



## SOVEREIGN CONSULTING INC.

August 24, 2015

Via email - NPDES.Generalpermits@epa.gov

Mr. Victor Alvarez  
United States Environmental Protection Agency  
EPA - Region 1  
5 Post Office Square  
Boston, Massachusetts 02109-3912

Re: **NPDES Remediation General Permit**  
Shell-Branded Service Station  
620 Belmont Street  
Brockton, Massachusetts  
RTN 4-16968

Dear Mr. Alvarez:

Sovereign Consulting Inc. (Sovereign), on behalf of Colbea Enterprises LLC (Colbea), has prepared this National Pollutant Discharge Elimination System (NPDES) Remediation General Permit (RGP) - Notice of Intent (NOI) for the above referenced disposal site. This RGP - NOI pertains to Category I - Petroleum Related Site Remediation, Sub-Category A (Gasoline Only Sites). The NOI RGP permit application was prepared to address nuisance odors associated with petroleum impacted groundwater entering and off-gassing into the basement of a downgradient commercial building, located at 628 Belmont Street in Brockton, Massachusetts, by way of sub-grade sumps. The groundwater will require pre-treatment prior to discharging into the municipal storm sewer located on Forest Avenue in Brockton, Massachusetts and will be discharged in accordance with NPDES regulations. The project is also regulated under the Massachusetts Contingency Plan 310 CMR 40.0000 under Release Tracking Number (RTN) 4-16968.

If you have any questions regarding this submittal, please feel free to contact the undersigned.

Sincerely,  
**SOVEREIGN CONSULTING INC.**

Bethany A. Mong  
Project Manager

Thomas B. Hevner, PE, LSP  
Program Manager

cc: Thomas W. Breckel, Colbea Enterprises LLC  
Andrea Casetelli, Talamus Realty Trust  
City of Brockton  
MassDEP-SERO  
Mass DOR- 21J  
Sovereign File - CO050

# SOVEREIGN CONSULTING INC.

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## NPDES REMEDIATION GENERAL PERMIT

Shell-Branded Service Station  
620 Belmont Street  
Brockton, Massachusetts 01824

MassDEP RTN 4-16968

*Prepared for:*

COLBEA ENTERPRISES LLC  
2050 PLAINFIELD PIKE  
CRANSTON, RI 02921

*Prepared by:*

Sovereign Consulting Inc.  
16 Chestnut Street, Suite 520  
Foxborough, MA 02035

August 24, 2015

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Project Number: CO050

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## 1.0 INTRODUCTION

Sovereign Consulting Inc. (Sovereign) prepared this National Pollutant Discharge Elimination System (NPDES Remediation General Permit (RGP), on behalf of Colbea Enterprises LLC (Colbea) to manage treated groundwater which will be discharged into the municipal storm catch basin located on Forest Avenue in Brockton, Massachusetts. The residually impacted groundwater is entering the building by way of two open sub-grade sumps located in the basement of the downgradient commercial property located at 628 Belmont Street in Brockton, Massachusetts (Rent-A-Center). This site is identified by the Massachusetts Department of Environmental Protection as Release Tracking Number (RTN) 4-16968 and is regulated in accordance with the Massachusetts Contingency Plan (MCP) 310 CMR 40.0000. Accordingly, discharges subject to the MCP do not require the completion of a state application form BRPWM 12 or state fee payment. A Site Location Map and discharge location is provided as **Figure 1** and a Site Plan, depicting the treatment system location and relevant site features, is attached as **Figure 2**. **Figure 3** depicts the Process & Instrumentation Design for the Sump Water Treatment System and Discharge.

For the purpose of this report, the "Facility" is defined as the area located within the legal property boundaries of the Shell-branded Service Station located at 620 Belmont Street in Brockton, Massachusetts. The "disposal site" for RTN 4-16968 is defined as the Facility and other properties where oil and/or hazardous material (OHM) have come to be located as a result of a release at the Facility. The disposal site is defined by the Facility property boundaries and includes the area to the southwest, across Forest Avenue.

### Relevant Contacts:

|                          |                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Facility/Facility Owner: | Belbroad Corporation C /O Colbea Enterprises LLC<br>2050 Plainfield Pike<br>Cranston, Rhode Island 02921                         |
| Facility Operator:       | Colbea Enterprises LLC<br>2050 Plainfield Pike<br>Cranston, Rhode Island 02921<br>Contact: Thomas Breckel<br>Tel: (401) 943-0005 |

## 2.0 PROJECT SUMMARY

### 2.1 Site Description

Colbea is currently conducting site remediation activities at the disposal site, which includes the Shell-branded Service Station, the public right-of-way (Forest Avenue), and the downgradient property located at 628 Belmont Street located in Brockton, Massachusetts. Site remediation activities are being conducted in accordance with the MCP under RTN 4-16968.

On March 18, 2015, Sovereign was notified by the downgradient property owner (628 Belmont Street) that their groundwater management system was not able to handle the volume of

groundwater entering the commercial building's basement and that the tenants (Rent-A-Center) stated that there was a petroleum odor in the basement and the first floor showroom/office space.

On March 19, 2015 and April 18, 2015, groundwater samples were collected from the basement sumps and Sovereign initiated the installation of an air treatment system and a groundwater treatment system. On May 29, 2015, Sovereign completed the installation of a groundwater treatment system and collected influent and effluent samples on May 29, 2015, June 1, 2015 and June 11, 2015 for consideration of a United States Environmental Protection Agency (USEPA) Remediation General Permit (RGP). Currently the treated effluent water is being discharged to the registered Underground Injection Control (UIC) Class V Dry Well located at 628 Belmont Street.

Based on the concentrations of COCs in groundwater and in accordance with NPDES regulations, the residually impacted groundwater entering the basement of the Rent-a-Center building will require treatment to remove petroleum constituents prior to discharging into a storm water catch basin located in Forest Avenue. The storm drain in Forest Avenue discharges to West Meadow Brook, followed by Flag Pond, West Meadow Brook, West Meadow Pond, Mill Pond, Town River and then the Taunton River. A copy of the Waterbody Assessment and TMDL Status Map for Brockton, Massachusetts is included as **Figure 4**.

According to the MassDEP Bureau of Waste Site Cleanup Phase 1 Site Assessment Map, provided as **Figure 5**, no Priority Habitat of Rare Species or Estimated Habitats of Rare Wildlife are located within the proposed at or immediately adjacent to the disposal site. The closest NHESP Estimated Habitats of Rare Wildlife in Wetland Areas/Protected Open Spaces are located greater than one-half mile south of the disposal site.

### 3.0 DISCHARGE INFORMATION

#### 3.1 Groundwater and System Sampling

##### 3.1.1 Initial Untreated Influent Sampling – April 18, 2015 and April 22, 2015

The initial untreated influent sample was collected from Sump 1, located in the northwest corner of the Rent-A-Center basement, as depicted on **Figure 2**. The groundwater sample collected from Sump 1 was analyzed by a Contest Analytical Laboratory (Contest) from East Longmeadow, Massachusetts, a Commonwealth of Massachusetts certified laboratory for the parameters required by the RGP Permit on April 18, 2015 and ESS Laboratory (ESS) of Cranston, Rhode Island, Commonwealth of Massachusetts certified laboratory on April 22, 2015. The sample results, laboratory methods, laboratory method detection limits, and the total maximum daily mass of contaminants of concern (COCs) anticipated to be discharged have been summarized in the Notice of Intent provided as **Attachment A** and the laboratory analytical reports are included as **Attachment B**. Please refer to **Table 1** for a summary of the RGP laboratory analytical data and **Table 2** for a summary of the Sump Pump Groundwater Treatment System Data.

The influent sample results from Sump 1 detected benzene, BTEX (benzene, toluene, ethyl benzene and total xylenes), naphthalene, and iron above the effluent limit listed in Appendix III of the RGP regulations. Effluent samples were not collected at the time of sampling because the Sump Water Treatment System was not installed.

On the NOI, all analytes detected above the laboratory detections limits from the April 18, 2015 and April 22, 2015 sampling event were recorded as “Believed Present” and all analytes detected below the laboratory detections limits were recorded as “Believed Absent”. The two exceptions were tert-butyl alcohol (TBA) and tertiary-amyl methyl ether (TAME). Refer to **Section 3.1.3** for additional details.

### 3.1.2 Groundwater Treatment System Influent and Effluent Results

#### 3.1.2.1 – May 29, 2015 – Day 1 - System Startup

On May 29, 2015, the groundwater treatment system was started and influent and effluent samples were collected from the groundwater treatment system and submitted to ESS for analysis of Volatile Petroleum Hydrocarbons (VPH), Total Petroleum Hydrocarbons (TPH), Total Suspended Solids (TSS), Total Residual Chlorine (TRC), chloride, TAME, TBA, 1,2-Dibromoethane (EDB), total lead, total iron and pH (effluent only). The

The influent results reported VPH, total iron and chloride above laboratory method detection limits. The effluent results reported all analytes below laboratory method detection limits with the exception of chloride. Please refer to **Table 1** for a summary of the laboratory analytical results.

#### 3.1.2.2 – June 1, 2015 – Day 3

On June 1, 2015, influent and effluent samples were collected from the groundwater treatment system and submitted to ESS for analysis of VPH, TPH, TSS, TRC, chloride, TAME, TBA, EDB, total lead, total iron and pH.

The influent results reported VPH, total iron and chloride and TSS above laboratory method detection limits. The effluent results reported all analytes below laboratory method detection limits with the exception of chloride and total iron. Total iron was below the applicable RGP effluent discharge limit of 1,000 µg/l. The influent and effluent pH values were below the minimum RGP effluent discharge limit of 6.5 to 8.3 SU, indicating that the site specific pH is slightly acidic. Please refer to **Table 1** for a summary of the laboratory analytical results.

#### 3.1.2.3 – June 11, 2015 – Day 13

On June 11, 2015, influent and effluent samples were collected from the groundwater treatment system and submitted to ESS for analysis of VPH, TPH, TSS, TRC, chloride, TAME, TBA, EDB, total lead, total iron and pH.

The influent results reported VPH, total iron and chloride and TSS above laboratory method detection limits. The effluent results reported all analytes below laboratory method detection

limits with the exception of chloride and total iron. Total iron was below the applicable RGP effluent discharge limit of 1,000 µg/L. The influent and effluent pH values were below the minimum RGP effluent discharge limit of 6.5 to 8.3 SU, indicating that the site specific pH is slightly acidic. Please refer to **Table 1** for a summary of the laboratory analytical results.

### 3.1.3 Laboratory Analytical Method Exceptions

All analytes were analyzed utilizing the methods listed in Appendix VI for the RGP regulations, with the exception of TBA and TAME. Due to laboratory limitations, TBA and TAME were analyzed using Method 8260B.

For TBA, Method 8260B achieved a Method Detection Limit (MDL) of 10 micrograms per liter (µg/L), which aligns with the Method Detection Limit for approved methods 624, 524.2, and 5035A/8260C listed in Appendix VI of the RGP Regulations. Based on historical data collected from disposal site, TBA has been detected in the groundwater sampled from monitoring well MW-10S, located immediately upgradient from Sump 1. TBA does not have an effluent limit listed in Appendix III of the RGP regulations and is sampled for monitoring purposes only. TBA was listed on the NOI as “Believed Present” and will be sampled accordingly.

For TAME, Method 8260B achieved a Method Detection Limit (MDL) of 0.2 µg/L, which is less than the Method Detection Limit for approved methods 8015D, 524.2, 624, 5035A/8260C listed in Appendix VI of the RGP Regulations. Based on historical data collected from disposal site, TAME has been detected in the groundwater sampled from monitoring well MW-10S, located immediately upgradient from Sump 1. TAME does not have an effluent limit listed in Appendix III of the RGP regulations and is sampled for monitoring purposes only. TAME was listed on the NOI as “Believed Present” and will be sampled accordingly.

### 3.1.4 Laboratory Analytical Method Detection Limit Exceptions

All laboratory analytical methods achieve the reporting limits listed in Appendix VI of the RGP regulations, with the exception of chloride. Per Appendix VI of the RGP regulations, Method 300.0 has a reporting limit of 0.1 milligrams per liter (mg/L). A reporting limit of 250 mg/L was achieved as a result of the laboratory dilution factor of 500. Pursuant to Appendix III of the RGP regulations, chloride does not have an effluent limit and is sampled for monitoring purposes only. Chloride was listed on the NOI as “Believed Present” and will be sampled accordingly.

### 3.1.5 Dilution Factor

Total iron was detected in groundwater sampled from Sump 1 on April 22, 2015 at a concentration of 5,000 µg/L, system influent on May 29, 2015, June 1, 2015 and June 11, 2015 at a concentration of 8,180 µg/L, 6,600 µg/L and 15,900 µg/L respectively, which is above the Appendix III Freshwater effluent limit of 1,000 µg/L (assuming a dilution factor range of 0-5). Iron is naturally occurring in the groundwater and is not associated with the Shell-branded Service Station.

In accordance with the RGP regulations, if a metal concentration in a potential discharge (untreated influent) to freshwater exceeds the limits in Appendix III with zero dilution, the



applicant must evaluate the potential concentration considering a dilution factor (DF) using the formula below:

Dilution Factor (DF) Calculation:  $DF = (Q_d + Q_s)/Q_d$

Where:

**DF** = Dilution Factor

**Q<sub>d</sub>** = Maximum flow rate of the discharge in cubic feet per second (cfs) (1.0 gpm = .00223 cfs)

**Q<sub>s</sub>** = Receiving water 7Q10 flow (cfs) where 7Q10 is the minimum flow (cfs) for 7 consecutive days with a recurrence interval of 10 years

Based on system operation flow rates (maximum from May 29, 2015 through July 22, 2015) and the United States Geological Society 7Q10 flow data for West Meadow Brook, the dilution factor is as follows:

$$DF = (Q_d + Q_s)/Q_d$$

$$Q_d = 0.017805 \text{ cfs}$$

$$Q_s = 0.1$$

$$DF = (0.017805 \text{ cfs} + 0.1) / 0.017805 \text{ cfs}$$

$$DF = 6.616541$$

As a result of the calculated dilution factor, Sovereign requests an effluent iron concentration limit of 6,617 µg/L.

Based on analytical data collected during system startup and operation, the groundwater treatment system will remove the majority of dissolved iron from the effluent water stream prior to discharge to the storm water drain which discharges to West Meadow Brook. If needed, a modification to the system may be required which will include mechanical iron removal and the incorporation of a sequestering agent to keep iron in solution. Any modifications to the system will be submitted for approval by a Notice of Change (NOC).

#### **4.0 TREATMENT SYSTEM INFORMATION**

##### **4.1 System Design**

The sump water treatment system will be located in the basement of the Rent-A-Center building, located at 628 Belmont Avenue in Brockton, Massachusetts. The system is composed of the following: one submersible sump pump locate within each sub-grade sump, a 165-gallon poly tank, two bag filters piped in parallel to filter out particulates, two influent (one 200-pound and one 300-pound) liquid phase granular activated carbon (LGAC) units piped in parallel and two effluent 200-pound LGAC units piped in parallel. The component of the system with the most limited flow will be the bag filters due to iron fouling. The proposed discharge location for treated groundwater is a municipal storm drain catch basin located adjacent to the property line, in Forest Avenue as depicted on **Figure 2**. This storm drain discharges to West Meadow Brook at the intersection of Belmont Street and West Meadow Brook, followed by Flag Pond,

West Meadow Brook, West Meadow Pond, Mill Pond, Town River and then the Taunton River. In the event of a system shutdown, the sumps will remain online and discharge directly to the registered Underground Injection Control (UIC) Class V Dry Well located at 628 Belmont Street in Brockton, Massachusetts. Refer to **Figure 3** for the Process and Instrumentation Design for the Sump Pump Water Treatment System and Discharge.

Based on analytical data collected during system startup and operation, the groundwater treatment system will remove the majority of dissolved iron from the effluent water stream prior to discharge to the storm water drain which discharges to West Meadow Brook. Any modifications to the system will be submitted for approval by a Notice of Change (NOC).

## **5.0 RECEIVING SURFACE WATER**

The proposed discharge location for treated groundwater is a municipal storm drain catch basin located adjacent to the property line, in Forest Avenue as depicted on **Figure 2**. This storm drain discharges to West Meadow Brook at the intersection of Belmont Street and West Meadow Brook, followed by Flag Pond, West Meadow Brook, West Meadow Pond, Mill Pond, Town River and then the Taunton River. In the event of a system shutdown, the sumps will remain online and discharge directly to the registered Underground Injection Control (UIC) Class V Dry Well located at 628 Belmont Street in Brockton, Massachusetts.

### **5.1 Receiving Water Information**

The receiving water for the treated groundwater discharge is the West Meadow Brook. On April 30, 2015, Sovereign consulted the online United States Geological Survey (USGS) Streamstats program ([http://ssdev.cr.usgs.gov/v3\\_beta/viewer.aspx](http://ssdev.cr.usgs.gov/v3_beta/viewer.aspx) and <http://ssdev.cr.usgs.gov/gagepages/html/01107070.htm>, to determine the 7Q10 flow rate at the discharge location. Data obtained from the online resource indicated that the 7Q10 flow rate for the West Meadow Brook at USGS station #01107070 is <0.1 cubic feet per second (cfs). Based on data available, Sovereign calculated a 7Q10 flow rate for this area to be <6 cubic feet per minute

The Waterbody Assessment and TMDL Status Map (Figure 4) for Brockton, Massachusetts, West Meadow Brook was not assigned a Category designation. West Meadow Pond, which receives water from West Meadow Brook is listed as a Category 4C impaired water body. Category 4C is water that is impaired, but the impairment is not caused by a pollutant. A copy of the Waterbody Assessment and TMDL Status Map for Brockton, Massachusetts is included as **Figure 4**.

### **5.2 Receiving Water Classification**

Sovereign consulted the MassDEP Division of Water Pollution Control (<http://www.mass.gov/eea/docs/dep/water/laws/i-thru-z/tblfig.pdf>) to determine the classification for the receiving waters. West Meadow Brook is not classified, but one of the downgradient receiving water (Town River) is listed as Class B.

## **6.0 ESA AND NHPA ELIGIBILITY**

### **6.1 Endangered Species Act Guidance**

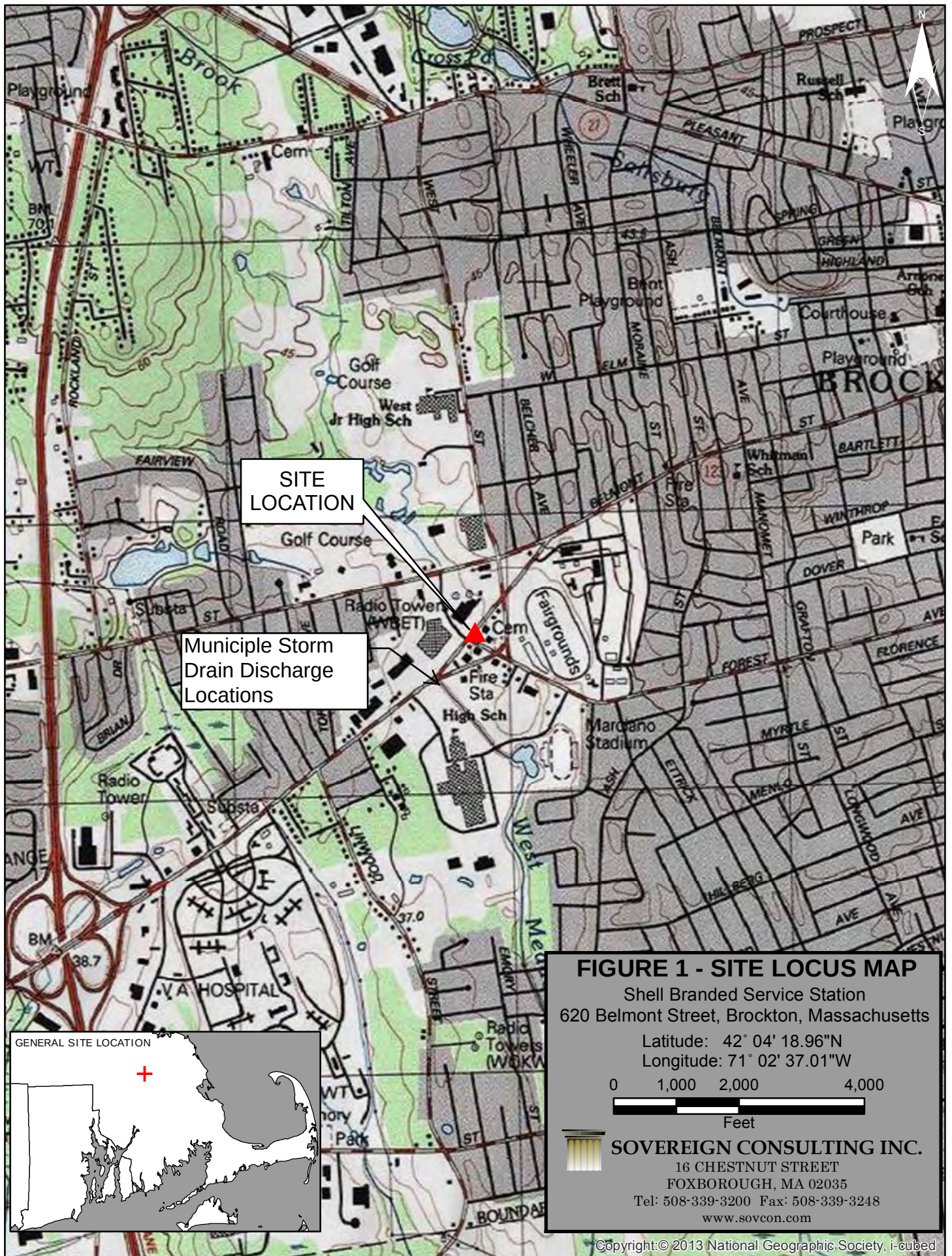
In accordance with Appendix II and VII of the RGP regulations, Sovereign personnel reviewed the regulations to determine if the proposed discharge to the storm drain in Forest Street, which discharges to West Meadow Brook, is in compliance with the Endangered Species Act (ESA) eligibility criteria. Based on the ESA Eligibility Criteria, the applicable criterion is "Criterion A". Criterion A states that "No endangered or threatened species or their designated critical habitat are likely to occur in proximity to the storm water discharges related activities".

### **6.2 National Historic Preservation Act**

In accordance with Appendix VII of the RGP regulations, on April 30, 2015, Sovereign personnel reviewed the electronic listings to determine if any historic properties, or eligible for listing on the National Register of Historic Places, are within the path of the discharge or discharge related activities. Listings of Historic Places within the City of Brockton, in the vicinity of the disposal site and proposed discharge area of West Meadow Brook (at the intersection of West Meadow Brook and Belmont Avenue) were obtained from the Massachusetts Cultural Resources Information System (MACRIS) online database at <http://mhc-macris.net/Towns.aspx?Page=towns.asp> (accessed April 30, 2015). A copy of the MACRIS report is provided as **Attachment C**. The database indicated that there are no historic places located in close proximity to the disposal site and proposed discharge area. In accordance with Part IIC of Appendix VII of the RGP regulations, Permit Eligibility Criteria 1 is applicable. Criteria 1 states that "This project does not involve new construction or the demolition or rehabilitation of existing buildings or other structures or facilities and historic properties are not affected by the discharge or identified in the path of the discharges regulated by this permit."

## **FIGURES**









Proposed catch basin that will be used for the discharge of treated water.

Location of Sump Water Treatment System.

LEGEND

- MONITORING WELL
- DESTROYED MONITORING WELL
- DRY WELL
- SOIL BORING
- SOIL VAPOR MONITORING POINT
- MANHOLE
- UTILITY POLE
- CATCH BASIN
- F/O FUEL OIL
- W/O WASTE OIL
- UST UNDERGROUND STORAGE TANK
- PROPERTY BOUNDARY
- FENCE LINE
- WATER LINE
- SEWER LINE
- DRAIN LINE
- GAS LINE
- ELECTRIC LINE
- TELEPHONE ELECTRIC
- OVERHEAD UTILITIES
- EXTENT OF EXCAVATION (APPROX.)



FIGURE 2

SITE PLAN

SHELL-BRANDED SERVICE STATION  
LOCATED AT  
620 BELMONT STREET  
BROCKTON, MA

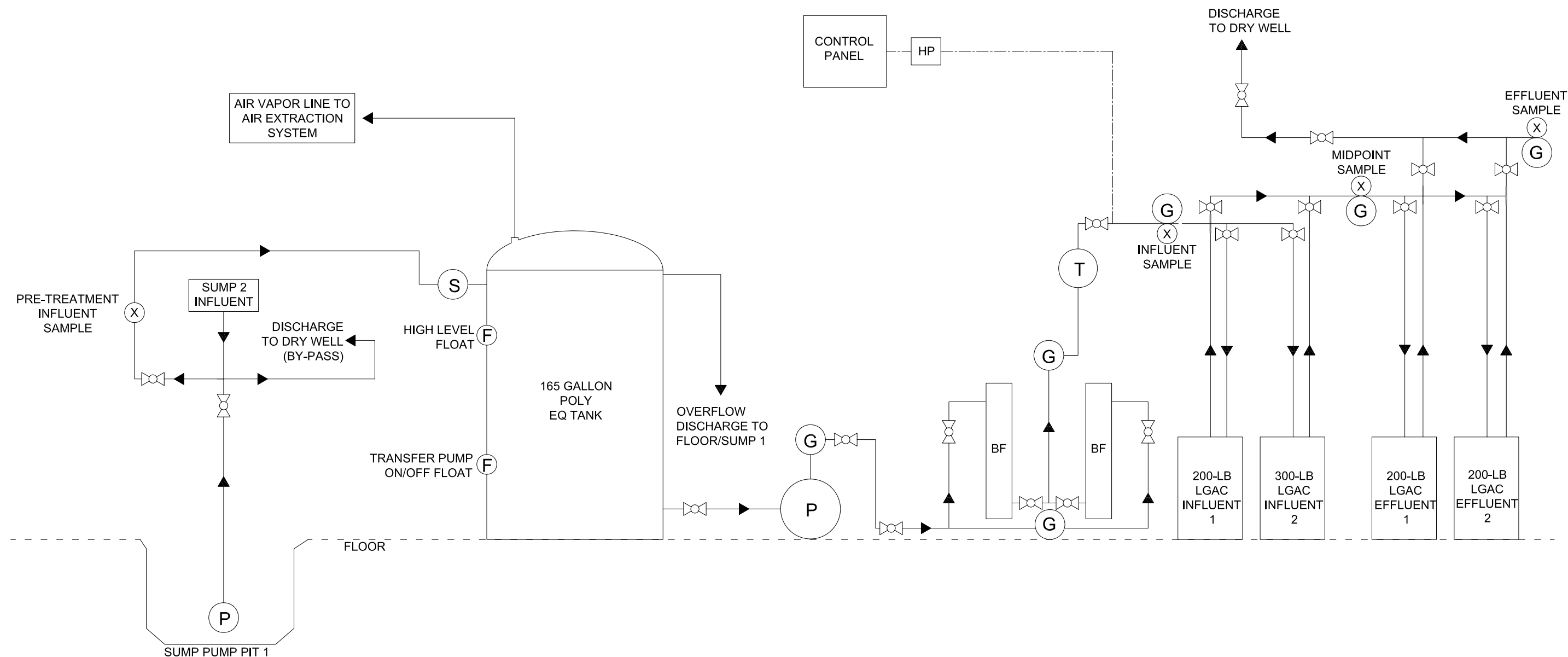
PREPARED FOR  
COLBEA ENTERPRISES LLC

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|                                   |                                   |                                  |                                  |                                  |
|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| PREPARED<br>09/12/2012<br>BY: JAG | UPDATED:<br>01/14/2014<br>BY: ROV | UPDATED<br>05/20/2014<br>BY: ROV | UPDATED<br>06/23/2014<br>BY: ROV | UPDATED<br>03/25/2015<br>BY: ROV |
|-----------------------------------|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|

NOTE: ORIGINAL MAP PREPARED BY GSC FIELD RECONNAISSANCE DATED 2/25/04.



- NOTES:
1. NOT TO SCALE
  2. BF = BAG FILTER
  3. F = FLOAT
  4. G = GAUGE
  5. HP = HIGH PRESSURE SHUT OFF SWITCH
  6. LGAC = LIQUID PHASE GRANULAR ACTIVATED CARBON
  7. P = PUMP
  8. S = SOLENOID
  9. T = TOTALIZER
  10. X = SAMPLE LOCATION
  11.  = VALVE
  12.  = POLYETHYLENE TUBING

## FIGURE 3

### PROCESS & INSTRUMENTATION DESIGN

LOCATED AT  
620 BELMONT STREET, BROCKTON, MA  
PREPARED FOR  
COLBEA ENTERPRISES LLC

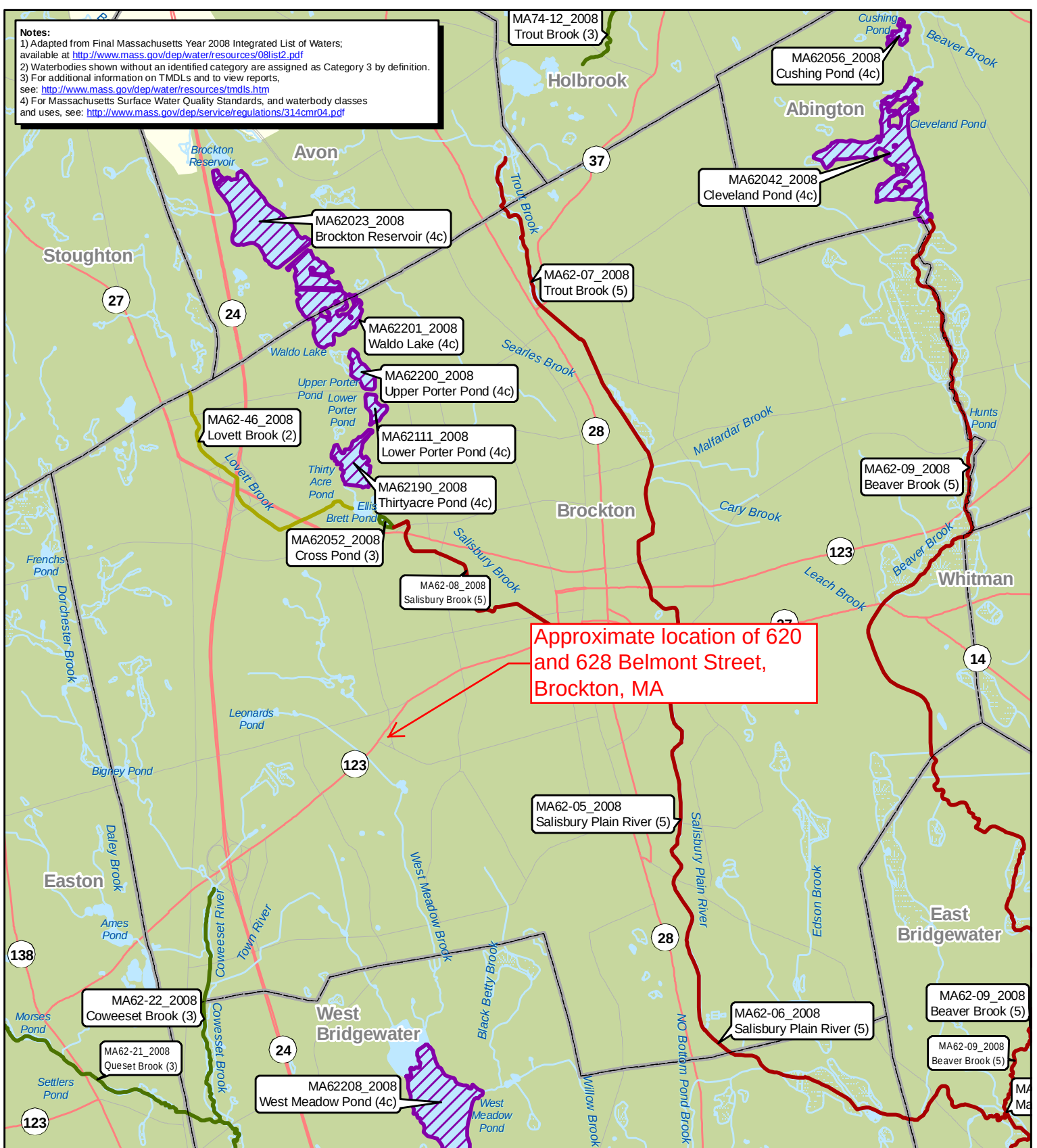


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|                                   |                                  |                |                |                |
|-----------------------------------|----------------------------------|----------------|----------------|----------------|
| PREPARED<br>07/28/2015<br>BY: ROV | UPDATED<br>08/17/2015<br>BY: ROV | UPDATED<br>BY: | UPDATED<br>BY: | UPDATED<br>BY: |
|-----------------------------------|----------------------------------|----------------|----------------|----------------|

**Notes:**

- 1) Adapted from Final Massachusetts Year 2008 Integrated List of Waters; available at <http://www.mass.gov/dep/water/resources/08list2.pdf>
- 2) Waterbodies shown without an identified category are assigned as Category 3 by definition.
- 3) For additional information on TMDLs and to view reports, see: <http://www.mass.gov/dep/water/resources/tmdls.htm>
- 4) For Massachusetts Surface Water Quality Standards, and waterbody classes and uses, see: <http://www.mass.gov/dep/service/regulations/314cmr04.pdf>



# Waterbody Assessment and TMDL Status Brockton, MA



0 0.5  
Miles



Map produced by EPA Region I GIS Center  
Map Tracker ID 6678, February 25, 2010  
Data Sources: TeleAtlas, Census Bureau,  
USGS, MassDEP

See companion table for a listing of pollutants,  
non-pollutants, and TMDLs for each waterbody



Solid Waste Landfill; PWS: Com. GW, SW, Emerg., Non-Com.     

## **TABLES**

TABLE 1  
SUMMARY OF RGP LABORATORY ANALYTICAL DATA  
Shell-Branded Service Station  
620 Belmont Street  
Brockton, Massachusetts

|                                                                                 |               |                 | Standards    | Benzene<br>(µg/L) | Toluene<br>(µg/L) | Ethyl-<br>benzene<br>(µg/L) | Total<br>Xylenes<br>(µg/L) | Total<br>BTEX<br>(µg/L) | MTBE<br>(µg/L) | Naphtha-<br>lene<br>(µg/L) | C5-C8<br>Aliphatics<br>(µg/L) | C9-C12<br>Aliphatics<br>(µg/L) | C9-C10<br>Aromatics<br>(µg/L) | Total<br>Iron<br>(µg/L) | Total<br>Lead<br>(µg/L) | TAME<br>(µg/L) | TBA<br>(µg/L) | EDB<br>(µg/L) | Chloride<br>mg/L | TRC<br>(µg/L) | TSS<br>mg/L | TPH<br>mg/L | pH<br>SU | Temperature<br>°F               |
|---------------------------------------------------------------------------------|---------------|-----------------|--------------|-------------------|-------------------|-----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------------------------|--------------------------------|-------------------------------|-------------------------|-------------------------|----------------|---------------|---------------|------------------|---------------|-------------|-------------|----------|---------------------------------|
|                                                                                 |               |                 | RGP Effluent | 5                 | N/A               | N/A                         | N/A                        | 100                     | 70             | 20                         | N/A                           | N/A                            | N/A                           | 1,000                   | 1.3                     | Monitor Only   | Monitor Only  | 0.05          | Monitor Only     | 11            | 30          | 5           | 6.5-8.3  | 68 with a +/- 3 from background |
| Days of<br>System<br>Operation                                                  | Sample ID     | Sample Location | Sample Date  |                   |                   |                             |                            |                         |                |                            |                               |                                |                               |                         |                         |                |               |               |                  |               |             |             |          |                                 |
| Pre-startup                                                                     | Sump 1        | Influent        | 4/18/2015    | 25                | 67                | 130                         | 319                        | 541                     | <2.0           | 38                         | 1,100                         | <200                           | 1,200                         | -                       | -                       | -              | -             | -             | -                | -             | -           | -           | -        | -                               |
| Pre-startup                                                                     | Basement Sump | Influent        | 4/22/2015    | -                 | -                 | -                           | -                          | -                       | -              | -                          | -                             | -                              | -                             | 5,000                   | <1.0                    | <1.0           | <25.0         | <0.015        | 744              | <10           | 12          | <5          | -        | -                               |
| 1                                                                               | Influent      | Influent        | 5/29/2015    | 41.7              | 57.9              | 188                         | 414.4                      | 702                     | 6.7            | 33.7                       | 1,030                         | 627                            | 708                           | 8,180                   | <1.0                    | <1.0           | <25.0         | <0.015        | 706              | <10           | <5          | <5          | -        | 62.4                            |
| 1                                                                               | Effluent      | Effluent        | 5/29/2015    | <1.5              | <5.0              | <5.0                        | <15.0                      | ND                      | <1.5           | <5.0                       | <150                          | <150                           | <100                          | <20.0                   | <1.0                    | <1.0           | <25.0         | <0.015        | 704              | <10           | <5          | <5          | 6.91     | 61.8                            |
| 3                                                                               | Influent      | Influent        | 6/1/2015     | 45.1              | 82.0              | 189                         | 447.8                      | 763.9                   | 2.3            | 33.3                       | 844                           | 543                            | 634                           | 6,600                   | <1.0                    | <1.0           | <25.0         | <0.015        | 755              | <10           | 19          | <5.0        | 6.12     | -                               |
| 3                                                                               | Effluent      | Effluent        | 6/1/2015     | <1.5              | <5.0              | <5.0                        | <15.0                      | ND                      | <1.5           | <5.0                       | <150                          | <150                           | <100                          | 23.0                    | <1.0                    | <1.0           | <25.0         | <0.015        | 715              | <10           | <5          | <5          | 6.04     | -                               |
| 13                                                                              | Influent      | Influent        | 6/11/2015    | 46.4              | 87.5              | 200                         | 453.7                      | 787.6                   | 8.5            | 34.0                       | 1,100                         | 544                            | 749                           | 15,900                  | <1.0                    | <1.0           | <25.0         | <0.015        | 725              | <10           | 13          | <5          | 6.19     | -                               |
| 13                                                                              | Effluent      | Effluent        | 6/11/2015    | <1.5              | <5.0              | <5.0                        | <15.0                      | ND                      | <1.5           | <5.0                       | <150                          | <150                           | <100                          | 44.8                    | <1.0                    | <1.0           | <25.0         | <0.015        | 705              | <10           | <5          | <5          | 6.00     | -                               |
| Maximum Detected Concentration (µg/L)                                           |               |                 |              | 46.4              | 87.5              | 200                         | 453.7                      | 787.6                   | 8.5            | 38                         | 1,100                         | 627                            | 1,200                         | 15,900                  | <1.0                    | <1.0           | <25.0         | <0.015        | 755              | <10           | 19          | <5.0        | --       | --                              |
| Maximum Daily Mass (kg) - Assumes Average Flow Rate of 2.03 GPM or 0.002923 MGD |               |                 |              | 0.0005            | 0.0010            | 0.0022                      | 0.0050                     | 0.0087                  | 0.0001         | 0.0004                     | 0.0122                        | 0.0069                         | 0.0133                        | 0.1762                  | --                      | --             | --            | --            | 8.37             | --            | 0.21        | --          | --       | --                              |
| Average Detected Concentration (µg/L)                                           |               |                 |              | 39.6              | 73.6              | 176.8                       | 408.7                      | 698.6                   | 4.9            | 34.8                       | 1018.5                        | 478.5                          | 822.8                         | 8,920                   | <1.0                    | <1.0           | <25.0         | <0.015        | 732.5            | <10           | 12.25       | <5.0        | --       | --                              |
| Average Daily Mass (kg) - Assumes Average Flow Rate of 2.03 GPM or 0.002923 MGD |               |                 |              | 0.0004            | 0.0008            | 0.0020                      | 0.0045                     | 0.0077                  | 0.0001         | 0.0004                     | 0.0113                        | 0.0053                         | 0.0091                        | 0.0988                  | --                      | --             | --            | --            | 8.12             | --            | 0.14        | --          | --       | --                              |

- Notes:**
- =not analyzed
  - °F =°C\*1.8 +32
  - µg/L =micrograms per liter
  - kg =kilogram
  - mg/l =milligrams per liter
  - BTEX =benzene, toluene, ethylbenzene and total xylenes
  - MTBE =methyl tert butyl ether
  - TAME =tert-Amyl Methyl Ether
  - TBA =Tert-butyl Alcohol
  - EDB =Ethylene Dibromide
  - GPM =gallons per minute
  - MGD =million gallons per day
  - N/A =not applicable
  - ND =non-detect
  - RGP =Remediation General Permit
  - TRC =Total Residual Chlorine
  - TSS =Total Suspended Solids
  - TPH =Total Petroleum Hydrocarbons
  - Bold** =concentration greater than laboratory detection limit
  - Highlighted** =concentration above applicable standard

Kilograms per  
Day =[(MGD)\*[concentration (mg/l)]\*(8.34)]/(2.2)

TABLE 2  
SUMMARY OF SUMP PUMP GROUNDWATER TREATMENT SYSTEM DATA  
Shell-Branded Service Station  
620 Belmont Street  
Brockton, Massachusetts

| Number of Days | Days since Last O&M | Date      | Personnel | System on Upon Arrival (Y/N) | System on Upon Departure (Y/N) | EQ Tank Pump Hours | Total Hours of Operation | Hours of Operation Since Last O&M | EQ Tank Pump Pressure (psi) | Pre-bag Filter Pressure (psi) | Post-bag Filter Pressure (psi) | Effluent Flow Meter Reading (ft <sup>3</sup> ) | Effluent Flow (ft3/sec) based hours of operation | Average Effluent Flow Rate (ft3/sec) based on hours of operation | Effluent Flow Meter Reading (gallons) | Total Gallons Treated | Total Gallons since Last O&M | Total Gallons per Day | Total Gallons Per Minute | Effluent Flow Reading (gallons per second) | Pre-Influent LGAC Pressure (psi) | Mid LGAC Pressure (psi) | Effluent LGAC Pressure (psi) | System Sampled (Y/N) | Bag Filters Changed |
|----------------|---------------------|-----------|-----------|------------------------------|--------------------------------|--------------------|--------------------------|-----------------------------------|-----------------------------|-------------------------------|--------------------------------|------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------|---------------------------------------|-----------------------|------------------------------|-----------------------|--------------------------|--------------------------------------------|----------------------------------|-------------------------|------------------------------|----------------------|---------------------|
| 1              | --                  | 5/29/2015 | JAO       | N                            | Y                              | 4281.3             | --                       |                                   | 32                          | 12                            | 11                             | 144,684                                        |                                                  |                                                                  | 1,082,236.32                          | --                    | --                           | --                    | --                       | --                                         | 8                                | <1                      | 2                            | Y                    |                     |
| 3              | 3                   | 6/1/2015  | BAM       | Y                            | Y                              | --                 | --                       |                                   | 36                          | 16                            | 12                             | 147,253                                        | --                                               | --                                                               | 1,101,452.44                          | 19,216                | 19,216                       | 6,405                 | 4.45                     | 0.07                                       | 9.5                              | 0                       | 2.5                          | Y                    |                     |
| 6              | 3                   | 6/4/2015  | BAM       | Y                            | N                              | 4336.7             | 55.4                     | 55.4                              | 40                          | 28                            | 7                              | 149,986                                        | 0.013703                                         | 0.013703                                                         | 1,121,895.28                          | 39,659                | 20,443                       | 6,814                 | 4.73                     | 0.08                                       | 5                                | 0                       | 0.5                          | N                    |                     |
| 7              | 1                   | 6/5/2015  | JAO       | N                            | Y                              | 40848.3*           | --                       | --                                | 42                          | 8                             | 7                              | 149,992                                        | --                                               | --                                                               | 1,121,940.16                          | 39,704                | 45                           | 45                    | 0.03                     | 0.001                                      | 5                                | <1                      | <1                           | N                    | Y                   |
| 13             | 6                   | 6/11/2015 | BAM       | Y                            | N                              | 40918.4            | 125.5                    | 70.1                              | 55                          | 29                            | 10                             | 153574                                         | 0.014194                                         | 0.013949                                                         | 1,148,733.52                          | 66,497                | 26,793                       | 4,466                 | 3.10                     | 0.05                                       | 6                                | 0                       | 0.5                          | Y                    | Y                   |
| 17             | 4                   | 6/15/2015 | JAO       | N                            | N                              | 40919              | 126.1                    | 0.6                               | --                          | --                            | --                             | 153609                                         | 0.016204                                         | 0.014700                                                         | 1,148,995.32                          | 66,759                | 262                          | 65                    | 0.05                     | 0.001                                      | --                               | --                      | --                           | Y                    | N                   |
| 20             | 3                   | 6/18/2015 | BAM       | N                            | N                              | --                 | --                       | --                                | --                          | --                            | --                             | --                                             | --                                               | --                                                               | --                                    | --                    | --                           | --                    | --                       | --                                         | --                               | --                      | --                           | Y                    | N                   |
| 38             | 18                  | 7/6/2015  | JAO       | N                            | Y                              | 40919.9            | 127.0                    | 0.9                               | 44                          | 7                             | 6.5                            | 153612                                         | 0.0009259                                        | 0.011257                                                         | 1,149,017.76                          | 66,781                | 22                           | 1                     | 0.00                     | 0.00001                                    | 5                                | <1                      | <1                           | N                    | Y                   |
| 41             | 3                   | 7/9/2015  | BAM       | Y                            | Y                              | 40958.1            | 165.2                    | 38.2                              | 62                          | 13                            | 6                              | 155600                                         | 0.014456                                         | 0.011897                                                         | 1,163,888.00                          | 81,652                | 14,870                       | 4,957                 | 3.44                     | 0.06                                       | 5                                | 0                       | 0                            | Y                    | Y                   |
| 46             | 5                   | 7/14/2015 | BAM       | N                            | Y                              | 40995.4            | 202.5                    | 37.3                              | 65                          | 5.5                           | 5                              | 156429                                         | 0.006174                                         | 0.010943                                                         | 1,170,088.92                          | 87,853                | 6,201                        | 1,240                 | 0.86                     | 0.01                                       | 4                                | 0                       | 0                            | N                    | Y                   |
| 48             | 2                   | 7/16/2015 | BAM/JAO   | N                            | Y                              | 41022.3            | 229.4                    | 26.9                              | 55                          | 7                             | 5                              | 156907                                         | 0.004936                                         | 0.010085                                                         | 1,173,664.36                          | 91,428                | 3,575                        | 1,788                 | 1.24                     | 0.02                                       | 2                                | 1.5                     | 1                            | N                    | Y                   |
| 52             | 4                   | 7/20/2015 | BAM       | Y                            | Y                              | 41066.0            | 273.1                    | 43.7                              | 50                          | 21                            | 7.5                            | 159253                                         | 0.014912                                         | 0.010688                                                         | 1,191,212.44                          | 108,976               | 17,548                       | 4,387                 | 3.05                     | 0.05                                       | 5                                | --                      | 0                            | N                    | Y                   |
| 54             | 2                   | 7/22/2015 | BAM       | Y                            | N                              | 41074.3            | 281.4                    | 8.3                               | 48                          | 9.5                           | 9.5                            | 159785                                         | 0.017805                                         | 0.011479                                                         | 1,195,191.80                          | 112,955               | 3,979                        | 1,990                 | 1.38                     | 0.02                                       | 7.5                              | --                      | 0                            | N                    | Y                   |

Notes:  
ft<sup>3</sup>                    cubic feet  
psi                    pounds per square inch  
Y/N                    Yes/No  
-                        not screened  
gpm                    gallon per minute  
\*                        new control panel installed with new hour meter reading

**ATTACHMENT A**

**B. Suggested Form for Notice of Intent (NOI) for the Remediation General Permit**

**1. General facility/site information.** Please provide the following information about the site:

|                                                                                              |                                                                                                                  |                                       |                        |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------|
| a) Name of <b>facility/site</b> :                                                            |                                                                                                                  | <b>Facility/site</b> mailing address: |                        |
| Location of <b>facility/site</b> :<br>longitude: _____<br>latitude: _____                    | Facility SIC code(s):                                                                                            | Street:                               |                        |
| b) Name of <b>facility/site owner</b> : Belbroad Corporation<br>C / O Colbea Enterprises LLC |                                                                                                                  | Town:                                 |                        |
| Email address of facility/site owner:                                                        | State:                                                                                                           | Zip:                                  | County:                |
| Telephone no. of facility/site <b>owner</b> :                                                |                                                                                                                  |                                       |                        |
| Fax no. of facility/site <b>owner</b> :                                                      | <b>Owner</b> is (check one): 1. Federal____ 2. State/Tribal____<br>3. Private____ 4. Other ____ if so, describe: |                                       |                        |
| Address of <b>owner</b> (if different from site):                                            |                                                                                                                  |                                       |                        |
| Street:                                                                                      |                                                                                                                  |                                       |                        |
| Town:                                                                                        | State:                                                                                                           | Zip:                                  | County:                |
| c) Legal name of <b>operator</b> :                                                           | <b>Operator</b> telephone no:                                                                                    |                                       |                        |
|                                                                                              | <b>Operator</b> fax no.:                                                                                         |                                       | <b>Operator</b> email: |
| <b>Operator</b> contact name and title:                                                      |                                                                                                                  |                                       |                        |
| Address of <b>operator</b> (if different from owner):                                        | Street:                                                                                                          |                                       |                        |
| Town:                                                                                        | State:                                                                                                           | Zip:                                  | County:                |



d) Check Y for “yes” or N for “no” for the following:

1. Has a prior NPDES permit exclusion been granted for the discharge? Y\_\_\_ N\_\_\_, if Y, number:\_\_\_\_\_
2. Has a prior NPDES application (Form 1 & 2C) ever been filed for the discharge?  
Y\_\_\_ N\_\_\_, if Y, date and tracking #:\_\_\_\_\_
3. Is the discharge a “new discharge” as defined by 40 CFR 122.2? Y\_\_\_ N\_\_\_
4. For sites in Massachusetts, is the discharge covered under the Massachusetts Contingency Plan (MCP) and exempt from state permitting? Y\_\_\_ N\_\_\_

e) Is site/facility subject to any State permitting, license, or other action which is causing the generation of discharge? Y\_\_\_ N\_\_\_

If Y, please list:

1. site identification # assigned by the state of NH or MA:\_\_\_\_\_
2. permit or license # assigned:\_\_\_\_\_
3. state agency contact information: name, location, and telephone number:\_\_\_\_\_

f) Is the site/facility covered by any other EPA permit, including:

1. Multi-Sector General Permit? Y\_\_\_ N\_\_\_,  
if Y, number:\_\_\_\_\_
2. Final Dewatering General Permit? Y\_\_\_ N\_\_\_,  
if Y, number:\_\_\_\_\_
3. EPA Construction General Permit? Y\_\_\_ N\_\_\_,  
if Y, number:\_\_\_\_\_
4. Individual NPDES permit? Y\_\_\_ N\_\_\_,  
if Y, number:\_\_\_\_\_
5. any other water quality related individual or general permit? Y\_\_\_ N\_\_\_, if Y, number:\_\_\_\_\_

g) Is the site/facility located within or does it discharge to an Area of Critical Environmental Concern (ACEC)? Y\_\_\_ N\_\_\_

h) Based on the facility/site information and any historical sampling data, identify the sub-category into which the potential discharge falls.

| <u>Activity Category</u>                   | <u>Activity Sub-Category</u>                                                                                                                                                              |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I - Petroleum Related Site Remediation     | A. Gasoline Only Sites ____<br>B. Fuel Oils and Other Oil Sites (including Residential Non-Business Remediation Discharges) ____<br>C. Petroleum Sites with Additional Contamination ____ |
| II - Non Petroleum Site Remediation        | A. Volatile Organic Compound (VOC) Only Sites ____<br>B. VOC Sites with Additional Contamination ____<br>C. Primarily Heavy Metal Sites ____                                              |
| III - Contaminated Construction Dewatering | A. General Urban Fill Sites ____<br>B. Known Contaminated Sites ____                                                                                                                      |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IV - Miscellaneous Related Discharges | A. Aquifer Pump Testing to Evaluate Formerly Contaminated Sites ____<br>B. Well Development/Rehabilitation at Contaminated/Formerly Contaminated Sites ____<br>C. Hydrostatic Testing of Pipelines and Tanks ____<br>D. Long-Term Remediation of Contaminated Sumps and Dikes ____<br>E. Short-term Contaminated Dredging Drain Back Waters (if not covered by 401/404 permit) ____ |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**2. Discharge information.** Please provide information about the discharge, (attaching additional sheets as necessary) including:

|                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a) Describe the discharge activities for which the owner/applicant is seeking coverage:                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                          |
| b) Provide the following information about each discharge:                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                          |
| 1) Number of discharge points:                                                                                                                                                                                                                                                                                                | 2) What is the <b>maximum</b> and <b>average flow rate</b> of discharge (in cubic feet per second, ft <sup>3</sup> /s)?<br>Max. flow _____ Is maximum flow a <b>design value</b> ? Y ____ N ____<br>Average flow (include units) _____ Is average flow a design value or estimate? _____ |
| 3) Latitude and longitude of each discharge within 100 feet:<br>pt.1: lat. _____ long. _____; pt.2: lat. _____ long. _____;<br>pt.3: lat. _____ long. _____; pt.4: lat. _____ long. _____;<br>pt.5: lat. _____ long. _____; pt.6: lat. _____ long. _____;<br>pt.7: lat. _____ long. _____; pt.8: lat. _____ long. _____; etc. |                                                                                                                                                                                                                                                                                          |
| 4) If hydrostatic testing, total volume of the discharge (gals): _____                                                                                                                                                                                                                                                        | 5) Is the discharge intermittent ____ or seasonal ____?<br>Is discharge ongoing? Y ____ N ____                                                                                                                                                                                           |
| c) Expected dates of discharge (mm/dd/yy): start _____ end _____                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                          |
| d) Please attach a line drawing or flow schematic showing water flow through the facility including:<br>1. sources of intake water, 2. contributing flow from the operation, 3. treatment units, and 4. discharge points and receiving waters(s).                                                                             |                                                                                                                                                                                                                                                                                          |

**3. Contaminant information.**

a) Based on the sub-category selected (see Appendix III), indicate whether each listed chemical is **believed present** or **believed absent** in the potential discharge. Attach additional sheets as needed.

| <u>Parameter *</u>                                            | <u>CAS Number</u>                       | <u>Believed Absent</u> | <u>Believed Present</u> | <u># of Samples</u> | <u>Sample Type (e.g., grab)</u> | <u>Analytical Method Used (method #)</u> | <u>Minimum Level (ML) of Test Method</u> | <u>Maximum daily value</u>  |                  | <u>Average daily value</u>  |                  |
|---------------------------------------------------------------|-----------------------------------------|------------------------|-------------------------|---------------------|---------------------------------|------------------------------------------|------------------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|                                                               |                                         |                        |                         |                     |                                 |                                          |                                          | <u>concentration (ug/l)</u> | <u>mass (kg)</u> | <u>concentration (ug/l)</u> | <u>mass (kg)</u> |
| 1. Total Suspended Solids (TSS)                               |                                         |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 2. Total Residual Chlorine (TRC)                              |                                         |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 3. Total Petroleum Hydrocarbons (TPH)                         |                                         |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 4. Cyanide (CN)                                               | 57125                                   |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 5. Benzene (B)                                                | 71432                                   |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 6. Toluene (T)                                                | 108883                                  |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 7. Ethylbenzene (E)                                           | 100414                                  |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 8. (m,p,o) Xylenes (X)                                        | 108883;<br>106423;<br>95476;<br>1330207 |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 9. Total BTEX <sup>2</sup>                                    | n/a                                     |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 10. Ethylene Dibromide (EDB) (1,2-Dibromoethane) <sup>3</sup> | 106934                                  |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 11. Methyl-tert-Butyl Ether (MtBE)                            | 1634044                                 |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
| 12. tert-Butyl Alcohol (TBA) (Tertiary-Butanol)               | 75650                                   |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |

\* Numbering system is provided to allow cross-referencing to Effluent Limits and Monitoring Requirements by Sub-Category included in Appendix III, as well as the Test Methods and Minimum Levels associated with each parameter provided in Appendix VI.

<sup>2</sup> BTEX = Sum of Benzene, Toluene, Ethylbenzene, total Xylenes.

<sup>3</sup> EDB is a groundwater contaminant at fuel spill and pesticide application sites in New England.

| <u>Parameter *</u>                | <u>CAS<br/>Number</u> | <u>Believed<br/>Absent</u> | <u>Believed<br/>Present</u> | <u># of<br/>Samples</u> | <u>Sample<br/>Type<br/>(e.g.,<br/>grab)</u> | <u>Analytical<br/>Method<br/>Used<br/>(method #)</u> | <u>Minimum<br/>Level<br/>(ML) of<br/>Test<br/>Method</u> | <u>Maximum daily value</u>      |                      | <u>Average daily value</u>      |                      |
|-----------------------------------|-----------------------|----------------------------|-----------------------------|-------------------------|---------------------------------------------|------------------------------------------------------|----------------------------------------------------------|---------------------------------|----------------------|---------------------------------|----------------------|
|                                   |                       |                            |                             |                         |                                             |                                                      |                                                          | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> |
| 13. tert-Amyl Methyl Ether (TAME) | 9940508               |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 14. Naphthalene                   | 91203                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 15. Carbon Tetrachloride          | 56235                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 16. 1,2 Dichlorobenzene (o-DCB)   | 95501                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 17. 1,3 Dichlorobenzene (m-DCB)   | 541731                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 18. 1,4 Dichlorobenzene (p-DCB)   | 106467                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 18a. Total dichlorobenzene        |                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 19. 1,1 Dichloroethane (DCA)      | 75343                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 20. 1,2 Dichloroethane (DCA)      | 107062                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 21. 1,1 Dichloroethene (DCE)      | 75354                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 22. cis-1,2 Dichloroethene (DCE)  | 156592                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 23. Methylene Chloride            | 75092                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 24. Tetrachloroethene (PCE)       | 127184                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 25. 1,1,1 Trichloro-ethane (TCA)  | 71556                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 26. 1,1,2 Trichloro-ethane (TCA)  | 79005                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 27. Trichloroethene (TCE)         | 79016                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |

| <u>Parameter *</u>                                                  | <u>CAS<br/>Number</u> | <u>Believed<br/>Absent</u> | <u>Believed<br/>Present</u> | <u># of<br/>Samples</u> | <u>Sample<br/>Type<br/>(e.g.,<br/>grab)</u> | <u>Analytical<br/>Method<br/>Used<br/>(method #)</u> | <u>Minimum<br/>Level<br/>(ML) of<br/>Test<br/>Method</u> | <u>Maximum daily value</u>      |                      | <u>Average daily value</u>      |                      |
|---------------------------------------------------------------------|-----------------------|----------------------------|-----------------------------|-------------------------|---------------------------------------------|------------------------------------------------------|----------------------------------------------------------|---------------------------------|----------------------|---------------------------------|----------------------|
|                                                                     |                       |                            |                             |                         |                                             |                                                      |                                                          | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> |
| 28. Vinyl Chloride<br>(Chloroethene)                                | 75014                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 29. Acetone                                                         | 67641                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 30. 1,4 Dioxane                                                     | 123911                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 31. Total Phenols                                                   | 108952                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 32. Pentachlorophenol<br>(PCP)                                      | 87865                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 33. Total Phthalates<br>(Phthalate esters) <sup>4</sup>             |                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 34. Bis (2-Ethylhexyl)<br>Phthalate [Di-<br>(ethylhexyl) Phthalate] | 117817                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 35. Total Group I<br>Polycyclic Aromatic<br>Hydrocarbons (PAH)      |                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| a. Benzo(a) Anthracene                                              | 56553                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| b. Benzo(a) Pyrene                                                  | 50328                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| c. Benzo(b)Fluoranthene                                             | 205992                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| d. Benzo(k)Fluoranthene                                             | 207089                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| e. Chrysene                                                         | 21801                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| f. Dibenzo(a,h)anthracene                                           | 53703                 |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| g. Indeno(1,2,3-cd)<br>Pyrene                                       | 193395                |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 36. Total Group II<br>Polycyclic Aromatic<br>Hydrocarbons (PAH)     |                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |

<sup>4</sup>The sum of individual phthalate compounds.

| <u>Parameter *</u>                            | <u>CAS<br/>Number</u>                                       | <u>Believed<br/>Absent</u> | <u>Believed<br/>Present</u> | <u># of<br/>Samples</u> | <u>Sample<br/>Type<br/>(e.g.,<br/>grab)</u> | <u>Analytical<br/>Method<br/>Used<br/>(method #)</u> | <u>Minimum<br/>Level<br/>(ML) of<br/>Test<br/>Method</u> | <u>Maximum daily value</u>      |                      | <u>Average daily value</u>      |                      |
|-----------------------------------------------|-------------------------------------------------------------|----------------------------|-----------------------------|-------------------------|---------------------------------------------|------------------------------------------------------|----------------------------------------------------------|---------------------------------|----------------------|---------------------------------|----------------------|
|                                               |                                                             |                            |                             |                         |                                             |                                                      |                                                          | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> | <u>concentration<br/>(ug/l)</u> | <u>mass<br/>(kg)</u> |
| h. Acenaphthene                               | 83329                                                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| i. Acenaphthylene                             | 208968                                                      |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| j. Anthracene                                 | 120127                                                      |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| k. Benzo(ghi) Perylene                        | 191242                                                      |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| l. Fluoranthene                               | 206440                                                      |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| m. Fluorene                                   | 86737                                                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| n. Naphthalene                                | 91203                                                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| o. Phenanthrene                               | 85018                                                       |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| p. Pyrene                                     | 129000                                                      |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 37. Total Polychlorinated<br>Biphenyls (PCBs) | 85687;<br>84742;<br>117840;<br>84662;<br>131113;<br>117817. |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 38. Chloride                                  | 16887006                                                    |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 39. Antimony                                  | 7440360                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 40. Arsenic                                   | 7440382                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 41. Cadmium                                   | 7440439                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 42. Chromium III<br>(trivalent)               | 16065831                                                    |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 43. Chromium VI<br>(hexavalent)               | 18540299                                                    |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 44. Copper                                    | 7440508                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 45. Lead                                      | 7439921                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 46. Mercury                                   | 7439976                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 47. Nickel                                    | 7440020                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 48. Selenium                                  | 7782492                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 49. Silver                                    | 7440224                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 50. Zinc                                      | 7440666                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| 51. Iron                                      | 7439896                                                     |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |
| Other (describe):                             |                                                             |                            |                             |                         |                                             |                                                      |                                                          |                                 |                      |                                 |                      |

| <u>Parameter *</u> | <u>CAS Number</u> | <u>Believed Absent</u> | <u>Believed Present</u> | <u># of Samples</u> | <u>Sample Type (e.g., grab)</u> | <u>Analytical Method Used (method #)</u> | <u>Minimum Level (ML) of Test Method</u> | <u>Maximum daily value</u>  |                  | <u>Average daily value</u>  |                  |
|--------------------|-------------------|------------------------|-------------------------|---------------------|---------------------------------|------------------------------------------|------------------------------------------|-----------------------------|------------------|-----------------------------|------------------|
|                    |                   |                        |                         |                     |                                 |                                          |                                          | <u>concentration (ug/l)</u> | <u>mass (kg)</u> | <u>concentration (ug/l)</u> | <u>mass (kg)</u> |
|                    |                   |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |
|                    |                   |                        |                         |                     |                                 |                                          |                                          |                             |                  |                             |                  |

b) For discharges where **metals** are believed present, please fill out the following (attach results of any calculations):

|                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Step 1:</i> Do any of the metals in the influent exceed the effluent limits in Appendix III (i.e., the limits set at zero dilution)? Y____ N____</p>                                                                                                                                                                                                                                                                                       | <p>If yes, which metals?</p>                                                                                                                                                                                                                                                                                                                                              |
| <p><i>Step 2:</i> For any metals which exceed the <b>Appendix III</b> limits, calculate the <b>dilution factor (DF)</b> using the formula in Part I.A.3.c (step 2) of the NOI instructions or as determined by the State prior to the submission of this NOI. What is the dilution factor for applicable metals?</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Metal:_____ DF:_____</p> <p>Etc.</p> | <p>Look up the limit calculated at the corresponding dilution factor in <b>Appendix IV</b>. Do any of the metals in the <b>influent</b> have the potential to exceed the corresponding <b>effluent</b> limits in Appendix IV (i.e., is the influent concentration above the limit set at the calculated dilution factor)?</p> <p>Y____ N____ If Y, list which metals:</p> |

**4. Treatment system information.** Please describe the treatment system using separate sheets as necessary, including:

|                                                                                                               |              |                 |                          |                    |            |            |
|---------------------------------------------------------------------------------------------------------------|--------------|-----------------|--------------------------|--------------------|------------|------------|
| a) A description of the treatment system, including a schematic of the proposed or existing treatment system: |              |                 |                          |                    |            |            |
| b) Identify each applicable treatment unit (check all that apply):                                            | Frac. tank   | Air stripper    | Oil/water separator      | Equalization tanks | Bag filter | GAC filter |
|                                                                                                               | Chlorination | De-chlorination | Other (please describe): |                    |            |            |



c) Proposed **average** and **maximum flow rates** (gallons per minute) for the discharge and the **design flow rate(s)** (gallons per minute) of the treatment system:

Average flow rate of discharge \_\_\_\_\_ gpm    Maximum flow rate of treatment system \_\_\_\_\_ gpm

Design flow rate of treatment system \_\_\_\_\_ gpm

d) A description of chemical additives being used or planned to be used (attach MSDS sheets):

**5. Receiving surface water(s).** Please provide information about the receiving water(s), using separate sheets as necessary:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                 |                               |                   |                |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------|-------------------|----------------|----------------------------|
| a) Identify the discharge pathway:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Direct to receiving water _____ | Within facility (sewer) _____ | Storm drain _____ | Wetlands _____ | Other (describe):<br>_____ |
| b) Provide a narrative description of the discharge pathway, including the name(s) of the receiving waters:                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |                               |                   |                |                            |
| c) Attach a detailed map(s) indicating the site location and location of the outfall to the receiving water:<br>1. For multiple discharges, number the discharges sequentially.<br>2. For indirect dischargers, indicate the location of the discharge to the indirect conveyance and the discharge to surface water<br>The map should also include the location and distance to the nearest sanitary sewer as well as the locus of nearby sensitive receptors (based on USGS topographical mapping), such as surface waters, drinking water supplies, and wetland areas. |                                 |                               |                   |                |                            |
| d) Provide the state water quality classification of the receiving water _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                 |                               |                   |                |                            |
| e) Provide the reported or calculated seven day-ten year low flow (7Q10) of the receiving water _____ cfs<br>Please attach any calculation sheets used to support stream flow and dilution calculations.                                                                                                                                                                                                                                                                                                                                                                  |                                 |                               |                   |                |                            |
| f) Is the receiving water a listed 303(d) water quality impaired or limited water? Y____ N____ If yes, for which pollutant(s)? _____<br>Category 4C - Impairment not caused by a pollutant.                                                                                                                                                                                                                                                                                                                                                                               |                                 |                               |                   |                |                            |
| Is there a final TMDL? Y____ N____ If yes, for which pollutant(s)? _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                 |                               |                   |                |                            |

**6. ESA and NHPA Eligibility.**

Please provide the following information according to requirements of Permit Parts I.A.4 and I.A.5 Appendices II and VII.

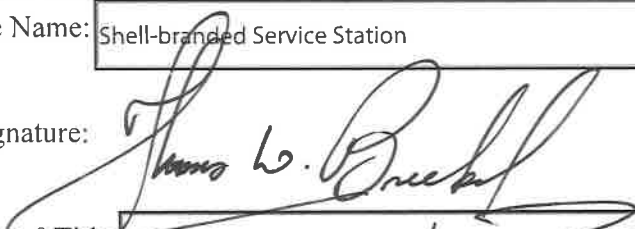
- a) Using the instructions in Appendix VII and information on Appendix II, under which criterion listed in Part I.C are you eligible for coverage under this general permit?  
A \_\_\_\_ B \_\_\_\_ C \_\_\_\_ D \_\_\_\_ E \_\_\_\_ F \_\_\_\_
- b) If you selected Criterion D or F, has consultation with the federal services been completed? Y \_\_\_\_ N \_\_\_\_ Underway \_\_\_\_
- c) If consultation with U.S. Fish and Wildlife Service and/or NOAA Fisheries Service was completed, was a written concurrence finding that the discharge is “not likely to adversely affect” listed species or critical habitat received? Y \_\_\_\_ N \_\_\_\_
- d) Attach documentation of ESA eligibility as described in the NOI instructions and required by Appendix VII, Part I.C, Step 4.
- e) Using the instructions in Appendix VII, under which criterion listed in Part II.C are you eligible for coverage under this general permit?  
1 \_\_\_\_ 2 \_\_\_\_ 3 \_\_\_\_
- f) If Criterion 3 was selected, attach all written correspondence with the State or Tribal historic preservation officers, including any terms and conditions that outline measures the applicant must follow to mitigate or prevent adverse effects due to activities regulated by the RGP.

**7. 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.

**8. Signature Requirements:** The Notice of Intent must be signed by the operator in accordance with the signatory requirements of 40 CFR Section 122.22, including the following certification:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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/Site Name:   | Shell-branded Service Station                                                     |
| Operator signature:   |  |
| Printed Name & Title: | THOMAS W. BECKEL V. Pres operations                                               |
| Date:                 | 7-28-15                                                                           |

**ATTACHMENT B**

April 30, 2015

Bethany Mong  
Sovereign Consulting - Foxboro, MA  
16 Chestnut Street  
Foxboro, MA 02035

Project Location: 620 Belmont St., Brockton, MA  
Client Job Number:  
Project Number: CO050  
Laboratory Work Order Number: 15D1009

Enclosed are results of analyses for samples received by the laboratory on April 21, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron L. Benoit", with a horizontal line extending to the right.

Aaron L. Benoit  
Project Manager

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39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Sovereign Consulting - Foxboro, MA  
16 Chestnut Street  
Foxboro, MA 02035  
ATTN: Bethany Mong

REPORT DATE: 4/30/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: CO050

#### ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15D1009

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 620 Belmont St., Brockton, MA

| FIELD SAMPLE # | LAB ID:    | MATRIX           | SAMPLE DESCRIPTION | TEST             | SUB LAB |
|----------------|------------|------------------|--------------------|------------------|---------|
| Sump 1         | 15D1009-01 | Ground Water     |                    | MADEP-VPH-04-1.1 |         |
| Trip Blank     | 15D1009-02 | Trip Blank Water |                    | MADEP-VPH-04-1.1 |         |

**CASE NARRATIVE SUMMARY**

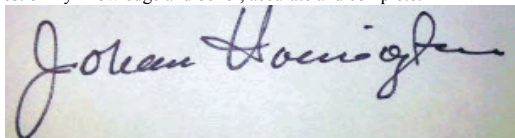
All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

**MADEP-VPH-04-1.1**

No significant modifications were made to the method. All VPH samples were received preserved properly at pH <2 in the proper containers as specified on the chain-of-custody form unless specified in this narrative.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

A handwritten signature in black ink, appearing to read "Johanna Harrington", is written over a light-colored, slightly textured background.

Johanna K. Harrington

Manager, Laboratory Reporting



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: 620 Belmont St., Brockton, MA

Sample Description:

Work Order: 15D1009

Date Received: 4/21/2015

Field Sample #: Sump 1

Sampled: 4/18/2015 11:30

Sample ID: 15D1009-01

Sample Matrix: Ground Water

**Petroleum Hydrocarbons Analyses - VPH**

| Analyte                        | Results    | RL  | Units           | Dilution | Flag/Qual | Method           | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------------|------------|-----|-----------------|----------|-----------|------------------|---------------|--------------------|---------|
| Unadjusted C5-C8 Aliphatics    | 1200       | 200 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| C5-C8 Aliphatics               | 1100       | 200 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Unadjusted C9-C12 Aliphatics   | 1500       | 200 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| C9-C12 Aliphatics              | ND         | 200 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| C9-C10 Aromatics               | 1200       | 200 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Benzene                        | 25         | 2.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Ethylbenzene                   | 130        | 2.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Methyl tert-Butyl Ether (MTBE) | ND         | 2.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Naphthalene                    | 38         | 10  | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Toluene                        | 67         | 2.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| m+p Xylene                     | 250        | 4.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| o-Xylene                       | 69         | 2.0 | µg/L            | 2        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 14:51      | ORG     |
| Surrogates                     | % Recovery |     | Recovery Limits |          | Flag/Qual |                  |               |                    |         |
| 2,5-Dibromotoluene (FID)       | 97.6       |     | 70-130          |          |           |                  | 4/25/15 14:51 |                    |         |
| 2,5-Dibromotoluene (PID)       | 85.8       |     | 70-130          |          |           |                  | 4/25/15 14:51 |                    |         |

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Project Location: 620 Belmont St., Brockton, MA

Sample Description:

Work Order: 15D1009

Date Received: 4/21/2015

Field Sample #: Trip Blank

Sampled: 4/18/2015 00:00

Sample ID: 15D1009-02

Sample Matrix: Trip Blank Water

Petroleum Hydrocarbons Analyses - VPH

| Analyte                        | Results    | RL              | Units     | Dilution | Flag/Qual | Method           | Date Prepared | Date/Time Analyzed | Analyst |
|--------------------------------|------------|-----------------|-----------|----------|-----------|------------------|---------------|--------------------|---------|
| Unadjusted C5-C8 Aliphatics    | ND         | 100             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| C5-C8 Aliphatics               | ND         | 100             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Unadjusted C9-C12 Aliphatics   | ND         | 100             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| C9-C12 Aliphatics              | ND         | 100             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| C9-C10 Aromatics               | ND         | 100             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Benzene                        | ND         | 1.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Ethylbenzene                   | ND         | 1.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Methyl tert-Butyl Ether (MTBE) | ND         | 1.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Naphthalene                    | ND         | 5.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Toluene                        | ND         | 1.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| m+p Xylene                     | ND         | 2.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| o-Xylene                       | ND         | 1.0             | µg/L      | 1        |           | MADEP-VPH-04-1.1 | 4/24/15       | 4/25/15 6:29       | ORG     |
| Surrogates                     | % Recovery | Recovery Limits | Flag/Qual |          |           |                  |               |                    |         |
| 2,5-Dibromotoluene (FID)       | 99.8       | 70-130          |           |          |           |                  |               | 4/25/15 6:29       |         |
| 2,5-Dibromotoluene (PID)       | 90.6       | 70-130          |           |          |           |                  |               | 4/25/15 6:29       |         |

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### Sample Extraction Data

Prep Method: MA VPH-MADEP-VPH-04-1.1

| Lab Number [Field ID]   | Batch   | Initial [mL] | Final [mL] | Date     |
|-------------------------|---------|--------------|------------|----------|
| 15D1009-01 [Sump 1]     | B120188 | 2.5          | 5.00       | 04/24/15 |
| 15D1009-02 [Trip Blank] | B120188 | 5            | 5.00       | 04/24/15 |

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

**QUALITY CONTROL**
**Petroleum Hydrocarbons Analyses - VPH - Quality Control**

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
|---------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-------|

**Batch B120188 - MA VPH**
**Blank (B120188-BLK1)**

Prepared: 04/24/15 Analyzed: 04/25/15

|                                     |      |     |      |      |  |      |        |  |  |  |
|-------------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Unadjusted C5-C8 Aliphatics         | ND   | 100 | µg/L |      |  |      |        |  |  |  |
| C5-C8 Aliphatics                    | ND   | 100 | µg/L |      |  |      |        |  |  |  |
| Unadjusted C9-C12 Aliphatics        | ND   | 100 | µg/L |      |  |      |        |  |  |  |
| C9-C12 Aliphatics                   | ND   | 100 | µg/L |      |  |      |        |  |  |  |
| C9-C10 Aromatics                    | ND   | 100 | µg/L |      |  |      |        |  |  |  |
| Benzene                             | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Butylcyclohexane                    | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Decane                              | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Ethylbenzene                        | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Methyl tert-Butyl Ether (MTBE)      | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| 2-Methylpentane                     | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Naphthalene                         | ND   | 5.0 | µg/L |      |  |      |        |  |  |  |
| Nonane                              | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Pentane                             | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Toluene                             | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| 1,2,4-Trimethylbenzene              | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| 2,2,4-Trimethylpentane              | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| m+p Xylene                          | ND   | 2.0 | µg/L |      |  |      |        |  |  |  |
| o-Xylene                            | ND   | 1.0 | µg/L |      |  |      |        |  |  |  |
| Surrogate: 2,5-Dibromotoluene (FID) | 41.3 |     | µg/L | 40.0 |  | 103  | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene (PID) | 37.0 |     | µg/L | 40.0 |  | 92.4 | 70-130 |  |  |  |

**LCS (B120188-BS1)**

Prepared: 04/24/15 Analyzed: 04/25/15

|                                     |      |     |      |      |  |      |        |  |  |  |
|-------------------------------------|------|-----|------|------|--|------|--------|--|--|--|
| Benzene                             | 83.7 | 1.0 | µg/L | 100  |  | 83.7 | 70-130 |  |  |  |
| Butylcyclohexane                    | 86.0 | 1.0 | µg/L | 100  |  | 86.0 | 70-130 |  |  |  |
| Decane                              | 90.6 | 1.0 | µg/L | 100  |  | 90.6 | 70-130 |  |  |  |
| Ethylbenzene                        | 82.6 | 1.0 | µg/L | 100  |  | 82.6 | 70-130 |  |  |  |
| Methyl tert-Butyl Ether (MTBE)      | 86.0 | 1.0 | µg/L | 100  |  | 86.0 | 70-130 |  |  |  |
| 2-Methylpentane                     | 83.5 | 1.0 | µg/L | 100  |  | 83.5 | 70-130 |  |  |  |
| Naphthalene                         | 87.6 | 5.0 | µg/L | 100  |  | 87.6 | 70-130 |  |  |  |
| Nonane                              | 88.0 | 1.0 | µg/L | 100  |  | 88.0 | 30-130 |  |  |  |
| Pentane                             | 72.1 | 1.0 | µg/L | 100  |  | 72.1 | 70-130 |  |  |  |
| Toluene                             | 82.9 | 1.0 | µg/L | 100  |  | 82.9 | 70-130 |  |  |  |
| 1,2,4-Trimethylbenzene              | 85.7 | 1.0 | µg/L | 100  |  | 85.7 | 70-130 |  |  |  |
| 2,2,4-Trimethylpentane              | 81.4 | 1.0 | µg/L | 100  |  | 81.4 | 70-130 |  |  |  |
| m+p Xylene                          | 169  | 2.0 | µg/L | 200  |  | 84.4 | 70-130 |  |  |  |
| o-Xylene                            | 85.7 | 1.0 | µg/L | 100  |  | 85.7 | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene (FID) | 40.5 |     | µg/L | 40.0 |  | 101  | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene (PID) | 36.3 |     | µg/L | 40.0 |  | 90.7 | 70-130 |  |  |  |

**LCS Dup (B120188-BS1)**

Prepared: 04/24/15 Analyzed: 04/25/15

|                                |      |     |      |     |  |      |        |        |    |  |
|--------------------------------|------|-----|------|-----|--|------|--------|--------|----|--|
| Benzene                        | 82.5 | 1.0 | µg/L | 100 |  | 82.5 | 70-130 | 1.44   | 25 |  |
| Butylcyclohexane               | 86.0 | 1.0 | µg/L | 100 |  | 86.0 | 70-130 | 0.0419 | 25 |  |
| Decane                         | 90.1 | 1.0 | µg/L | 100 |  | 90.1 | 70-130 | 0.575  | 25 |  |
| Ethylbenzene                   | 81.8 | 1.0 | µg/L | 100 |  | 81.8 | 70-130 | 0.877  | 25 |  |
| Methyl tert-Butyl Ether (MTBE) | 85.0 | 1.0 | µg/L | 100 |  | 85.0 | 70-130 | 1.19   | 25 |  |
| 2-Methylpentane                | 84.2 | 1.0 | µg/L | 100 |  | 84.2 | 70-130 | 0.755  | 25 |  |
| Naphthalene                    | 90.2 | 5.0 | µg/L | 100 |  | 90.2 | 70-130 | 2.93   | 25 |  |
| Nonane                         | 86.6 | 1.0 | µg/L | 100 |  | 86.6 | 30-130 | 1.63   | 25 |  |
| Pentane                        | 73.3 | 1.0 | µg/L | 100 |  | 73.3 | 70-130 | 1.60   | 25 |  |
| Toluene                        | 81.8 | 1.0 | µg/L | 100 |  | 81.8 | 70-130 | 1.34   | 25 |  |
| 1,2,4-Trimethylbenzene         | 85.9 | 1.0 | µg/L | 100 |  | 85.9 | 70-130 | 0.288  | 25 |  |

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**QUALITY CONTROL**

**Petroleum Hydrocarbons Analyses - VPH - Quality Control**

| Analyte | Result | Reporting<br>Limit | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Notes |
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|
|---------|--------|--------------------|-------|----------------|------------------|------|----------------|-----|--------------|-------|

**Batch B120188 - MA VPH**

**LCS Dup (B120188-BSD1)**

Prepared: 04/24/15 Analyzed: 04/25/15

|                                     |      |     |      |      |  |      |        |        |    |  |
|-------------------------------------|------|-----|------|------|--|------|--------|--------|----|--|
| 2,2,4-Trimethylpentane              | 81.4 | 1.0 | µg/L | 100  |  | 81.4 | 70-130 | 0.0405 | 25 |  |
| m+p Xylene                          | 168  | 2.0 | µg/L | 200  |  | 84.0 | 70-130 | 0.497  | 25 |  |
| o-Xylene                            | 85.2 | 1.0 | µg/L | 100  |  | 85.2 | 70-130 | 0.540  | 25 |  |
| Surrogate: 2,5-Dibromotoluene (FID) | 39.6 |     | µg/L | 40.0 |  | 99.1 | 70-130 |        |    |  |
| Surrogate: 2,5-Dibromotoluene (PID) | 35.4 |     | µg/L | 40.0 |  | 88.6 | 70-130 |        |    |  |

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#### FLAG/QUALIFIER SUMMARY

- \* QC result is outside of established limits.
- † Wide recovery limits established for difficult compound.
- ‡ Wide RPD limits established for difficult compound.
- # Data exceeded client recommended or regulatory level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

# CERTIFICATIONS

## Certified Analyses included in this Report

| Analyte                          | Certifications   |
|----------------------------------|------------------|
| <b>MADEP-VPH-04-1.1 in Water</b> |                  |
| Unadjusted C5-C8 Aliphatics      | CT,NC,WA,ME,NH-P |
| C5-C8 Aliphatics                 | CT,NC,WA,ME,NH-P |
| Unadjusted C9-C12 Aliphatics     | CT,NC,WA,ME,NH-P |
| C9-C12 Aliphatics                | CT,NC,WA,ME,NH-P |
| C9-C10 Aromatics                 | CT,NC,WA,ME,NH-P |
| Benzene                          | CT,NC,WA,ME,NH-P |
| Ethylbenzene                     | CT,NC,WA,ME,NH-P |
| Methyl tert-Butyl Ether (MTBE)   | CT,NC,WA,ME,NH-P |
| Naphthalene                      | CT,NC,WA,ME,NH-P |
| Toluene                          | CT,NC,WA,ME,NH-P |
| m+p Xylene                       | CT,NC,WA,ME,NH-P |
| o-Xylene                         | CT,NC,WA,ME,NH-P |

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

| Code | Description                                  | Number        | Expires    |
|------|----------------------------------------------|---------------|------------|
| AIHA | AIHA-LAP, LLC                                | 100033        | 02/1/2016  |
| MA   | Massachusetts DEP                            | M-MA100       | 06/30/2015 |
| CT   | Connecticut Department of Public Health      | PH-0567       | 09/30/2015 |
| NY   | New York State Department of Health          | 10899 NELAP   | 04/1/2016  |
| NH-S | New Hampshire Environmental Lab              | 2516 NELAP    | 02/5/2016  |
| RI   | Rhode Island Department of Health            | LAO00112      | 12/30/2015 |
| NC   | North Carolina Div. of Water Quality         | 652           | 12/31/2015 |
| NJ   | New Jersey DEP                               | MA007 NELAP   | 06/30/2015 |
| FL   | Florida Department of Health                 | E871027 NELAP | 06/30/2015 |
| VT   | Vermont Department of Health Lead Laboratory | LL015036      | 07/30/2015 |
| WA   | State of Washington Department of Ecology    | C2065         | 02/23/2016 |
| ME   | State of Maine                               | 2011028       | 06/9/2015  |
| VA   | Commonwealth of Virginia                     | 460217        | 12/14/2015 |
| NH-P | New Hampshire Environmental Lab              | 2557 NELAP    | 09/6/2015  |





| <b>MCP Analytical Services Request Form</b><br><b>Attach to Chain-of-Custody Form for Data Set</b>                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Client Name: <u>Sovereign Consulting on behalf of Culbena</u>                                                                                                                                                                                                                                                                                                                                                                                                             | Project Name: <u>COUSD</u>                                                                                                                   |
| Project Location: <u>620 Belmont St., Brooklyn, MA</u>                                                                                                                                                                                                                                                                                                                                                                                                                    | MCP RTN <sup>1</sup> : _____                                                                                                                 |
| Applicable Samples: <u>All</u>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                              |
| <b>General Questions:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                              |
| Is MCP Presumptive Certainty status being requested for the referenced data set*?<br><i>* Laboratory must use approved MCP Analytical Protocols</i>                                                                                                                                                                                                                                                                                                                       | <input checked="" type="checkbox"/> Yes <sup>2</sup> <input type="checkbox"/> No                                                             |
| Were all samples that comprise this data set collected in appropriate containers as specified in WSC-CAM-VII A, Appendix VII A-1 for requested analytes?                                                                                                                                                                                                                                                                                                                  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                          |
| Were all samples preserved as specified in WSC-CAM-VII A, Appendix VII A-1 for requested analytes?                                                                                                                                                                                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                          |
| Were all samples placed in a cooler with ice?                                                                                                                                                                                                                                                                                                                                                                                                                             | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                          |
| Are any of the soil/sediment samples in the data set preserved by freezing or do any require freezing (< -7°C) by the laboratory (within 48 hours of the time of collection)?                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                          |
| Should the laboratory report the standard CAM analyte list for the requested analytical protocols?                                                                                                                                                                                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>3</sup>                                                             |
| Should protocol-specific CAM reporting limits be used for all requested aqueous samples?<br><i>If lower reporting limits are required, please specify.</i>                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><div style="text-align: right; margin-right: 50px;"><u>GW-1</u></div> |
| Should protocol-specific CAM reporting limits be used for all requested soil/sediment samples?<br><i>If lower reporting limits are required, please specify.</i>                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><div style="text-align: right; margin-right: 50px;"><u>N/A</u></div>  |
| Are Matrix Spikes (MS) or MS Duplicates required for this data set?                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Yes <sup>4</sup> <input checked="" type="checkbox"/> No                                                             |
| Has adequate sample volume been provided for the MS/MSD?                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                     |
| Have the samples which require MS or MS Duplicate analysis been identified?                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                     |
| Are any of the samples in the data set characterized as "drinking water" as described in WSC-CAM-VII A, Section 2.5?<br><br>If YES, samples identified as "drinking water" must be analyzed using MCP Analytical Methods and require the reporting of Tentatively Identified Compounds (TICs), if GC/MS analyses requested.                                                                                                                                               | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                          |
| Are Field Duplicate Samples provided and identified for all "drinking water" samples*?<br><i>* Analysis required only if a target analyte is detected above the RL in the original sample.</i>                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                     |
| Are Trip Blanks provided and identified for all "drinking water" samples submitted for VOCs and VPH*?<br><i>* Analysis required only if a target analyte is detected above the RL in any of the associated samples.</i>                                                                                                                                                                                                                                                   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                                          |
| Is any alternative, supplemental or non-routine QC required for this data set? (Please specify)                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Yes <sup>5</sup> <input checked="" type="checkbox"/> No                                                             |
| 1. MCP Release Tracking Number, as applicable.<br>2. Laboratory must use approved MCP Analytical Methods.<br>3. Attach modified analyte list (may include non-routine analytes).<br>4. Samples that require MS and/or MSD analysis should be designated on the COC. Data user responsible for providing the laboratory with adequate sample volume to prepare MS/MSD samples.<br>5. Attached description of alternative, supplemental or non-routine QC that is required. |                                                                                                                                              |
| <div style="display: flex; justify-content: space-between;"> <div>Signature <u>Bethany Wang</u></div> <div>Date <u>4/18/15</u></div> </div>                                                                                                                                                                                                                                                                                                                               |                                                                                                                                              |

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East Longmeadow, MA. 01028  
P: 413-525-2332  
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Page 1 of 2

## Sample Receipt Checklist

CLIENT NAME: Sovereign Consulting RECEIVED BY: JDL DATE: 4/21/15

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included

2) Does the chain agree with the samples? Yes No

If not, explain:

3) Are all the samples in good condition? Yes No

If not, explain:

4) How were the samples received:

On Ice ☒ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☒

Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A

Temperature °C by Temp blank \_\_\_\_\_ Temperature °C by Temp gun 3.5

5) Are there Dissolved samples for the lab to filter? Yes No

Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No

Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

7) Location where samples are stored:

19

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: \_\_\_\_\_

8) Do all samples have the proper Acid pH: Yes No N/A

9) Do all samples have the proper Base pH: Yes No N/A

10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No N/A

## Containers received at Con-Test

|                                | # of containers |                       | # of containers |
|--------------------------------|-----------------|-----------------------|-----------------|
| 1 Liter Amber                  |                 | 8 oz amber/clear jar  |                 |
| 500 mL Amber                   |                 | 4 oz amber/clear jar  |                 |
| 250 mL Amber (8oz amber)       |                 | 2 oz amber/clear jar  |                 |
| 1 Liter Plastic                |                 | Plastic Bag / Ziploc  |                 |
| 500 mL Plastic                 |                 | SOC Kit               |                 |
| 250 mL plastic                 |                 | Non-ConTest Container |                 |
| 40 mL Vial - type listed below | <u>4</u>        | Perchlorate Kit       |                 |
| Colisure / bacteria bottle     |                 | Flashpoint bottle     |                 |
| Dissolved Oxygen bottle        |                 | Other glass jar       |                 |
| Encore                         |                 | Other                 |                 |

Laboratory Comments:

40 mL vials: # HCl 4 # Methanol \_\_\_\_\_

Doc# 277 # Bisulfate \_\_\_\_\_ # DI Water \_\_\_\_\_

Rev. 4 August 2013 # Thiosulfate \_\_\_\_\_ Unpreserved \_\_\_\_\_

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

| Question                                                                                    | Answer (True/False) |  | Comment |
|---------------------------------------------------------------------------------------------|---------------------|--|---------|
|                                                                                             | T/F/NA              |  |         |
| 1) The cooler's custody seal, if present, is intact.                                        | NA                  |  |         |
| 2) The cooler or samples do not appear to have been compromised or tampered with.           | T                   |  |         |
| 3) Samples were received on ice.                                                            | T                   |  |         |
| 4) Cooler Temperature is acceptable.                                                        | T                   |  |         |
| 5) Cooler Temperature is recorded.                                                          | T                   |  |         |
| 6) COC is filled out in ink and legible.                                                    | T                   |  |         |
| 7) COC is filled out with all pertinent information.                                        | T                   |  |         |
| 8) Field Sampler's name present on COC.                                                     | T                   |  |         |
| 9) There are no discrepancies between the sample IDs on the container and the COC.          | T                   |  |         |
| 10) Samples are received within Holding Time.                                               | T                   |  |         |
| 11) Sample containers have legible labels.                                                  | T                   |  |         |
| 12) Containers are not broken or leaking.                                                   | T                   |  |         |
| 13) Air Cassettes are not broken/open.                                                      | NA                  |  |         |
| 14) Sample collection date/times are provided.                                              | T                   |  |         |
| 15) Appropriate sample containers are used.                                                 | T                   |  |         |
| 16) Proper collection media used.                                                           | T                   |  |         |
| 17) No headspace sample bottles are completely filled.                                      | T                   |  |         |
| 18) There is sufficient volume for all requested analyses, including any requested MS/MSDs. | T                   |  |         |
| 19) Trip blanks provided if applicable.                                                     | T                   |  |         |
| 20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.           | T                   |  |         |
| 21) Samples do not require splitting or compositing.                                        | T                   |  |         |

Doc #277 Rev. 4 August 2013

Who notified of False statements?

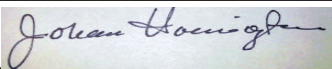
Log-In Technician Initials:

JDL

Date/Time:

Date/Time: 4/21/15 1435

## MADEP MCP Analytical Method Report Certification Form

|                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                         |                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------|
| Laboratory Name: Con-Test Analytical Laboratory                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             | Project #: 15D1009                      |                                                                                  |
| Project Location: 620 Belmont St., Brockton, MA                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             | RTN:                                    |                                                                                  |
| This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]<br>15D1009-01 thru 15D1009-02                                                                                                                                                       |                                                                                                                                                                                                                             |                                         |                                                                                  |
| Matrices: Water                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>CAM Protocol (check all that below)</b>                                                                                                                                                                                                                                              |                                                                                                                                                                                                                             |                                         |                                                                                  |
| 8260 VOC<br>CAM II A ( )                                                                                                                                                                                                                                                                | 7470/7471 Hg<br>CAM IIIB ( )                                                                                                                                                                                                | MassDEP VPH<br>CAM IV A (X)             | 8081 Pesticides<br>CAM V B ( )                                                   |
| 8270 SVOC<br>CAM II B ( )                                                                                                                                                                                                                                                               | 7010 Metals<br>CAM III C ( )                                                                                                                                                                                                | MassDEP EPH<br>CAM IV A ( )             | 8151 Herbicides<br>CAM V C ( )                                                   |
| 6010 Metals<br>CAM III A ( )                                                                                                                                                                                                                                                            | 6020 Metals<br>CAM III D ( )                                                                                                                                                                                                | 8082 PCB<br>CAM V A ( )                 | 9014 Total<br>Cyanide/PAC<br>CAM VI A ( )                                        |
| 7196 Hex Cr<br>CAM VI B ( )                                                                                                                                                                                                                                                             | MassDEP APH<br>CAM IX A ( )                                                                                                                                                                                                 | 8330 Explosives<br>CAM VIII A ( )       | TO-15 VOC<br>CAM IX B ( )                                                        |
| 6860 Perchlorate<br>CAM VIII B ( )                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>Affirmative response to Questions A through F is required for "Presumptive Certainty" status</b>                                                                                                                                                                                     |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>A</b>                                                                                                                                                                                                                                                                                | 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? |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>B</b>                                                                                                                                                                                                                                                                                | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?                                                                                                        |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>C</b>                                                                                                                                                                                                                                                                                | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?                                        |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>D</b>                                                                                                                                                                                                                                                                                | 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?                        |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>E a</b>                                                                                                                                                                                                                                                                              | 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).                                                 |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>E b</b>                                                                                                                                                                                                                                                                              | APH and TO-15 Methods only: Was the complete analyte list reported for each method?                                                                                                                                         |                                         | <input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>            |
| <b>F</b>                                                                                                                                                                                                                                                                                | 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)?                                     |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>A response to questions G, H and I below is required for "Presumptive Certainty" status</b>                                                                                                                                                                                          |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>G</b>                                                                                                                                                                                                                                                                                | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?                                                                                                                   |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.</b>                                                                            |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>H</b>                                                                                                                                                                                                                                                                                | Were all QC performance standards specified in the CAM protocol(s) achieved?                                                                                                                                                |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>I</b>                                                                                                                                                                                                                                                                                | Were results reported for the complete analyte list specified in the selected CAM protocol(s)?                                                                                                                              |                                         | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.                                                                                                                                                                           |                                                                                                                                                                                                                             |                                         |                                                                                  |
| <b>I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.</b> |                                                                                                                                                                                                                             |                                         |                                                                                  |
| Signature:                                                                                                                                                                                           |                                                                                                                                                                                                                             | Position: Manager, Laboratory Reporting |                                                                                  |
| Printed Name: Johanna K. Harrington                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                             | Date: 04/30/15                          |                                                                                  |



*CERTIFICATE OF ANALYSIS*

Bethany Mong  
Sovereign Consulting, Inc.  
16 Chestnut Street, Suite 520  
Foxborough, MA 02035

**RE: Brockton 620 Belmont St - RGP (C0050)**  
**ESS Laboratory Work Order Number: 1504546**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 12:17 pm, May 05, 2015**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**SAMPLE RECEIPT**

The following samples were received on April 23, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2010 Remediation General Permit (RGP) under the National Pollutant Discharge Elimination System (NPDES).

**For VOCs if an analyte was detected between the MRL and the MDL it would be reported with a "J" qualifier.**

**Revision 1 May 5, 2015: This report has been revised to include VOA MDLs.**

| <b>Lab Number</b> | <b>Sample Name</b> | <b>Matrix</b> | <b>Analysis</b>                                          |
|-------------------|--------------------|---------------|----------------------------------------------------------|
| 1504546-01        | Basement Sump      | Ground Water  | 1664A, 2540D, 300.0, 4500-C1 E, 6010C, 7010, 8011, 8260B |
| 1504546-02        | Trip Blank         | Aqueous       | 8260B                                                    |





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**PROJECT NARRATIVE**

**Classical Chemistry**

1504546-01

The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

Total Residual Chlorine

**Total Metals**

1504546-01

Present in Method Blank (B).

Iron

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

1010A - Flashpoint  
6010C - ICP  
6020A - ICP MS  
7010 - Graphite Furnace  
7196A - Hexavalent Chromium  
7470A - Aqueous Mercury  
7471B - Solid Mercury  
8011 - EDB/DBCP/TCP  
8015D - GRO/DRO  
8081B - Pesticides  
8082A - PCB  
8100M - TPH  
8151A - Herbicides  
8260B - VOA  
8270D - SVOA  
8270D SIM - SVOA Low Level  
9014 - Cyanide  
9038 - Sulfate  
9040C - Aqueous pH  
9045D - Solid pH (Corrosivity)  
9050A - Specific Conductance  
9056A - Anions (IC)  
9060A - TOC  
9095B - Paint Filter  
MADEP 04-1.1 - EPH / VPH

**Prep Methods**

3005A - Aqueous ICP and Graphite Furnace Digestion  
3020A - Aqueous ICP MS Digestion  
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion  
3060A - Solid Hexavalent Chromium Digestion  
3510C - Separatory Funnel Extraction  
3520C - Liquid / Liquid Extraction  
3540C - Manual Soxhlet Extraction  
3541 - Automated Soxhlet Extraction  
3546 - Microwave Extraction  
3580A - Waste Dilution  
5030B - Aqueous Purge and Trap  
5030C - Aqueous Purge and Trap  
5035 - Solid Purge and Trap





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Basement Sump  
Date Sampled: 04/22/15 16:40  
Percent Solids: N/A

ESS Laboratory Work Order: 1504546  
ESS Laboratory Sample ID: 1504546-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | B 5000 (20.0)        |            | 6010C         |              | 1         | KJK            | 04/24/15 21:54  | 50         | 10         | CD52405      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 05/01/15 1:29   | 50         | 10         | CD52405      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Basement Sump  
Date Sampled: 04/22/15 16:40  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1504546  
ESS Laboratory Sample ID: 1504546-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             | 0.2        | 8260B         |              | 1         | 04/24/15 17:48  | CYD0348         | CD52434      |
| Tertiary-butyl Alcohol     | ND (25.0)            | 10.0       | 8260B         |              | 1         | 04/24/15 17:48  | CYD0348         | CD52434      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>110 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>109 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>117 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Basement Sump  
Date Sampled: 04/22/15 16:40  
Percent Solids: N/A

ESS Laboratory Work Order: 1504546  
ESS Laboratory Sample ID: 1504546-01  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 744 (250)            |            | 300.0         |              | 500       | EEM            | 04/28/15 20:02  | mg/L         | CD52816      |
| Total Petroleum Hydrocarbon | ND (5)               |            | 1664A         |              | 1         | JLK            | 04/25/15 15:33  | mg/L         | CD52504      |
| Total Residual Chlorine     | HT ND (10)           |            | 4500-Cl E     |              | 1         | JLK            | 04/23/15 18:07  | ug/L         | CD52340      |
| Total Suspended Solids      | 12 (5)               |            | 2540D         |              | 1         | EEM            | 04/27/15 16:30  | mg/L         | CD52715      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Basement Sump  
Date Sampled: 04/22/15 16:40  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1504546  
ESS Laboratory Sample ID: 1504546-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: JXS  
Prepared: 4/27/15 17:20

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | JXS            | 04/27/15 18:42  |                 | CD52733      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 109 %            |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Trip Blank  
Date Sampled: 04/22/15 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1504546  
ESS Laboratory Sample ID: 1504546-02  
Sample Matrix: Aqueous  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             | 0.2        | 8260B         |              | 1         | 04/24/15 15:16  | CYD0348         | CD52434      |
| Tertiary-butyl Alcohol     | ND (25.0)            | 10.0       | 8260B         |              | 1         | 04/24/15 15:16  | CYD0348         | CD52434      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>127 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>113 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>126 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>112 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**Total Metals**

**Batch CD52405 - 3005A/200.7**

**Blank**

|      |    |      |      |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|
| Iron | ND | 50.0 | ug/L |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|

**Blank**

|      |      |      |      |  |  |  |  |  |  |  |
|------|------|------|------|--|--|--|--|--|--|--|
| Iron | 55.5 | 20.0 | ug/L |  |  |  |  |  |  |  |
| Lead | ND   | 1.0  | ug/L |  |  |  |  |  |  |  |

**LCS**

|      |      |      |      |       |  |    |        |  |  |  |
|------|------|------|------|-------|--|----|--------|--|--|--|
| Iron | 1110 | 50.0 | ug/L | 1250  |  | 88 | 80-120 |  |  |  |
| Lead | 239  | 50.0 | ug/L | 250.0 |  | 96 | 80-120 |  |  |  |

**LCS Dup**

|      |      |      |      |       |  |     |        |     |    |  |
|------|------|------|------|-------|--|-----|--------|-----|----|--|
| Iron | 1100 | 50.0 | ug/L | 1250  |  | 88  | 80-120 | 0.8 | 20 |  |
| Lead | 250  | 50.0 | ug/L | 250.0 |  | 100 | 80-120 | 4   | 20 |  |

**8260B Volatile Organic Compounds**

**Batch CD52434 - 5030B**

**Blank**

|                            |    |      |      |  |  |  |  |  |  |  |
|----------------------------|----|------|------|--|--|--|--|--|--|--|
| Tertiary-amyl methyl ether | ND | 1.0  | ug/L |  |  |  |  |  |  |  |
| Tertiary-amyl methyl ether | ND | 1.0  | ug/L |  |  |  |  |  |  |  |
| Tertiary-butyl Alcohol     | ND | 25.0 | ug/L |  |  |  |  |  |  |  |
| Tertiary-butyl Alcohol     | ND | 25.0 | ug/L |  |  |  |  |  |  |  |

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 1,2-Dichloroethane-d4 | 31.4 |  | ug/L | 25.00 |  | 125 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 31.4 |  | ug/L | 25.00 |  | 125 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 27.4 |  | ug/L | 25.00 |  | 110 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 27.4 |  | ug/L | 25.00 |  | 110 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 30.0 |  | ug/L | 25.00 |  | 120 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 30.0 |  | ug/L | 25.00 |  | 120 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 27.6 |  | ug/L | 25.00 |  | 110 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 27.6 |  | ug/L | 25.00 |  | 110 | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82  | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 46.9 |  | ug/L | 50.00 |  | 94  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 46.9 |  | ug/L | 50.00 |  | 94  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 28.7 |  | ug/L | 25.00 |  | 115 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 28.7 |  | ug/L | 25.00 |  | 115 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 31.5 |  | ug/L | 25.00 |  | 126 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 31.5 |  | ug/L | 25.00 |  | 126 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 28.2 |  | ug/L | 25.00 |  | 113 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 28.2 |  | ug/L | 25.00 |  | 113 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 30.6 |  | ug/L | 25.00 |  | 122 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 30.6 |  | ug/L | 25.00 |  | 122 | 70-130 |  |  |  |

**LCS Dup**

|                            |      |  |      |       |  |    |        |     |    |  |
|----------------------------|------|--|------|-------|--|----|--------|-----|----|--|
| Tertiary-amyl methyl ether | 8.0  |  | ug/L | 10.00 |  | 80 | 70-130 | 2   | 25 |  |
| Tertiary-amyl methyl ether | 8.0  |  | ug/L | 10.00 |  | 80 | 70-130 | 2   | 25 |  |
| Tertiary-butyl Alcohol     | 46.5 |  | ug/L | 50.00 |  | 93 | 70-130 | 0.8 | 25 |  |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CD52434 - 5030B**

|                                  |      |  |      |       |  |     |        |     |    |  |
|----------------------------------|------|--|------|-------|--|-----|--------|-----|----|--|
| Tertiary-butyl Alcohol           | 46.5 |  | ug/L | 50.00 |  | 93  | 70-130 | 0.8 | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 29.1 |  | ug/L | 25.00 |  | 116 | 70-130 |     |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 29.1 |  | ug/L | 25.00 |  | 116 | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 31.1 |  | ug/L | 25.00 |  | 124 | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 31.1 |  | ug/L | 25.00 |  | 124 | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 28.4 |  | ug/L | 25.00 |  | 114 | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 28.4 |  | ug/L | 25.00 |  | 114 | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 30.4 |  | ug/L | 25.00 |  | 121 | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 30.4 |  | ug/L | 25.00 |  | 121 | 70-130 |     |    |  |

**Classical Chemistry**

**Batch CD52340 - General Preparation**

**Blank**

|                         |    |    |      |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|
| Total Residual Chlorine | ND | 10 | ug/L |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|

**LCS**

|                         |   |  |      |        |  |    |        |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|
| Total Residual Chlorine | 1 |  | mg/L | 0.9960 |  | 99 | 85-115 |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|

**Batch CD52504 - General Preparation**

**Blank**

|                             |    |   |      |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Petroleum Hydrocarbon | ND | 5 | mg/L |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                             |    |   |      |       |  |    |        |  |  |  |
|-----------------------------|----|---|------|-------|--|----|--------|--|--|--|
| Total Petroleum Hydrocarbon | 18 | 5 | mg/L | 19.38 |  | 95 | 66-114 |  |  |  |
|-----------------------------|----|---|------|-------|--|----|--------|--|--|--|

**Batch CD52715 - General Preparation**

**Blank**

|                        |    |   |      |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Suspended Solids | ND | 5 | mg/L |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                        |    |  |      |       |  |    |        |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|
| Total Suspended Solids | 62 |  | mg/L | 68.80 |  | 90 | 80-120 |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|

**Batch CD52816 - General Preparation**

**Blank**

|          |    |     |      |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|
| Chloride | ND | 0.5 | mg/L |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|

**LCS**

|          |     |  |      |       |  |    |        |  |  |  |
|----------|-----|--|------|-------|--|----|--------|--|--|--|
| Chloride | 2.4 |  | mg/L | 2.500 |  | 95 | 90-110 |  |  |  |
|----------|-----|--|------|-------|--|----|--------|--|--|--|

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

**Batch CD52733 - 504/8011**

**Blank**

|                   |    |       |      |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|
| 1,2-Dibromoethane | ND | 0.015 | ug/L |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|

*Surrogate: Pentachloroethane*

0.199 ug/L 0.2000 100 30-150

**LCS**

|                   |       |       |      |        |  |     |        |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane | 0.206 | 0.015 | ug/L | 0.2000 |  | 103 | 60-140 |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|

*Surrogate: Pentachloroethane*

0.177 ug/L 0.2000 88 30-150



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike<br>Level | Source<br>Result | %REC | %REC<br>Limits | RPD | RPD<br>Limit | Qualifier |
|---------|--------|-----|-------|----------------|------------------|------|----------------|-----|--------------|-----------|
|---------|--------|-----|-------|----------------|------------------|------|----------------|-----|--------------|-----------|

8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

**Batch CD52733 - 504/8011**

**LCS**

|                   |       |       |      |         |  |     |        |  |  |  |
|-------------------|-------|-------|------|---------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane | 0.095 | 0.015 | ug/L | 0.08000 |  | 119 | 60-140 |  |  |  |
|-------------------|-------|-------|------|---------|--|-----|--------|--|--|--|

|                              |        |  |      |         |  |     |        |  |  |  |
|------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|
| Surrogate: Pentachloroethane | 0.0811 |  | ug/L | 0.08000 |  | 101 | 30-150 |  |  |  |
|------------------------------|--------|--|------|---------|--|-----|--------|--|--|--|





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**Notes and Definitions**

|        |                                                                                                                                         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| U      | Analyte included in the analysis, but not detected                                                                                      |
| HT     | The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes. |
| D      | Diluted.                                                                                                                                |
| B      | Present in Method Blank (B).                                                                                                            |
| ND     | Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes                                         |
| dry    | Sample results reported on a dry weight basis                                                                                           |
| RPD    | Relative Percent Difference                                                                                                             |
| MDL    | Method Detection Limit                                                                                                                  |
| MRL    | Method Reporting Limit                                                                                                                  |
| LOD    | Limit of Detection                                                                                                                      |
| LOQ    | Limit of Quantitation                                                                                                                   |
| DL     | Detection Limit                                                                                                                         |
| I/V    | Initial Volume                                                                                                                          |
| F/V    | Final Volume                                                                                                                            |
| §      | Subcontracted analysis; see attached report                                                                                             |
| 1      | Range result excludes concentrations of surrogates and/or internal standards eluting in that range.                                     |
| 2      | Range result excludes concentrations of target analytes eluting in that range.                                                          |
| 3      | Range result excludes the concentration of the C9-C10 aromatic range.                                                                   |
| Avg    | Results reported as a mathematical average.                                                                                             |
| NR     | No Recovery                                                                                                                             |
| [CALC] | Calculated Analyte                                                                                                                      |
| SUB    | Subcontracted analysis; see attached report                                                                                             |
| [2C]   | Result was taken from the second column. Dual column analysis.                                                                          |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1504546

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

# Sample and Cooler Receipt Checklist

Attachment B  
SOP 10\_0001

Client: Sovereign Consulting

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ~~ESS Courier~~ Client

ESS Project ID: 15040546

Date Project Due: 4/30/15

Days For Project: 5 Day

## Items to be checked upon receipt:

EH 4/27/15

1. Air Bill Manifest Present?

Air No.:

\* No

10. Are the samples properly preserved?

Yes

2. Were Custody Seals Present?

No

11. Proper sample containers used?

Yes

3. Were Custody Seals Intact?

N/A

12. Any air bubbles in the VOA vials?

No

4. Is Radiation count < 100 CPM?

Yes

13. Holding times exceeded?

No

5. Is a cooler present?

Yes

14. Sufficient sample volumes?

Yes

Cooler Temp: 2.2

15. Any Subcontracting needed?

No

Iced With: Ice

16. Are ESS labels on correct containers? Yes/No

17. Were samples received intact?

Yes/No

6. Was COC included with samples?

Yes

ESS Sample IDs: \_\_\_\_\_

7. Was COC signed and dated by client?

Yes

Sub Lab: \_\_\_\_\_

8. Does the COC match the sample

Yes

Analysis: \_\_\_\_\_

9. Is COC complete and correct?

Yes

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 1             | Yes                | 1 L Plastic    | 1               | NP           |
| 1             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 1             | Yes                | 40 ml - VOA    | 6               | HCL          |
| 2             | Yes                | 40 ml - VOA    | 1               | HCL          |

Completed By: [Signature]

Date/Time: 4/23/15 1704

Reviewed By: [Signature]

Date/Time: 4/23/15 1710





*CERTIFICATE OF ANALYSIS*

Bethany Mong  
Sovereign Consulting, Inc.  
16 Chestnut Street, Suite 520  
Foxborough, MA 02035

**RE: Brockton 620 Belmont St - RGP (C0050)**  
**ESS Laboratory Work Order Number: 1505701**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 12:01 pm, Jun 10, 2015**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**SAMPLE RECEIPT**

The following samples were received on May 29, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2010 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

**Revision 1 June 10, 2015: This report has been revised to include VPH Targets.**

| <u>Lab Number</u> | <u>Sample Name</u> | <u>Matrix</u> | <u>Analysis</u>                                                           |
|-------------------|--------------------|---------------|---------------------------------------------------------------------------|
| 1505701-01        | Influent           | Ground Water  | 1664A, 2540D, 300.0, 4500-Cl E, 6010C, 7010, 8011, 8260B, MADEP-VPH       |
| 1505701-02        | Effluent           | Ground Water  | 1664A, 2540D, 300.0, 4500-Cl E, 6010C, 7010, 8011, 8260B, 9040, MADEP-VPH |
| 1505701-03        | Trip Blank         | Aqueous       | 8260B                                                                     |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**PROJECT NARRATIVE**

**Classical Chemistry**

1505701-01 The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

1505701-02 The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

**Total Metals**

CF50125-BSD2 Blank Spike recovery is below lower control limit (B-).  
Iron (74% @ 80-120%)

CF50125-BSD2 Relative percent difference for duplicate is outside of criteria (D+).  
Iron (30% @ 20%)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

1010A - Flashpoint  
6010C - ICP  
6020A - ICP MS  
7010 - Graphite Furnace  
7196A - Hexavalent Chromium  
7470A - Aqueous Mercury  
7471B - Solid Mercury  
8011 - EDB/DBCP/TCP  
8015D - GRO/DRO  
8081B - Pesticides  
8082A - PCB  
8100M - TPH  
8151A - Herbicides  
8260B - VOA  
8270D - SVOA  
8270D SIM - SVOA Low Level  
9014 - Cyanide  
9038 - Sulfate  
9040C - Aqueous pH  
9045D - Solid pH (Corrosivity)  
9050A - Specific Conductance  
9056A - Anions (IC)  
9060A - TOC  
9095B - Paint Filter  
MADEP 04-1.1 - EPH / VPH

**Prep Methods**

3005A - Aqueous ICP Digestion  
3020A - Aqueous Graphite Furnace / ICP MS Digestion  
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion  
3060A - Solid Hexavalent Chromium Digestion  
3510C - Separatory Funnel Extraction  
3520C - Liquid / Liquid Extraction  
3540C - Manual Soxhlet Extraction  
3541 - Automated Soxhlet Extraction  
3546 - Microwave Extraction  
3580A - Waste Dilution  
5030B - Aqueous Purge and Trap  
5030C - Aqueous Purge and Trap  
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 05/29/15 10:55  
Percent Solids: N/A

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | 8180 (20.0)          |            | 6010C         |              | 1         | KJK            | 06/02/15 0:52   | 50         | 10         | CF50125      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | JP             | 06/02/15 0:47   | 50         | 10         | CF50125      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 05/29/15 10:55  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/02/15 13:44  | CYF0021         | CF50232      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/02/15 13:44  | CYF0021         | CF50232      |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 81 %             |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 90 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 93 %             |                  | 70-130        |
| Surrogate: Toluene-d8            | 87 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 05/29/15 10:55  
Percent Solids: N/A

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-01  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 706 (250)            |            | 300.0         |              | 500       | EEM            | 06/03/15 14:07  | mg/L         | CF50317      |
| Total Petroleum Hydrocarbon | ND (5)               |            | 1664A         |              | 1         | MJV            | 06/03/15 10:44  | mg/L         | CF50216      |
| Total Residual Chlorine     | ND (10)              |            | 4500-Cl E     |              | 1         | EEM            | 05/29/15 18:15  | ug/L         | CE52949      |
| Total Suspended Solids      | ND (5)               |            | 2540D         |              | 1         | EEM            | 05/29/15 18:05  | mg/L         | CE52926      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 05/29/15 10:55  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | 708 (100)            |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| C5-C8 Aliphatics1,2     | 1030 (150)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | 627 (150)            |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  |                 | [CALC]       |
| Benzene                 | 41.7 (1.5)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Ethylbenzene            | 188 (5.0)            |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Methyl tert-Butyl Ether | 6.7 (1.5)            |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Naphthalene             | 33.7 (5.0)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Toluene                 | 57.9 (5.0)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Xylene O                | 63.4 (5.0)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Xylene P,M              | 351 (10.0)           |            | MADEP-VPH     |              | 1         | 06/01/15 19:20  | CYF0004         | CF50131      |
| Preservative:           | pH <= 2              |            | MADEP-VPH     |              |           |                 |                 | CF50131      |

|                                     | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------------|------------------|------------------|---------------|
| Surrogate: 2,5-Dibromotoluene - FID | 126 %            |                  | 70-130        |
| Surrogate: 2,5-Dibromotoluene - PID | 121 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 05/29/15 10:55  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ML  
Prepared: 6/1/15 16:45

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | ML             | 06/01/15 17:50  |                 | CF50128      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 88 %             |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 05/29/15 14:25  
Percent Solids: N/A

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-02  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | ND (20.0)            |            | 6010C         |              | 1         | KJK            | 06/02/15 0:57   | 50         | 10         | CF50125      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 06/03/15 23:44  | 50         | 10         | CF50125      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 05/29/15 14:25  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/03/15 13:01  | CYF0053         | CF50331      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/03/15 13:01  | CYF0053         | CF50331      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 80 %             |                  | 70-130        |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 81 %             |                  | 70-130        |
| <i>Surrogate: Dibromofluoromethane</i>  | 88 %             |                  | 70-130        |
| <i>Surrogate: Toluene-d8</i>            | 88 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 05/29/15 14:25  
Percent Solids: N/A

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-02  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u>                           | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|------------------------------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 704 (250)                                      |            | 300.0         |              | 500       | EEM            | 06/03/15 14:23  | mg/L         | CF50317      |
| pH                          | 6.91 (N/A)                                     |            | 9040          |              | 1         | MJV            | 05/29/15 18:06  | S.U.         | CE52950      |
| pH Sample Temp              | Aqueous pH measured in water at 13.3 °C. (N/A) |            |               |              |           |                |                 |              |              |
| Total Petroleum Hydrocarbon | ND (5)                                         |            | 1664A         |              | 1         | MJV            | 06/03/15 10:44  | mg/L         | CF50216      |
| Total Residual Chlorine     | ND (10)                                        |            | 4500-Cl E     |              | 1         | EEM            | 05/29/15 18:15  | ug/L         | CE52949      |
| Total Suspended Solids      | ND (5)                                         |            | 2540D         |              | 1         | EEM            | 05/29/15 18:05  | mg/L         | CE52926      |





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 05/29/15 14:25  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | ND (100)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| C5-C8 Aliphatics1,2     | ND (150)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | ND (150)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  |                 | [CALC]       |
| Benzene                 | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Ethylbenzene            | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Methyl tert-Butyl Ether | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Naphthalene             | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Toluene                 | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Xylene O                | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| Xylene P,M              | ND (10.0)            |            | MADEP-VPH     |              | 1         | 06/01/15 18:46  | CYF0004         | CF50131      |
| <b>Preservative:</b>    | <b>pH &lt;= 2</b>    |            | MADEP-VPH     |              |           |                 |                 | CF50131      |

|                                            | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>113 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>107 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 05/29/15 14:25  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ML  
Prepared: 6/1/15 16:45

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | ML             | 06/01/15 19:43  |                 | CF50128      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 99 %             |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Trip Blank  
Date Sampled: 05/29/15 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1505701  
ESS Laboratory Sample ID: 1505701-03  
Sample Matrix: Aqueous  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane          | ND (1.0)             |            | 8260B         |              | 1         | 06/01/15 14:45  | CYF0001         | CF50120      |
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/01/15 14:45  | CYF0001         | CF50120      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/01/15 14:45  | CYF0001         | CF50120      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>88 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>84 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>98 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>88 %</i>      |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**Total Metals**

**Batch CF50125 - 3005A/200.7**

**Blank**

|      |    |      |      |
|------|----|------|------|
| Iron | ND | 50.0 | ug/L |
|------|----|------|------|

**Blank**

|      |    |      |      |
|------|----|------|------|
| Iron | ND | 20.0 | ug/L |
| Lead | ND | 1.0  | ug/L |

**LCS**

|      |      |      |      |      |    |        |
|------|------|------|------|------|----|--------|
| Iron | 1240 | 50.0 | ug/L | 1250 | 99 | 80-120 |
|------|------|------|------|------|----|--------|

**LCS**

|      |     |      |      |       |     |        |
|------|-----|------|------|-------|-----|--------|
| Iron | 503 | 20.0 | ug/L | 500.0 | 101 | 80-120 |
| Lead | 105 | 20.0 | ug/L | 100.0 | 105 | 80-120 |

**LCS Dup**

|      |      |      |      |      |     |        |   |    |
|------|------|------|------|------|-----|--------|---|----|
| Iron | 1250 | 50.0 | ug/L | 1250 | 100 | 80-120 | 1 | 20 |
|------|------|------|------|------|-----|--------|---|----|

**LCS Dup**

|      |      |      |      |       |    |        |    |    |        |
|------|------|------|------|-------|----|--------|----|----|--------|
| Iron | 370  | 20.0 | ug/L | 500.0 | 74 | 80-120 | 30 | 20 | B-, D+ |
| Lead | 89.5 | 20.0 | ug/L | 100.0 | 90 | 80-120 | 16 | 20 |        |

**8260B Volatile Organic Compounds**

**Batch CF50120 - 5030B**

**Blank**

|                                  |      |      |      |       |    |        |
|----------------------------------|------|------|------|-------|----|--------|
| 1,2-Dibromoethane                | ND   | 1.0  | ug/L |       |    |        |
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |    |        |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |    |        |
| Surrogate: 1,2-Dichloroethane-d4 | 21.6 |      | ug/L | 25.00 | 86 | 70-130 |
| Surrogate: 4-Bromofluorobenzene  | 19.9 |      | ug/L | 25.00 | 80 | 70-130 |
| Surrogate: Dibromofluoromethane  | 23.6 |      | ug/L | 25.00 | 95 | 70-130 |
| Surrogate: Toluene-d8            | 21.3 |      | ug/L | 25.00 | 85 | 70-130 |

**LCS**

|                                  |      |  |      |       |     |        |
|----------------------------------|------|--|------|-------|-----|--------|
| 1,2-Dibromoethane                | 9.0  |  | ug/L | 10.00 | 90  | 70-130 |
| Tertiary-amyl methyl ether       | 8.4  |  | ug/L | 10.00 | 84  | 70-130 |
| Tertiary-butyl Alcohol           | 43.7 |  | ug/L | 50.00 | 87  | 70-130 |
| Surrogate: 1,2-Dichloroethane-d4 | 22.7 |  | ug/L | 25.00 | 91  | 70-130 |
| Surrogate: 4-Bromofluorobenzene  | 21.3 |  | ug/L | 25.00 | 85  | 70-130 |
| Surrogate: Dibromofluoromethane  | 25.0 |  | ug/L | 25.00 | 100 | 70-130 |
| Surrogate: Toluene-d8            | 22.1 |  | ug/L | 25.00 | 88  | 70-130 |

**LCS Dup**

|                                  |      |  |      |       |     |        |     |    |
|----------------------------------|------|--|------|-------|-----|--------|-----|----|
| 1,2-Dibromoethane                | 9.6  |  | ug/L | 10.00 | 96  | 70-130 | 6   | 25 |
| Tertiary-amyl methyl ether       | 8.4  |  | ug/L | 10.00 | 84  | 70-130 | 0.1 | 25 |
| Tertiary-butyl Alcohol           | 38.5 |  | ug/L | 50.00 | 77  | 70-130 | 13  | 25 |
| Surrogate: 1,2-Dichloroethane-d4 | 22.4 |  | ug/L | 25.00 | 90  | 70-130 |     |    |
| Surrogate: 4-Bromofluorobenzene  | 21.0 |  | ug/L | 25.00 | 84  | 70-130 |     |    |
| Surrogate: Dibromofluoromethane  | 24.9 |  | ug/L | 25.00 | 100 | 70-130 |     |    |
| Surrogate: Toluene-d8            | 21.8 |  | ug/L | 25.00 | 87  | 70-130 |     |    |

**Batch CF50232 - 5030B**



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CF50232 - 5030B**

**Blank**

|                                  |      |      |      |       |  |    |        |  |  |  |
|----------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |    |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |    |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 21.8 |      | ug/L | 25.00 |  | 87 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 20.8 |      | ug/L | 25.00 |  | 83 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 23.9 |      | ug/L | 25.00 |  | 96 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 22.3 |      | ug/L | 25.00 |  | 89 | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 43.2 |  | ug/L | 50.00 |  | 86  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 23.6 |  | ug/L | 25.00 |  | 94  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 22.0 |  | ug/L | 25.00 |  | 88  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 25.2 |  | ug/L | 25.00 |  | 101 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 23.0 |  | ug/L | 25.00 |  | 92  | 70-130 |  |  |  |

**LCS Dup**

|                                  |      |  |      |       |  |     |        |     |    |  |
|----------------------------------|------|--|------|-------|--|-----|--------|-----|----|--|
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82  | 70-130 | 0.1 | 25 |  |
| Tertiary-butyl Alcohol           | 40.2 |  | ug/L | 50.00 |  | 80  | 70-130 | 7   | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 23.6 |  | ug/L | 25.00 |  | 94  | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 20.4 |  | ug/L | 25.00 |  | 81  | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 26.0 |  | ug/L | 25.00 |  | 104 | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 22.0 |  | ug/L | 25.00 |  | 88  | 70-130 |     |    |  |

**Batch CF50331 - 5030B**

**Blank**

|                                  |      |      |      |       |  |    |        |  |  |  |
|----------------------------------|------|------|------|-------|--|----|--------|--|--|--|
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |    |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |    |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 21.3 |      | ug/L | 25.00 |  | 85 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 20.2 |      | ug/L | 25.00 |  | 81 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 22.8 |      | ug/L | 25.00 |  | 91 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 21.9 |      | ug/L | 25.00 |  | 88 | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |    |        |  |  |  |
|----------------------------------|------|--|------|-------|--|----|--------|--|--|--|
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82 | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 42.7 |  | ug/L | 50.00 |  | 85 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 23.1 |  | ug/L | 25.00 |  | 92 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 20.4 |  | ug/L | 25.00 |  | 82 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.7 |  | ug/L | 25.00 |  | 99 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 21.8 |  | ug/L | 25.00 |  | 87 | 70-130 |  |  |  |

**LCS Dup**

|                                  |      |  |      |       |  |    |        |   |    |  |
|----------------------------------|------|--|------|-------|--|----|--------|---|----|--|
| Tertiary-amyl methyl ether       | 8.4  |  | ug/L | 10.00 |  | 84 | 70-130 | 2 | 25 |  |
| Tertiary-butyl Alcohol           | 41.5 |  | ug/L | 50.00 |  | 83 | 70-130 | 3 | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 22.1 |  | ug/L | 25.00 |  | 88 | 70-130 |   |    |  |
| Surrogate: 4-Bromofluorobenzene  | 21.7 |  | ug/L | 25.00 |  | 87 | 70-130 |   |    |  |
| Surrogate: Dibromofluoromethane  | 24.3 |  | ug/L | 25.00 |  | 97 | 70-130 |   |    |  |
| Surrogate: Toluene-d8            | 22.5 |  | ug/L | 25.00 |  | 90 | 70-130 |   |    |  |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

Classical Chemistry

**Batch CE52926 - General Preparation**

**Blank**

|                        |    |   |      |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Suspended Solids | ND | 5 | mg/L |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                        |    |  |      |       |  |    |        |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|
| Total Suspended Solids | 66 |  | mg/L | 68.80 |  | 96 | 80-120 |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|

**Batch CE52949 - General Preparation**

**Blank**

|                         |    |    |      |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|
| Total Residual Chlorine | ND | 10 | ug/L |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|

**LCS**

|                         |   |  |      |        |  |    |        |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|
| Total Residual Chlorine | 1 |  | mg/L | 0.9960 |  | 98 | 85-115 |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|

**Batch CF50216 - General Preparation**

**Blank**

|                             |    |   |      |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Petroleum Hydrocarbon | ND | 5 | mg/L |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                             |    |   |      |       |  |     |        |  |  |  |
|-----------------------------|----|---|------|-------|--|-----|--------|--|--|--|
| Total Petroleum Hydrocarbon | 22 | 5 | mg/L | 19.38 |  | 112 | 66-114 |  |  |  |
|-----------------------------|----|---|------|-------|--|-----|--------|--|--|--|

**Batch CF50317 - General Preparation**

**Blank**

|          |    |     |      |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|
| Chloride | ND | 0.5 | mg/L |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|

**LCS**

|          |     |  |      |       |  |     |        |  |  |  |
|----------|-----|--|------|-------|--|-----|--------|--|--|--|
| Chloride | 2.6 |  | mg/L | 2.500 |  | 103 | 90-110 |  |  |  |
|----------|-----|--|------|-------|--|-----|--------|--|--|--|

MADEP-VPH Volatile Petroleum Hydrocarbon

**Batch CF50131 - 5030B**

**Blank**

|                        |    |     |      |  |  |  |  |  |  |  |
|------------------------|----|-----|------|--|--|--|--|--|--|--|
| 1,2,4-Trimethylbenzene | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|------------------------|----|-----|------|--|--|--|--|--|--|--|

|                        |    |     |      |  |  |  |  |  |  |  |
|------------------------|----|-----|------|--|--|--|--|--|--|--|
| 2,2,4-Trimethylpentane | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|------------------------|----|-----|------|--|--|--|--|--|--|--|

|                 |    |     |      |  |  |  |  |  |  |  |
|-----------------|----|-----|------|--|--|--|--|--|--|--|
| 2-Methylpentane | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|-----------------|----|-----|------|--|--|--|--|--|--|--|

|         |    |     |      |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|
| Benzene | ND | 1.5 | ug/L |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|

|                             |    |     |      |  |  |  |  |  |  |  |
|-----------------------------|----|-----|------|--|--|--|--|--|--|--|
| C5-C8 Unadjusted Aliphatics | ND | 150 | ug/L |  |  |  |  |  |  |  |
|-----------------------------|----|-----|------|--|--|--|--|--|--|--|

|                  |    |     |      |  |  |  |  |  |  |  |
|------------------|----|-----|------|--|--|--|--|--|--|--|
| C9-C10 Aromatics | ND | 100 | ug/L |  |  |  |  |  |  |  |
|------------------|----|-----|------|--|--|--|--|--|--|--|

|                              |    |     |      |  |  |  |  |  |  |  |
|------------------------------|----|-----|------|--|--|--|--|--|--|--|
| C9-C12 Unadjusted Aliphatics | ND | 150 | ug/L |  |  |  |  |  |  |  |
|------------------------------|----|-----|------|--|--|--|--|--|--|--|

|              |    |     |      |  |  |  |  |  |  |  |
|--------------|----|-----|------|--|--|--|--|--|--|--|
| Ethylbenzene | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|--------------|----|-----|------|--|--|--|--|--|--|--|

|                         |    |     |      |  |  |  |  |  |  |  |
|-------------------------|----|-----|------|--|--|--|--|--|--|--|
| Methyl tert-Butyl Ether | ND | 1.5 | ug/L |  |  |  |  |  |  |  |
|-------------------------|----|-----|------|--|--|--|--|--|--|--|

|             |    |     |      |  |  |  |  |  |  |  |
|-------------|----|-----|------|--|--|--|--|--|--|--|
| Naphthalene | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|-------------|----|-----|------|--|--|--|--|--|--|--|

|                    |      |     |      |  |  |  |  |  |  |  |
|--------------------|------|-----|------|--|--|--|--|--|--|--|
| n-Butylcyclohexane | 50.8 | 5.0 | ug/L |  |  |  |  |  |  |  |
|--------------------|------|-----|------|--|--|--|--|--|--|--|

|          |      |     |      |  |  |  |  |  |  |  |
|----------|------|-----|------|--|--|--|--|--|--|--|
| n-Decane | 37.9 | 5.0 | ug/L |  |  |  |  |  |  |  |
|----------|------|-----|------|--|--|--|--|--|--|--|

|             |      |     |      |  |  |  |  |  |  |  |
|-------------|------|-----|------|--|--|--|--|--|--|--|
| Nonane (C9) | 50.5 | 5.0 | ug/L |  |  |  |  |  |  |  |
|-------------|------|-----|------|--|--|--|--|--|--|--|

|         |    |     |      |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|
| Pentane | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|

|         |    |     |      |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|
| Toluene | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|---------|----|-----|------|--|--|--|--|--|--|--|

|          |    |     |      |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|
| Xylene O | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|

|            |    |      |      |  |  |  |  |  |  |  |
|------------|----|------|------|--|--|--|--|--|--|--|
| Xylene P,M | ND | 10.0 | ug/L |  |  |  |  |  |  |  |
|------------|----|------|------|--|--|--|--|--|--|--|

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 53.4 |  | ug/L | 50.00 |  | 107 | 70-130 |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Quality Control Data**

| Analyte                                    | Result      | MRL | Units | Spike Level  | Source Result | %REC       | %REC Limits   | RPD | RPD Limit | Qualifier |
|--------------------------------------------|-------------|-----|-------|--------------|---------------|------------|---------------|-----|-----------|-----------|
| MADEP-VPH Volatile Petroleum Hydrocarbon   |             |     |       |              |               |            |               |     |           |           |
| <b>Batch CF50131 - 5030B</b>               |             |     |       |              |               |            |               |     |           |           |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>50.2</i> |     | ug/L  | <i>50.00</i> |               | <i>100</i> | <i>70-130</i> |     |           |           |
| <b>LCS</b>                                 |             |     |       |              |               |            |               |     |           |           |
| 1,2,4-Trimethylbenzene                     | 94.0        |     | ug/L  | 100.0        |               | 94         | 70-130        |     |           |           |
| 2,2,4-Trimethylpentane                     | 137         |     | ug/L  | 150.0        |               | 92         | 70-130        |     |           |           |
| 2-Methylpentane                            | 148         |     | ug/L  | 150.0        |               | 99         | 70-130        |     |           |           |
| Benzene                                    | 47.0        |     | ug/L  | 50.00        |               | 94         | 70-130        |     |           |           |
| C5-C8 Unadjusted Aliphatics                | 389         |     | ug/L  | 400.0        |               | 97         | 70-130        |     |           |           |
| C9-C10 Aromatics                           | 116         |     | ug/L  | 100.0        |               | 116        | 70-130        |     |           |           |
| C9-C12 Unadjusted Aliphatics               | 241         |     | ug/L  | 300.0        |               | 80         | 70-130        |     |           |           |
| Ethylbenzene                               | 47.1        |     | ug/L  | 50.00        |               | 94         | 70-130        |     |           |           |
| Methyl tert-Butyl Ether                    | 142         |     | ug/L  | 150.0        |               | 94         | 70-130        |     |           |           |
| Naphthalene                                | 90.9        |     | ug/L  | 100.0        |               | 91         | 70-130        |     |           |           |
| n-Butylcyclohexane                         | 95.3        |     | ug/L  | 100.0        |               | 95         | 70-130        |     |           |           |
| n-Decane                                   | 98.1        |     | ug/L  | 100.0        |               | 98         | 70-130        |     |           |           |
| Nonane (C9)                                | 95.8        |     | ug/L  | 100.0        |               | 96         | 30-130        |     |           |           |
| Pentane                                    | 105         |     | ug/L  | 100.0        |               | 105        | 70-130        |     |           |           |
| Toluene                                    | 144         |     | ug/L  | 150.0        |               | 96         | 70-130        |     |           |           |
| Xylene O                                   | 91.9        |     | ug/L  | 100.0        |               | 92         | 70-130        |     |           |           |
| Xylene P,M                                 | 188         |     | ug/L  | 200.0        |               | 94         | 70-130        |     |           |           |
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>53.5</i> |     | ug/L  | <i>50.00</i> |               | <i>107</i> | <i>70-130</i> |     |           |           |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>51.2</i> |     | ug/L  | <i>50.00</i> |               | <i>102</i> | <i>70-130</i> |     |           |           |
| <b>LCS Dup</b>                             |             |     |       |              |               |            |               |     |           |           |
| 1,2,4-Trimethylbenzene                     | 96.4        |     | ug/L  | 100.0        |               | 96         | 70-130        | 3   | 25        |           |
| 2,2,4-Trimethylpentane                     | 170         |     | ug/L  | 150.0        |               | 113        | 70-130        | 21  | 25        |           |
| 2-Methylpentane                            | 155         |     | ug/L  | 150.0        |               | 103        | 70-130        | 4   | 25        |           |
| Benzene                                    | 47.1        |     | ug/L  | 50.00        |               | 94         | 70-130        | 0.4 | 25        |           |
| C5-C8 Unadjusted Aliphatics                | 431         |     | ug/L  | 400.0        |               | 108        | 70-130        | 10  | 25        |           |
| C9-C10 Aromatics                           | 121         |     | ug/L  | 100.0        |               | 121        | 70-130        | 4   | 25        |           |
| C9-C12 Unadjusted Aliphatics               | 255         |     | ug/L  | 300.0        |               | 85         | 70-130        | 6   | 25        |           |
| Ethylbenzene                               | 47.5        |     | ug/L  | 50.00        |               | 95         | 70-130        | 0.8 | 25        |           |
| Methyl tert-Butyl Ether                    | 142         |     | ug/L  | 150.0        |               | 95         | 70-130        | 0.2 | 25        |           |
| Naphthalene                                | 97.1        |     | ug/L  | 100.0        |               | 97         | 70-130        | 7   | 25        |           |
| n-Butylcyclohexane                         | 98.2        |     | ug/L  | 100.0        |               | 98         | 70-130        | 3   | 25        |           |
| n-Decane                                   | 100         |     | ug/L  | 100.0        |               | 100        | 70-130        | 2   | 25        |           |
| Nonane (C9)                                | 101         |     | ug/L  | 100.0        |               | 101        | 30-130        | 5   | 25        |           |
| Pentane                                    | 110         |     | ug/L  | 100.0        |               | 110        | 70-130        | 5   | 25        |           |
| Toluene                                    | 145         |     | ug/L  | 150.0        |               | 97         | 70-130        | 1   | 25        |           |
| Xylene O                                   | 94.0        |     | ug/L  | 100.0        |               | 94         | 70-130        | 2   | 25        |           |
| Xylene P,M                                 | 191         |     | ug/L  | 200.0        |               | 96         | 70-130        | 1   | 25        |           |
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>60.9</i> |     | ug/L  | <i>50.00</i> |               | <i>122</i> | <i>70-130</i> |     |           |           |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>57.5</i> |     | ug/L  | <i>50.00</i> |               | <i>115</i> | <i>70-130</i> |     |           |           |

8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane

**Batch CF50128 - 504/8011**

**Blank**

|                   |    |       |      |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|
| 1,2-Dibromoethane | ND | 0.015 | ug/L |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|

Surrogate: Pentachloroethane

0.187 ug/L 0.2000 94 30-150

**LCS**

|                   |       |       |      |        |  |     |        |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane | 0.233 | 0.015 | ug/L | 0.2000 |  | 117 | 60-140 |  |  |  |
|-------------------|-------|-------|------|--------|--|-----|--------|--|--|--|

Surrogate: Pentachloroethane

0.213 ug/L 0.2000 106 30-150

**LCS**

|                   |       |       |      |         |  |     |        |  |  |  |
|-------------------|-------|-------|------|---------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane | 0.102 | 0.015 | ug/L | 0.08000 |  | 128 | 60-140 |  |  |  |
|-------------------|-------|-------|------|---------|--|-----|--------|--|--|--|

Surrogate: Pentachloroethane

0.0872 ug/L 0.08000 109 30-150





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**Notes and Definitions**

|        |                                                                                                                                         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Z16    | Aqueous pH measured in water at 13.3 °C.                                                                                                |
| Z-06   | pH <= 2                                                                                                                                 |
| U      | Analyte included in the analysis, but not detected                                                                                      |
| HT     | The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes. |
| D+     | Relative percent difference for duplicate is outside of criteria (D+).                                                                  |
| D      | Diluted.                                                                                                                                |
| B-     | Blank Spike recovery is below lower control limit (B-).                                                                                 |
| ND     | Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes                                         |
| dry    | Sample results reported on a dry weight basis                                                                                           |
| RPD    | Relative Percent Difference                                                                                                             |
| MDL    | Method Detection Limit                                                                                                                  |
| MRL    | Method Reporting Limit                                                                                                                  |
| LOD    | Limit of Detection                                                                                                                      |
| LOQ    | Limit of Quantitation                                                                                                                   |
| DL     | Detection Limit                                                                                                                         |
| I/V    | Initial Volume                                                                                                                          |
| F/V    | Final Volume                                                                                                                            |
| §      | Subcontracted analysis; see attached report                                                                                             |
| 1      | Range result excludes concentrations of surrogates and/or internal standards eluting in that range.                                     |
| 2      | Range result excludes concentrations of target analytes eluting in that range.                                                          |
| 3      | Range result excludes the concentration of the C9-C10 aromatic range.                                                                   |
| Avg    | Results reported as a mathematical average.                                                                                             |
| NR     | No Recovery                                                                                                                             |
| [CALC] | Calculated Analyte                                                                                                                      |
| SUB    | Subcontracted analysis; see attached report                                                                                             |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1505701

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01  
<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179  
<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750  
[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002  
<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002  
<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424  
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313  
<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006  
[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752  
[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01  
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)  
<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141  
Lead Paint, Lead in Children's Metals Jewelry  
<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**

Client: Sovereign Consulting

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS CourierESS Project ID: 15050701Date Project Due: ~~6/5/15~~ 6/3/15Days For Project: ~~5 Day~~ 3 Day

eo 6/2/15

**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count &lt; 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 3.9Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ No

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? **Yes|No**17. Were samples received intact? **Yes|No**

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

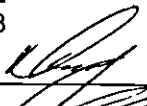
TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 1             | Yes                | 1 L Plastic    | 1               | NP           |
| 1             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 1             | Yes                | 40 ml - VOA    | 12              | HCL          |
| 2             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 2             | Yes                | 1 L Plastic    | 1               | NP           |
| 2             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 2             | Yes                | 40 ml - VOA    | 12              | HCL          |
| 3             | Yes                | 40 ml - VOA    | 2               | HCL          |

Completed By: Date/Time: 5/29/15 1722Reviewed By: Date/Time: 5/29/15 18:00

**Sample and Cooler Receipt Checklist**

Client: Sovereign Consulting

ESS Project ID: 15050701

Client Project ID: \_\_\_\_\_

Date Project Due: 6/5/15Shipped/Delivered Via: ESS CourierDays For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☒ **No**

Air No.:

2. Were Custody Seals Present?

☐ **No**

3. Were Custody Seals Intact?

☐ **N/A**

4. Is Radiation count &lt; 100 CPM?

☐ **Yes**

5. Is a cooler present?

☐ **Yes**Cooler Temp: 3.9Iced With: Ice

6. Was COC included with samples?

☐ **Yes**

7. Was COC signed and dated by client?

☐ **Yes**

8. Does the COC match the sample

☐ **Yes**

9. Is COC complete and correct?

☐ **Yes**

10. Are the samples properly preserved?

☐ **Yes**

11. Proper sample containers used?

☐ **Yes**

12. Any air bubbles in the VOA vials?

☐ **No**

13. Holding times exceeded?

☐ **No**

14. Sufficient sample volumes?

☐ **Yes**

15. Any Subcontracting needed?

☐ **No**16. Are ESS labels on correct containers? **Yes|No**

17. Were samples received intact?

**Yes|No**

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 1             | Yes                | 1 L Plastic    | 1               | NP           |
| 1             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 1             | Yes                | 40 ml - VOA    | 12              | HCL          |
| 2             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 2             | Yes                | 1 L Plastic    | 1               | NP           |
| 2             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 2             | Yes                | 40 ml - VOA    | 12              | HCL          |
| 3             | Yes                | 40 ml - VOA    | 2               | HCL          |

Completed By: Date/Time: 5/29/15 1722Reviewed By: Date/Time: 5/29/15 18:00

# ESS Laboratory

Division of Thielsch Engineering, Inc.  
185 Frances Avenue, Cranston, RI 02910-2211  
Tel. (401) 461-7181 Fax (401) 461-4486  
www.esslaboratory.com

# CHAIN OF CUSTODY

Page 1 of 1

Turn Time \_\_\_\_\_ Standard \_\_\_\_\_ Other 72 hrs  
If faster than 5 days, prior approval by laboratory is required # \_\_\_\_\_  
State where samples were collected from: (MA RI CT NH NJ NY ME Other) \_\_\_\_\_  
Is this project for any of the following: MA-MCP \_\_\_\_\_ USACE \_\_\_\_\_ Other USEPA RGP  
Reporting Limits \_\_\_\_\_  
Electronic Deliverable Yes X No \_\_\_\_\_  
Format: Excel X Access \_\_\_\_\_ PDF X Other \_\_\_\_\_

Co. Name Sovereign Consulting, Inc. Project # 00050 Project Name (20 Char or less) Boulton 620 Belmont St.  
Contact Person Bethany Mung Address 110 Chestnut St. Suite 520  
City Foxborough State MA Zip 01830  
Telephone # 508-339-3200 Fax # 508-339-3248 Email Address bethany@swl.com  
ESS LAB Sample # Date Collection Time MATRIX GRAB COMP Sample Identification (20 Char or less) Pres Code  
1 5/29/15 1055 6W Inflow 3/3/15  
2 5/29/15 1425 6W Effluent 7/3/15  
3 5/29/15 - Trip Blank 2 2

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters  
Cooler Present X Yes No \_\_\_\_\_ Internal Use Only  
Seals Intact Yes No NA: X [ ] Pickup [ ] Technicians \_\_\_\_\_  
Cooler Temp: 3.9°  
Relinquished by: (Signature) Bethany Mung Date/Time 5/29/15 Received by: (Signature) Bethany Mung Date/Time 5/29/15 14:00  
Relinquished by: (Signature) Bethany Mung Date/Time 5/29/15 Received by: (Signature) Bethany Mung Date/Time 5/29/15 1712



*CERTIFICATE OF ANALYSIS*

Bethany Mong  
Sovereign Consulting, Inc.  
16 Chestnut Street, Suite 520  
Foxborough, MA 02035

**RE: Brockton 620 Belmont St - RGP (C0050)**  
**ESS Laboratory Work Order Number: 1506046**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 2:51 pm, Jun 05, 2015**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**SAMPLE RECEIPT**

The following samples were received on June 01, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2010 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

| <b>Lab Number</b> | <b>Sample Name</b> | <b>Matrix</b> | <b>Analysis</b>                                                           |
|-------------------|--------------------|---------------|---------------------------------------------------------------------------|
| 1506046-01        | Influent           | Ground Water  | 1664A, 2540D, 300.0, 4500-C1 E, 6010C, 7010, 8011, 8260B, 9040, MADEP-VPH |
| 1506046-02        | Effluent           | Ground Water  | 1664A, 2540D, 300.0, 4500-C1 E, 6010C, 7010, 8011, 8260B, 9040, MADEP-VPH |
| 1506046-03        | Trip Blank         | Aqueous       | 8260B                                                                     |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**PROJECT NARRATIVE**

**Classical Chemistry**

1506046-01 The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

1506046-02 The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.

**Total Metals**

CF50233-BSD2 Relative percent difference for duplicate is outside of criteria (D+).

Iron (22% @ 20%)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)  
[Semivolatile Organics Internal Standard Information](#)  
[Semivolatile Organics Surrogate Information](#)  
[Volatile Organics Internal Standard Information](#)  
[Volatile Organics Surrogate Information](#)  
[EPH and VPH Alkane Lists](#)





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

1010A - Flashpoint  
6010C - ICP  
6020A - ICP MS  
7010 - Graphite Furnace  
7196A - Hexavalent Chromium  
7470A - Aqueous Mercury  
7471B - Solid Mercury  
8011 - EDB/DBCP/TCP  
8015D - GRO/DRO  
8081B - Pesticides  
8082A - PCB  
8100M - TPH  
8151A - Herbicides  
8260B - VOA  
8270D - SVOA  
8270D SIM - SVOA Low Level  
9014 - Cyanide  
9038 - Sulfate  
9040C - Aqueous pH  
9045D - Solid pH (Corrosivity)  
9050A - Specific Conductance  
9056A - Anions (IC)  
9060A - TOC  
9095B - Paint Filter  
MADEP 04-1.1 - EPH / VPH

**Prep Methods**

3005A - Aqueous ICP Digestion  
3020A - Aqueous Graphite Furnace / ICP MS Digestion  
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion  
3060A - Solid Hexavalent Chromium Digestion  
3510C - Separatory Funnel Extraction  
3520C - Liquid / Liquid Extraction  
3540C - Manual Soxhlet Extraction  
3541 - Automated Soxhlet Extraction  
3546 - Microwave Extraction  
3580A - Waste Dilution  
5030B - Aqueous Purge and Trap  
5030C - Aqueous Purge and Trap  
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/01/15 11:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | 6600 (20.0)          |            | 6010C         |              | 1         | KJK            | 06/03/15 5:09   | 50         | 10         | CF50233      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 06/04/15 21:30  | 50         | 10         | CF50233      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/01/15 11:30  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/04/15 12:04  | CYF0073         | CF50456      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/04/15 12:04  | CYF0073         | CF50456      |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 86 %             |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 89 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 96 %             |                  | 70-130        |
| Surrogate: Toluene-d8            | 86 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/01/15 11:30  
Percent Solids: N/A

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-01  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u>                           | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|------------------------------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 755 (250)                                      |            | 300.0         |              | 500       | EEM            | 06/03/15 16:33  | mg/L         | CF50317      |
| pH                          | 6.12 (N/A)                                     |            | 9040          |              | 1         | MJV            | 06/01/15 18:53  | S.U.         | CF50122      |
| pH Sample Temp              | Aqueous pH measured in water at 13.4 °C. (N/A) |            |               |              |           |                |                 |              |              |
| Total Petroleum Hydrocarbon | ND (5)                                         |            | 1664A         |              | 1         | MJV            | 06/03/15 10:44  | mg/L         | CF50216      |
| Total Residual Chlorine     | ND (10)                                        |            | 4500-Cl E     |              | 1         | EEM            | 06/02/15 10:45  | ug/L         | CF50220      |
| Total Suspended Solids      | 19 (5)                                         |            | 2540D         |              | 1         | EEM            | 06/03/15 18:00  | mg/L         | CF50318      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/01/15 11:30  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | 634 (100)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| C5-C8 Aliphatics1,2     | 844 (150)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | 543 (150)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  |                 | [CALC]       |
| Benzene                 | 45.1 (1.5)           |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Ethylbenzene            | 189 (5.0)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Methyl tert-Butyl Ether | 2.3 (1.5)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Naphthalene             | 33.3 (5.0)           |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Toluene                 | 82.0 (5.0)           |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Xylene O                | 69.8 (5.0)           |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Xylene P,M              | 378 (10.0)           |            | MADEP-VPH     |              | 1         | 06/03/15 18:11  | CYF0046         | CF50325      |
| Preservative:           | pH <= 2              |            | MADEP-VPH     |              |           |                 |                 | CF50325      |

|                                     | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------------|------------------|------------------|---------------|
| Surrogate: 2,5-Dibromotoluene - FID | 130 %            |                  | 70-130        |
| Surrogate: 2,5-Dibromotoluene - PID | 127 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/01/15 11:30  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: JXS  
Prepared: 6/4/15 14:15

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | JXS            | 06/04/15 14:36  |                 | CF50449      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 81 %             |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/01/15 12:15  
Percent Solids: N/A

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-02  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A/200.7

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | 23.0 (20.0)          |            | 6010C         |              | 1         | KJK            | 06/03/15 5:15   | 50         | 10         | CF50233      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 06/04/15 21:36  | 50         | 10         | CF50233      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/01/15 12:15  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/04/15 11:35  | CYF0073         | CF50456      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/04/15 11:35  | CYF0073         | CF50456      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>91 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>83 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>98 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>87 %</i>      |                  | <i>70-130</i> |





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/01/15 12:15  
Percent Solids: N/A

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-02  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u>                           | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|------------------------------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 715 (250)                                      |            | 300.0         |              | 500       | EEM            | 06/03/15 16:49  | mg/L         | CF50317      |
| pH                          | 6.04 (N/A)                                     |            | 9040          |              | 1         | MJV            | 06/01/15 18:53  | S.U.         | CF50122      |
| pH Sample Temp              | Aqueous pH measured in water at 11.5 °C. (N/A) |            |               |              |           |                |                 |              |              |
| Total Petroleum Hydrocarbon | ND (5)                                         |            | 1664A         |              | 1         | MJV            | 06/03/15 10:44  | mg/L         | CF50216      |
| Total Residual Chlorine     | ND (10)                                        |            | 4500-Cl E     |              | 1         | EEM            | 06/02/15 10:45  | ug/L         | CF50220      |
| Total Suspended Solids      | ND (5)                                         |            | 2540D         |              | 1         | EEM            | 06/03/15 18:00  | mg/L         | CF50318      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/01/15 12:15  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | ND (100)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| C5-C8 Aliphatics1,2     | ND (150)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | ND (150)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  |                 | [CALC]       |
| Benzene                 | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Ethylbenzene            | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Methyl tert-Butyl Ether | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Naphthalene             | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Toluene                 | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Xylene O                | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| Xylene P,M              | ND (10.0)            |            | MADEP-VPH     |              | 1         | 06/03/15 18:45  | CYF0046         | CF50325      |
| <b>Preservative:</b>    | <b>pH &lt;= 2</b>    |            | MADEP-VPH     |              |           |                 |                 | CF50325      |

|                                            | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>124 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>128 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/01/15 12:15  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: JXS  
Prepared: 6/4/15 14:15

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | JXS            | 06/04/15 15:13  |                 | CF50449      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 85 %             |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Trip Blank  
Date Sampled: 06/01/15 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506046  
ESS Laboratory Sample ID: 1506046-03  
Sample Matrix: Aqueous  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane          | ND (1.0)             |            | 8260B         |              | 1         | 06/02/15 13:31  | CYF0027         | CF50238      |
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/02/15 13:31  | CYF0027         | CF50238      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/02/15 13:31  | CYF0027         | CF50238      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | <i>95 %</i>      |                  | <i>70-130</i> |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | <i>110 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Dibromofluoromethane</i>  | <i>102 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: Toluene-d8</i>            | <i>108 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**Total Metals**

**Batch CF50233 - 3005A/200.7**

**Blank**

|      |    |      |      |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|
| Iron | ND | 50.0 | ug/L |  |  |  |  |  |  |  |
| Lead | ND | 2.5  | ug/L |  |  |  |  |  |  |  |

**Blank**

|      |    |      |      |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|
| Iron | ND | 20.0 | ug/L |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|

**LCS**

|      |      |      |      |       |  |     |        |  |  |  |
|------|------|------|------|-------|--|-----|--------|--|--|--|
| Iron | 1310 | 50.0 | ug/L | 1250  |  | 105 | 80-120 |  |  |  |
| Lead | 225  | 50.0 | ug/L | 250.0 |  | 90  | 80-120 |  |  |  |

**LCS**

|      |     |      |      |       |  |     |        |  |  |  |
|------|-----|------|------|-------|--|-----|--------|--|--|--|
| Iron | 576 | 20.0 | ug/L | 500.0 |  | 115 | 80-120 |  |  |  |
|------|-----|------|------|-------|--|-----|--------|--|--|--|

**LCS Dup**

|      |      |      |      |       |  |     |        |   |    |  |
|------|------|------|------|-------|--|-----|--------|---|----|--|
| Iron | 1340 | 50.0 | ug/L | 1250  |  | 108 | 80-120 | 2 | 20 |  |
| Lead | 235  | 50.0 | ug/L | 250.0 |  | 94  | 80-120 | 4 | 20 |  |

**LCS Dup**

|      |     |      |      |       |  |    |        |    |    |    |
|------|-----|------|------|-------|--|----|--------|----|----|----|
| Iron | 462 | 20.0 | ug/L | 500.0 |  | 92 | 80-120 | 22 | 20 | D+ |
|------|-----|------|------|-------|--|----|--------|----|----|----|

**8260B Volatile Organic Compounds**

**Batch CF50238 - 5030B**

**Blank**

|                                  |      |      |      |       |  |     |        |  |  |  |
|----------------------------------|------|------|------|-------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane                | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |     |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 24.4 |      | ug/L | 25.00 |  | 97  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 26.6 |      | ug/L | 25.00 |  | 106 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 26.7 |      | ug/L | 25.00 |  | 107 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 27.2 |      | ug/L | 25.00 |  | 109 | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane                | 10.6 |  | ug/L | 10.00 |  | 106 | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 9.5  |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 55.5 |  | ug/L | 50.00 |  | 111 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 25.8 |  | ug/L | 25.00 |  | 103 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 26.0 |  | ug/L | 25.00 |  | 104 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.8 |  | ug/L | 25.00 |  | 99  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 27.5 |  | ug/L | 25.00 |  | 110 | 70-130 |  |  |  |

**LCS Dup**

|                                  |      |  |      |       |  |     |        |    |    |  |
|----------------------------------|------|--|------|-------|--|-----|--------|----|----|--|
| 1,2-Dibromoethane                | 10.2 |  | ug/L | 10.00 |  | 102 | 70-130 | 3  | 25 |  |
| Tertiary-amyl methyl ether       | 9.2  |  | ug/L | 10.00 |  | 92  | 70-130 | 3  | 25 |  |
| Tertiary-butyl Alcohol           | 49.5 |  | ug/L | 50.00 |  | 99  | 70-130 | 11 | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 25.5 |  | ug/L | 25.00 |  | 102 | 70-130 |    |    |  |
| Surrogate: 4-Bromofluorobenzene  | 26.8 |  | ug/L | 25.00 |  | 107 | 70-130 |    |    |  |
| Surrogate: Dibromofluoromethane  | 24.6 |  | ug/L | 25.00 |  | 98  | 70-130 |    |    |  |
| Surrogate: Toluene-d8            | 27.2 |  | ug/L | 25.00 |  | 109 | 70-130 |    |    |  |

**Batch CF50456 - 5030B**



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CF50456 - 5030B**

**Blank**

|                                  |      |      |      |       |  |     |        |  |  |  |
|----------------------------------|------|------|------|-------|--|-----|--------|--|--|--|
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |     |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 22.0 |      | ug/L | 25.00 |  | 88  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 20.7 |      | ug/L | 25.00 |  | 83  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.9 |      | ug/L | 25.00 |  | 100 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 21.9 |      | ug/L | 25.00 |  | 87  | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Tertiary-amyl methyl ether       | 8.2  |  | ug/L | 10.00 |  | 82  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 39.1 |  | ug/L | 50.00 |  | 78  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 23.3 |  | ug/L | 25.00 |  | 93  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 20.8 |  | ug/L | 25.00 |  | 83  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.9 |  | ug/L | 25.00 |  | 100 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 22.3 |  | ug/L | 25.00 |  | 89  | 70-130 |  |  |  |

**LCS Dup**

|                                  |      |  |      |       |  |     |        |     |    |  |
|----------------------------------|------|--|------|-------|--|-----|--------|-----|----|--|
| Tertiary-amyl methyl ether       | 8.3  |  | ug/L | 10.00 |  | 83  | 70-130 | 2   | 25 |  |
| Tertiary-butyl Alcohol           | 39.4 |  | ug/L | 50.00 |  | 79  | 70-130 | 0.8 | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 23.5 |  | ug/L | 25.00 |  | 94  | 70-130 |     |    |  |
| Surrogate: 4-Bromofluorobenzene  | 21.3 |  | ug/L | 25.00 |  | 85  | 70-130 |     |    |  |
| Surrogate: Dibromofluoromethane  | 26.1 |  | ug/L | 25.00 |  | 104 | 70-130 |     |    |  |
| Surrogate: Toluene-d8            | 21.8 |  | ug/L | 25.00 |  | 87  | 70-130 |     |    |  |

**Classical Chemistry**

**Batch CF50216 - General Preparation**

**Blank**

|                             |    |   |      |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Petroleum Hydrocarbon | ND | 5 | mg/L |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                             |    |   |      |       |  |     |        |  |  |  |
|-----------------------------|----|---|------|-------|--|-----|--------|--|--|--|
| Total Petroleum Hydrocarbon | 22 | 5 | mg/L | 19.38 |  | 112 | 66-114 |  |  |  |
|-----------------------------|----|---|------|-------|--|-----|--------|--|--|--|

**Batch CF50220 - General Preparation**

**Blank**

|                         |    |    |      |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|
| Total Residual Chlorine | ND | 10 | ug/L |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|

**LCS**

|                         |   |  |      |        |  |    |        |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|
| Total Residual Chlorine | 1 |  | mg/L | 0.9960 |  | 98 | 85-115 |  |  |  |
|-------------------------|---|--|------|--------|--|----|--------|--|--|--|

**Batch CF50317 - General Preparation**

**Blank**

|          |    |     |      |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|
| Chloride | ND | 0.5 | mg/L |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|

**LCS**

|          |     |  |      |       |  |     |        |  |  |  |
|----------|-----|--|------|-------|--|-----|--------|--|--|--|
| Chloride | 2.6 |  | mg/L | 2.500 |  | 103 | 90-110 |  |  |  |
|----------|-----|--|------|-------|--|-----|--------|--|--|--|

**Batch CF50318 - General Preparation**

**Blank**

|                        |    |   |      |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Suspended Solids | ND | 5 | mg/L |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

Classical Chemistry

**Batch CF50318 - General Preparation**

|                                          |    |  |      |       |  |    |        |  |  |  |
|------------------------------------------|----|--|------|-------|--|----|--------|--|--|--|
| Total Suspended Solids                   | 66 |  | mg/L | 68.80 |  | 96 | 80-120 |  |  |  |
| MADEP-VPH Volatile Petroleum Hydrocarbon |    |  |      |       |  |    |        |  |  |  |

**Batch CF50325 - 5030B**

|                              |      |      |      |  |  |  |  |  |  |  |
|------------------------------|------|------|------|--|--|--|--|--|--|--|
| <b>Blank</b>                 |      |      |      |  |  |  |  |  |  |  |
| 1,2,4-Trimethylbenzene       | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| 2,2,4-Trimethylpentane       | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| 2-Methylpentane              | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Benzene                      | ND   | 1.5  | ug/L |  |  |  |  |  |  |  |
| C5-C8 Unadjusted Aliphatics  | ND   | 150  | ug/L |  |  |  |  |  |  |  |
| C9-C10 Aromatics             | ND   | 100  | ug/L |  |  |  |  |  |  |  |
| C9-C12 Unadjusted Aliphatics | ND   | 150  | ug/L |  |  |  |  |  |  |  |
| Ethylbenzene                 | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Methyl tert-Butyl Ether      | ND   | 1.5  | ug/L |  |  |  |  |  |  |  |
| Naphthalene                  | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| n-Butylcyclohexane           | 50.6 | 5.0  | ug/L |  |  |  |  |  |  |  |
| n-Decane                     | 38.0 | 5.0  | ug/L |  |  |  |  |  |  |  |
| Nonane (C9)                  | 50.3 | 5.0  | ug/L |  |  |  |  |  |  |  |
| Pentane                      | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Toluene                      | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Xylene O                     | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Xylene P,M                   | ND   | 10.0 | ug/L |  |  |  |  |  |  |  |

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 64.7 |  | ug/L | 50.00 |  | 129 | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene - PID | 64.3 |  | ug/L | 50.00 |  | 129 | 70-130 |  |  |  |

|                              |      |  |      |       |  |     |        |  |  |  |
|------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| <b>LCS</b>                   |      |  |      |       |  |     |        |  |  |  |
| 1,2,4-Trimethylbenzene       | 95.4 |  | ug/L | 100.0 |  | 95  | 70-130 |  |  |  |
| 2,2,4-Trimethylpentane       | 142  |  | ug/L | 150.0 |  | 95  | 70-130 |  |  |  |
| 2-Methylpentane              | 156  |  | ug/L | 150.0 |  | 104 | 70-130 |  |  |  |
| Benzene                      | 47.5 |  | ug/L | 50.00 |  | 95  | 70-130 |  |  |  |
| C5-C8 Unadjusted Aliphatics  | 410  |  | ug/L | 400.0 |  | 102 | 70-130 |  |  |  |
| C9-C10 Aromatics             | 109  |  | ug/L | 100.0 |  | 109 | 70-130 |  |  |  |
| C9-C12 Unadjusted Aliphatics | 253  |  | ug/L | 300.0 |  | 84  | 70-130 |  |  |  |
| Ethylbenzene                 | 48.0 |  | ug/L | 50.00 |  | 96  | 70-130 |  |  |  |
| Methyl tert-Butyl Ether      | 144  |  | ug/L | 150.0 |  | 96  | 70-130 |  |  |  |
| Naphthalene                  | 92.6 |  | ug/L | 100.0 |  | 93  | 70-130 |  |  |  |
| n-Butylcyclohexane           | 97.4 |  | ug/L | 100.0 |  | 97  | 70-130 |  |  |  |
| n-Decane                     | 101  |  | ug/L | 100.0 |  | 101 | 70-130 |  |  |  |
| Nonane (C9)                  | 97.9 |  | ug/L | 100.0 |  | 98  | 30-130 |  |  |  |
| Pentane                      | 111  |  | ug/L | 100.0 |  | 111 | 70-130 |  |  |  |
| Toluene                      | 146  |  | ug/L | 150.0 |  | 97  | 70-130 |  |  |  |
| Xylene O                     | 93.7 |  | ug/L | 100.0 |  | 94  | 70-130 |  |  |  |
| Xylene P,M                   | 192  |  | ug/L | 200.0 |  | 96  | 70-130 |  |  |  |

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 64.9 |  | ug/L | 50.00 |  | 130 | 70-130 |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**MADEP-VPH Volatile Petroleum Hydrocarbon**

**Batch CF50325 - 5030B**

|                                            |      |  |      |       |  |     |        |    |    |  |
|--------------------------------------------|------|--|------|-------|--|-----|--------|----|----|--|
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | 63.7 |  | ug/L | 50.00 |  | 127 | 70-130 |    |    |  |
| <b>LCS Dup</b>                             |      |  |      |       |  |     |        |    |    |  |
| 1,2,4-Trimethylbenzene                     | 88.7 |  | ug/L | 100.0 |  | 89  | 70-130 | 7  | 25 |  |
| 2,2,4-Trimethylpentane                     | 157  |  | ug/L | 150.0 |  | 105 | 70-130 | 10 | 25 |  |
| 2-Methylpentane                            | 140  |  | ug/L | 150.0 |  | 93  | 70-130 | 11 | 25 |  |
| Benzene                                    | 42.8 |  | ug/L | 50.00 |  | 86  | 70-130 | 10 | 25 |  |
| C5-C8 Unadjusted Aliphatics                | 398  |  | ug/L | 400.0 |  | 99  | 70-130 | 3  | 25 |  |
| C9-C10 Aromatics                           | 107  |  | ug/L | 100.0 |  | 107 | 70-130 | 2  | 25 |  |
| C9-C12 Unadjusted Aliphatics               | 233  |  | ug/L | 300.0 |  | 78  | 70-130 | 8  | 25 |  |
| Ethylbenzene                               | 43.8 |  | ug/L | 50.00 |  | 88  | 70-130 | 9  | 25 |  |
| Methyl tert-Butyl Ether                    | 132  |  | ug/L | 150.0 |  | 88  | 70-130 | 9  | 25 |  |
| Naphthalene                                | 91.3 |  | ug/L | 100.0 |  | 91  | 70-130 | 1  | 25 |  |
| n-Butylcyclohexane                         | 92.2 |  | ug/L | 100.0 |  | 92  | 70-130 | 5  | 25 |  |
| n-Decane                                   | 92.6 |  | ug/L | 100.0 |  | 93  | 70-130 | 8  | 25 |  |
| Nonane (C9)                                | 95.4 |  | ug/L | 100.0 |  | 95  | 30-130 | 3  | 25 |  |
| Pentane                                    | 98.5 |  | ug/L | 100.0 |  | 99  | 70-130 | 12 | 25 |  |
| Toluene                                    | 134  |  | ug/L | 150.0 |  | 89  | 70-130 | 9  | 25 |  |
| Xylene O                                   | 86.8 |  | ug/L | 100.0 |  | 87  | 70-130 | 8  | 25 |  |
| Xylene P,M                                 | 176  |  | ug/L | 200.0 |  | 88  | 70-130 | 9  | 25 |  |
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | 62.3 |  | ug/L | 50.00 |  | 125 | 70-130 |    |    |  |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | 60.5 |  | ug/L | 50.00 |  | 121 | 70-130 |    |    |  |

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

**Batch CF50449 - 504/8011**

|                                     |        |       |      |         |  |     |        |  |  |  |
|-------------------------------------|--------|-------|------|---------|--|-----|--------|--|--|--|
| <b>Blank</b>                        |        |       |      |         |  |     |        |  |  |  |
| 1,2-Dibromoethane                   | ND     | 0.015 | ug/L |         |  |     |        |  |  |  |
| <i>Surrogate: Pentachloroethane</i> | 0.183  |       | ug/L | 0.2000  |  | 92  | 30-150 |  |  |  |
| <b>LCS</b>                          |        |       |      |         |  |     |        |  |  |  |
| 1,2-Dibromoethane                   | 0.209  | 0.015 | ug/L | 0.2000  |  | 104 | 60-140 |  |  |  |
| <i>Surrogate: Pentachloroethane</i> | 0.185  |       | ug/L | 0.2000  |  | 93  | 30-150 |  |  |  |
| <b>LCS</b>                          |        |       |      |         |  |     |        |  |  |  |
| 1,2-Dibromoethane                   | 0.085  | 0.015 | ug/L | 0.08000 |  | 106 | 60-140 |  |  |  |
| <i>Surrogate: Pentachloroethane</i> | 0.0672 |       | ug/L | 0.08000 |  | 84  | 30-150 |  |  |  |





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**Notes and Definitions**

|        |                                                                                                                                         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Z16a   | Aqueous pH measured in water at 13.4 °C.                                                                                                |
| Z16    | Aqueous pH measured in water at 11.5 °C.                                                                                                |
| Z-06   | pH <= 2                                                                                                                                 |
| U      | Analyte included in the analysis, but not detected                                                                                      |
| HT     | The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes. |
| D+     | Relative percent difference for duplicate is outside of criteria (D+).                                                                  |
| D      | Diluted.                                                                                                                                |
| ND     | Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes                                         |
| dry    | Sample results reported on a dry weight basis                                                                                           |
| RPD    | Relative Percent Difference                                                                                                             |
| MDL    | Method Detection Limit                                                                                                                  |
| MRL    | Method Reporting Limit                                                                                                                  |
| LOD    | Limit of Detection                                                                                                                      |
| LOQ    | Limit of Quantitation                                                                                                                   |
| DL     | Detection Limit                                                                                                                         |
| I/V    | Initial Volume                                                                                                                          |
| F/V    | Final Volume                                                                                                                            |
| §      | Subcontracted analysis; see attached report                                                                                             |
| 1      | Range result excludes concentrations of surrogates and/or internal standards eluting in that range.                                     |
| 2      | Range result excludes concentrations of target analytes eluting in that range.                                                          |
| 3      | Range result excludes the concentration of the C9-C10 aromatic range.                                                                   |
| Avg    | Results reported as a mathematical average.                                                                                             |
| NR     | No Recovery                                                                                                                             |
| [CALC] | Calculated Analyte                                                                                                                      |
| SUB    | Subcontracted analysis; see attached report                                                                                             |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506046

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01  
<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179  
<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750  
[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002  
<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002  
<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424  
<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313  
<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006  
[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752  
[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01  
Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)  
<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141  
Lead Paint, Lead in Children's Metals Jewelry  
<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**

Client: Sovereign Consulting

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS Courier

ESS Project ID: 15060046

Date Project Due: ~~6/8/15~~ 6/4/15Days For Project: ~~5 Day~~ 3 DAY

EO 6/2/15

**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ \* No

Air No.: \_\_\_\_\_

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count &lt; 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 3.1Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ \* Yes

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? Yes | No

17. Were samples received intact?

Yes | No

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.

Try Blank 694376 has air bubble

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 1             | Yes                | 1 L Plastic    | 1               | NP           |
| 1             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 1             | Yes                | 40 ml - VOA    | 9               | HCL          |
| 2             | Yes                | 1 L Glass      | 1               | H2SO4        |
| 2             | Yes                | 1 L Plastic    | 1               | NP           |
| 2             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 2             | Yes                | 40 ml - VOA    | 9               | HCL          |
| 3             | Yes                | 40 ml - VOA    | 2               | HCL          |

Completed By: [Signature]Date/Time: 6/1/15 1809Reviewed By: [Signature]Date/Time: 6/1/15 1821





*CERTIFICATE OF ANALYSIS*

Bethany Mong  
Sovereign Consulting, Inc.  
16 Chestnut Street, Suite 520  
Foxborough, MA 02035

**RE: Brockton 620 Belmont St - RGP (C0050)**  
**ESS Laboratory Work Order Number: 1506330**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard  
Laboratory Director

**REVIEWED**

**By ESS Laboratory at 3:02 pm, Jun 22, 2015**

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**SAMPLE RECEIPT**

The following samples were received on June 11, 2015 for the analyses specified on the enclosed Chain of Custody Record.

The samples and analyses listed below were analyzed in accordance with the 2010 Remediation General Permit under the National Pollutant Discharge Elimination System (NPDES).

| <b>Lab Number</b> | <b>Sample Name</b> | <b>Matrix</b> | <b>Analysis</b>                                                           |
|-------------------|--------------------|---------------|---------------------------------------------------------------------------|
| 1506330-01        | Influent           | Ground Water  | 1664A, 2540D, 300.0, 4500-C1 E, 6010C, 7010, 8011, 8260B, 9040, MADEP-VPH |
| 1506330-02        | Effluent           | Ground Water  | 1664A, 2540D, 300.0, 4500-C1 E, 6010C, 7010, 8011, 8260B, 9040, MADEP-VPH |
| 1506330-03        | Trip Blank         | Aqueous       | 8260B, MADEP-VPH                                                          |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**PROJECT NARRATIVE**

**Classical Chemistry**

1506330-01 [The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.](#)  
1506330-02 [The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes.](#)

**No other observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

[Definitions of Quality Control Parameters](#)  
[Semivolatile Organics Internal Standard Information](#)  
[Semivolatile Organics Surrogate Information](#)  
[Volatile Organics Internal Standard Information](#)  
[Volatile Organics Surrogate Information](#)  
[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

1010A - Flashpoint  
6010C - ICP  
6020A - ICP MS  
7010 - Graphite Furnace  
7196A - Hexavalent Chromium  
7470A - Aqueous Mercury  
7471B - Solid Mercury  
8011 - EDB/DBCP/TCP  
8015D - GRO/DRO  
8081B - Pesticides  
8082A - PCB  
8100M - TPH  
8151A - Herbicides  
8260B - VOA  
8270D - SVOA  
8270D SIM - SVOA Low Level  
9014 - Cyanide  
9038 - Sulfate  
9040C - Aqueous pH  
9045D - Solid pH (Corrosivity)  
9050A - Specific Conductance  
9056A - Anions (IC)  
9060A - TOC  
9095B - Paint Filter  
MADEP 04-1.1 - EPH / VPH

**Prep Methods**

3005A - Aqueous ICP Digestion  
3020A - Aqueous Graphite Furnace / ICP MS Digestion  
3050B - Solid ICP / Graphite Furnace / ICP MS Digestion  
3060A - Solid Hexavalent Chromium Digestion  
3510C - Separatory Funnel Extraction  
3520C - Liquid / Liquid Extraction  
3540C - Manual Soxhlet Extraction  
3541 - Automated Soxhlet Extraction  
3546 - Microwave Extraction  
3580A - Waste Dilution  
5030B - Aqueous Purge and Trap  
5030C - Aqueous Purge and Trap  
5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/11/15 10:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-01  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | 15900 (20.0)         |            | 6010C         |              | 1         | KJK            | 06/15/15 19:29  | 50         | 10         | CF51311      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 06/19/15 15:59  | 50         | 10         | CF51311      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/11/15 10:45  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/12/15 19:13  | CYF0191         | CF51236      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/12/15 19:13  | CYF0191         | CF51236      |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 96 %             |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 94 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 104 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 88 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/11/15 10:45  
Percent Solids: N/A

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-01  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u>                           | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|------------------------------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 725 (100)                                      |            | 300.0         |              | 200       | JLK            | 06/13/15 14:00  | mg/L         | CF51308      |
| pH                          | 6.19 (N/A)                                     |            | 9040          |              | 1         | EEM            | 06/11/15 19:15  | S.U.         | CF51161      |
| pH Sample Temp              | Aqueous pH measured in water at 14.8 °C. (N/A) |            |               |              |           |                |                 |              |              |
| Total Petroleum Hydrocarbon | ND (5)                                         |            | 1664A         |              | 1         | CRR            | 06/17/15 15:17  | mg/L         | CF51537      |
| Total Residual Chlorine     | ND (10)                                        |            | 4500-Cl E     |              | 1         | EEM            | 06/11/15 19:20  | ug/L         | CF51167      |
| Total Suspended Solids      | 13 (5)                                         |            | 2540D         |              | 1         | EEM            | 06/12/15 13:35  | mg/L         | CF51136      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/11/15 10:45  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | 749 (100)            |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| C5-C8 Aliphatics1,2     | 1100 (150)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | 544 (150)            |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  |                 | [CALC]       |
| Benzene                 | 46.4 (1.5)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Ethylbenzene            | 200 (5.0)            |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Methyl tert-Butyl Ether | 8.5 (1.5)            |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Naphthalene             | 34.0 (5.0)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Toluene                 | 87.5 (5.0)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Xylene O                | 66.7 (5.0)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Xylene P,M              | 387 (10.0)           |            | MADEP-VPH     |              | 1         | 06/15/15 17:03  | CYF0213         | CF51530      |
| Preservative:           | pH <= 2              |            | MADEP-VPH     |              |           |                 |                 | CF51530      |

|                                     | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-------------------------------------|------------------|------------------|---------------|
| Surrogate: 2,5-Dibromotoluene - FID | 120 %            |                  | 70-130        |
| Surrogate: 2,5-Dibromotoluene - PID | 125 %            |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Influent  
Date Sampled: 06/11/15 10:45  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-01  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: JXS  
Prepared: 6/15/15 13:43

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | JXS            | 06/15/15 15:38  |                 | CF51522      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 108 %            |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/11/15 10:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-02  
Sample Matrix: Ground Water  
Units: ug/L

Extraction Method: 3005A

**Total Metals**

| <u>Analyte</u> | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>I/V</u> | <u>F/V</u> | <u>Batch</u> |
|----------------|----------------------|------------|---------------|--------------|-----------|----------------|-----------------|------------|------------|--------------|
| Iron           | 44.8 (20.0)          |            | 6010C         |              | 1         | KJK            | 06/15/15 19:34  | 50         | 10         | CF51311      |
| Lead           | ND (1.0)             |            | 7010          |              | 1         | KJK            | 06/19/15 16:05  | 50         | 10         | CF51311      |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/11/15 10:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/12/15 18:46  | CYF0191         | CF51236      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/12/15 18:46  | CYF0191         | CF51236      |

|                                  | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|----------------------------------|------------------|------------------|---------------|
| Surrogate: 1,2-Dichloroethane-d4 | 98 %             |                  | 70-130        |
| Surrogate: 4-Bromofluorobenzene  | 76 %             |                  | 70-130        |
| Surrogate: Dibromofluoromethane  | 106 %            |                  | 70-130        |
| Surrogate: Toluene-d8            | 84 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/11/15 10:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-02  
Sample Matrix: Ground Water

**Classical Chemistry**

| <u>Analyte</u>              | <u>Results (MRL)</u>                           | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Units</u> | <u>Batch</u> |
|-----------------------------|------------------------------------------------|------------|---------------|--------------|-----------|----------------|-----------------|--------------|--------------|
| Chloride                    | 705 (100)                                      |            | 300.0         |              | 200       | JLK            | 06/13/15 18:52  | mg/L         | CF51308      |
| pH                          | 6.00 (N/A)                                     |            | 9040          |              | 1         | EEM            | 06/11/15 19:15  | S.U.         | CF51161      |
| pH Sample Temp              | Aqueous pH measured in water at 14.9 °C. (N/A) |            |               |              |           |                |                 |              |              |
| Total Petroleum Hydrocarbon | ND (5)                                         |            | 1664A         |              | 1         | CRR            | 06/17/15 15:17  | mg/L         | CF51537      |
| Total Residual Chlorine     | ND (10)                                        |            | 4500-Cl E     |              | 1         | EEM            | 06/11/15 19:20  | ug/L         | CF51167      |
| Total Suspended Solids      | ND (5)                                         |            | 2540D         |              | 1         | EEM            | 06/12/15 13:35  | mg/L         | CF51136      |





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/11/15 10:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: MD

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | ND (100)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| C5-C8 Aliphatics1,2     | ND (150)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | ND (150)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  |                 | [CALC]       |
| Benzene                 | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Ethylbenzene            | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Methyl tert-Butyl Ether | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Naphthalene             | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Toluene                 | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Xylene O                | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| Xylene P,M              | ND (10.0)            |            | MADEP-VPH     |              | 1         | 06/15/15 16:29  | CYF0213         | CF51530      |
| <b>Preservative:</b>    | <b>pH &lt;= 2</b>    |            | MADEP-VPH     |              |           |                 |                 | CF51530      |

|                                            | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>117 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>118 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Effluent  
Date Sampled: 06/11/15 10:10  
Percent Solids: N/A  
Initial Volume: 35  
Final Volume: 2  
Extraction Method: 504/8011

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-02  
Sample Matrix: Ground Water  
Units: ug/L  
Analyst: JXS  
Prepared: 6/15/15 13:43

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

| <u>Analyte</u>                      | <u>Results (MRL)</u> | <u>MDL</u>       | <u>Method</u>    | <u>Limit</u>  | <u>DF</u> | <u>Analyst</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------------------|----------------------|------------------|------------------|---------------|-----------|----------------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane                   | ND (0.015)           |                  | 8011             |               | 1         | JXS            | 06/15/15 16:16  |                 | CF51522      |
| <hr/>                               |                      |                  |                  |               |           |                |                 |                 |              |
|                                     |                      | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |           |                |                 |                 |              |
| <i>Surrogate: Pentachloroethane</i> |                      | 128 %            |                  | 30-150        |           |                |                 |                 |              |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Trip Blank  
Date Sampled: 06/11/15 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-03  
Sample Matrix: Aqueous  
Units: ug/L  
Analyst: ZLC

**8260B Volatile Organic Compounds**

| <u>Analyte</u>             | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|----------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| 1,2-Dibromoethane          | ND (1.0)             |            | 8260B         |              | 1         | 06/12/15 12:01  | CYF0191         | CF51236      |
| Tertiary-amyl methyl ether | ND (1.0)             |            | 8260B         |              | 1         | 06/12/15 12:01  | CYF0191         | CF51236      |
| Tertiary-butyl Alcohol     | ND (25.0)            |            | 8260B         |              | 1         | 06/12/15 12:01  | CYF0191         | CF51236      |

|                                         | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|-----------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | 94 %             |                  | 70-130        |
| <i>Surrogate: 4-Bromofluorobenzene</i>  | 82 %             |                  | 70-130        |
| <i>Surrogate: Dibromofluoromethane</i>  | 107 %            |                  | 70-130        |
| <i>Surrogate: Toluene-d8</i>            | 86 %             |                  | 70-130        |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP  
Client Sample ID: Trip Blank  
Date Sampled: 06/11/15 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1506330  
ESS Laboratory Sample ID: 1506330-03  
Sample Matrix: Aqueous  
Units: ug/L  
Analyst: MD

**MADEP-VPH Volatile Petroleum Hydrocarbon**

| <u>Analyte</u>          | <u>Results (MRL)</u> | <u>MDL</u> | <u>Method</u> | <u>Limit</u> | <u>DF</u> | <u>Analyzed</u> | <u>Sequence</u> | <u>Batch</u> |
|-------------------------|----------------------|------------|---------------|--------------|-----------|-----------------|-----------------|--------------|
| C9-C10 Aromatics        | ND (100)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| C5-C8 Aliphatics1,2     | ND (150)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  |                 | [CALC]       |
| C9-C12 Aliphatics2,3    | ND (150)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  |                 | [CALC]       |
| Benzene                 | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Ethylbenzene            | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Methyl tert-Butyl Ether | ND (1.5)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Naphthalene             | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Toluene                 | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Xylene O                | ND (5.0)             |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |
| Xylene P,M              | ND (10.0)            |            | MADEP-VPH     |              | 1         | 06/15/15 14:46  | CYF0213         | CF51530      |

|                                            | <i>%Recovery</i> | <i>Qualifier</i> | <i>Limits</i> |
|--------------------------------------------|------------------|------------------|---------------|
| <i>Surrogate: 2,5-Dibromotoluene - FID</i> | <i>111 %</i>     |                  | <i>70-130</i> |
| <i>Surrogate: 2,5-Dibromotoluene - PID</i> | <i>113 %</i>     |                  | <i>70-130</i> |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**Total Metals**

**Batch CF51311 - 3005A**

**Blank**

|      |    |      |      |  |  |  |  |  |  |  |
|------|----|------|------|--|--|--|--|--|--|--|
| Iron | ND | 50.0 | ug/L |  |  |  |  |  |  |  |
| Lead | ND | 2.5  | ug/L |  |  |  |  |  |  |  |

**LCS**

|      |      |      |      |       |  |     |        |  |  |  |
|------|------|------|------|-------|--|-----|--------|--|--|--|
| Iron | 1270 | 50.0 | ug/L | 1250  |  | 102 | 80-120 |  |  |  |
| Lead | 253  | 50.0 | ug/L | 250.0 |  | 101 | 80-120 |  |  |  |

**LCS Dup**

|      |      |      |      |       |  |     |        |     |    |  |
|------|------|------|------|-------|--|-----|--------|-----|----|--|
| Iron | 1270 | 50.0 | ug/L | 1250  |  | 101 | 80-120 | 0.4 | 20 |  |
| Lead | 266  | 50.0 | ug/L | 250.0 |  | 107 | 80-120 | 5   | 20 |  |

**8260B Volatile Organic Compounds**

**Batch CF51236 - 5030B**

**Blank**

|                                  |      |      |      |       |  |     |        |  |  |  |
|----------------------------------|------|------|------|-------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane                | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-amyl methyl ether       | ND   | 1.0  | ug/L |       |  |     |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |     |        |  |  |  |
| Tertiary-butyl Alcohol           | ND   | 25.0 | ug/L |       |  |     |        |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 22.7 |      | ug/L | 25.00 |  | 91  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 22.7 |      | ug/L | 25.00 |  | 91  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 19.2 |      | ug/L | 25.00 |  | 77  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 19.2 |      | ug/L | 25.00 |  | 77  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.9 |      | ug/L | 25.00 |  | 100 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 24.9 |      | ug/L | 25.00 |  | 100 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 21.7 |      | ug/L | 25.00 |  | 87  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 21.7 |      | ug/L | 25.00 |  | 87  | 70-130 |  |  |  |

**LCS**

|                                  |      |  |      |       |  |     |        |  |  |  |
|----------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,2-Dibromoethane                | 9.5  |  | ug/L | 10.00 |  | 95  | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 8.5  |  | ug/L | 10.00 |  | 85  | 70-130 |  |  |  |
| Tertiary-amyl methyl ether       | 8.5  |  | ug/L | 10.00 |  | 85  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 46.9 |  | ug/L | 50.00 |  | 94  | 70-130 |  |  |  |
| Tertiary-butyl Alcohol           | 46.9 |  | ug/L | 50.00 |  | 94  | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 27.3 |  | ug/L | 25.00 |  | 109 | 70-130 |  |  |  |
| Surrogate: 1,2-Dichloroethane-d4 | 27.3 |  | ug/L | 25.00 |  | 109 | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 22.2 |  | ug/L | 25.00 |  | 89  | 70-130 |  |  |  |
| Surrogate: 4-Bromofluorobenzene  | 22.2 |  | ug/L | 25.00 |  | 89  | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 29.9 |  | ug/L | 25.00 |  | 119 | 70-130 |  |  |  |
| Surrogate: Dibromofluoromethane  | 29.9 |  | ug/L | 25.00 |  | 119 | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 24.0 |  | ug/L | 25.00 |  | 96  | 70-130 |  |  |  |
| Surrogate: Toluene-d8            | 24.0 |  | ug/L | 25.00 |  | 96  | 70-130 |  |  |  |

**LCS Dup**

|                            |     |  |      |       |  |    |        |     |    |  |
|----------------------------|-----|--|------|-------|--|----|--------|-----|----|--|
| 1,2-Dibromoethane          | 9.2 |  | ug/L | 10.00 |  | 92 | 70-130 | 3   | 25 |  |
| Tertiary-amyl methyl ether | 8.5 |  | ug/L | 10.00 |  | 85 | 70-130 | 0.1 | 25 |  |
| Tertiary-amyl methyl ether | 8.5 |  | ug/L | 10.00 |  | 85 | 70-130 | 0.1 | 25 |  |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**8260B Volatile Organic Compounds**

**Batch CF51236 - 5030B**

|                                  |      |  |      |       |  |     |        |    |    |  |
|----------------------------------|------|--|------|-------|--|-----|--------|----|----|--|
| Tertiary-butyl Alcohol           | 41.9 |  | ug/L | 50.00 |  | 84  | 70-130 | 11 | 25 |  |
| Tertiary-butyl Alcohol           | 41.9 |  | ug/L | 50.00 |  | 84  | 70-130 | 11 | 25 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 27.1 |  | ug/L | 25.00 |  | 108 | 70-130 |    |    |  |
| Surrogate: 1,2-Dichloroethane-d4 | 27.1 |  | ug/L | 25.00 |  | 108 | 70-130 |    |    |  |
| Surrogate: 4-Bromofluorobenzene  | 23.0 |  | ug/L | 25.00 |  | 92  | 70-130 |    |    |  |
| Surrogate: 4-Bromofluorobenzene  | 23.0 |  | ug/L | 25.00 |  | 92  | 70-130 |    |    |  |
| Surrogate: Dibromofluoromethane  | 29.7 |  | ug/L | 25.00 |  | 119 | 70-130 |    |    |  |
| Surrogate: Dibromofluoromethane  | 29.7 |  | ug/L | 25.00 |  | 119 | 70-130 |    |    |  |
| Surrogate: Toluene-d8            | 23.8 |  | ug/L | 25.00 |  | 95  | 70-130 |    |    |  |
| Surrogate: Toluene-d8            | 23.8 |  | ug/L | 25.00 |  | 95  | 70-130 |    |    |  |

**Classical Chemistry**

**Batch CF51136 - General Preparation**

**Blank**

|                        |    |   |      |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Suspended Solids | ND | 5 | mg/L |  |  |  |  |  |  |  |
|------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                        |    |  |      |       |  |    |        |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|
| Total Suspended Solids | 66 |  | mg/L | 68.80 |  | 96 | 80-120 |  |  |  |
|------------------------|----|--|------|-------|--|----|--------|--|--|--|

**Batch CF51167 - General Preparation**

**Blank**

|                         |    |    |      |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|
| Total Residual Chlorine | ND | 10 | ug/L |  |  |  |  |  |  |  |
|-------------------------|----|----|------|--|--|--|--|--|--|--|

**LCS**

|                         |   |  |      |        |  |     |        |  |  |  |
|-------------------------|---|--|------|--------|--|-----|--------|--|--|--|
| Total Residual Chlorine | 1 |  | mg/L | 0.9960 |  | 100 | 85-115 |  |  |  |
|-------------------------|---|--|------|--------|--|-----|--------|--|--|--|

**Batch CF51308 - General Preparation**

**Blank**

|          |    |     |      |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|
| Chloride | ND | 0.5 | mg/L |  |  |  |  |  |  |  |
|----------|----|-----|------|--|--|--|--|--|--|--|

**LCS**

|          |     |  |      |       |  |    |        |  |  |  |
|----------|-----|--|------|-------|--|----|--------|--|--|--|
| Chloride | 2.5 |  | mg/L | 2.500 |  | 98 | 90-110 |  |  |  |
|----------|-----|--|------|-------|--|----|--------|--|--|--|

**Batch CF51537 - General No Prep**

**Blank**

|                             |    |   |      |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|
| Total Petroleum Hydrocarbon | ND | 5 | mg/L |  |  |  |  |  |  |  |
|-----------------------------|----|---|------|--|--|--|--|--|--|--|

**LCS**

|                             |    |   |      |       |  |    |        |  |  |  |
|-----------------------------|----|---|------|-------|--|----|--------|--|--|--|
| Total Petroleum Hydrocarbon | 14 | 5 | mg/L | 19.38 |  | 74 | 66-114 |  |  |  |
|-----------------------------|----|---|------|-------|--|----|--------|--|--|--|

**MADEP-VPH Volatile Petroleum Hydrocarbon**

**Batch CF51530 - 5030B**

**Blank**

|                             |    |     |      |  |  |  |  |  |  |  |
|-----------------------------|----|-----|------|--|--|--|--|--|--|--|
| 1,2,4-Trimethylbenzene      | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
| 2,2,4-Trimethylpentane      | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
| 2-Methylpentane             | ND | 5.0 | ug/L |  |  |  |  |  |  |  |
| Benzene                     | ND | 1.5 | ug/L |  |  |  |  |  |  |  |
| C5-C8 Unadjusted Aliphatics | ND | 150 | ug/L |  |  |  |  |  |  |  |
| C9-C10 Aromatics            | ND | 100 | ug/L |  |  |  |  |  |  |  |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**MADEP-VPH Volatile Petroleum Hydrocarbon**

**Batch CF51530 - 5030B**

|                              |      |      |      |  |  |  |  |  |  |  |
|------------------------------|------|------|------|--|--|--|--|--|--|--|
| C9-C12 Unadjusted Aliphatics | ND   | 150  | ug/L |  |  |  |  |  |  |  |
| Ethylbenzene                 | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Methyl tert-Butyl Ether      | ND   | 1.5  | ug/L |  |  |  |  |  |  |  |
| Naphthalene                  | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| n-Butylcyclohexane           | 44.7 | 5.0  | ug/L |  |  |  |  |  |  |  |
| n-Decane                     | 31.3 | 5.0  | ug/L |  |  |  |  |  |  |  |
| Nonane (C9)                  | 44.2 | 5.0  | ug/L |  |  |  |  |  |  |  |
| Pentane                      | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Toluene                      | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Xylene O                     | ND   | 5.0  | ug/L |  |  |  |  |  |  |  |
| Xylene P,M                   | ND   | 10.0 | ug/L |  |  |  |  |  |  |  |

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 52.6 |  | ug/L | 50.00 |  | 105 | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene - PID | 51.3 |  | ug/L | 50.00 |  | 103 | 70-130 |  |  |  |

**LCS**

|                              |      |  |      |       |  |     |        |  |  |  |
|------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| 1,2,4-Trimethylbenzene       | 102  |  | ug/L | 100.0 |  | 102 | 70-130 |  |  |  |
| 2,2,4-Trimethylpentane       | 141  |  | ug/L | 150.0 |  | 94  | 70-130 |  |  |  |
| 2-Methylpentane              | 159  |  | ug/L | 150.0 |  | 106 | 70-130 |  |  |  |
| Benzene                      | 51.2 |  | ug/L | 50.00 |  | 102 | 70-130 |  |  |  |
| C5-C8 Unadjusted Aliphatics  | 409  |  | ug/L | 400.0 |  | 102 | 70-130 |  |  |  |
| C9-C10 Aromatics             | 93.6 |  | ug/L | 100.0 |  | 94  | 70-130 |  |  |  |
| C9-C12 Unadjusted Aliphatics | 246  |  | ug/L | 300.0 |  | 82  | 70-130 |  |  |  |
| Ethylbenzene                 | 49.5 |  | ug/L | 50.00 |  | 99  | 70-130 |  |  |  |
| Methyl tert-Butyl Ether      | 155  |  | ug/L | 150.0 |  | 103 | 70-130 |  |  |  |
| Naphthalene                  | 101  |  | ug/L | 100.0 |  | 101 | 70-130 |  |  |  |
| n-Butylcyclohexane           | 92.8 |  | ug/L | 100.0 |  | 93  | 70-130 |  |  |  |
| n-Decane                     | 94.4 |  | ug/L | 100.0 |  | 94  | 70-130 |  |  |  |
| Nonane (C9)                  | 94.0 |  | ug/L | 100.0 |  | 94  | 30-130 |  |  |  |
| Pentane                      | 114  |  | ug/L | 100.0 |  | 114 | 70-130 |  |  |  |
| Toluene                      | 154  |  | ug/L | 150.0 |  | 102 | 70-130 |  |  |  |
| Xylene O                     | 101  |  | ug/L | 100.0 |  | 101 | 70-130 |  |  |  |
| Xylene P,M                   | 202  |  | ug/L | 200.0 |  | 101 | 70-130 |  |  |  |

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 53.8 |  | ug/L | 50.00 |  | 108 | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene - PID | 54.1 |  | ug/L | 50.00 |  | 108 | 70-130 |  |  |  |

**LCS Dup**

|                              |      |  |      |       |  |     |        |     |    |  |
|------------------------------|------|--|------|-------|--|-----|--------|-----|----|--|
| 1,2,4-Trimethylbenzene       | 103  |  | ug/L | 100.0 |  | 103 | 70-130 | 0.8 | 25 |  |
| 2,2,4-Trimethylpentane       | 176  |  | ug/L | 150.0 |  | 118 | 70-130 | 22  | 25 |  |
| 2-Methylpentane              | 161  |  | ug/L | 150.0 |  | 107 | 70-130 | 1   | 25 |  |
| Benzene                      | 51.4 |  | ug/L | 50.00 |  | 103 | 70-130 | 0.5 | 25 |  |
| C5-C8 Unadjusted Aliphatics  | 444  |  | ug/L | 400.0 |  | 111 | 70-130 | 8   | 25 |  |
| C9-C10 Aromatics             | 96.0 |  | ug/L | 100.0 |  | 96  | 70-130 | 3   | 25 |  |
| C9-C12 Unadjusted Aliphatics | 263  |  | ug/L | 300.0 |  | 88  | 70-130 | 7   | 25 |  |
| Ethylbenzene                 | 50.2 |  | ug/L | 50.00 |  | 100 | 70-130 | 1   | 25 |  |
| Methyl tert-Butyl Ether      | 155  |  | ug/L | 150.0 |  | 103 | 70-130 | 0.2 | 25 |  |
| Naphthalene                  | 109  |  | ug/L | 100.0 |  | 109 | 70-130 | 7   | 25 |  |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**Quality Control Data**

| Analyte | Result | MRL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Qualifier |
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|
|---------|--------|-----|-------|-------------|---------------|------|-------------|-----|-----------|-----------|

**MADEP-VPH Volatile Petroleum Hydrocarbon**

**Batch CF51530 - 5030B**

|                    |      |  |      |       |  |     |        |      |    |  |
|--------------------|------|--|------|-------|--|-----|--------|------|----|--|
| n-Butylcyclohexane | 95.2 |  | ug/L | 100.0 |  | 95  | 70-130 | 3    | 25 |  |
| n-Decane           | 97.8 |  | ug/L | 100.0 |  | 98  | 70-130 | 4    | 25 |  |
| Nonane (C9)        | 100  |  | ug/L | 100.0 |  | 100 | 30-130 | 7    | 25 |  |
| Pentane            | 114  |  | ug/L | 100.0 |  | 114 | 70-130 | 0.08 | 25 |  |
| Toluene            | 153  |  | ug/L | 150.0 |  | 102 | 70-130 | 0.3  | 25 |  |
| Xylene O           | 101  |  | ug/L | 100.0 |  | 101 | 70-130 | 0.4  | 25 |  |
| Xylene P,M         | 204  |  | ug/L | 200.0 |  | 102 | 70-130 | 1    | 25 |  |

|                                     |      |  |      |       |  |     |        |  |  |  |
|-------------------------------------|------|--|------|-------|--|-----|--------|--|--|--|
| Surrogate: 2,5-Dibromotoluene - FID | 62.4 |  | ug/L | 50.00 |  | 125 | 70-130 |  |  |  |
| Surrogate: 2,5-Dibromotoluene - PID | 63.2 |  | ug/L | 50.00 |  | 126 | 70-130 |  |  |  |

**8011 1,2-Dibromoethane / 1,2-Dibromo-3-chloropropane**

**Batch CF51522 - 504/8011**

**Blank**

|                   |    |       |      |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|
| 1,2-Dibromoethane | ND | 0.015 | ug/L |  |  |  |  |  |  |  |
|-------------------|----|-------|------|--|--|--|--|--|--|--|

|                              |       |  |      |        |  |     |        |  |  |  |
|------------------------------|-------|--|------|--------|--|-----|--------|--|--|--|
| Surrogate: Pentachloroethane | 0.216 |  | ug/L | 0.2000 |  | 108 | 30-150 |  |  |  |
|------------------------------|-------|--|------|--------|--|-----|--------|--|--|--|

**LCS**

|                   |       |       |      |        |  |    |        |  |  |  |
|-------------------|-------|-------|------|--------|--|----|--------|--|--|--|
| 1,2-Dibromoethane | 0.185 | 0.015 | ug/L | 0.2000 |  | 92 | 60-140 |  |  |  |
|-------------------|-------|-------|------|--------|--|----|--------|--|--|--|

|                              |       |  |      |        |  |     |        |  |  |  |
|------------------------------|-------|--|------|--------|--|-----|--------|--|--|--|
| Surrogate: Pentachloroethane | 0.432 |  | ug/L | 0.4000 |  | 108 | 30-150 |  |  |  |
|------------------------------|-------|--|------|--------|--|-----|--------|--|--|--|

**LCS**

|                   |       |       |      |         |  |    |        |  |  |  |
|-------------------|-------|-------|------|---------|--|----|--------|--|--|--|
| 1,2-Dibromoethane | 0.070 | 0.015 | ug/L | 0.08000 |  | 87 | 60-140 |  |  |  |
|-------------------|-------|-------|------|---------|--|----|--------|--|--|--|

|                              |       |  |      |         |  |     |        |  |  |  |
|------------------------------|-------|--|------|---------|--|-----|--------|--|--|--|
| Surrogate: Pentachloroethane | 0.103 |  | ug/L | 0.08000 |  | 128 | 30-150 |  |  |  |
|------------------------------|-------|--|------|---------|--|-----|--------|--|--|--|





*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.

Client Project ID: Brockton 620 Belmont St - RGP

ESS Laboratory Work Order: 1506330

**Notes and Definitions**

|        |                                                                                                                                         |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Z16a   | Aqueous pH measured in water at 14.9 °C.                                                                                                |
| Z16    | Aqueous pH measured in water at 14.8 °C.                                                                                                |
| Z-06   | pH <= 2                                                                                                                                 |
| U      | Analyte included in the analysis, but not detected                                                                                      |
| HT     | The maximum holding time listed in 40 CFR Part 136 Table II for pH, Dissolved Oxygen, Sulfite and Residual Chlorine is fifteen minutes. |
| D      | Diluted.                                                                                                                                |
| ND     | Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes                                         |
| dry    | Sample results reported on a dry weight basis                                                                                           |
| RPD    | Relative Percent Difference                                                                                                             |
| MDL    | Method Detection Limit                                                                                                                  |
| MRL    | Method Reporting Limit                                                                                                                  |
| LOD    | Limit of Detection                                                                                                                      |
| LOQ    | Limit of Quantitation                                                                                                                   |
| DL     | Detection Limit                                                                                                                         |
| I/V    | Initial Volume                                                                                                                          |
| F/V    | Final Volume                                                                                                                            |
| §      | Subcontracted analysis; see attached report                                                                                             |
| 1      | Range result excludes concentrations of surrogates and/or internal standards eluting in that range.                                     |
| 2      | Range result excludes concentrations of target analytes eluting in that range.                                                          |
| 3      | Range result excludes the concentration of the C9-C10 aromatic range.                                                                   |
| Avg    | Results reported as a mathematical average.                                                                                             |
| NR     | No Recovery                                                                                                                             |
| [CALC] | Calculated Analyte                                                                                                                      |
| SUB    | Subcontracted analysis; see attached report                                                                                             |



*CERTIFICATE OF ANALYSIS*

Client Name: Sovereign Consulting, Inc.  
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ESS Laboratory Work Order: 1506330

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutOfStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI0002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_Opra/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_Opra/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

[http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory\\_accreditation\\_program/590095](http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095)

**CHEMISTRY**

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

**Sample and Cooler Receipt Checklist**

Client: Sovereign Consulting

Client Project ID: \_\_\_\_\_

Shipped/Delivered Via: ESS CourierESS Project ID: 15060330Date Project Due: 6/18/15

Days For Project: 5 Day

**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ \* No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count &lt; 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 5.8Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ No

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? ☐ Yes ☒ No17. Were samples received intact? ☒ Yes ☐ No

ESS Sample IDs: \_\_\_\_\_

Sub Lab: \_\_\_\_\_

Analysis: \_\_\_\_\_

TAT: \_\_\_\_\_

18. Was there need to call project manager to discuss status? If yes, please explain.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Who was called?: \_\_\_\_\_

By whom? \_\_\_\_\_

| Sample Number | Properly Preserved | Container Type | # of Containers | Preservative |
|---------------|--------------------|----------------|-----------------|--------------|
| 1             | Yes                | 1 L Glass      | 1               | HCL          |
| 1             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 1             | Yes                | 40 ml - VOA    | 9               | HCL          |
| 1             | Yes                | 500 ml Plastic | 2               | NP           |
| 2             | Yes                | 1 L Glass      | 1               | HCL          |
| 2             | Yes                | 250 ml Plastic | 1               | HNO3         |
| 2             | Yes                | 40 ml - VOA    | 9               | HCL          |
| 2             | Yes                | 500 ml Plastic | 2               | NP           |
| 3             | Yes                | 40 ml - VOA    | 2               | HCL          |

Completed By: \_\_\_\_\_

Date/Time: 6/16/15 18:10

Reviewed By: \_\_\_\_\_

Date/Time: 6/16/15 1900



**ATTACHMENT C**

# Massachusetts Cultural Resource Information

## MACRIS

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### Results

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