug/l	0.10	--	1
Phenanthrene	ND		ug/l	0.10	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--	1
Pyrene	ND		ug/l	0.10	--	1
Pentachlorophenol	ND		ug/l	1.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	46		25-87
Phenol-d6	34		16-65
Nitrobenzene-d5	78		42-122
2-Fluorobiphenyl	74		46-121
2,4,6-Tribromophenol	66		45-128
4-Terphenyl-d14	81		47-138

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927550
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1
Analytical Date: 06/26/19 06:55
Analyst: ALS

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1252509-1					
Phenol	ND		ug/l	5.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		25-87
Phenol-d6	38		16-65
Nitrobenzene-d5	81		42-122
2-Fluorobiphenyl	82		46-121
2,4,6-Tribromophenol	53		45-128
4-Terphenyl-d14	88		47-138

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927550
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 129,625.1-SIM
Analytical Date: 06/25/19 15:45
Analyst: DV

Extraction Method: EPA 625.1
Extraction Date: 06/24/19 23:01

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01 Batch: WG1252511-1					
Acenaphthene	ND		ug/l	0.10	--
Fluoranthene	ND		ug/l	0.10	--
Naphthalene	ND		ug/l	0.10	--
Benzo(a)anthracene	ND		ug/l	0.10	--
Benzo(a)pyrene	ND		ug/l	0.10	--
Benzo(b)fluoranthene	ND		ug/l	0.10	--
Benzo(k)fluoranthene	ND		ug/l	0.10	--
Chrysene	ND		ug/l	0.10	--
Acenaphthylene	ND		ug/l	0.10	--
Anthracene	ND		ug/l	0.10	--
Benzo(ghi)perylene	ND		ug/l	0.10	--
Fluorene	ND		ug/l	0.10	--
Phenanthrene	ND		ug/l	0.10	--
Dibenzo(a,h)anthracene	ND		ug/l	0.10	--
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	--
Pyrene	ND		ug/l	0.10	--
Pentachlorophenol	ND		ug/l	1.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	51		25-87
Phenol-d6	38		16-65
Nitrobenzene-d5	82		42-122
2-Fluorobiphenyl	76		46-121
2,4,6-Tribromophenol	74		45-128
4-Terphenyl-d14	79		47-138

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1252509-2								
Phenol	55		-		17-120	-		64

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	70				25-87
Phenol-d6	54				16-65
Nitrobenzene-d5	109				42-122
2-Fluorobiphenyl	98				46-121
2,4,6-Tribromophenol	68				45-128
4-Terphenyl-d14	98				47-138

Lab Control Sample Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927550
Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1252511-3								
Acenaphthene	104		-		60-132	-		30
Fluoranthene	120		-		43-121	-		30
Naphthalene	**126**	Q	-		36-120	-		30
Benzo(a)anthracene	124		-		42-133	-		30
Benzo(a)pyrene	119		-		32-148	-		30
Benzo(b)fluoranthene	116		-		42-140	-		30
Benzo(k)fluoranthene	118		-		25-146	-		30
Chrysene	114		-		44-140	-		30
Acenaphthylene	110		-		54-126	-		30
Anthracene	**124**	Q	-		43-120	-		30
Benzo(ghi)perylene	114		-		1-195	-		30
Fluorene	108		-		70-120	-		30
Phenanthrene	120		-		65-120	-		30
Dibenzo(a,h)anthracene	117		-		1-200	-		30
Indeno(1,2,3-cd)pyrene	118		-		1-151	-		30
Pyrene	118		-		70-120	-		30
Pentachlorophenol	101		-		38-152	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01 Batch: WG1252511-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	68				25-87
Phenol-d6	53				16-65
Nitrobenzene-d5	112				42-122
2-Fluorobiphenyl	102				46-121
2,4,6-Tribromophenol	99				45-128
4-Terphenyl-d14	107				47-138

METALS

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927550

Project Number: 20187867.001A **Report Date:** 06/26/19

SAMPLE RESULTS

Lab ID: L1927550-01 Date Collected: 06/24/19 18:00

Client ID: NPDES SURFACE WATER SAMPLE Date Received: 06/24/19

Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Antimony, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Arsenic, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Cadmium, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Chromium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Iron, Total	0.546		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Lead, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Mercury, Total	ND		mg/l	0.00020	--	1	06/26/19 11:23	06/26/19 14:24	EPA 245.1	3,245.1	GD
Selenium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Silver, Total	ND		mg/l	0.007	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC
Zinc, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 12:04	EPA 3005A	19,200.7	LC

Project Name: WESTBOROUGH 01-60H **Lab Number:** L1927550

Project Number: 20187867.001A **Report Date:** 06/26/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1253140-1										
Antimony, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Arsenic, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Cadmium, Total	ND		mg/l	0.005	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Chromium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Iron, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Lead, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Selenium, Total	ND		mg/l	0.010	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Silver, Total	ND		mg/l	0.007	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC
Zinc, Total	ND		mg/l	0.050	--	1	06/26/19 07:42	06/26/19 11:35	19,200.7	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1253241-1										
Mercury, Total	ND		mg/l	0.00020	--	1	06/26/19 11:23	06/26/19 13:50	3,245.1	GD

Prep Information

Digestion Method: EPA 245.1

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1253140-2								
Antimony, Total	98		-		85-115	-		
Arsenic, Total	112		-		85-115	-		
Cadmium, Total	106		-		85-115	-		
Chromium, Total	99		-		85-115	-		
Iron, Total	107		-		85-115	-		
Lead, Total	112		-		85-115	-		
Selenium, Total	112		-		85-115	-		
Silver, Total	105		-		85-115	-		
Zinc, Total	104		-		85-115	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1253241-2								
Mercury, Total	103		-		85-115	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927550
Report Date: 06/26/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253140-3 QC Sample: L1927549-01 Client ID: MS Sample												
Antimony, Total	ND	0.5	0.618	124		-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.161	**134**	Q	-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.053	103		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.196	98		-	-		75-125	-		20
Iron, Total	8.49	1	10.2	**171**	Q	-	-		75-125	-		20
Lead, Total	ND	0.51	0.522	102		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.154	**128**	Q	-	-		75-125	-		20
Silver, Total	ND	0.05	0.059	118		-	-		75-125	-		20
Zinc, Total	ND	0.5	0.510	102		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-3 QC Sample: L1927011-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00337	**67**	Q	-	-		70-130	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-5 QC Sample: L1927011-02 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00380	76		-	-		70-130	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253140-4 QC Sample: L1927549-01 Client ID: DUP Sample						
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Iron, Total	8.49	8.99	mg/l	6		20
Lead, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-4 QC Sample: L1927011-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1253241-6 QC Sample: L1927011-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927550
Report Date: 06/26/19

SAMPLE RESULTS

Lab ID: L1927550-01
Client ID: NPDES SURFACE WATER SAMPLE
Sample Location: MASSACHUSETTS TURNPIKE SERVICE PLAZA 6AW
Sample Depth:
Matrix: Water

Date Collected: 06/24/19 18:00
Date Received: 06/24/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/25/19 00:30	06/25/19 02:10	1,7196A	MA

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A
Lab Number: L1927550
Report Date: 06/26/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1252546-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	06/25/19 00:30	06/25/19 02:00	1,7196A	MA

Lab Control Sample Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1252546-2								
Chromium, Hexavalent	98		-		85-115	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927550
Report Date: 06/26/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1252546-4 QC Sample: L1927550-01 Client ID: NPDES SURFACE WATER SAMPLE												
Chromium, Hexavalent	ND	0.1	0.100	100		-	-		85-115	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: WESTBOROUGH 01-60H

Project Number: 20187867.001A

Lab Number: L1927550

Report Date: 06/26/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1252546-3 QC Sample: L1927550-01 Client ID: NPDES SURFACE WATER SAMPLE						
Chromium, Hexavalent	ND	ND	mg/l	NC		20

Project Name: WESTBOROUGH 01-60H
Project Number: 20187867.001A

Lab Number: L1927550
Report Date: 06/26/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1927550-01A	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		SB-UI(180),AG-UI(180),ZN-UI(180),FE-UI(180),SE-UI(180),HG-U(28),CD-UI(180),CR-UI(180),AS-UI(180),PB-UI(180)
L1927550-01B	Plastic 500ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		SB-UI(180),AG-UI(180),ZN-UI(180),FE-UI(180),SE-UI(180),HG-U(28),CD-UI(180),CR-UI(180),AS-UI(180),PB-UI(180)
L1927550-01C	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		HEXCR-7196(1)
L1927550-01D	Amber 1000ml unpreserved	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927550-01E	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927550-01F	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-RGP(7)
L1927550-01G	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-SIM-RGP(7)
L1927550-01H	Amber 1000ml Na2S2O3	A	7	7	4.1	Y	Absent		625.1-SIM-RGP(7)

*Values in parentheses indicate holding time in days

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927550
Project Number:	20187867.001A	**Report Date:**	06/26/19

GLOSSARY

Acronyms

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

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

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

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

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

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

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

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

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

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

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

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

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

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

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

Footnotes

Report Format: Data Usability Report

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927550
Project Number:	20187867.001A	**Report Date:**	06/26/19

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

Terms

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

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

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

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	WESTBOROUGH 01-60H	**Lab Number:**	L1927550
Project Number:	20187867.001A	**Report Date:**	06/26/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

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

19 Inductively Coupled Plasma Atomic Emission Spectrometric Method for Trace Element Analysis of Water and Wastes. Appendix C, Part 136, 40 CFR (Code of Federal Regulations). July 1, 1999 edition.

129 Method 625.1: Base/Neutrals and Acids by GC/MS, EPA 821-R-16-007, December 2016.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

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

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 6/24/19

ALPHA Job #: L1927550

ALPHA Analytical Services
8 Walkup Drive, Westboro, MA 01581, Tel: 508-898-9220
320 Forbes Blvd, Mansfield, MA 02048, Tel: 508-822-9300

Project Information

Project Name: Westborough 01-60H

Project Location: Massachusetts Turnpike Service Plaza 60NW

Project #: 20187867.0011

Project Manager: Erin Stoetzer

ALPHA Quote #:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #: 5361-337468

Client Information

Client: Kleinfelder

Address: 4 Technology Drive, Suite 110
Westborough, MA 01581

Phone: ~~508-404-0~~ 508-370-8356

Email: estoetzer@kleinfelder.com

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods

☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)

☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)

☒ Yes ☐ No NPDES RGP

☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: ~~6/26/19~~ 6/27/19 (48-h)

Additional Project Information:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☐ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Total Metals via 200.7 *	PAHs via 625 SIM	SAMPLE INFO: Filtration ☐ Field ☐ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
27550-01	NPDES Surface Water Sample	6/24/19	1800	SW	BC									X	X		* As, Cd, Cr3 Cr6, Co, Fe, Pb Hg, Ni, Zn, Sb Se, Ag	8

Container Type	P	A
Preservative	C	H/A

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

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Brian Cook	6/24/19 1837		6/24/19 1837

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

ATTACHMENT D

Fish and Wildlife Consistency 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:
Consultation Code: 05E1NE00-2019-SLI-1613
Event Code: 05E1NE00-2019-E-03919
Project Name: 01-GOH

May 03, 2019

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: 05E1NE00-2019-SLI-1613

Event Code: 05E1NE00-2019-E-03919

Project Name: 01-GOH

Project Type: SPILL / RELEASE

Project Description: Temporary dewatering for soil removal under RTN 2-0401

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.24610376343854N71.5931688083342W

Counties: Middlesex, MA | Worcester, 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: 897-16465155 May 03, 2019

Subject: Consistency letter for the '01-GOH' 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 Nathan Stevens:

The U.S. Fish and Wildlife Service (Service) received on May 03, 2019 your effects determination for the '01-GOH' (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

01-GOH

2. Description

The following description was provided for the project '01-GOH':

> Temporary dewatering for soil removal under RTN 2-0401

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.24610376343854N71.5931688083342W

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 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?

   Yes

7. Will the action only remove hazardous trees for the protection of human life or property?

   Yes

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

.35

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

.35

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

00

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 E

Massachusetts Cultural Resources in Vicinity of Site

Massachusetts Cultural Resource Information System

MACRIS

MACRIS Search Results

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

Inv. No.	Property Name	Street	Town	Year
WBO.29	Corbett, Elijah House	39 Belknap St	Westborough	1795

Massachusetts Cultural Resource Information System
MACRIS

MHC Home | MACRIS Home

For more information about this page and how to use it, click here.

Inventory No:	WBO.29 INV
Historic Name:	Corbett, Elijah House
Common Name:	
Address:	39 Belknap St
City/Town:	Westborough
Village/Neighborhood:	
Local No:	10-31
Year Constructed:	1795
Architect(s):	
Architectural Style(s):	Federal
Use(s):	Agricultural; Multiple Family Dwelling House; Single Family Dwelling House
Significance:	Agriculture; Architecture
Area(s):	
Designation(s):	
Building Material(s):	Wall: Wood; Wood Clapboard Foundation: Granite

New Search Previous

MHC Home | MACRIS Home