ENVIRONMENTAL HEALTH & ENGINEERING

MAG070413

Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA
02494-2725
TEL 800-825-5343
FAX 781-247-4305
www.eheinc.com

February 2, 2016

U.S. Environmental Protection Agency
Dewatering GP Processing
Industrial Permit Unit (OEP 06- 4)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

RE: Notice of Intent – Massachusetts Dewatering General Permit for Good Samaritan Medical Center, Brockton, MA (EH&E 20488)

To Whom It May Concern:

Environmental Health & Engineering, Inc., (EH&E) on behalf of Good Samaritan Medical Center (GSMC) located at 235 North Main Street, Brockton, Massachusetts, submits this Notice of Intent (NOI) to discharge ground water from the GSMC basement to surface water under the Massachusetts Dewatering General Permit (DGP). This proposed long-term discharge will utilize existing infrastructure to discharge to Lovett Brook, a Class B freshwater brook located at the perimeter of the property, and requires no earthmoving activity. The completed U.S. Environmental Protection Agency (EPA) NOI form is attached.

Specifically, GSMC wishes to obtain a permit for discharge of ground water from five basement sumps to the onsite, private storm water system. This system discharges to Lovett Brook at the approximate location illustrated on the topographic map provided in Figure 1. Figure 2 illustrates the sump and storm water system component locations. The storm water system predates the mid-1980s and is believed to be original to the building, which was originally constructed in 1965. The sumps will tie in to new and existing plumbing in the basement of the building.

As illustrated in Figure 3, no Areas of Critical Environmental Concern (ACECs) are located in the immediate vicinity of the discharge on Lovett Brook. No earthmoving activities are required for implementation of this discharge, and review of MassGIS maps indicates that the discharge location will not occur on or near property on the National Register of Historic Places. In addition, the attached IPaC Trust Resource Report from the U.S. Fish and Wildlife Service indicates that there are no critical habitats at this location.

In order to ensure that the proposed discharge will not adversely impact Lovett Brook, EH&E collected water samples in November and December 2015, and January 2016 to evaluate discharge water quality. Table 1 provides a summary of testing results. All samples were collected from the sump discharge in the basement of the hospital. Table 1 only lists results for analytes detected and analytes specifically required in the general permit. The water sample was also analyzed for a full range of volatile organic compounds, semi-volatile organic compounds, polychlorinated biphenyls, and additional metals. Laboratory reports are attached.

Table 1 Ground Water Analytical Results, Basement Sump, Good Samaritan Medical Center, Brockton, Massachusetts

Analyte	Sample Date	Result	Units
Coliform	11/18/15	9.7	MPN/100 ml
Chloroform	12/30/15	1.1	µg/L
Hardness	12/30/15	320	mg/L
Iron	12/30/15	1.0	mg/L
Lead	12/30/15	0.013	mg/L
Chloride	12/30/15	860	mg/L
pH	12/30/15 and 1/15/16	6.0 – 6.2	SU
Total Suspended Solids	12/30/15	ND	mg/L
Total Residual Chlorine	12/30/15	ND	mg/L
Oil and Grease	12/30/15	ND	mg/L

MPN/100 ml	most probable number per 100 milliliters
µg/L	micrograms per liter
mg/L	milligrams per liter
SU	standard unit
ND	not detected above the laboratory reporting limit indicated

As indicated in Table 1, total suspended solids, residual free chlorine, and oil and grease were not detected in the ground water sample. Low concentrations of lead and iron were the only metals detected. Coliform bacterial counts were well below surface water standards. pH was measured in the laboratory and in the field on two separate dates. The range of observed pH levels is within the limits set by EPA, but slightly below the standard of 6.5 set by the Massachusetts Department of Environmental Protection (MassDEP). As allowed under the DGP, GSMC requests that this discharge be permitted, based upon the relatively small volume of the discharge compared to the size of the stream and the small difference between the observed pH and the MassDEP acceptable range. In addition, the storm drain leading to the outfall is approximately 550 feet in length and composed of reinforced concrete, and ground water from the sumps will mix with surface water in a holding tank prior to discharge (refer to Figure 2). Testing at the outfall subsequent to initiation of discharge may result in higher pH readings at the outfall.

Based upon the results of sampling and analysis, the lack of any earthmoving activities to implement this discharge, and the absence of ACECs and historic properties in the area of Lovett Brook at GSMC, EH&E believes that the proposed discharge of ground water from basement sumps is allowable under the Massachusetts DGP. GSMC proposes initiation of discharge to Lovett Brook from the basement sumps between March 11 and March 24, 2016, depending upon the timing of completion of plumbing installation.

Please let me know if you require any additional information.

Sincerely,

Cynthia D. Campisano

Cynthia D. Campisano, M.S.
Senior Scientist/Project Manager

Attachments

cc: Paul Ponte, Director, Facilities Management, Good Samaritan Medical Center
Division of Watershed Management, Massachusetts Department of Environmental Protection

P:\20488\Report\NOI\NOI EPA Letter.docx

II. Suggested Notice of Intent (NOI) Format

1. General facility information. Please provide the following information about the facility.

a) Name of facility: Steward Good Samaritan Medical Center	**Mailing Address for the Facility:** 235 North Main Street, Brockton, MA	
b) Location Address of the Facility (if different from mailing address):	**Facility Location** **longitude:** -71.061890 **latitude:** 42.097783	**Type of Business:** Hospital **Facility SIC codes:** 8062

c) Name of facility owner: Steward Good Samaritan Medical Cetner **Owner's email:** scott.kenyan@steward.org

Owner's Tel #: (617) 417-4700 **Owner's Fax #:** _____

Address of owner (if different from facility address) 500 Boylston Street, 5th Floor Boston, MA 02116

Owner is (check one): 1. Federal ____ **2. State** ____ **3. Private** ✓ **4. Other** ____ **(Describe)** _____

Legal name of Operator, if not owner: _____

Operator Contact Name: Paul Ponte

Operator Tel Number: (508) 427-3000 **Fax Number:** 508-427-2219

Operator's email: paul.ponte2@steward.org

Operator Address (if different from owner)

d) Attach a topographic map indicating the location of the facility and the outfall(s) to the receiving water. Map attached? ✓

e) Check Yes or No for the following:

1. **Has a prior NPDES permit been granted for the discharge? Yes** ____ **No** ✓ **If Yes, Permit Number:** _____
2. **Is the discharge a "new discharger" as defined by 40 CFR Section 122.2? Yes** ____ **No** ✓
3. **Is the facility covered by an individual NPDES permit? Yes** ____ **No** ✓ **If Yes, Permit Number** ____
4. **Is there a pending application on file with EPA for this discharge? Yes** ____ **No** ✓ **If Yes, date of submittal:**

2. Discharge information. Please provide information about the discharge, (attaching additional sheets as needed)

a) **Name of receiving water into which discharge will occur:** Lovett Brook
State Water Quality Classification: B **Freshwater:** X **Marine Water:** _____

b) **Describe the discharge activities for which the owner/applicant is seeking coverage:**
1. **Construction dewatering of groundwater intrusion and/or storm water accumulation.**
✓ 2. **Short-term or long-term dewatering of foundation sumps.** Basement dewatering
3. **Other.**

c) **Number of outfalls** 1 Pre-existing Stormwater Outfall

For each outfall:

d) **Estimate the maximum daily and average monthly flow of the discharge (in gallons per day – GPD). Max Daily Flow** 50,400 **GPD**
Average Monthly Flow 1,500,000 G **GPD**

e.) **What is the maximum and minimum monthly pH of the discharge (in s.u.)? Max pH** 6.0 **Min pH** 6.2

f.) **Identify the source of the discharge (i.e. potable water, surface water, or groundwater). If groundwater, the facility shall submit effluent test results, as required in Section 4.4.5 of the General Permit.** Groundwater - see attached

g.) **What treatment does the wastewater receive prior to discharge?** None

h.) **Is the discharge continuous? Yes** _____ **No** ✓ **If no, is the discharge periodic (P) (occurs regularly, i.e., monthly or seasonally, but is not continuous all year) or intermittent (I) (occurs sometimes but not regularly) or both (B)** P
If (P), number of days or months per year of the discharge 365 **and the specific months of discharge** all months;
If (I), number of days/year there is a discharge Not applicable
Is the discharge temporary? Yes _____ **No** ✓
If yes, approximate start date of dewatering Not applicable **approximate end date of dewatering** Not applicable

i.) **Latitude and longitude of each discharge within 100 feet (See http://www.epa.gov/tri/report/siting_tool): Outfall 1: long.** -71.06149 **lat.** 42.096149 **; Outfall 2: long.**_____ **lat.**_____**; Outfall 3: long.**_____ **lat.**_____**.**

j.) **If the source of the discharge is potable water, please provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water and attach any calculation sheets used to support stream flow and dilution calculations** Not applicable **cfs**
(See Appendix VII for equations and additional information)

MASSACHUSETTS FACILITIES: See Section 3.4 and Appendix 1 of the General Permit for more information on Areas of Critical Environmental Concern (ACEC):

k.) Does the discharge occur in an ACEC? Yes _____ No ✓
If yes, provide the name of the ACEC: _____

3. Contaminant Information

a) Are any pH neutralization and/or dechlorination chemicals used in the discharge? If so, include the chemical name and manufacturer; maximum and average daily quantity used as well as the maximum and average daily expected concentrations (mg/l) in the discharge, and the vendor's reported aquatic toxicity (NOAEL and/or LC_{50} in percent for aquatic organism(s)). No

b) Please report any known remediation activities or water-quality issues in the vicinity of the discharge.

4. Determination of Endangered Species Act Eligibility: Provide documentation of ESA eligibility as required at Part 3.4 and Appendix IV. In addition, respond to the following questions.

a) Which of the three eligibility criteria listed in Appendix IV, Criterion (A, B, or C) have you met? A
b) Please attach documentation with your NOI supporting your response. Please see Appendix IV for acceptable documentation

5. Documentation of National Historic Preservation Act requirements: Please respond to the following questions:

a) See Screening Process in Appendix III and respond to questions regarding your site and any historic properties listed or eligible for listing on the National Register of Historic Places. Question 1: Yes ✓ No ____ ; Question 2: No ✓ Yes _____

b) Have any State or Tribal historic preservation officers been consulted in this determination? Yes _____ or No ✓ If yes, attach the results of the consultation(s).

c) Which of the three National Historic Preservation Act eligibility criterion listed in Appendix III, Criterion (A, B, or C) have you met? A

d) Is the project located on property of religious or cultural significance to an Indian Tribe? Yes _____ or No ✓ If yes, provide that name of the Indian Tribe associated with the property. _____

6. Supplemental Information: Please provide any supplemental information. Attach any analytical data used to support the application. Attach any certification(s) required by the general permit

7. Signature Requirements: The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22 (see below) including the following certification:

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

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

Facility Name: Steward Good Samaritan Medical Center

Operator signature:

Print Full Name and Title: John A. Jurczyk, FACHE, President

Date: 01/26/2016

Federal regulations require this application to be signed as follows:

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

Detailed Contour GSMC and Environs

Figure 1. Area Topographic Map

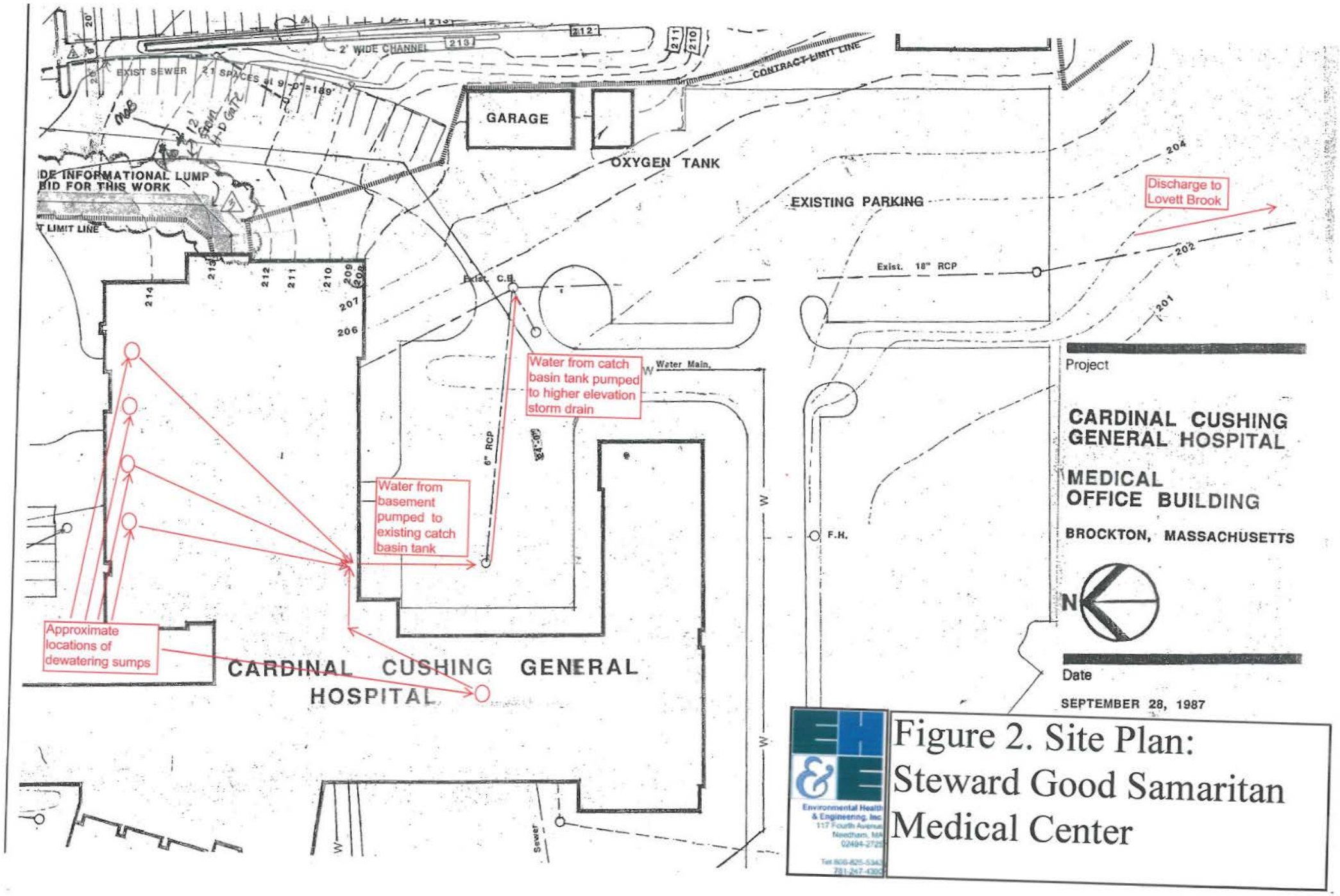
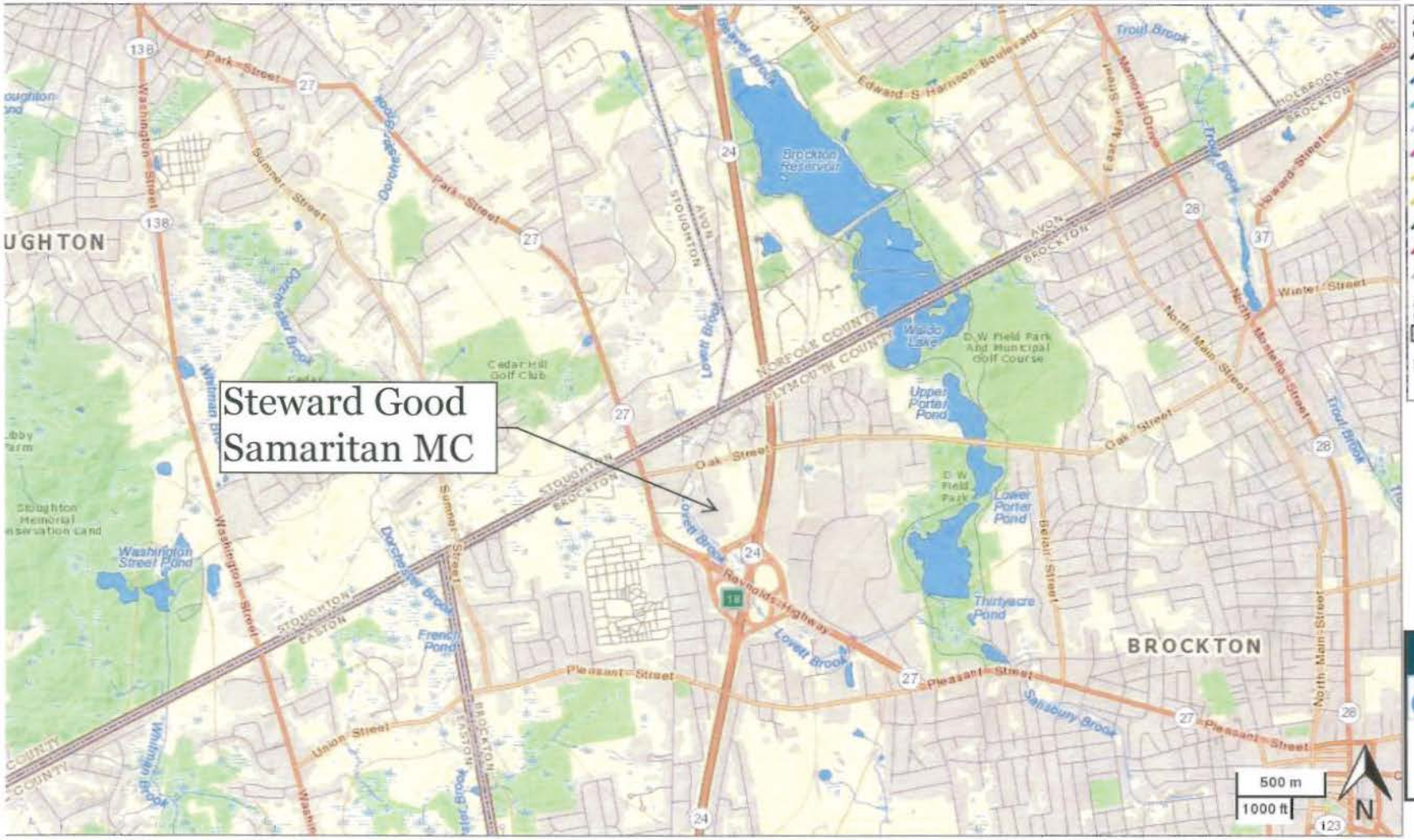


Figure 2. Site Plan: Steward Good Samaritan Medical Center

Areas of Critical Environmental Concern (NA)



Areas of Critical Environmental Concern ACECs Boundaries
- ROAD/RAIL BASED
- RIVER BASED
- WETLAND BASED
- FLOODPLAIN BASED
- TIDAL BASED
- CONTOUR BASED
- POLITICAL BOUNDARY
- PROPERTY LINE BASED
- OTHER
- NOT DEFINED

Areas of Critical Environmental Concern ACECs

Detailed Features

Figure 3.
Areas of Critical Environmental Concern
Steward Good Samaritan Medical Center

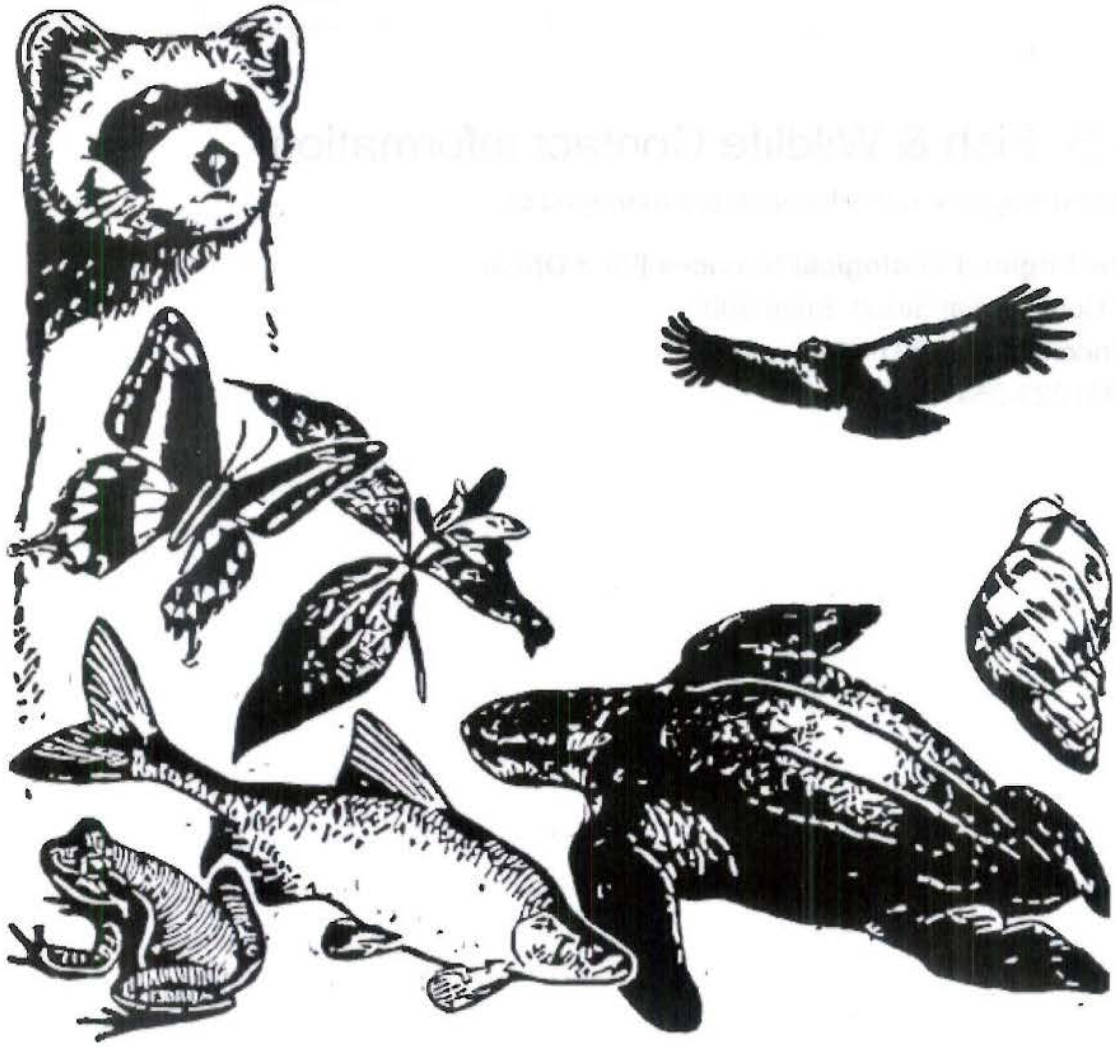
U.S. Fish & Wildlife Service

Good Samaritan Medical Center - NOI

IPaC Trust Resource Report

Generated January 14, 2016 11:59 AM MST, IPaC v2.3.2

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (http://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

US Fish & Wildlife Service

IPaC Trust Resource Report

NAME

Good Samaritan Medical Center - NOI

LOCATION

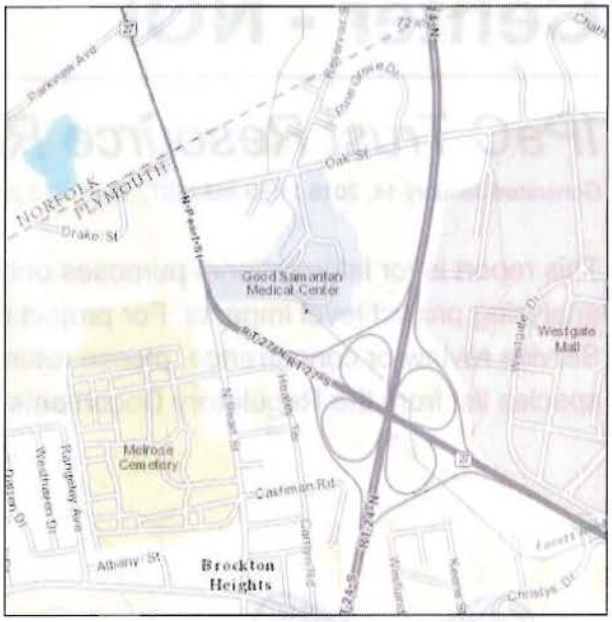
Plymouth County, Massachusetts

DESCRIPTION

Discharge groundwater from basement to existing stormwater system. Map location is outfall.

IPAC LINK

http://ecos.fws.gov/ipac/project/L52BD-6CHGV-C5XOM-PFPVL-ZCCZFE



U.S. Fish & Wildlife Contact Information

Trust resources in this location are managed by:

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

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require FWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from the Regulatory Documents section in IPaC.

There are no endangered species in this location

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity which results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service (1). There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/akn-histogram-tools.php

The following species of migratory birds could potentially be affected by activities in this location:

American Oystercatcher Haematopus palliatus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0G8

American Bittern Botaurus lentiginosus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F3

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Year-round
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Canada Warbler Wilsonia canadensis — Bird of conservation concern
Season: Breeding

Fox Sparrow Passerella iliaca — Bird of conservation concern
Season: Wintering

Hudsonian Godwit Limosa haemastica — Bird of conservation concern
Season: Migrating

Least Bittern Ixobrychus exilis — Bird of conservation concern
Season: Breeding

Least Tern Sterna antillarum — Bird of conservation concern
Season: Breeding

Olive-sided Flycatcher Contopus cooperi — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Year-round

Prairie Warbler Dendroica discolor — Bird of conservation concern
Season: Breeding

Purple Sandpiper Calidris maritima — Bird of conservation concern
Season: Wintering

Saltmarsh Sparrow Ammodramus caudacutus — Bird of conservation concern
Season: Breeding

Seaside Sparrow Ammodramus maritimus — Bird of conservation concern
Season: Breeding

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Snowy Egret Egretta thula — Bird of conservation concern
Season: Breeding

Upland Sandpiper Bartramia longicauda — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HC

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
https://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Worm Eating Warbler Helmitheros vermivorum — Bird of conservation concern
Season: Breeding

Refuges

Any activity proposed on National Wildlife Refuge lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuges in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal Statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

This location overlaps all or part of the following wetlands:

Freshwater Forested/shrub Wetland

PFO1Ed 2.5 acres

A full description for each wetland code can be found at the National Wetlands Inventory website: http://107.20.228.18/decoders/wetlands.aspx

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1534403
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Cynthia Campisano
Phone:	(781) 247-4300
Project Name:	DEWATERING
Project Number:	20488
Report Date:	01/12/16

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1534403-01	163709	WATER	BROCKTON	12/30/15 08:20	12/30/15

Project Name: DEWATERING **Lab Number:** L1534403

Project Number: 20488 **Report Date:** 01/12/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is 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
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
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
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
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
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

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL

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

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

Date Rec'd in Lab: 11/18/15

ALPHA Job #: L1530237

Project Information

Project Name: 20488

Project Location:

Project #: 20488

Project Manager: C Campisano

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: EH&E

Address: 117 4th Ave, Needham MA

Phone: 617-593-7515

Email: ccampisano@eheinc.com

Additional Project Information:

Turn-Around Time

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

Date Due:

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 ☐ 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; Coliform - Counts

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	VOC	SVOC	METALS (MCP)	METALS (RCRA)	EPH	VPH	PCB/PEST	TPH	Coliform - Counts						Sample Comments	TOTAL # BOTTLES
30237 -01	WW-1	11/18/15	10:15	WW	CC									X							

Container Type: B

Preservative: Na2S2O3

Container Type	Preservative
P= Plastic	A= None
A= Amber glass	B= HCl
V= Vial	C= HNO_3
G= Glass	D= H_2SO_4
B= Bacteria cup	E= NaOH
C= Cube	F= MeOH
O= Other	G= $NaHSO_4$
E= Encore	H = $Na_2S_2O_3$
D= BOD Bottle	I= Ascorbic Acid
	J = NH_4Cl
	K= Zn Acetate
	O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
C S[signature]	11/18/15 12:15	[signature] AAL	11/18/15 1215
[signature]	11/18/15 1258	[signature]	11/18/15 1301
	11/18/15 1330	[signature]	11/18/15 1330

Certification Information

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

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: 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.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

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

Project Name:	20488	**Lab Number:**	L1530237
Project Number:	20488	**Report Date:**	11/25/15

REFERENCES

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

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.

Project Name:	20488	**Lab Number:**	L1530237
Project Number:	20488	**Report Date:**	11/25/15

Data Qualifiers

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.

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

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.

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

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

Report Format: Data Usability Report

Project Name: 20488 **Lab Number:** L1530237

Project Number: 20488 **Report Date:** 11/25/15

GLOSSARY

Acronyms

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).

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.

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.

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.

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.

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

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

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.

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.

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).

Report Format: Data Usability Report

Project Name: 20488
Project Number: 20488

Lab Number: L1530237
Report Date: 11/25/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1530237-01A	Bacteria Cup Na2S2O3 preserved	A	N/A	3.3	Y	Absent	T-COLI-QT(.33)
L1530237-01B	Bacteria Cup Na2S2O3 preserved	A	N/A	3.3	Y	Absent	T-COLI-QT(.33)

*Values in parentheses indicate holding time in days

Project Name: 20488 **Lab Number:** L1530237

Project Number: 20488 **Report Date:** 11/25/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG842100-1										
Coliform, Total (MPN)	<1		MPN/100ml	1	NA	1	-	11/18/15 15:30	30,9223B	KE

Project Name: 20488
Project Number: 20488

Lab Number: L1530237
Report Date: 11/25/15

SAMPLE RESULTS

Lab ID: L1530237-01
Client ID: WW-1
Sample Location: Not Specified
Matrix: Water

Date Collected: 11/18/15 10:15
Date Received: 11/18/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Total (MPN)	9.7		MPN/100ml	1.0	NA	1	-	11/18/15 15:30	30,9223B	KE

INORGANICS
&
MISCELLANEOUS

Project Name:	20488	**Lab Number:**	L1530237
Project Number:	20488	**Report Date:**	11/25/15

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 11/25/15

Project Name: 20488
Project Number: 20488

Lab Number: L1530237
Report Date: 11/25/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1530237-01	WW-1	WATER	Not Specified	11/18/15 10:15	11/18/15

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1530237
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Cynthia Campisano
Phone:	(781) 247-4300
Project Name:	20488
Project Number:	20488
Report Date:	11/25/15

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1534403

Instrument ID: Voa116.i Calibration Date: 05-JAN-2016 Time: 05:21

Lab File ID: 0105A02 Init. Calib. Date(s): 29-DEC-2 29-DEC-2

Sample No: 8260 CCAL Init. Calib. Times : 08:16 12:02

Compound	$\overline{RRF}$	RRF	MIN RRF	%D	MAX %D
sec-butylbenzene	2.4727	2.4123	.05	-2	20
p-isopropyltoluene	2.0826	2.0095	.05	-4	20
1,3-dichlorobenzene	1.1731	1.0987	.6	-6	20
1,4-dichlorobenzene	1.1681	1.0888	.5	-7	20
p-diethylbenzene	.50309	.51046	.05	1	20
n-butylbenzene	1.9371	1.8681	.05	-4	20
1,2-dichlorobenzene	1.0621	.98438	.4	-7	20
1,2,4,5-tetramethylbenezene	.74794	.7462	.05	0	20
1,2-dibromo-3-chloropropane	.06923	.05649	.05	-18	20
1,3,5-trichlorobenzene	.86342	.80488	.01	-7	30
hexachlorobutadiene	.36823	.32799	.05	-11	20
1,2,4-trichlorobenzene	.73121	.64917	.2	-11	20
naphthalene	1.2198	1.0290	.05	-16	20
1,2,3-trichlorobenzene	.5997	.52824	.05	-12	20
dibromofluoromethane	.24774	.24753	.05	0	20
1,2-dichloroethane-d4	.25421	.24153	.05	-5	20
toluene-d8	1.2122	1.1816	.05	-3	20
4-bromofluorobenzene	.84206	.81578	.05	-3	20

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7A
CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1534403

Instrument ID: Voa116.i Calibration Date: 05-JAN-2016 Time: 05:21

Lab File ID: 0105A02 Init. Calib. Date(s): 29-DEC-2 29-DEC-2

Sample No: 8260 CCAL Init. Calib. Times : 08:16 12:02

Compound	$\overline{RRF}$	RRF	MIN RRF	%D	MAX %D	
methyl cyclohexane	.35309	.34703	.01	-2	30	
trichloroethene	.21473	.21004	.2	-2	20	
dibromomethane	.11678	.10829	.05	-7	20	
1,2-dichloropropane	.22879	.2227	.1	-3	20	
bromodichloromethane	.26387	.25089	.2	-5	20	
1,4-dioxane	.00046	.00036	.05	-21	20	F
2-chloroethylvinyl ether	.10515	.092	.05	-13	20	
cis-1,3-dichloropropene	.33815	.34147	.2	1	20	
toluene	.70714	.6264	.4	-11	20	
4-methyl-2-pentanone	100	84.169	.1	-16	20	
tetrachloroethene	.30897	.29852	.2	-3	20	
trans-1,3-dichloropropene	.35912	.3211	.1	-11	20	
1,1,2-trichloroethane	.18127	.16597	.1	-8	20	
ethyl-methacrylate	.27451	.23406	.01	-15	20	
chlorodibromomethane	.26422	.23893	.1	-10	20	
1,3-dichloropropane	.36993	.33761	.05	-9	20	
1,2-dibromoethane	.21198	.19203	.1	-9	20	
2-hexanone	100	72.701	.1	-27	20	F
chlorobenzene	.77486	.73154	.5	-6	20	
ethyl benzene	1.2481	1.1958	.1	-4	20	
1,1,1,2-tetrachloroethane	.26838	.2516	.05	-6	20	
p/m xylene	.48807	.4762	.1	-2	20	
o xylene	.44752	.43228	.3	-3	20	
styrene	.72727	.71436	.31	-2	20	
bromoform	.32279	.2782	.1	-14	20	
isopropylbenzene	1.2113	1.1831	.1	-2	20	
bromobenzene	.61184	.5591	.05	-9	20	
n-propylbenzene	2.6657	2.5658	.05	-4	20	
1,4-dichlorobutane	.63341	.55038	.01	-13	20	
1,1,2,2,-tetrachloroethane	.47098	.41008	.3	-13	20	
4-ethyltoluene	.93964	.96444	.05	3	20	
2-chlorotoluene	1.7107	1.5299	.05	-11	20	
1,2,3-trichloropropane	.37482	.32459	.05	-13	20	
1,3,5-trimethybenzene	1.8894	1.7790	.05	-6	20	
trans-1,4-dichloro-2-butene	.11401	.08974	.05	-21	20	F
4-chorotoluene	1.6643	1.5537	.05	-7	20	
tert-butylbenzene	1.6319	1.5444	.05	-5	20	
1,2,4-trimethylbenzene	1.8700	1.7812	.05	-5	20	

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7A
Volatile Organics CONTINUING CALIBRATION CHECK

Lab Name: Alpha Analytical Labs

SDG No.: L1534403

Instrument ID: Voa116.i Calibration Date: 05-JAN-2016 Time: 05:21

Lab File ID: 0105A02 Init. Calib. Date(s): 29-DEC-2 29-DEC-2

Sample No: 8260 CCAL Init. Calib. Times : 08:16 12:02

Compound	$\overline{RRF}$	RRF	MIN RRF	%D	MAX %D	
dichlorodifluoromethane	.20866	.20364	.1	-2	20	
chloromethane	.21827	.21131	.1	-3	20	
vinyl chloride	.21874	.21281	.1	-3	20	
bromomethane	.09075	.07618	.1	-16	20	F
chloroethane	.15349	.15349	.1	0	20	
trichlorofluoromethane	.33771	.33941	.1	1	20	
ethyl ether	.13128	.12215	.05	-7	20	
1,1,-dichloroethene	.21521	.21029	.1	-2	20	
carbon disulfide	.67418	.63872	.1	-5	20	
freon-113	.21349	.21072	.1	-1	20	
iodomethane	100	139	.05	39	20	F
acrolein	.03191	.02672	.05	-16	20	F
methylene chloride	.25774	.23368	.1	-9	20	
acetone	100	86.519	.1	-13	20	
trans-1,2-dichloroethene	.23987	.23204	.1	-3	20	
methyl acetate	.1038	.09099	.01	-12	20	
methyl tert butyl ether	.58134	.5241	.1	-10	20	
tert-butyl alcohol	.01049	.00787	.05	-25	20	F
Diisopropyl Ether	.67921	.63087	.05	-7	20	
1,1-dichloroethane	.43227	.41627	.2	-4	20	
Halothane	.18226	.17711	.05	-3	20	
acrylonitrile	.06177	.0553	.05	-10	20	
Ethyl-Tert-Butyl-Ether	.65319	.60073	.05	-8	20	
vinyl acetate	.44514	.39502	.05	-11	20	
cis-1,2-dichloroethene	.26647	.25852	.1	-3	20	
2,2-dichloropropane	.40258	.38931	.05	-3	20	
cyclohexane	.33996	.33872	.01	0	30	
bromochloromethane	.1032	.11091	.05	7	20	
chloroform	.3531	.33819	.2	-4	20	
ethyl acetate	.13311	.11322	.05	-15	20	
carbontetrachloride	.27675	.27319	.1	-1	20	
tetrahydrofuran	100	82.507	.05	-17	20	
1,1,1-trichloroethane	.30426	.2939	.1	-3	20	
2-butanone	100	83.692	.1	-16	20	
1,1-dichloropropene	.26776	.26185	.05	-2	20	
benzene	.81932	.8036	.5	-2	20	
Tertiary-Amyl Methyl Ether	.49914	.45494	.05	-9	20	
1,2-dichloroethane	.23778	.21248	.1	-11	20	

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COC edited 12/31/2015 NL

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 12/30/15

ALPHA Job #: L1534103

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

Client Information

Client: EH&E
Address: 117 4TH AVE, NEEDHAM, MA 02494
Phone: 617-573-5412
Email: ABZSOL@EHENC.com

Additional Project Information:

Project Information

Project Name: DEWATERING
Project Location: BROCKTON
Project #: 20488
Project Manager: CONNIE CAMPESANO
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: 7 JAN 2016

Report Information - Data Deliverables

☒ ADEx ☐ EMAIL

Billing Information

☒ Same as Client info PO #: 20488

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 _____

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 Total Silver EPA 6010C	METALS: ☐ RCRA5 ☐ RCRA8	EPH: ☐ Ranges & Targets ☐ PP13	VPH: ☐ Ranges & Targets ☐ Ranges Only	☑ PCB ☐ PEST 608A	TPH: ☐ Quant Only ☐ Fingerprint	TSS SM 2540	TH SM 4500	CHLORIDE EPA 9251	OIL & GREASE EPA 1664	TOTAL REFRACTORY CHLORINE SM4500	HEXAVALENT CHROMIUM EPA 7196	SAMPLE INFO: Filtration ☐ Field ☒ Lab to do; Preservation ☐ Lab to do	Sample Comments	TOTAL # BOTTLES
34403 -01	163709	12/30/15	0820	H20	ASB	3	2	1				2		1	1	1	2	1	1		Hardness	13

Sb,As, Cd,Cr,Cu.Fe.Hg,Ni ,Ag,Zn, Pb.

Container Type	A	A	P				A		P	P	P	A	P	P								
Preservative	B	A	C				A		A	A	A	B	A	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
	12/30/15 1040	AL	12/30/15 1445
	12/30/15 1515		12/30/15 1515

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

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

Certification Information

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

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: 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.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N, **SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.**

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

Project Name: DEWATERING **Lab Number:** L1534403
Project Number: 20488 **Report Date:** 01/12/16

REFERENCES

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

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

74 Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

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

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

Project Name: DEWATERING **Lab Number:** L1534403

Project Number: 20488 **Report Date:** 01/12/16

Data Qualifiers

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.

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

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.

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

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

Report Format: Data Usability Report

Project Name: DEWATERING **Lab Number:** L1534403

Project Number: 20488 **Report Date:** 01/12/16

GLOSSARY

Acronyms

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).

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.

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.

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.

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.

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

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

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.

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.

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).

Report Format: Data Usability Report

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1534403-01A	Vial HCl preserved	A	N/A	3.4	Y	Absent	MCP-8260-10(14)
L1534403-01B	Vial HCl preserved	A	N/A	3.4	Y	Absent	MCP-8260-10(14)
L1534403-01C	Vial HCl preserved	A	N/A	3.4	Y	Absent	MCP-8260-10(14)
L1534403-01D	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	MCP-CR-6010T-10(180),MCP-FE-6010T-10(180),MCP-7470T-10(28),MCP-AS-6010T-10(180),MCP-CD-6010T-10(180),MCP-AG-6010T-10(180),MCP-CU-6010T-10(180),MCP-SB-6010T-10(180),MCP-ZN-6010T-10(180),HARDT(180),MCP-NI-6010T-10(180),MCP-PB-6010T-10(180)
L1534403-01D1	Plastic 250ml HNO3 preserved	A	<2	3.4	Y	Absent	-
L1534403-01E	Plastic 950ml unpreserved	A	7	3.4	Y	Absent	CL-9251(28),TRC-4500(1),PH-4500(.01),MCP-HEXCR7196-10(1)
L1534403-01F	Plastic 950ml unpreserved	A	7	3.4	Y	Absent	TSS-2540(7)
L1534403-01G	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	MCP-8082-10(365)
L1534403-01H	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	MCP-8082-10(365)
L1534403-01I	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	MCP-8270-10(7)
L1534403-01J	Amber 1000ml unpreserved	A	7	3.4	Y	Absent	MCP-8270-10(7)
L1534403-01K	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	OG-1664(28)
L1534403-01L	Amber 1000ml HCl preserved	A	N/A	3.4	Y	Absent	OG-1664(28)

*Values in parentheses indicate holding time in days

Lab Duplicate Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG854030-3 QC Sample: L1534403-01 Client ID: 163709						
Chloride	860	870	mg/l	1		7
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG854031-3 QC Sample: L1534403-01 Client ID: 163709						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG854077-2 QC Sample: L1534403-01 Client ID: 163709						
pH (H)	6.1	6.1	SU	0		5

Matrix Spike Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

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: WG854030-4 QC Sample: L1534403-01 Client ID: 163709												
Chloride	860	20	860	0	Q	-	-		58-140	-		7
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG854180-4 QC Sample: L1534403-01 Client ID: 163709												
Oil & Grease, Hem-Grav	ND	40	39	97		-	-		78-114	-		18

Lab Control Sample Analysis

Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG854030-2								
Chloride	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG854031-2								
Chlorine, Total Residual	105		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG854077-1								
pH	101		-		99-101	-		5
MCP General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG854096-2 WG854096-3								
Chromium, Hexavalent	97		96		49-151	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG854180-2								
Oil & Grease, Hem-Grav	98		-		78-114	-		18

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

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: WG854030-1										
Chloride	ND		mg/l	1.0	--	1	-	12/30/15 17:59	1,9251	ML
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG854031-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/30/15 16:39	30,4500CL-D	AS
MCP General Chemistry - Westborough Lab for sample(s): 01 Batch: WG854096-1										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/30/15 23:00	12/30/15 23:14	97,7196A	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG854150-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	12/31/15 12:00	30,2540D	DW
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG854180-1										
Oil & Grease, Hem-Grav	ND		mg/l	4.0	--	1	12/31/15 07:49	12/31/15 08:49	74,1664A	KZ

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Matrix: Water

Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP General Chemistry - Westborough Lab										
Chromium, Hexavalent	ND		mg/l	0.010	--	1	12/30/15 23:00	12/30/15 23:16	97,7196A	LH
General Chemistry - Westborough Lab										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	12/31/15 12:00	30,2540D	DW
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	12/30/15 16:39	30,4500CL-D	AS
Chloride	860		mg/l	10	--	10	-	12/30/15 18:08	1,9251	ML
pH (H)	6.1		SU	-	NA	1	-	12/30/15 20:45	30,4500H+-B	AS
Oil & Grease, Hem-Grav	ND		mg/l	4.0	--	1	12/31/15 07:49	12/31/15 08:49	74,1664A	KZ

INORGANICS
&
MISCELLANEOUS

Lab Control Sample Analysis

Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Hardness by SM 2340B - Westborough Lab Associated sample(s): 01 Batch: WG854178-2								
Hardness	94		-		80-120	-		
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG854181-2 WG854181-3								
Antimony, Total	81		85		80-120	5		20
Arsenic, Total	108		110		80-120	2		20
Cadmium, Total	105		98		80-120	7		20
Chromium, Total	95		90		80-120	5		20
Copper, Total	102		94		80-120	8		20
Iron, Total	98		90		80-120	9		20
Lead, Total	105		105		80-120	0		20
Nickel, Total	99		92		80-120	7		20
Silver, Total	101		92		80-120	9		20
Zinc, Total	101		93		80-120	8		20
MCP Total Metals - Westborough Lab Associated sample(s): 01 Batch: WG856240-2 WG856240-3								
Mercury, Total	115		116		80-120	1		20

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness by SM 2340B - Westborough Lab for sample(s): 01 Batch: WG854178-1										
Hardness	ND		mg/l	0.66	NA	1	12/31/15 08:40	12/31/15 14:32	1,6010C	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG854181-1										
Antimony, Total	ND		mg/l	0.050	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Arsenic, Total	ND		mg/l	0.005	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Cadmium, Total	ND		mg/l	0.004	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Chromium, Total	ND		mg/l	0.01	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Copper, Total	ND		mg/l	0.010	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Iron, Total	ND		mg/l	0.05	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Lead, Total	ND		mg/l	0.010	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Nickel, Total	ND		mg/l	0.025	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Silver, Total	ND		mg/l	0.007	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH
Zinc, Total	ND		mg/l	0.050	--	1	12/31/15 08:40	01/06/16 00:37	97,6010C	JH

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 01 Batch: WG856240-1										
Mercury, Total	ND		mg/l	0.0002	--	1	01/11/16 10:50	01/11/16 19:24	97,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Project Name: DEWATERING
Project Number: 20488
Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Matrix: Water
Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Hardness by SM 2340B - Westborough Lab											
Hardness	320		mg/l	0.66	NA	1	12/31/15 08:40	12/31/15 19:27	EPA 3005A	1,6010C	PS
MCP Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.050	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Arsenic, Total	ND		mg/l	0.005	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Cadmium, Total	ND		mg/l	0.004	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Chromium, Total	ND		mg/l	0.01	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Copper, Total	ND		mg/l	0.010	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Iron, Total	1.0		mg/l	0.05	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Lead, Total	0.013		mg/l	0.010	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Mercury, Total	ND		mg/l	0.0002	--	1	01/11/16 10:50	01/11/16 19:29	EPA 7470A	97,7470A	EA
Nickel, Total	ND		mg/l	0.025	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Silver, Total	ND		mg/l	0.007	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH
Zinc, Total	ND		mg/l	0.050	--	1	12/31/15 08:40	01/06/16 01:39	EPA 3005A	97,6010C	JH

METALS

Lab Control Sample Analysis

Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01 Batch: WG854420-2 WG854420-3									
Aroclor 1016	63		55		40-140	13		20	A
Aroclor 1260	74		64		40-140	15		20	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		68		30-150	A
Decachlorobiphenyl	90		77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		76		30-150	B
Decachlorobiphenyl	88		78		30-150	B

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 01/03/16 03:26
Analyst: JT

Extraction Method: EPA 3510C
Extraction Date: 01/02/16 12:46
Cleanup Method: EPA 3665A
Cleanup Date: 01/02/16
Cleanup Method: EPA 3660B
Cleanup Date: 01/02/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01 Batch: WG854420-1						
Aroclor 1016	ND		ug/l	0.250	--	A
Aroclor 1221	ND		ug/l	0.250	--	A
Aroclor 1232	ND		ug/l	0.250	--	A
Aroclor 1242	ND		ug/l	0.250	--	A
Aroclor 1248	ND		ug/l	0.250	--	A
Aroclor 1254	ND		ug/l	0.250	--	A
Aroclor 1260	ND		ug/l	0.250	--	A
Aroclor 1262	ND		ug/l	0.250	--	A
Aroclor 1268	ND		ug/l	0.250	--	A
PCBs, Total	ND		ug/l	0.250	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	75		30-150	B

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Matrix: Water
Analytical Method: 97,8082A
Analytical Date: 01/03/16 04:21
Analyst: JT

Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 01/02/16 12:46
Cleanup Method: EPA 3665A
Cleanup Date: 01/02/16
Cleanup Method: EPA 3660B
Cleanup Date: 01/02/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug/l	0.250	--	1	A
Aroclor 1221	ND		ug/l	0.250	--	1	A
Aroclor 1232	ND		ug/l	0.250	--	1	A
Aroclor 1242	ND		ug/l	0.250	--	1	A
Aroclor 1248	ND		ug/l	0.250	--	1	A
Aroclor 1254	ND		ug/l	0.250	--	1	A
Aroclor 1260	ND		ug/l	0.250	--	1	A
Aroclor 1262	ND		ug/l	0.250	--	1	A
Aroclor 1268	ND		ug/l	0.250	--	1	A
PCBs, Total	ND		ug/l	0.250	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	78		30-150	B

PCBS

Lab Control Sample Analysis

Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854238-2 WG854238-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	58		51		15-110
Phenol-d6	41		37		15-110
Nitrobenzene-d5	73		64		30-130
2-Fluorobiphenyl	95		86		30-130
2,4,6-Tribromophenol	**130**	Q	**118**	Q	15-110
4-Terphenyl-d14	105		96		30-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854238-2 WG854238-3								
Dibenzofuran	96		87		40-140	10		20
2-Methylnaphthalene	89		80		40-140	11		20
Acetophenone	85		74		40-140	14		20
2,4,6-Trichlorophenol	102		91		30-130	11		20
2-Chlorophenol	82		72		30-130	13		20
2,4-Dichlorophenol	93		84		30-130	10		20
2,4-Dimethylphenol	85		77		30-130	10		20
2-Nitrophenol	82		72		30-130	13		20
4-Nitrophenol	49		45		30-130	9		20
2,4-Dinitrophenol	14	Q	30		30-130	73	Q	20
Pentachlorophenol	30		54		30-130	57	Q	20
Phenol	47		42		30-130	11		20
2-Methylphenol	80		72		30-130	11		20
3-Methylphenol/4-Methylphenol	78		71		30-130	9		20
2,4,5-Trichlorophenol	104		93		30-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854238-2 WG854238-3								
Bis(2-Ethylhexyl)phthalate	94		80		40-140	16		20
Butyl benzyl phthalate	91		80		40-140	13		20
Di-n-butylphthalate	94		83		40-140	12		20
Di-n-octylphthalate	85		73		40-140	15		20
Diethyl phthalate	94		84		40-140	11		20
Dimethyl phthalate	99		88		40-140	12		20
Benzo(a)anthracene	99		89		40-140	11		20
Benzo(a)pyrene	96		86		40-140	11		20
Benzo(b)fluoranthene	92		83		40-140	10		20
Benzo(k)fluoranthene	94		84		40-140	11		20
Chrysene	98		91		40-140	7		20
Acenaphthylene	96		87		40-140	10		20
Anthracene	103		94		40-140	9		20
Benzo(ghi)perylene	92		85		40-140	8		20
Fluorene	97		87		40-140	11		20
Phenanthrene	97		88		40-140	10		20
Dibenzo(a,h)anthracene	94		87		40-140	8		20
Indeno(1,2,3-cd)Pyrene	89		81		40-140	9		20
Pyrene	100		91		40-140	9		20
Aniline	60		50		40-140	18		20
4-Chloroaniline	85		78		40-140	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Semivolatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854238-2 WG854238-3								
Acenaphthene	93		85		40-140	9		20
1,2,4-Trichlorobenzene	80		73		40-140	9		20
Hexachlorobenzene	111		99		40-140	11		20
Bis(2-chloroethyl)ether	75		67		40-140	11		20
2-Chloronaphthalene	94		85		40-140	10		20
1,2-Dichlorobenzene	70		62		40-140	12		20
1,3-Dichlorobenzene	66		58		40-140	13		20
1,4-Dichlorobenzene	67		59		40-140	13		20
3,3'-Dichlorobenzidine	62		54		40-140	14		20
2,4-Dinitrotoluene	100		89		40-140	12		20
2,6-Dinitrotoluene	101		90		40-140	12		20
Azobenzene	85		76		40-140	11		20
Fluoranthene	101		91		40-140	10		20
4-Bromophenyl phenyl ether	109		98		40-140	11		20
Bis(2-chloroisopropyl)ether	61		53		40-140	14		20
Bis(2-chloroethoxy)methane	85		76		40-140	11		20
Hexachlorobutadiene	80		72		40-140	11		20
Hexachloroethane	62		55		40-140	12		20
Isophorone	84		74		40-140	13		20
Naphthalene	81		73		40-140	10		20
Nitrobenzene	74		68		40-140	8		20

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 01/02/16 14:40
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 12/31/15 10:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG854238-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		15-110
Phenol-d6	34		15-110
Nitrobenzene-d5	64		30-130
2-Fluorobiphenyl	85		30-130
2,4,6-Tribromophenol	107		15-110
4-Terphenyl-d14	94		30-130

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 01/02/16 14:40
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 12/31/15 10:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG854238-1					
Benzo(b)fluoranthene	ND		ug/l	2.0	--
Benzo(k)fluoranthene	ND		ug/l	2.0	--
Chrysene	ND		ug/l	2.0	--
Acenaphthylene	ND		ug/l	2.0	--
Anthracene	ND		ug/l	2.0	--
Benzo(ghi)perylene	ND		ug/l	2.0	--
Fluorene	ND		ug/l	2.0	--
Phenanthrene	ND		ug/l	2.0	--
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	2.0	--
Pyrene	ND		ug/l	2.0	--
Aniline	ND		ug/l	2.0	--
4-Chloroaniline	ND		ug/l	5.0	--
Dibenzofuran	ND		ug/l	2.0	--
2-Methylnaphthalene	ND		ug/l	2.0	--
Acetophenone	ND		ug/l	5.0	--
2,4,6-Trichlorophenol	ND		ug/l	5.0	--
2-Chlorophenol	ND		ug/l	2.0	--
2,4-Dichlorophenol	ND		ug/l	5.0	--
2,4-Dimethylphenol	ND		ug/l	5.0	--
2-Nitrophenol	ND		ug/l	10	--
4-Nitrophenol	ND		ug/l	10	--
2,4-Dinitrophenol	ND		ug/l	20	--
Pentachlorophenol	ND		ug/l	10	--
Phenol	ND		ug/l	5.0	--
2-Methylphenol	ND		ug/l	5.0	--
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--
2,4,5-Trichlorophenol	ND		ug/l	5.0	--

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8270D
Analytical Date: 01/02/16 14:40
Analyst: AS

Extraction Method: EPA 3510C
Extraction Date: 12/31/15 10:41

Parameter	Result	Qualifier	Units	RL	MDL
MCP Semivolatile Organics - Westborough Lab for sample(s): 01 Batch: WG854238-1					
Acenaphthene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--
Hexachlorobenzene	ND		ug/l	2.0	--
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--
2-Chloronaphthalene	ND		ug/l	2.0	--
1,2-Dichlorobenzene	ND		ug/l	2.0	--
1,3-Dichlorobenzene	ND		ug/l	2.0	--
1,4-Dichlorobenzene	ND		ug/l	2.0	--
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--
2,4-Dinitrotoluene	ND		ug/l	5.0	--
2,6-Dinitrotoluene	ND		ug/l	5.0	--
Azobenzene	ND		ug/l	2.0	--
Fluoranthene	ND		ug/l	2.0	--
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--
Hexachlorobutadiene	ND		ug/l	2.0	--
Hexachloroethane	ND		ug/l	2.0	--
Isophorone	ND		ug/l	5.0	--
Naphthalene	ND		ug/l	2.0	--
Nitrobenzene	ND		ug/l	2.0	--
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--
Butyl benzyl phthalate	ND		ug/l	5.0	--
Di-n-butylphthalate	ND		ug/l	5.0	--
Di-n-octylphthalate	ND		ug/l	5.0	--
Diethyl phthalate	ND		ug/l	5.0	--
Dimethyl phthalate	ND		ug/l	5.0	--
Benzo(a)anthracene	ND		ug/l	2.0	--
Benzo(a)pyrene	ND		ug/l	2.0	--

Project Name: DEWATERING
Project Number: 20488
Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Benzo(k)fluoranthene	ND		ug/l	2.0	--	1
Chrysene	ND		ug/l	2.0	--	1
Acenaphthylene	ND		ug/l	2.0	--	1
Anthracene	ND		ug/l	2.0	--	1
Benzo(ghi)perylene	ND		ug/l	2.0	--	1
Fluorene	ND		ug/l	2.0	--	1
Phenanthrene	ND		ug/l	2.0	--	1
Dibenzo(a,h)anthracene	ND		ug/l	2.0	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	2.0	--	1
Pyrene	ND		ug/l	2.0	--	1
Aniline	ND		ug/l	2.0	--	1
4-Chloroaniline	ND		ug/l	5.0	--	1
Dibenzofuran	ND		ug/l	2.0	--	1
2-Methylnaphthalene	ND		ug/l	2.0	--	1
Acetophenone	ND		ug/l	5.0	--	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	--	1
2-Chlorophenol	ND		ug/l	2.0	--	1
2,4-Dichlorophenol	ND		ug/l	5.0	--	1
2,4-Dimethylphenol	ND		ug/l	5.0	--	1
2-Nitrophenol	ND		ug/l	10	--	1
4-Nitrophenol	ND		ug/l	10	--	1
2,4-Dinitrophenol	ND		ug/l	20	--	1
Pentachlorophenol	ND		ug/l	10	--	1
Phenol	ND		ug/l	5.0	--	1
2-Methylphenol	ND		ug/l	5.0	--	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	--	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	36		15-110
Phenol-d6	23		15-110
Nitrobenzene-d5	48		30-130
2-Fluorobiphenyl	69		30-130
2,4,6-Tribromophenol	91		15-110
4-Terphenyl-d14	83		30-130

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Matrix: Water
Analytical Method: 97,8270D
Analytical Date: 01/02/16 15:56
Analyst: AS

Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 12/31/15 10:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Semivolatile Organics - Westborough Lab						
Acenaphthene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	5.0	--	1
Hexachlorobenzene	ND		ug/l	2.0	--	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	--	1
2-Chloronaphthalene	ND		ug/l	2.0	--	1
1,2-Dichlorobenzene	ND		ug/l	2.0	--	1
1,3-Dichlorobenzene	ND		ug/l	2.0	--	1
1,4-Dichlorobenzene	ND		ug/l	2.0	--	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	--	1
2,4-Dinitrotoluene	ND		ug/l	5.0	--	1
2,6-Dinitrotoluene	ND		ug/l	5.0	--	1
Azobenzene	ND		ug/l	2.0	--	1
Fluoranthene	ND		ug/l	2.0	--	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	--	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	--	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	--	1
Hexachlorobutadiene	ND		ug/l	2.0	--	1
Hexachloroethane	ND		ug/l	2.0	--	1
Isophorone	ND		ug/l	5.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
Nitrobenzene	ND		ug/l	2.0	--	1
Bis(2-Ethylhexyl)phthalate	ND		ug/l	3.0	--	1
Butyl benzyl phthalate	ND		ug/l	5.0	--	1
Di-n-butylphthalate	ND		ug/l	5.0	--	1
Di-n-octylphthalate	ND		ug/l	5.0	--	1
Diethyl phthalate	ND		ug/l	5.0	--	1
Dimethyl phthalate	ND		ug/l	5.0	--	1
Benzo(a)anthracene	ND		ug/l	2.0	--	1
Benzo(a)pyrene	ND		ug/l	2.0	--	1
Benzo(b)fluoranthene	ND		ug/l	2.0	--	1

SEMIVOLATILES

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854779-1 WG854779-2								
1,2,4-Trichlorobenzene	89		89		70-130	0		20
1,3,5-Trimethylbenzene	94		95		70-130	1		20
1,2,4-Trimethylbenzene	95		96		70-130	1		20
Ethyl ether	93		92		70-130	1		20
Isopropyl Ether	93		94		70-130	1		20
Ethyl-Tert-Butyl-Ether	92		93		70-130	1		20
Tertiary-Amyl Methyl Ether	91		92		70-130	1		20
1,4-Dioxane	79		91		70-130	14		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		93		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	97		98		70-130
Dibromofluoromethane	100		100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854779-1 WG854779-2								
4-Methyl-2-pentanone	84		80		70-130	5		20
2-Hexanone	73		73		70-130	0		20
Bromochloromethane	107		107		70-130	0		20
Tetrahydrofuran	82		76		70-130	8		20
2,2-Dichloropropane	97		96		70-130	1		20
1,2-Dibromoethane	91		91		70-130	0		20
1,3-Dichloropropane	91		91		70-130	0		20
1,1,1,2-Tetrachloroethane	94		93		70-130	1		20
Bromobenzene	91		92		70-130	1		20
n-Butylbenzene	96		96		70-130	0		20
sec-Butylbenzene	98		98		70-130	0		20
tert-Butylbenzene	95		96		70-130	1		20
o-Chlorotoluene	89		90		70-130	1		20
p-Chlorotoluene	93		93		70-130	0		20
1,2-Dibromo-3-chloropropane	82		82		70-130	0		20
Hexachlorobutadiene	89		91		70-130	2		20
Isopropylbenzene	98		98		70-130	0		20
p-Isopropyltoluene	96		98		70-130	2		20
Naphthalene	84		83		70-130	1		20
n-Propylbenzene	96		97		70-130	1		20
1,2,3-Trichlorobenzene	88		87		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854779-1 WG854779-2								
Chloromethane	97		97		70-130	0		20
Bromomethane	84		86		70-130	2		20
Vinyl chloride	97		96		70-130	1		20
Chloroethane	100		100		70-130	0		20
1,1-Dichloroethene	98		98		70-130	0		20
trans-1,2-Dichloroethene	97		97		70-130	0		20
Trichloroethene	98		98		70-130	0		20
1,2-Dichlorobenzene	93		93		70-130	0		20
1,3-Dichlorobenzene	94		94		70-130	0		20
1,4-Dichlorobenzene	93		92		70-130	1		20
Methyl tert butyl ether	90		90		70-130	0		20
p/m-Xylene	98		97		70-130	1		20
o-Xylene	97		96		70-130	1		20
cis-1,2-Dichloroethene	97		96		70-130	1		20
Dibromomethane	93		93		70-130	0		20
1,2,3-Trichloropropane	87		87		70-130	0		20
Styrene	98		98		70-130	0		20
Dichlorodifluoromethane	98		97		70-130	1		20
Acetone	86		85		70-130	1		20
Carbon disulfide	95		94		70-130	1		20
2-Butanone	84		84		70-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG854779-1 WG854779-2								
Methylene chloride	91		91		70-130	0		20
1,1-Dichloroethane	96		97		70-130	1		20
Chloroform	96		96		70-130	0		20
Carbon tetrachloride	99		98		70-130	1		20
1,2-Dichloropropane	97		97		70-130	0		20
Dibromochloromethane	90		91		70-130	1		20
1,1,2-Trichloroethane	92		91		70-130	1		20
Tetrachloroethene	97		97		70-130	0		20
Chlorobenzene	94		95		70-130	1		20
Trichlorofluoromethane	100		100		70-130	0		20
1,2-Dichloroethane	89		91		70-130	2		20
1,1,1-Trichloroethane	97		97		70-130	0		20
Bromodichloromethane	95		96		70-130	1		20
trans-1,3-Dichloropropene	89		89		70-130	0		20
cis-1,3-Dichloropropene	101		98		70-130	3		20
1,1-Dichloropropene	98		98		70-130	0		20
Bromoform	86		87		70-130	1		20
1,1,2,2-Tetrachloroethane	87		87		70-130	0		20
Benzene	98		98		70-130	0		20
Toluene	89		98		70-130	10		20
Ethylbenzene	96		96		70-130	0		20

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/05/16 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG854779-3					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Ethyl ether	ND		ug/l	2.0	--
Isopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	104		70-130

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/05/16 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG854779-3					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylene (Total)	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene (total)	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
2-Butanone	ND		ug/l	5.0	--
4-Methyl-2-pentanone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8260C
Analytical Date: 01/05/16 06:37
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG854779-3					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
1,3-Dichloropropene, Total	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: DEWATERING
Project Number: 20488
Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Ethyl ether	ND		ug/l	2.0	--	1
Isopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	102		70-130

Project Name: DEWATERING
Project Number: 20488
Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylene (Total)	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene (total)	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1

Project Name: DEWATERING
Project Number: 20488

Lab Number: L1534403
Report Date: 01/12/16

SAMPLE RESULTS

Lab ID: L1534403-01
Client ID: 163709
Sample Location: BROCKTON
Matrix: Water
Analytical Method: 97,8260C
Analytical Date: 01/05/16 07:02
Analyst: MM

Date Collected: 12/30/15 08:20
Date Received: 12/30/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	1.1		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1

VOLATILES

ORGANICS

Project Name:	DEWATERING	**Lab Number:**	L1534403
Project Number:	20488	**Report Date:**	01/12/16

Case Narrative (continued)

Report Submission

This report replaces the report issued January 7, 2016, and includes the results of the Antimony, Arsenic, Cadmium, Chromium, Copper, Iron, Mercury, Lead, Nickel and Zinc analyses performed on L1534403-01.

MCP Related Narratives

Volatile Organics

In reference to question H:

The initial calibration, associated with L1534403-01, did not meet the method required minimum response factor on the lowest calibration standard for bromomethane (0.09484) and 1,4-dioxane (0.00051), as well as the average response factor for bromomethane and 1,4-dioxane. The initial calibration verification is outside acceptance criteria for dichlorodifluoromethane (144%), but within overall method criteria.

The continuing calibration standard, associated with L1534403-01, is outside the acceptance criteria for several compounds; however, it is within overall method allowances. A copy of the continuing calibration standard is included as an addendum to this report.

Metals

In reference to question I:

All samples were analyzed for a subset of MCP analytes per the Chain of Custody.

Non-MCP Related Narratives

Chloride

The WG854030-4 MS recovery (0%), performed on L1534403-01, 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: Michelle M. Morris

Title: Technical Director/Representative Date: 01/12/16